U.S. Army Corps of Engineers

New England District
Waltham, Massachusetts

DRYWELL, CESSPOOL, AND FUEL OIL UNDERGROUND STORAGE TANK AREA OF CONTAMINATION (AOC) 50 MOORE ARMY AIR FIELD DEVENS, MASSACHUSETTS

Contract/Purchase Order No.
DACW33-95-D-0004

Removal Action Report
Delivery Order No. 0004
DCN: VRA-062597-AAHO

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WESTON
MANAGERS DESIGNERS/CONSULTANTS

REMOVAL ACTION REPORT

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Prepared for

U.S. ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
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September 1997

W.O. No. 03886-118-004-4900

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EXECUTIVE SUMMARY

The purpose of this report is to document a time-critical removal action at Area of Contamination (AOC) 50, Moore Army Air Field, Devens, Massachusetts. AOC 50 is the location of two former fueling systems and a parachute cleaning building where tetrachloroethylene (PCE) was disposed into a drywell which drained directly into surrounding subsurface soils. A cesspool associated with an adjoining building to the parachute cleaning building was also suspected to have received PCE waste.

On December 21, 1989, Devens (formerly Fort Devens) was placed on the National Priorities List pursuant to the Comprehensive Environmental Response Compensation and Liability Act of 1980, as amended. Devens, is located within the towns of Ayer, Harvard, Lancaster, and Shirley, Massachusetts and consists of approximately 9,280 acres. Fort Devens was used for a variety of U.S. military training missions from 1917 until 1996. In 1991, the installation was selected for cessation of operations and closure under Public Law 101-50, the Base Realignment and Closure Act of 1990.

AOC 50 is located in a relatively level low-lying area at the base of a steep slope, located immediately downgradient of the Moore Army Air Field runways. Three buildings (Buildings 3801, 3803, and 3840) and a gazebo structure (3824) are located within the immediate vicinity of AOC 50. The site is bounded by Route 2A to the north. An eight-foot high chain link fence prevents pedestrian and vehicular access. Ground cover at AOC 50 consists of sand and gravel and sparse vegetation which allows for precipitation and overland flow to easily percolate into the subsurface.

Between 1992 and the present, various soil and groundwater subsurface investigations have been conducted at AOC 50 which include a *Site Investigation (SI), Supplemental Site Investigation (SSI), Interim Removal Action (IRA), Phase III Site Investigation (Phase III SI),* and a *Remedial Investigation (RI).*

The *RI* is currently being conducted at AOC 50 by ABB Environmental Services, Inc. (ABB) based on results and findings obtained during the previous investigations. During the field efforts, the drywell system was identified to be located 14.5 feet northwest of Building 3840. The drywell was formerly connected to a floor drain and wash sinks within the building. Background history and interviews with former on-site personnel indicated that this building was formerly used by the Army for parachute cleaning, drying, and repacking activities and PCE was used in the cleaning process. A sludge sample and a soil sample from beneath the sludge were extracted from the drywell and yielded PCE concentrations of 60,000 parts per million (ppm) and 70 ppm, respectively.

In November 1996, one soil boring was performed adjacent to the drywell location. The soil boring was advanced to a total depth of 67 feet when bedrock was encountered. Eight soil samples were collected from the boring at various depths. A maximum PCE concentration of 11,000 ppm was detected at 9 feet bgs.

The cesspool system was identified approximately 51.6 feet southwest of Building 3803 which adjoins the west side of Building 3840. Prior to 1970, when Building 3840 was constructed, a single wash sink in Building 3803 drained into the cesspool system and may have also been a former disposal receptor for PCE during parachute cleaning activities. During soil boring activities conducted in November 1996, seven soil samples were collected at various depths from a boring which was performed at the approximate location of the cesspool. The boring was advanced to a total depth of 30 feet bgs and indicated a maximum PCE concentration of 87 ppm at a depth of 20 feet bgs.

Based on findings identified during the ongoing ABB *RI*, WESTON arrived at AOC 50 in November 1996 to perform a time-critical removal action of the Building 3840 drywell and associated contaminated soils. Operations conducted by WESTON included attainment of appropriate clearance permits; removal oversight of PCE contaminated sludge and related soils within the drywell for proper off-site disposal; excavation of the drywell and associated piping up to the building foundation; field analytical screening of the excavation limits; and collection of soil

samples from the excavation and soil stockpiles for confirmatory and waste characterization laboratory analyses, respectively.

Confirmatory laboratory analytical results indicated a PCE concentration of 0.648 ppm in a soil sample collected from the bottom of the drywell excavation to exceed the Massachusetts Contingency Plan (MCP) Method 1 S-2/GW-1 regulatory action level of 0.5 ppm. This soil sample was collected just above the depth to groundwater at 10 feet bgs. No other volatile organic compound (VOC) concentrations were detected above laboratory detection limits in any of the other soil samples collected from the drywell location.

Previous interviews with former Fort Devens personnel and subsurface exploration sampling conducted by ABB during the *RI* indicated that PCE may have been disposed within the Building 3803 cesspool. In November 1996, WESTON performed a time-critical removal action of the Building 3803 cesspool and associated contaminated soils. Operations conducted by WESTON included attainment of appropriate clearance permits; oversight of sludge and soil removal activities within the cesspool for proper off-site disposal; excavation of the cesspool and associated piping up to the building foundation; field analytical screening of the excavation limits; and collection of soil samples from the excavation limits and soil stockpiles for confirmatory and waste characterization laboratory analyses, respectively.

Confirmatory laboratory analytical results did not indicate any VOC concentrations to exceed their respective detection limits which are below the applicable S-2/GW-1 regulatory guidelines and U.S. Environmental Protection Agency (USEPA) commercial/industrial Risk-Based Concentrations (RBCs).

Field screen headspace results for soil samples collected during drywell removal activities indicated VOC contamination to be migrating beneath the 750-gallon underground storage tank (UST) located adjacent to the Building 3840 boiler room. A decision was made to remove the UST in order to access the contaminated soils. Therefore, in November 1996, WESTON performed a time-critical removal action of the fuel oil UST along with associated petroleum contaminated soils. Operations conducted by WESTON included attainment of appropriate permits; oversight of tank

cleaning and removal activities; field analytical screening; collection of soil samples for confirmatory laboratory analyses; and the excavation of associated contaminated soils.

Confirmatory analytical results for soil samples collected from the UST excavation were compared to S-2/GW-1 regulatory guidelines and USEPA commercial/industrial RBCs. Confirmatory analyses indicated volatile petroleum hydrocarbon concentrations above laboratory detection limits in all five soil samples; however, none of the data exceeded regulatory action levels. Several VOCs were detected above laboratory detection limits in the soil sample collected from the west wall. None of the mean concentrations, for the target compounds detected in this soil sample, exceeded S-2/GW-1 action levels. Extractable petroleum hydrocarbon (EPH) and polynuclear aromatic hydrocarbon concentrations were detected above laboratory detection limits in the soil sample collected from the west wall. The mean EPH concentration for the C_{10} - C_{22} Aromatic fraction exceeded the applicable S-2/GW-1 regulatory standard.

The time-critical removal action was consistent with the National Contingency Plan, and site conditions met the criteria (40 CFR 300.415) for removal action. Previous subsurface investigations at AOC 50 document PCE contamination in both overburden and groundwater. The removal action reduced potential continuing sources of groundwater contamination at AOC 50. Groundwater evaluation and monitoring are on-going as part of the *RI*.

1. PURPOSE

The purpose of this report is to document a time-critical removal action at Area of Contamination (AOC) 50, Moore Army Air Field, Devens, Massachusetts, in accordance with the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) of 1980, as amended. AOC 50 is the location of two former fueling systems and a parachute cleaning building (Building 3840) where tetrachloroethylene (PCE) was disposed into a drywell which drained directly into surrounding subsurface soils. A cesspool associated with an adjoining building (Building 3803) to Building 3840 was also suspected to have received PCE waste.

This removal action involved the removal and disposal of: the identified drywell and cesspool systems, piping associated with each of the systems up to the respective building foundations, and related PCE contaminated soil and sludge. Due to possible migration of contamination, a 750-gallon fuel oil underground storage tank (UST), located adjacent to the drywell, was also removed, along with associated petroleum contaminated soils.

This *Removal Action Report* was prepared for the Department of the Army, New England District, Corps of Engineers, (CENAE), in accordance with the Roy F. Weston, Inc. (WESTON®) *Contaminated Soil Removal - Phase II, Drywell and Cesspool Removal, Various Removal Actions, Fort Devens, Massachusetts, Action Memorandum,* dated November 1996, and the references incorporated within.

2. BACKGROUND AND PHYSICAL SETTING

2.1 SITE DESCRIPTION AND HISTORY

On December 21, 1989, Devens (formerly Fort Devens) was placed on the National Priorities List pursuant to the CERCLA as amended. Devens is located within the towns of Ayer, Harvard, Lancaster, and Shirley, Massachusetts and consists of approximately 9,280 acres (Figure 2-1). Fort Devens was used for a variety of U.S. military training missions from 1917 until 1996. In 1991 the installation was selected for cessation of operations and closure under Public Law 101-50, the Base Realignment and Closure (BRAC) Act of 1990.

AOC 50 is located in a relatively level low lying area at the base of a steep slope, located immediately downgradient of the Moore Army Air Field runways (Figure 2-1). Three buildings (Buildings 3801, 3803, and 3840) and a gazebo structure (3824) are located within the immediate vicinity of AOC 50. The site is bounded by Route 2A to the north. An eight-foot high chain link prevents pedestrian and vehicular access (Figure 2-2). Ground cover at AOC 50 consists of porous sand and gravel and small vegetation which allows for precipitation and overland flow to easily percolate into the subsurface.

AOC 50 formerly contained two gasoline fueling systems at the Moore Army Air Field which were used during World War II. One of the systems, Fueling System A, was used for fueling aircraft and trucks on the airfield. Fueling System B was used for fueling trucks near the base of a slope at the northern margin of the airfield. The separate fueling systems were filled by gasoline shipments received on a former Boston & Maine Railroad which was located adjacent to Fueling System B. Based on information generated during previous investigations, these systems were not used after the late 1940s.

2.2 REGIONAL GEOLOGY

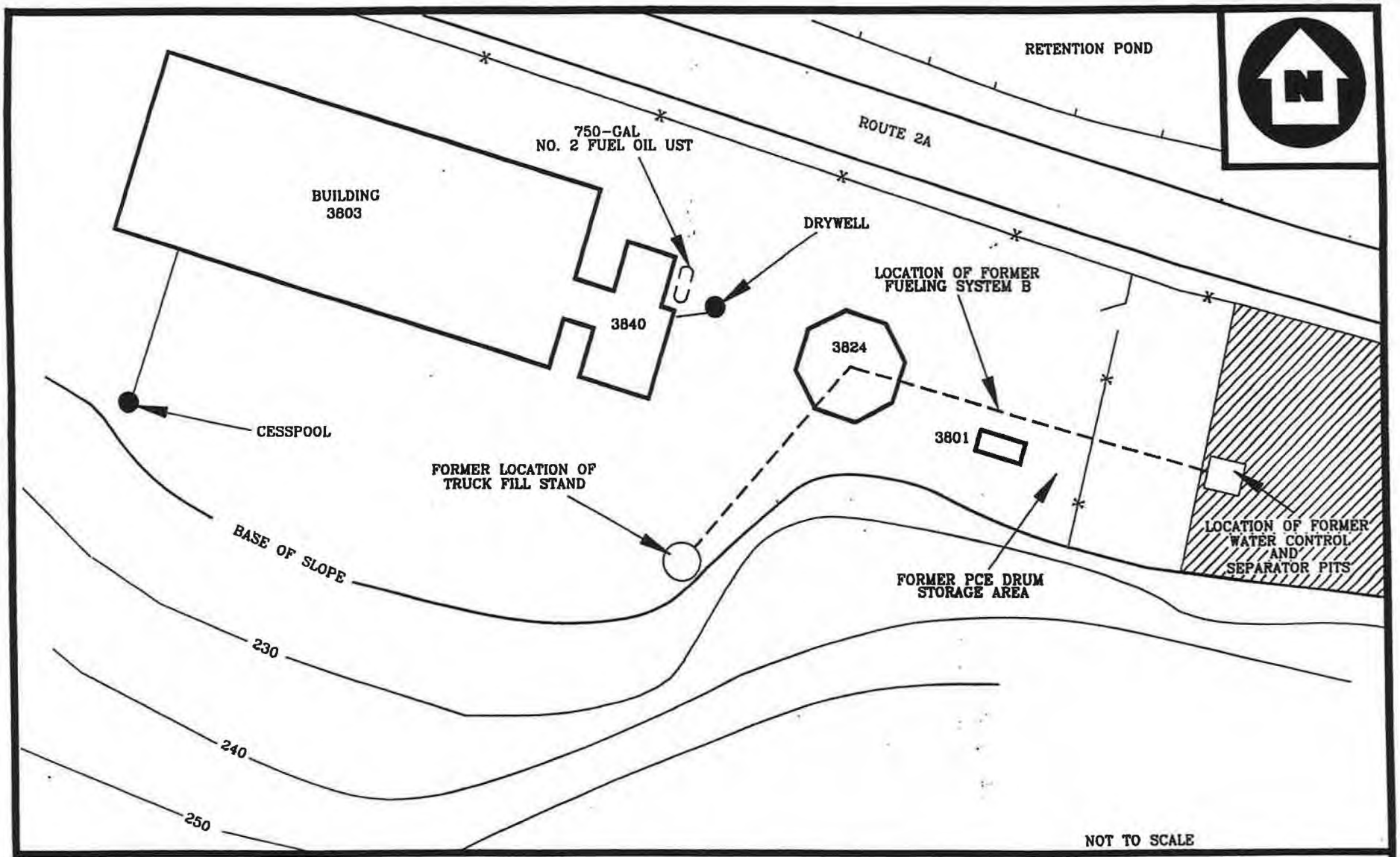
Devens is near the western boundary of the Seaboard Lowland Section of the New England Maritime Physiographic province. It is adjacent to the Worcester County Plateau of the Central

LOCATION MAP

AREA OF CONTAMINATION 50
MOORE ARMY AIR FIELD
DEVENS, MASSACHUSETTS

WESTON MANAGERS DESIGNERS/CONSULTANTS

FIGURE 2-1



SITE SKETCH
AREA OF CONTAMINATION 50
MOORE ARMY AIR FIELD
DEVENS, MASSACHUSETTS

WESTON MANAGERS DESIGNERS/CONSULTANTS

FIGURE 2-2

Uplands province, and part of the installation lies within the province. The land surface is almost completely covered with unconsolidated glacial outwash deposits, resulting in few bedrock outcrops. The surficial deposits are underlain by a highly complex assemblage of intensely folded and faulted metsedimentary rocks and occasional igneous intrusions. The geomorphology of the region is dominated by glacial features such as outwash plains, kames, kames terraces, drumlins, and eskers.

2.3 REGIONAL HYDROGEOLOGY

Groundwater at Devens occurs largely in the permeable glacial-deltaic outwash deposits of sand, gravel, and boulders. Well yields within these sediments are dependent upon hydraulic characteristics of the aquifer and can range from 2 to over 300 gallons per minute (gpm). Small amounts of groundwater can be obtained from fractured bedrock with yields ranging from 2 to 10 gpm. Minor amounts of groundwater may be found in thin, permeable glacial lenses elsewhere on the installation. The primary hydrogeologic feature at Devens is the Nashua River, which flows adjacent to the northern portion of the Moore Army Air Field, in a south to north direction, with an average discharge rate of 55 cubic feet per second (ft^3/s). In addition to the Nashua River, numerous brooks that are associated with attendant wetlands dissect the terrain.

2.4 PREVIOUS INVESTIGATIONS

Between 1992 and the present, various soil and groundwater subsurface investigations have been conducted at AOC 50 which include a *Site Investigation (SI), Supplemental Site Investigation (SSI), Interim Removal Action (IRA), Phase III Site Investigation (Phase III SI),* and a *Remedial Investigation (RI).*

Under the *SI*, the former gasoline transfer-pump pit and hose pits of Fueling System A and all remaining USTs and associated components of Fueling System B were removed. Results of the initial *SI* indicated elevated lead concentrations above Fort Devens background levels and benzene and PCE concentrations above analytical detection limits. It was concluded that while contaminants detected at AOC 50, as part of the *SI*, posed no unacceptable human health or ecological risks, contaminant distribution (specifically PCE) was not fully characterized at

Fueling System B. It was recommended that no further action be taken at Fueling System A, and that a *SSI* be conducted to further characterize the nature and distribution of PCE, and possible residual gasoline contamination, associated with the former USTs at Fueling System B.

Analytical results of soil and groundwater samples, collected as part of the *SSI*, indicated elevated concentrations of PCE above regulatory action levels in addition to free-phase PCE at a depth of 7 to 9 feet below ground surface (bgs), just above groundwater. Based on the *SSI* findings, it was concluded that PCE contaminated soil and groundwater posed an unacceptable potential threat to human health. Further, the free-phase PCE observed in vadose-zone soils was possibly contributing to continued contamination of groundwater beneath AOC 50. As a result, an *IRA* for PCE-contaminated soil at the interpreted source was recommended. This action constituted a source control measure while additional (*Phase III SI*) investigation activities focused on addressing the uncertainties in groundwater flow directions and contaminant migration.

As part of the *IRA*, an in-situ soil vapor extraction (SVE) system was installed at AOC 50 between December 1993 and January 1994 by CENAE. The system was installed in the interpreted source area to identify the location of the highest concentration of vadose-zone PCE, as well as to test the effectiveness of the SVE as a PCE removal method. The system has been in operation since its construction and is effectively removing vadose-zone PCE.

After the installation and start-up of the SVE system, the *Phase III SI* at AOC 50 was initiated. The Phase III was designed to further characterize groundwater flow conditions and the vertical distribution of PCE near the source area and in downgradient groundwater. Human health and ecological preliminary risk evaluations (PREs) were completed for surface soil, subsurface soil, and groundwater as part of the *Phase III SI*. The concentrations of PCE detected in subsurface soil were not expected to pose a risk to human health. The groundwater human health PRE indicated that PCE concentrations were the only organic or inorganic likely to pose an unacceptable threat to human health. The ecological PRE concentrated on surface soil only, because no surface water or sediment exposure points are present at AOC 50. The results of the ecological PRE indicated that it is unlikely that exposure to contaminants at AOC 50 were

resulting in significant ecological risk. The *Phase III SI* confirmed the area between Building 3801 and the Fueling System B UST excavation as the apparent PCE source area.

A *RI* is currently being conducted at AOC 50 by ABB Environmental Services, Inc. (ABB) based on results and findings obtained during the previous investigations. During the field efforts, the drywell system of concern was identified to be located 14.5 feet northwest of Building 3840. The drywell was formerly connected to a floor drain and wash sinks within the building. Background history and interviews with former on-site personnel indicated that this building was formerly used by the Army for parachute cleaning, drying, and repacking activities and PCE was used in the cleaning process. A sludge sample and a soil sample from beneath the sludge were extracted from the drywell and were analyzed on-site via a portable gas chromatography. Results yielded PCE concentrations of 60,000 parts per million (ppm) and 70 ppm, respectively.

In November 1996, one soil boring was performed adjacent to the drywell location. The soil boring was advanced to a total depth of 67 feet when bedrock was encountered. Eight soil samples were collected from the boring at various depths. A maximum PCE concentration of 11,000 ppm was detected at 9 feet bgs.

The cesspool system was identified 51.6 feet southwest of Building 3803 which adjoins the west side of Building 3840. Prior to 1970, when Building 3840 was constructed, a single wash sink in Building 3803 drained into the cesspool system and may have been a former disposal source for PCE during parachute cleaning activities. During soil boring activities conducted in November 1996, seven soil samples were collected at various depths from a boring which was performed at the estimated location of the cesspool. The boring was advanced to a total depth of 30 feet bgs and indicated a maximum PCE concentration of 87 ppm at a depth of 20 feet bgs.

3. FIELD ACTIVITIES

3.1 DRYWELL REMOVAL ACTION

3.1.1 Removal Activities

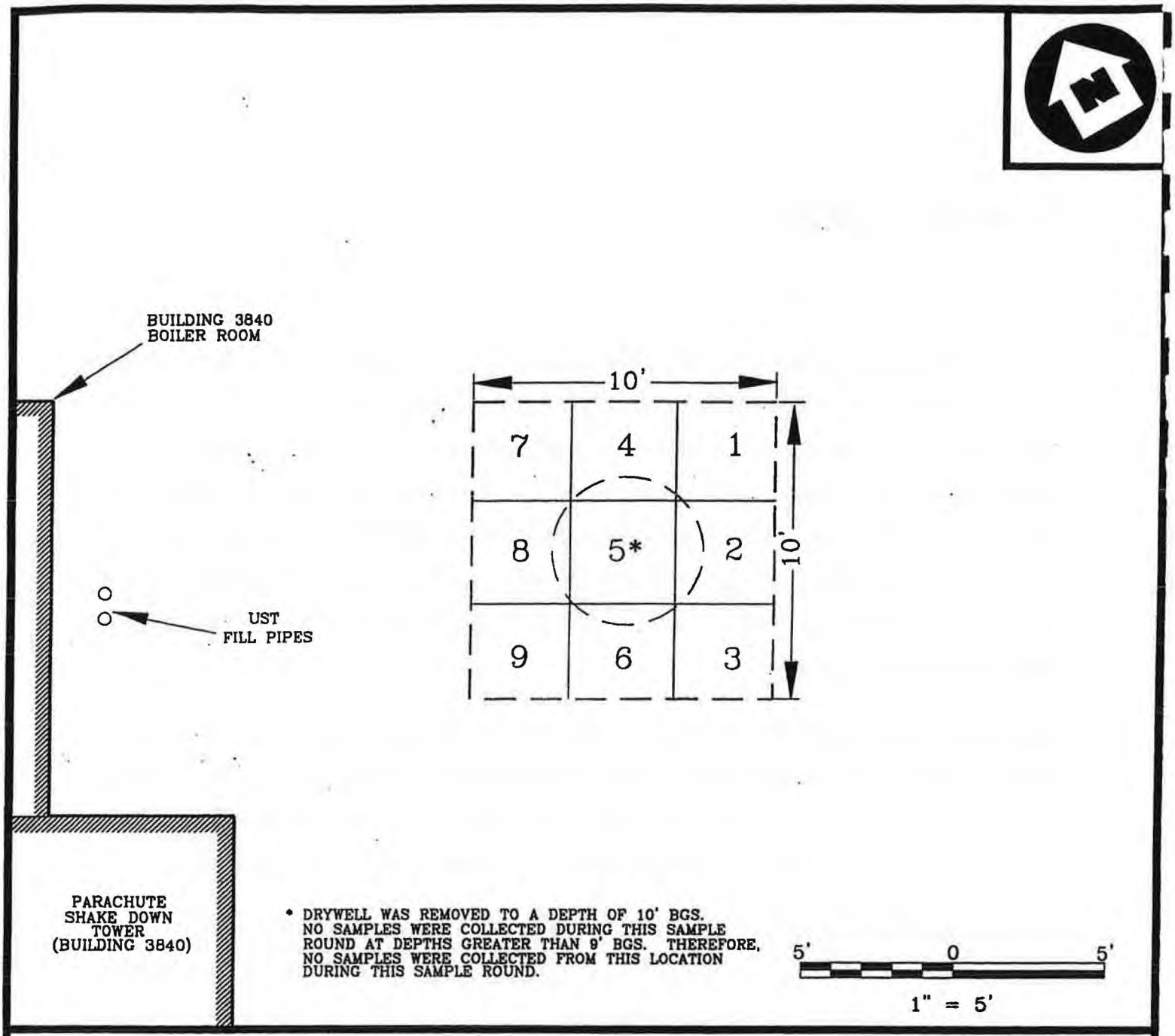
Based on findings identified during the ABB *RI* and previous investigations, WESTON arrived at AOC 50 in November 1996 to perform a time-critical removal action of the Building 3840 drywell and associated contaminated soils. Operations conducted by WESTON included attainment of appropriate clearance permits; removal oversight of PCE-contaminated sludge and related soils within the drywell for proper off-site disposal; excavation of the drywell and associated piping up to the building foundation; field analytical screening of the excavation limits; and collection of soil samples from the excavation limits and soil stockpiles for confirmatory and waste characterization laboratory analyses, respectively.

Clean Harbors, Inc. conducted the sludge removal activities utilizing a vactor truck. The sludge and dark stained sandy soil, located immediately beneath the sludge, were removed to the bottom of the open drywell system, at a depth of 8 feet bgs. In all, approximately seven cubic yards of PCE-contaminated soil/sludge material were removed from the drywell system (Attachment A).

Once the sludge and stained soils were removed, the drywell system and associated piping were excavated, up to the building foundation. The drywell consisted of concrete block material with porous openings to allow liquids to percolate into the subsurface. The subsurface pipe to the drywell consisted of clay and excavation of the pipe indicated cracks which may have been potential release points of contamination to the subsurface. The drywell and piping were placed into 30 yard roll-off containers to await waste characterization and off-site disposal.

3.1.2 Field Screening Activities

Following the removal of the drywell, WESTON collected field screen samples from the excavation at various depths using an excavator bucket. Approximated grid sections were established for the excavation sample locations as depicted in Figure 3-1. Grab soil samples were



LEGEND

LIMITS OF EXCAVATION

FORMER DRYWELL LOCATION

NOVEMBER 21, 1996
DRYWELL HEADSPACE SAMPLE LOCATIONS
AREA OF CONTAMINATION 50
MOORE ARMY AIR FIELD
DEVENS, MASSACHUSETTS

WESTON MANAGERS DESIGNERS/CONSULTANTS

FIGURE 3-1

collected from the excavator bucket which consisted of composites of the grid locations. The samples were collected from the walls and bottom of the excavation and were field screened for volatile organic compounds (VOCs) using a photo-ionization detector (PID). All headspace concentrations were compared to ambient background readings which were determined using statistical calculations from readings collected at several locations around the site. Field screen results were compared to the site action clean-up level of 0.5 ppm, as specified in the WESTON *Action Memorandum*. Soils, in which VOC concentrations were detected between 0.5 and 10 ppm, were designated to be stockpiled on-site pending laboratory analyses. Soils with VOC headspace concentrations in excess of 10 ppm were placed in 30 yard roll-off containers for off-site disposal.

Initially, a total of fourteen soil samples (DW-11-21-01 to -14) were collected from the drywell excavation. The limits of the excavation were approximately 10' x 10' to a maximum depth of 10 feet bgs where groundwater was encountered. Headspace VOC readings ranged in concentrations from 0.9 to 3.7 ppm which exceeded the site action clean-up level. Table 3-1 presents the sample locations, depths at which they were collected, and headspace results.

Table 3-1

Sample Summary of Headspace Results - AOC 50 Drywell
Composite Soil Samples Collected by WESTON on November 21, 1996

Sample Identification	Sample Location	Depth (feet bgs)[a]	Headspace Concentration (ppm)[b]
DW-11-21-01	1, 2, 3	3 - 5	1.4
DW-11-21-02	3, 6, 9	3 - 5	1.1
DW-11-21-03	Background	0 - 2	ND[c]
DW-11-21-04	9, 6, 3, 2, 8	3 - 5	1.1
DW-11-21-05	9, 6, 3, 2, 8	3 - 5	1.3
DW-11-21-06	9, 6, 3, 2, 8	5 - 7	0.9
DW-11-21-07	9, 6, 3, 2, 8	7 - 9	1.1
DW-11-21-08	7, 4, 1, 2, 8	5 - 7	1.1
DW-11-21-09	7, 4, 1, 2, 8	7 - 9	3.7
DW-11-21-10	7, 4, 1, 2, 8	7 - 9	0.9

Table 3-1 (Concluded)

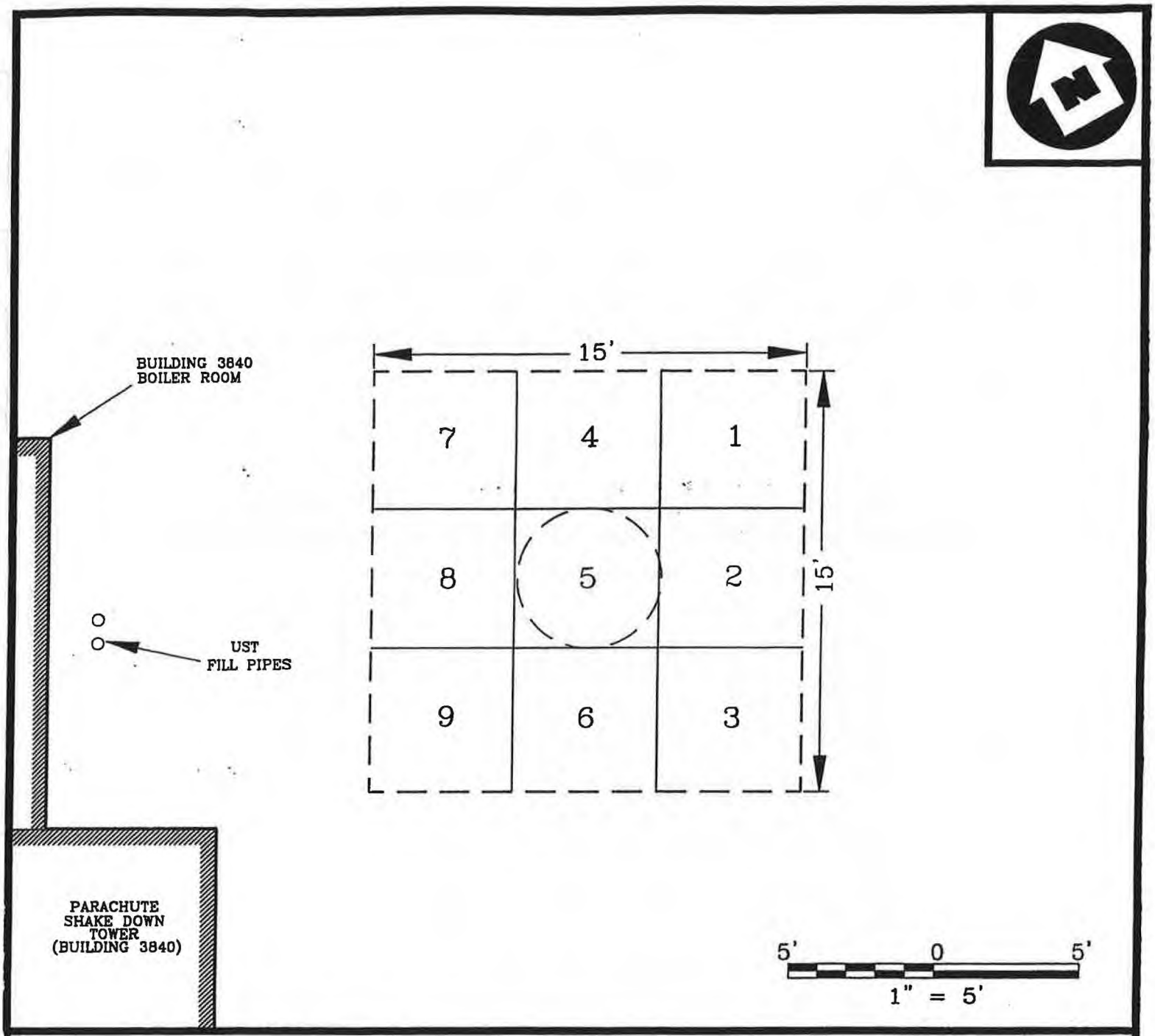
Sample Summary of Headspace Results - AOC 50 Drywell Composite Soil Samples Collected by WESTON on November 21, 1996

Sample Identification	Sample Location	Depth (feet bgs)[a]	Headspace Concentration (ppm)[b]
DW-11-21-11	7, 4, 1, 2, 8	7 - 9	2.7
DW-11-21-12	7, 4, 1, 2, 8	7 - 9	1.1
DW-11-21-13	7, 4, 1, 2, 8	7 - 9	0.9
DW-11-21-14	7, 4, 1, 2, 8	7 - 9	2.1

[a] bgs = below ground surface.
[b] ppm = parts per million.
[c] ND = not detected above background concentration.

In order to delineate the extent of VOC contamination around the former drywell system, WESTON continued to excavate and collect additional field screen samples. The limits of the excavation were extended an additional five feet in each direction. The vertical extent of the excavation did not exceed the depth to groundwater. WESTON collected an additional 20 soil samples (DW-11-22-01 to -20) from the drywell excavation using the same grid system. The soil samples were collected using an excavator bucket and were field screened for VOCs as before (Figure 3-2).

Headspace readings ranged in concentrations from 0.9 ppm to 64.6 ppm, which again exceeded the site action clean-up level of 0.5 ppm. The maximum concentration was detected in sample DW-11-22-16, along the west excavation wall at a depth between 7 to 10 feet bgs. One sample (DW-11-22-11) was collected directly beneath the former drywell system at the depth of groundwater (10 to 12 feet bgs). This sample yielded a headspace reading of 10 ppm indicating that VOC concentrations appeared to be decreasing with depth. The results of the field screen sampling distinguished that VOC contamination appeared to be predominantly contained in the overburden, at depths between 6 to 10 feet bgs, approximately 10 feet west of the former drywell system. Field screening also indicated that the contamination may have migrated beneath the Building 3840 foundation.



LEGEND

LIMITS OF EXCAVATION

FORMER DRYWELL LOCATION

NOVEMBER 22, 1996

DRYWELL HEADSPACE SAMPLE LOCATIONS

AREA OF CONTAMINATION 50
MOORE ARMY AIR FIELD
DEVENS, MASSACHUSETTS

WESTON MANAGERS DESIGNERS/CONSULTANTS

FIGURE 3-2

A 750-gallon fuel oil UST, formerly used to heat Building 3840, was located 12 feet west of the former drywell system, adjacent to the Building 3840 boiler room (Figure 2-2). Further unearthing of the west portion of the drywell excavation would have threatened the integrity of the UST and its contents. Therefore, WESTON stopped removal activities to evaluate the extent of contamination and the potential problems that the location of the existing UST presented. Table 2-2 presents the November 22, 1996 sample location, depths at which they were collected, and VOC headspace results.

Table 3-2

Sample Summary of Headspace Results - AOC 50 Drywell
Composite Soil Samples Collected by WESTON on November 22, 1996

Sample Identification	Sample Location	Depth (feet bgs)[a]	Headspace Concentration (ppm)[b]
DW-11-22-01	1, 2, 3	2 - 4	3.8
DW-11-22-02	3, 6, 9	2 - 4	3.7
DW-11-22-03	7, 8, 5, 4	4 - 8	11.3
DW-11-22-04	3, 6, 9	2 - 4	3.4
DW-11-22-05	1, 2, 3	4 - 6	1.4
DW-11-22-06	3, 6, 9	4 - 6	2.3
DW-11-22-07	3, 6, 9	6	0.9
DW-11-22-08	1, 2, 3	6	2.3
DW-11-22-09	5	8	12.6
DW-11-22-10	5	10	16.7
DW-11-22-11	5	10 - 12	10.0
DW-11-22-12	7, 8, 9	7 - 10	10.4
DW-11-22-13	8	7 - 10	14.5
DW-11-22-14	7	7 - 10	43.3
DW-11-22-15	4, 5	7 - 10	21.5
DW-11-22-16	8	7 - 10	64.6
DW-11-22-17	7, 8, 9	6 - 8	24.8
DW-11-22-18	7, 8, 9	6 - 8	42.0

Table 3-2 (Concluded)

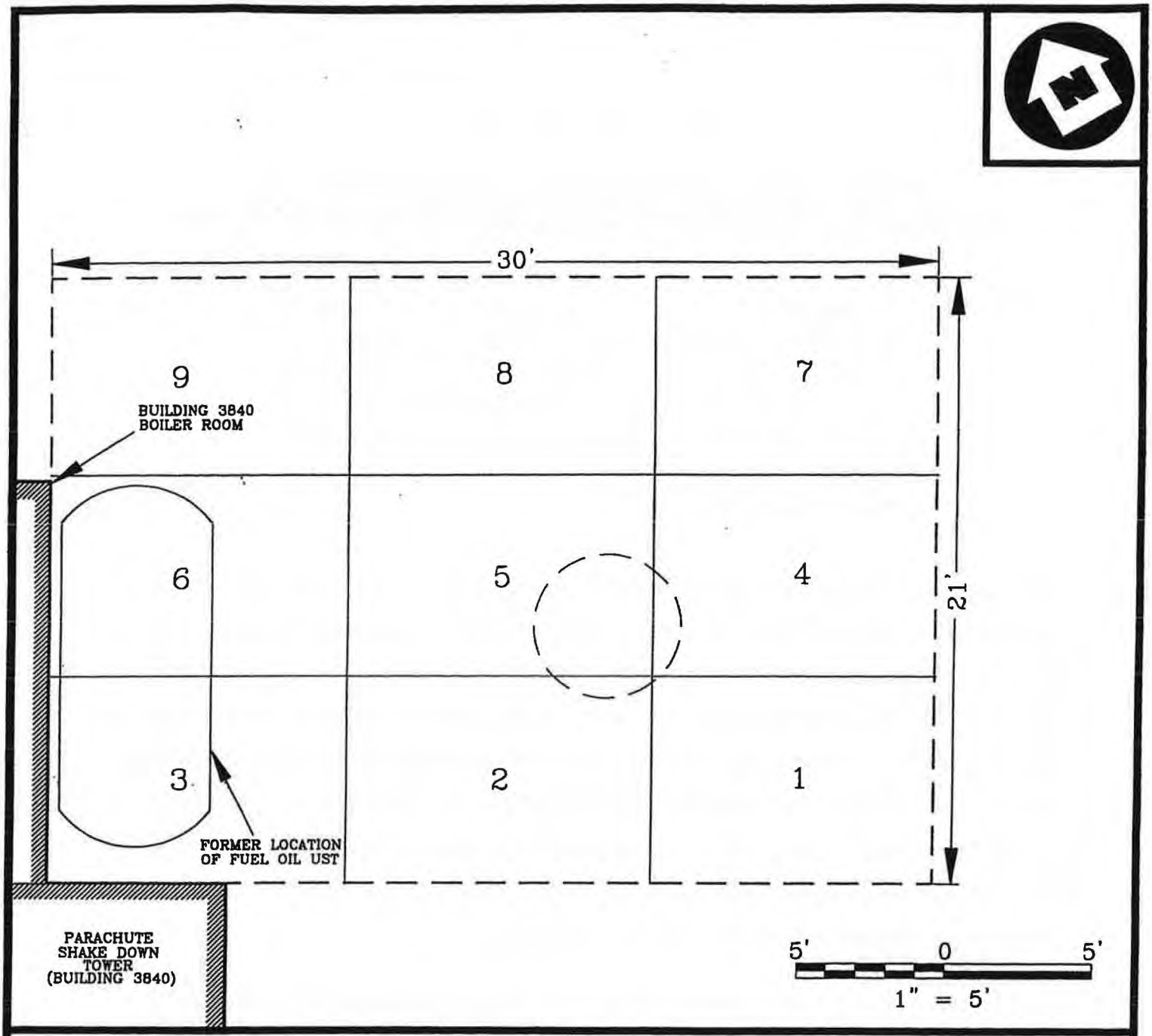
Sample Summary of Headspace Results - AOC 50 Drywell
Composite Soil Samples Collected by WESTON on November 22, 1996

Sample Identification	Sample Location	Depth (feet bgs)[a]	Headspace Concentration (ppm)[b]
DW-11-22-19	8	5	2.5
DW-11-22-20	7, 8, 9	7 - 10	28.1

[a]bgs = below ground surface
[b]ppm = parts per million

A decision was made to remove the 750-gallon UST in order to access the PCE contaminated soil along the west wall of the drywell excavation. Once the UST was removed, WESTON excavated an additional two feet of soil from each of the drywell excavation walls. The grid area was expanded, with the increase in the excavation limits, and an additional 16 soil samples (DW-12-03-01 to -16) were collected from the walls and floor of the drywell excavation (Figure 3-3). The soil samples were collected using an excavator bucket and were field screened for VOCs as before. Results ranged from non-detect in sample DW-12-03-04, taken along the south excavation wall between 3 to 5 feet bgs, to 44.0 ppm in sample DW-12-03-12, collected along the north excavation wall at a depth of 8 to 10 feet bgs.

Based on the high field screen readings detected along the north excavation wall, WESTON removed an additional two feet from that portion of the excavation. Fourteen more soil samples (DW-12-03-23 to -36) were collected from this location and along the central and west portions of the excavation where previous field screen results indicated elevated VOC concentrations (Figure 3-3). The highest headspace concentration detected was 10.3 ppm in soil sample DW-12-03-35. This sample was collected from the western portion of the excavation at a depth between 6 to 9 feet bgs. These results indicated that concentrations were decreasing with distance and depth from the former drywell. Table 3-3 presents the field screen sample locations and headspace results for the December 3, 1996 sampling event.



LEGEND

LIMITS OF EXCAVATION

FORMER DRYWELL LOCATION

DECEMBER 3, 1996

DRYWELL HEADSPACE SAMPLE LOCATIONS

AREA OF CONTAMINATION 50
MOORE ARMY AIR FIELD
DEVENS, MASSACHUSETTS

WESTON MANAGERS ENGINEERS/CONSULTANTS

FIGURE 3-3

Table 3-3

Sample Summary of Headspace Results - AOC 50 Drywell
Composite Soil Samples Collected by WESTON on December 3, 1996

Sample Identification	Sample Location	Depth (feet bgs)[a]	Headspace Concentration (ppm)[b]
DW-12-03-01	1, 2, 3	7 - 8	1.1
DW-12-03-02	4, 5, 6	7 - 8	1.3
DW-12-03-03	1, 4, 2, 5	7 - 8	1.5
DW-12-03-04	2 wall	3 - 5	ND[c]
DW-12-03-05	2 wall	6 - 8	0.3
DW-12-03-06	2 wall	8 - 10	2.9
DW-12-03-07	4 wall	3 - 5	0.6
DW-12-03-08	4 wall	6 - 8	0.4
DW-12-03-09	4 wall	8 - 10	1.5
DW-12-03-10	8 wall	3 - 5	1.0
DW-12-03-11	8 wall	6 - 8	7.6
DW-12-03-12	8 wall	8 - 10	44.0
DW-12-03-13	1, 2, 3	6 - 8	2.8
DW-12-03-14	1, 4	6 - 8	3.1
DW-12-03-15	2, 5	6 - 8	1.1
DW-12-03-16	1, 4, 2, 5	7 - 9	1.3
DW-12-03-23	8	4 - 6	2.3
DW-12-03-24	8	4 - 6	6.1
DW-12-03-25	8	6 - 8	3.6
DW-12-03-26	8 wall	5	1.3
DW-12-03-27	8 wall	6 - 8	3.1
DW-12-03-28	8 wall	8 - 10	1.6
DW-12-03-29	7	6 - 9	1.7
DW-12-03-30	5	5 - 8	1.8
DW-12-03-31	5	5 - 8	3.9
DW-12-03-32	5	6 - 9	2.5
DW-12-03-33	5, 6	5	7.6
DW-12-03-34	5, 6	5 - 6	2.8

Table 3-3 (Concluded)

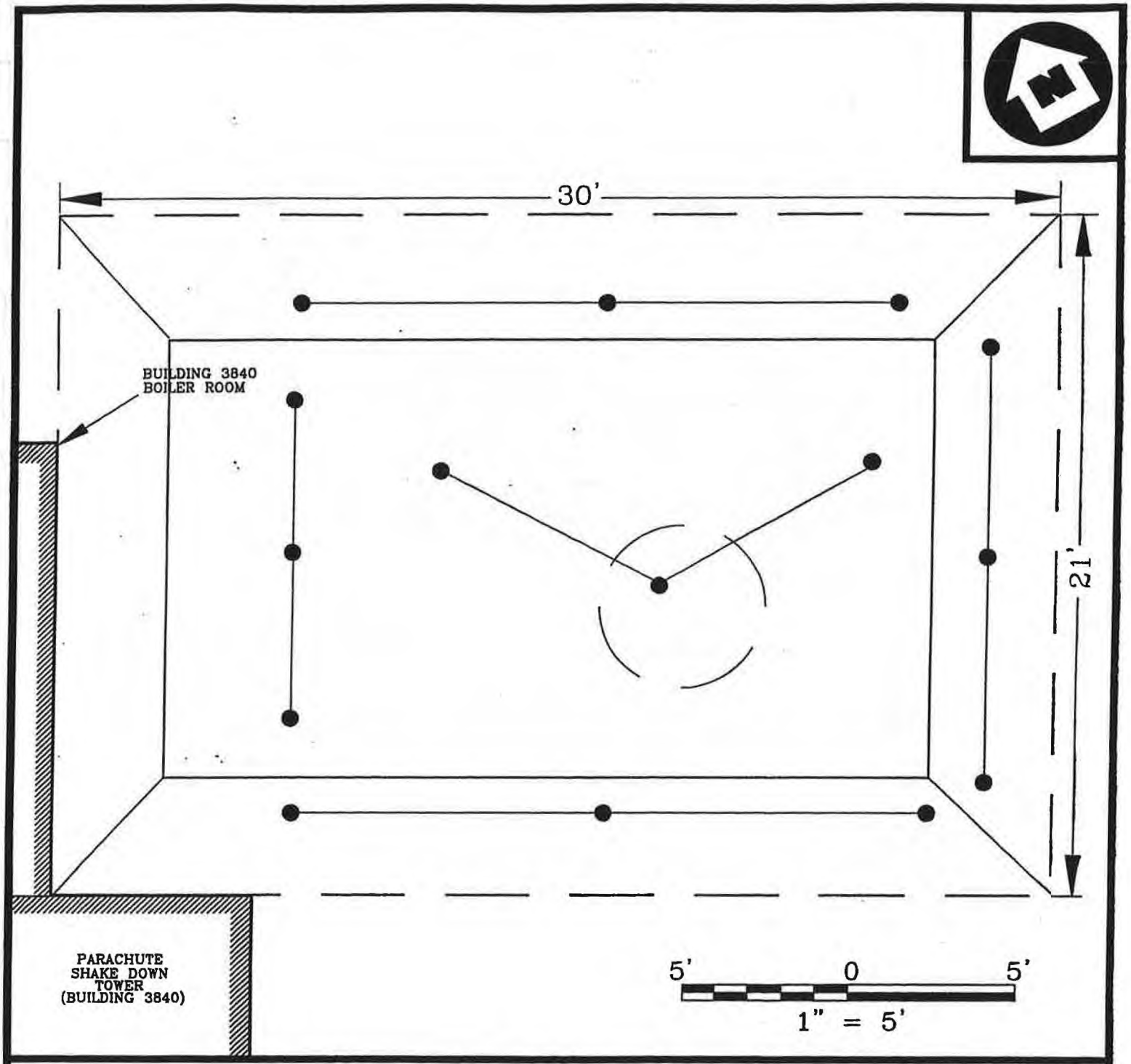
Sample Summary of Headspace Results - AOC 50 Drywell
Composite Soil Samples Collected by WESTON on December 3, 1996

Sample Identification	Sample Location	Depth (feet bgs)[a]	Headspace Concentration (ppm)[b]
DW-12-03-35	5, 6	6 - 9	10.3
DW-12-03-36	5, 6	6 - 9	6.1

[a]bgs = below ground surface
[b]ppm = parts per million
[c]ND = not detected above background concentration

3.1.3 Confirmatory Sampling Analysis

Although, headspace results indicated contamination concentrations in excess of the site action clean-up level for VOCs, further excavation may have compromised the integrity of the Building 3840 foundation. In addition, headspace results indicated a decreasing contamination trend away from the location of the former drywell. As a result, on December 3, 1996, WESTON collected a total of six confirmatory soil samples (AOC50-NW; -SW; -WW; -EW; -BOT; -DUP) from the walls and floor of the excavation, including a duplicate sample (Figure 3-4). A total of six composite soil samples were collected and were submitted to OHM Remediation Services Corporation (OHM) Analytical Division for VOCs using USEPA Method 8240. The samples were collected as composites rather than as grab samples, as is customary for VOC analysis, in order to obtain enhanced representative data of the entire excavation area. Table 3-4 presents the samples locations and depths at which they were collected.



LEGEND

LIMITS OF EXCAVATION

FORMER DRYWELL LOCATION

DRYWELL CONFIRMATORY SAMPLE LOCATIONS
AREA OF CONTAMINATION 50
MOORE ARMY AIR FIELD
DEVENS, MASSACHUSETTS

WESTON MANAGERS DESIGNERS/CONSULTANTS

FIGURE 3-4

Table 3-4

Confirmatory Sample Summary - AOC 50 Drywell
Composite Soil Samples Collected by WESTON on December 3, 1996

Sample Identification	Sample Location	Depth (feet bgs)[a]
AOC50-NW	north wall of excavation	9
AOC50-SW	south wall of excavation	7
AOC50-WW	west wall of excavation	8
AOC50-EW	east wall of excavation	8
AOC50-BOT	Bottom of excavation	10
AOC50-DUP	Duplicate of AOC50-BOT	10

[a]bgs = below ground surface

Laboratory analytical results indicated a PCE concentration of 0.648 ppm in soil sample AOC50-BOT to exceed the MCP Method 1 S-1/GW-1 action level of 0.5 ppm. This soil sample was collected at the depth of groundwater at 10 feet bgs, which was designated as the maximum depth of excavation. No other VOC concentrations were detected above laboratory detection limits in any of the other soil samples. The laboratory detection limits are less than the applicable S-1/GW-1 and USEPA commercial/industrial RBC regulatory guidelines (Attachment B).

3.1.4 Waste Characterization Analyses

In all, approximately 45 cubic yards of PCE-contaminated soil were removed from the drywell excavation and were placed into roll-off containers pending waste characterization analyses. A total of three roll-off containers were used to store contaminated soils generated from the drywell area. Waste characterization analyses indicated a maximum PCE concentration of 0.42 ppm (Attachment C). The soils were classified as F002 waste and were transported to the Wayne Disposal, Inc. Landfill in Belleville, Michigan, along with approximately 45 cubic yards of soil and sludge generated during the cesspool removal activities at AOC 50 (Attachment A).

Approximately 15 cubic yards of soils, generated during drywell removal activities, were stockpiled on-site after being field screened for VOCs using a PID and yielding concentrations between 0.5 and 10 ppm. One grab soil sample (AOC50-CP2) was collected from the drywell stockpiled soil and was submitted for VOCs using USEPA Method 8240 (Attachment B). No VOC concentrations were detected above laboratory detection limits. Based on laboratory results, the soil was later used to backfill the drywell excavation.

3.2 CESSPOOL REMOVAL ACTION

3.2.1 Removal Activities

Previous interviews with former Fort Devens personnel and subsurface exploration sampling conducted by ABB during the on-going *RI* indicated that PCE may have also been disposed in the Building 3803 cesspool. In November 1997, WESTON performed a time-critical removal action of the Building 3803 cesspool and associated contaminated soils. Operations conducted by WESTON included attainment of appropriate clearance permits; oversight of sludge and soil removal activities within the cesspool for proper off-site disposal; excavation of the cesspool and associated piping up to the building foundation; field analytical screening of the excavation limits; and collection of soil samples from the excavation limits and soil stockpiles for confirmatory and waste characterization laboratory analyses, respectively.

A one foot thick, reinforced concrete pad covered the cesspool and was buried approximately 1.5 feet bgs. The cesspool was approximately ten feet in diameter and consisted of piled rock sidewalls to allow for easy percolation into the subsurface. The total depth of the cesspool was approximately ten feet bgs. The cesspool pipeline, extending from Building 3803, consisted of six-inch diameter clay pipe of 2.5-foot lengths. The depth of the pipeline was approximately four feet bgs. Groundwater was not encountered during excavation of the cesspool. However, based on groundwater data from nearby monitoring wells, the depth of the water table is approximately 12 feet bgs.

The top of sludge was at six feet bgs and extended to the bottom of the cesspool at ten feet bgs. A fine sand layer, which appeared to be natural, existed beneath the sludge. The sludge material was

fairly solid due to the recent inactivity at Building 3803 and was able to be removed utilizing a backhoe bucket. All sludge material removed from the cesspool was placed into 30 yard roll-off containers to await waste characterization and off-site disposal.

3.2.2 Field Screening Activities

Following the removal of the cesspool and associated sludge, WESTON collected grab field screen samples from the excavation utilizing a backhoe bucket. The samples were collected from the walls and bottom of the excavation and were field screened for headspace VOCs using a PID. All headspace concentrations were compared to ambient background readings which were determined using statistical calculations from readings collected at several locations around the site. Field screen results were compared to the site action clean-up level of 0.5 ppm, as specified in the WESTON *Action Memorandum*. Soils, in which VOC concentrations were detected between 0.5 and 10 ppm, were designated to be stockpiled on-site pending laboratory analyses. Any soil in which VOC field screen results yielded concentrations in excess of 10 ppm were placed in 30 yard roll-off containers for off-site disposal.

A total of 15 field screen samples (CP-12-04-01 to -15) were collected from the cesspool excavation. The limits of the excavation were approximately 15' x 15' to a maximum depth of 10 feet bgs (Figure 3-5). None of the field screen soil samples indicated headspace results above ambient background concentrations. Table 3-5 presents the sample locations, depths at which they were collected, and headspace results.

Table 3-5

Sample Summary of Headspace Results - AOC 50 Cesspool
Grab Soil Samples Collected by WESTON on December 4, 1996

Sample Identification	Sample Location	Depth (feet bgs)[a]	Headspace Concentration (ppm)[b]
CP-12-04-01	north wall of excavation	5	ND[c]
CP-12-04-02	north wall of excavation	7	ND
CP-12-04-03	north wall of excavation	5	ND

Table 3-5 (Concluded)

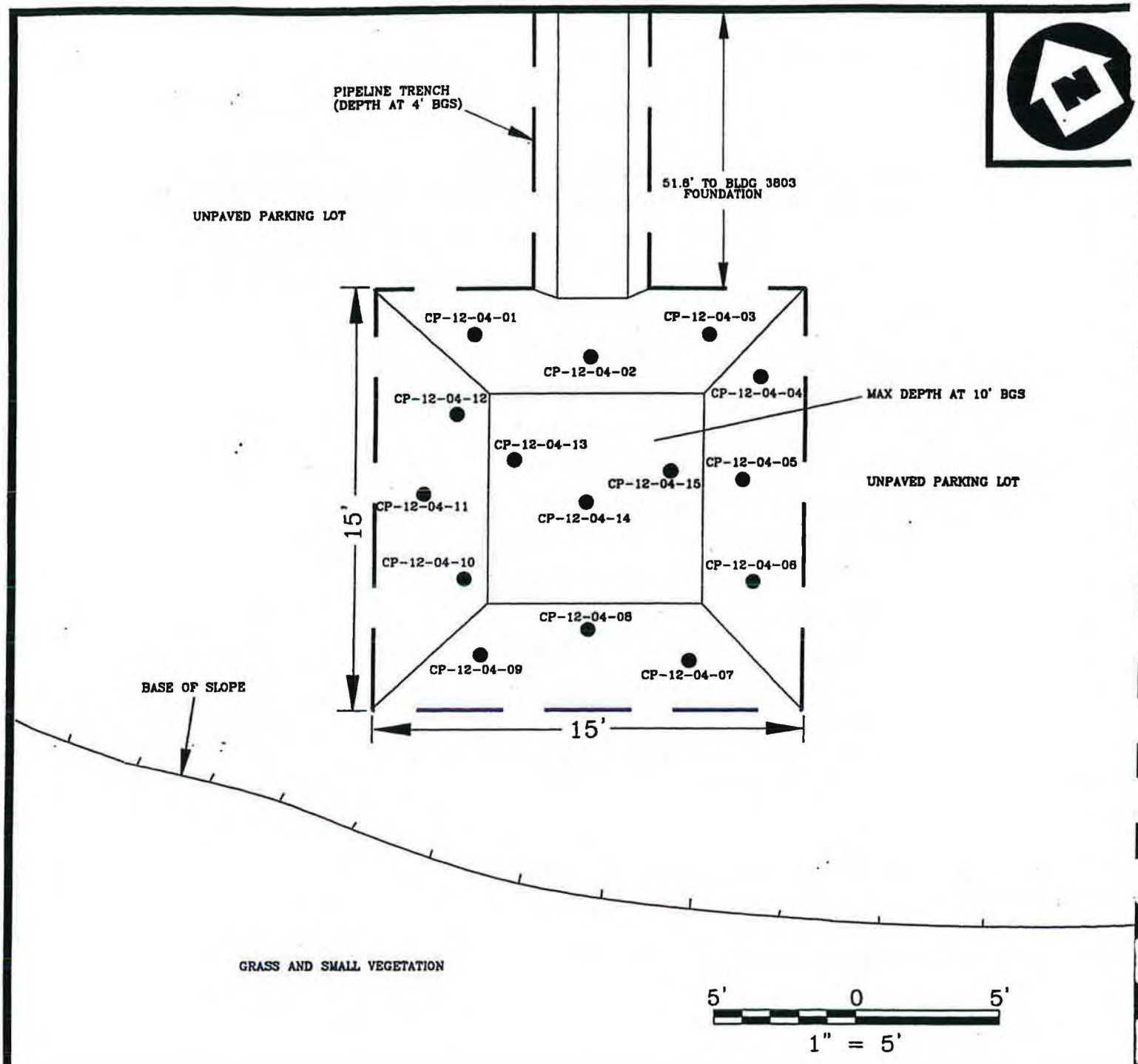
Sample Summary of Headspace Results - AOC 50 Cesspool Grab Soil Samples Collected by WESTON on December 4, 1996

Sample Identification	Sample Location	Depth (feet bgs)[a]	Headspace Concentration (ppm)[b]
CP-12-04-04	east wall of excavation	5	ND
CP-12-04-05	east wall of excavation	6	ND
CP-12-04-06	east wall of excavation	5	ND
CP-12-04-07	south wall of excavation	4	ND
CP-12-04-08	south wall of excavation	6	ND
CP-12-04-09	south wall of excavation	4	ND
CP-12-04-10	west wall of excavation	7	ND
CP-12-04-11	west wall of excavation	4	ND
CP-12-04-12	west wall of excavation	7	ND
CP-12-04-13	bottom of excavation	9	ND
CP-12-04-14	bottom of excavation	9	ND
CP-12-04-15	bottom of excavation	9	ND

[a]bgs = below ground surface
[b]ppm = parts per million
[c]ND = not detected above background concentration

3.2.3 Confirmatory Laboratory Analysis

Based on field screen results indicating headspace concentrations below the site action clean-up goal at the former cesspool location, WESTON collected a total of five grab confirmatory soil samples (AOC50-CP-NW; -SW; -EW; -WW; -B) utilizing a backhoe bucket (Figure 3-6). All five soil samples were submitted to OHM Analytical Division for VOCs using USEPA Method 8240. Table 3-6 presents the samples locations and depths at which they were collected.



LEGEND

LIMITS OF EXCAVATION

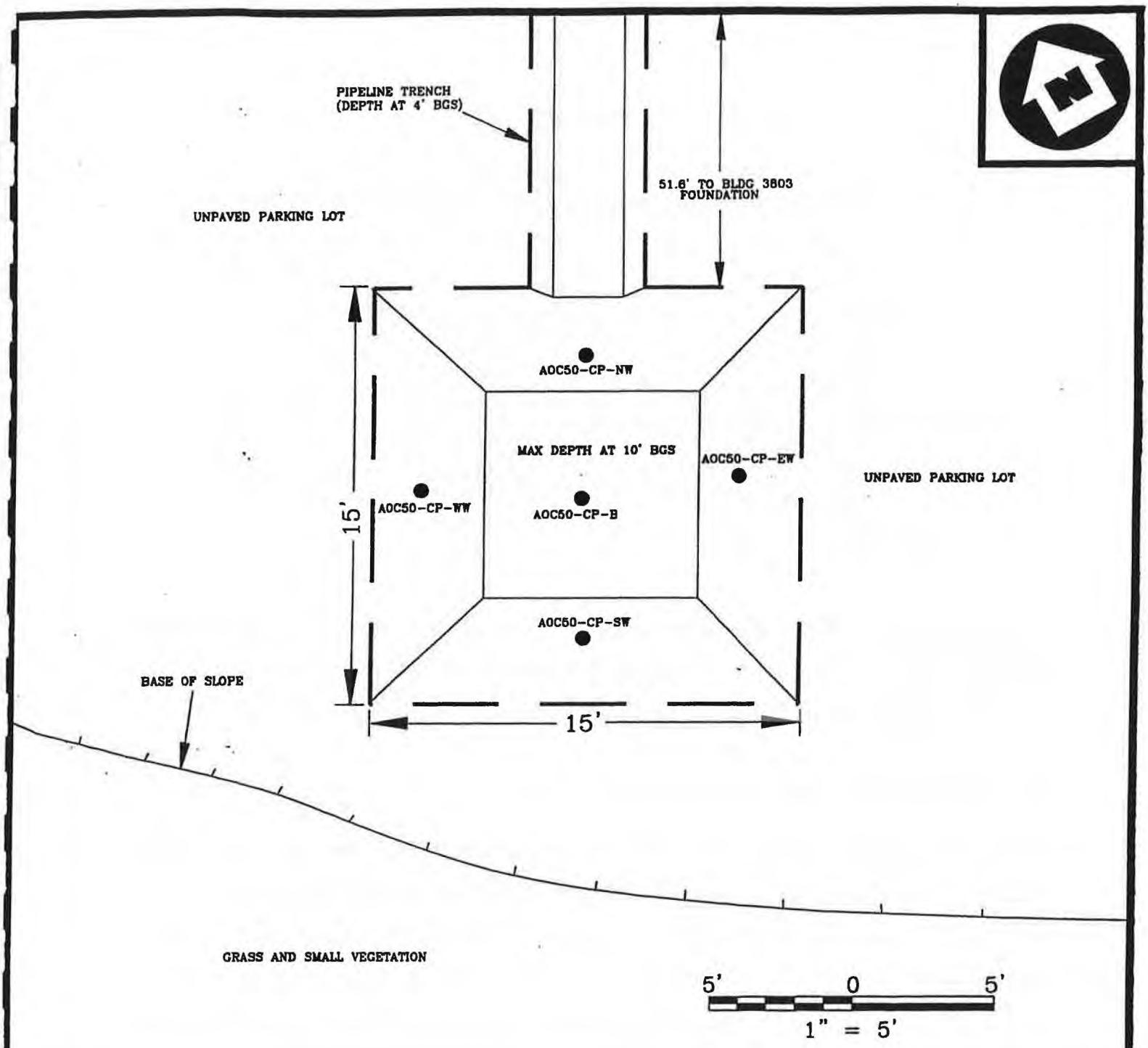
SLOPE, TICKS FACING DOWNHILL

CP-12-04-06 WESTON HEADSPACE SAMPLE LOCATION

CESSPOOL HEADSPACE SAMPLE LOCATIONS
AREA OF CONTAMINATION 50
MOORE ARMY AIR FIELD
DEVENS, MASSACHUSETTS

WESTON MANAGERS DESIGNERS/CONSULTANTS

FIGURE 3-5



LEGEND

LIMITS OF EXCAVATION

SLOPE, TICKS FACING DOWNHILL

AOC50-CP-NW — WESTON CONFIRMATORY SAMPLE LOCATION

CESSPOOL CONFIRMATORY SAMPLE LOCATIONS
AREA OF CONTAMINATION 50
MOORE ARMY AIR FIELD
DEVENS, MASSACHUSETTS

WESTON MANAGERS DESIGNERS/CONSULTANTS

FIGURE 3-6

Table 3-6

Confirmatory Sample Summary - AOC 50 Cesspool
Grab Soil Samples Collected by WESTON on December 4, 1996

Sample Identification	Sample Location	Depth (feet bgs)[a]
AOC50-CP-NW	north wall of excavation	7
AOC50-CP-SW	south wall of excavation	6
AOC50-CP-WW	west wall of excavation	4
AOC50-CP-EW	east wall of excavation	6
AOC50-CP-B	bottom of excavation	9

[a]bgs = below ground surface

Laboratory analytical results did not indicate any VOC concentrations to exceed their respective detection limits. All of the laboratory detection limits are less than the applicable S-1/GW-1 and USEPA commercial/industrial RBC regulatory guidelines (Attachment B).

3.2.4 Waste Characterization Analyses

In all, approximately 45 cubic yards of soil and sludge were removed from within the cesspool excavation and were placed into roll-off containers pending waste characterization analyses. A total of three roll-off containers were used to store contaminated soils generated from the cesspool area. Soil samples were collected and submitted for waste characterization analyses along with soils generated during drywell removal activities. Analytical results indicated a maximum PCE concentration of 0.42 ppm (Attachment C). The soils were classified as F002 waste and were transported to the Wayne Disposal, Inc. Landfill in Belleville, Michigan (Attachment A).

Approximately 20 cubic yards of soils, generated during cesspool removal activities, were stockpiled on-site after being field screened for VOCs using a PID and yielding concentrations between 0.5 and 10 ppm. One grab soil sample (AOC50-CP3) was collected from the cesspool stockpiled soil and was submitted for VOCs using USEPA Method 8240 (Attachment B). No

VOC concentrations were detected above laboratory detection limits. Based on laboratory results, the soil was later used to backfill the cesspool excavation.

3.3 FUEL OIL UST REMOVAL ACTION

3.3.1 Removal Activities

Field screen headspace results for soil samples collected during drywell removal activities indicated VOC contamination to be migrating beneath the 750-gallon UST located adjacent to the Building 3840 boiler room. A decision was made to remove the UST in order to access the contaminated soils. Therefore, in November 1996, WESTON performed a time-critical removal action of the 750-gallon fuel oil UST along with associated petroleum contaminated soils. Operations conducted by WESTON included attainment of appropriate permits (Attachment D); oversight of tank cleaning and removal activities; field analytical screening; collection of soil samples for confirmatory laboratory analyses; and the excavation of associated contaminated soils.

During inspection of the Building 3840 boiler room, it was discovered that the fuel oil UST had been previously disconnected and subsequently replaced with an aboveground storage tank, currently located within the boiler room. The fuel lines to the UST were detached from the boiler and severed at the boiler room foundation. The UST was then abandoned in-place.

Initial examination of the UST indicated it to be filled with product; however, during the removal of useable product from the tank by Peoples Fuel, it was discovered that the contents of the UST was primarily water. It is suspected that the water breached the tank at the connection of the fill pipe to the UST. Tank cleaning activities were conducted by New England Disposal Technologies which contracted Fleet Environmental Services to remove the oil/water contents within the UST. In all, 787 gallons of oil/water and residual sludge were removed from the UST and transported off-site for proper disposal (Attachment A).

Excavation of soils surrounding the UST fill pipe indicated visible staining of soils from petroleum contamination. These soils were removed from around the UST and were stockpiled separately from clean soils surrounding the tank pending VOC headspace field screen results.

Prior to the extraction of the UST from the ground, both the top and sidewalls of the UST, in addition to stockpiled soils, were inspected by Chief Richard Hewitt of the Devens Fire Department in order to determine the impact of the fill pipe release. It appeared that the contaminated soils surrounding the accessible sidewalls of the UST had been adequately removed and Chief Hewitt authorized the removal of the tank.

Once the UST was removed from the ground, it was knocked several times around its diameter with a sledge-hammer in order to remove any loose scaling and to expose any cracks or weak areas where product may have been released. The UST appeared to be in good condition; however, dark staining was observed along the sides of the UST. This staining was most likely associated with the overflow of product within UST as a result of the breached area at the base of the fill pipe. Soil immediately beneath the location of the UST was visibly stained and a strong petroleum odor was observed. In addition, dark stained soils were observed to migrate beneath the boiler room foundation.

3.3.2 Field Screening Activities

11/25 11/26 11/27

On November 27, 1996, following the removal of the UST from the ground, WESTON collected six composite soil samples (UST-11-27-NW; -SW; -EW; -WW; -B1; and B2) from the floor and walls of the excavation (Figure 3-7). These soil samples were field screened for TPH using non-dispersive infra-red (NDIR). Table 3-7 presents the sample locations, the depth from which they were collected, and field screen results.

Table 3-7

Sample Summary of Field Screen Results - AOC 50 UST
Composite Soil Samples Collected by WESTON on November 27, 1996

Sample Identification	Sample Location	Depth (feet bgs)[a]	TPH Field Screen Results (ppm)[b]
UST-11-27-NW	north wall of UST excavation	3 - 5	507
UST-11-27-SW	south wall of UST excavation	3 - 5	46J[c]

Table 3-7 (Concluded)

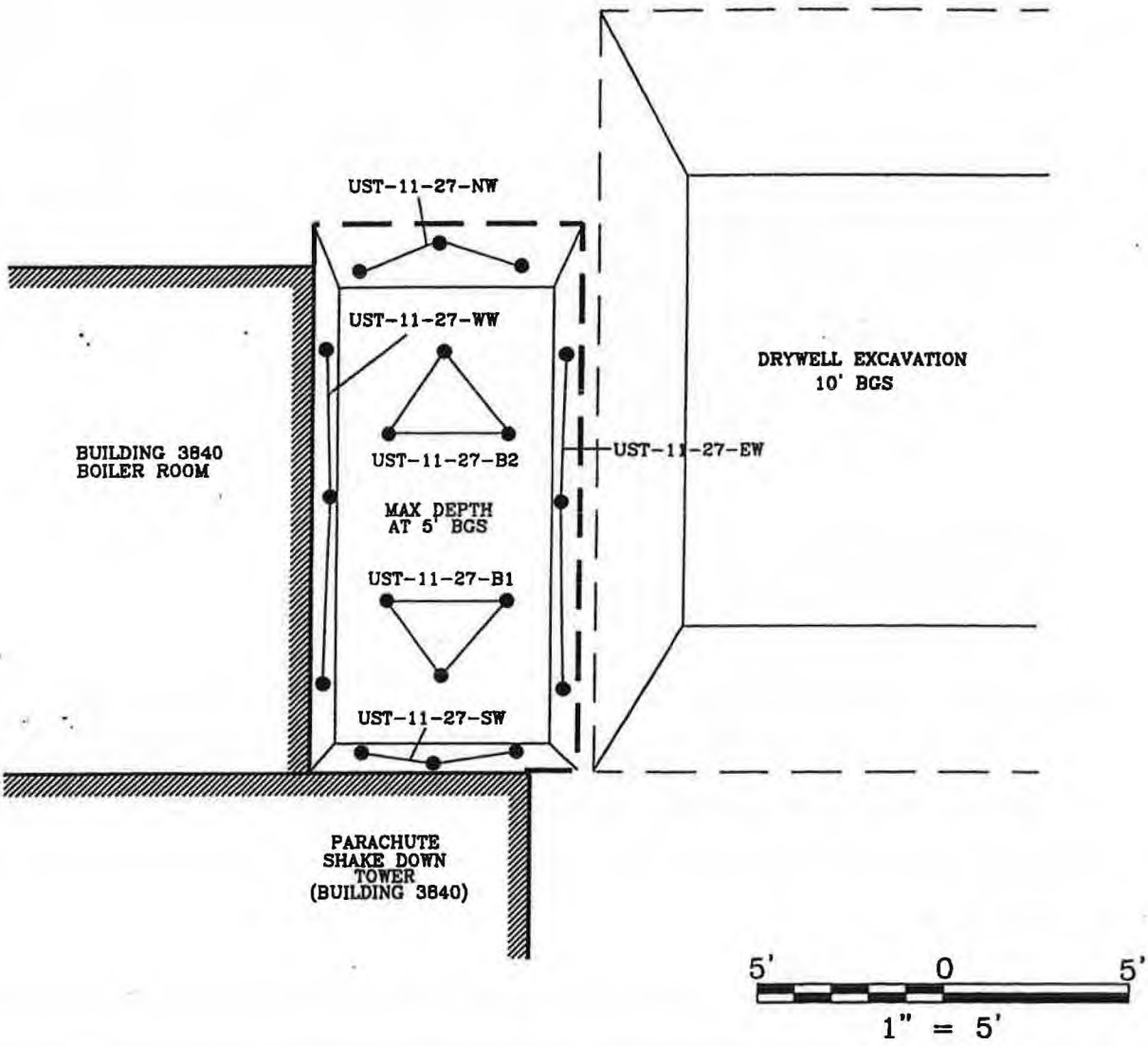
Sample Summary of Field Screen Results - AOC 50 UST
Composite Soil Samples Collected by WESTON on November 27, 1996

Sample Identification	Sample Location	Depth (feet bgs)[a]	TPH Field Screen Results (ppm)[b]
UST-11-27-EW	east wall of UST excavation	3 - 5	46J
UST-11-27-WW	west wall of UST excavation	3 - 5	1041
UST-11-27-B1	south portion of bottom of UST excavation	5	259
UST-11-27-B2	north portion of bottom of UST excavation	5	1671

[a]bgs = below ground surface
[b]ppm = parts per million
[c]J = the associated number is an estimated quantity only

Field screen results indicated TPH concentrations in three of the sample locations (UST-11-27-NW; -WW; and -B2) to exceed the site action clean-up goal of 500 ppm. The highest concentration being 1,671 ppm which was detected in soil sample UST-11-27-B2. This sample was collected from the southern half of the bottom of the excavation at a depth of five feet bgs (Figure 3-7).

Based on initial field screen results, WESTON continued excavating the north and west walls and the bottom of the excavation. Excavation along the northwest portion of the excavation indicated a plume of petroleum contamination to follow the boiler room foundation around the northern portion of the building. Excavation to the bottom of the boiler room foundation at six feet bgs indicated that product had migrated beneath the building. Further excavation along the west side of the UST excavation may have potentially threatened the integrity of the boiler room foundation. As a result, excavation activities ceased. In all, approximately 25 cubic yards of contaminated soil associated with the former UST were excavated and stockpiled on-site pending waste characterization analyses.



LEGEND

LIMITS OF UST EXCAVATION

WESTON COMPOSITE FIELD SCREEN SAMPLE LOCATION

NOVEMBER 27, 1996
UST FIELD SCREEN SAMPLE LOCATIONS
AREA OF CONTAMINATION 50
MOORE ARMY AIR FIELD
DEVENS, MASSACHUSETTS

WESTON MANAGERS DESIGNERS/CONSULTANTS

FIGURE 3-7

On December 4, 1996, WESTON collected three additional composite soil samples (UST-12-04-NW; -SW; -B) from the north and south walls and the floor of the UST excavation to field screen for TPH (Figure 3-8). At this time, the east wall of the UST excavation had been completely removed and was adjoined to the former drywell excavation. In addition, TPH contamination was confirmed to exist beneath the boiler room foundation, along the west wall of the UST excavation. As a result, no soil samples were collected along these portions of the UST excavation for field screen purposes.

Field screen results indicated concentrations less than the method detection limit of 125 ppm in all three soil sample locations. Table 3-8 presents the sample locations, the depth from which they were collected, and field screening results.

Table 3-8

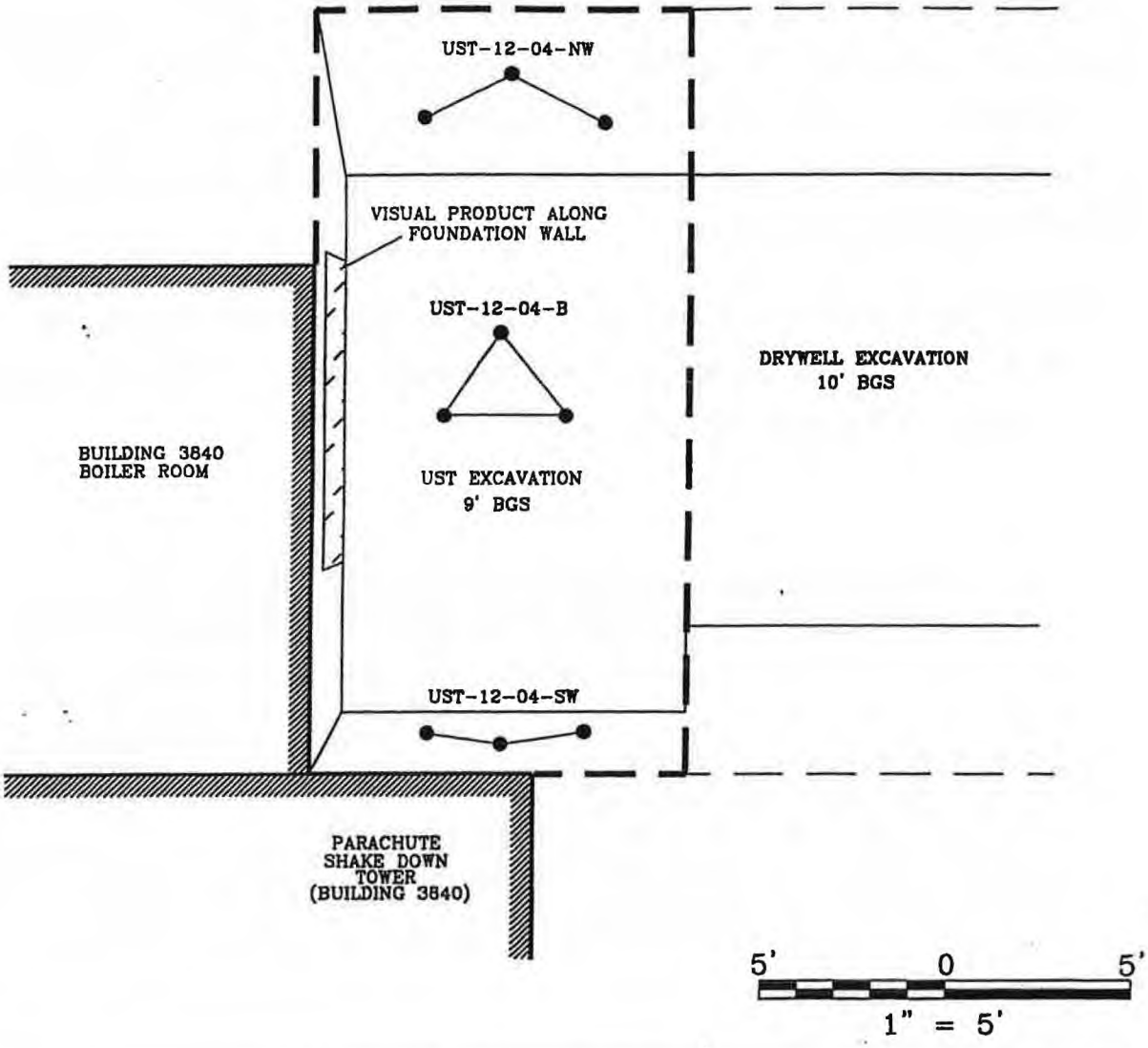
Sample Summary of Field Screen Results - AOC 50 UST
Composite Soil Samples Collected by WESTON on December 4, 1996

Sample Identification	Sample Location	Depth (feet bgs)[a]	TPH Field Screen Results (ppm)[b]
UST-12-04-NW	north wall of UST excavation	3 - 6	62J[c]
UST-12-04-SW	south wall of UST excavation	5 - 6	65J
UST-12-04-B	bottom of UST excavation	9	92J

[a]bgs = below ground surface
[b]ppm = parts per million
[c]J = the associated number is an estimated quantity only

3.3.3 Confirmatory Laboratory Analysis

On December 9, 1996, WESTON collected five composite soil samples (AOC50-T-NW; -SW; -WW; -B; -DUP) from the UST excavation to be submitted for confirmatory laboratory analyses (Figure 3-9). The soil samples were sent to Alpha Analytical Laboratories for volatile petroleum hydrocarbons (VPH) and extractable petroleum hydrocarbons



LEGEND

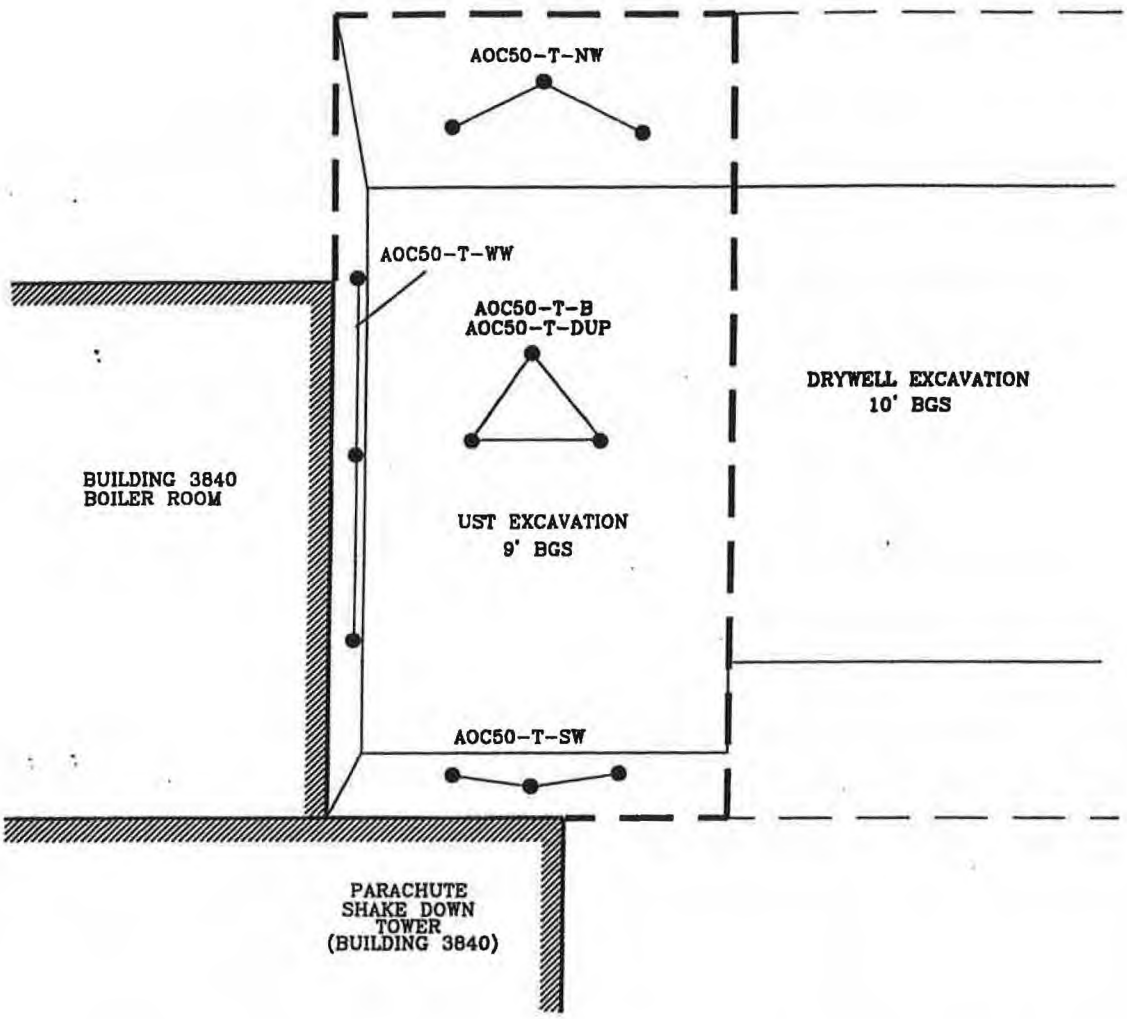
LIMITS OF UST EXCAVATION

WESTON COMPOSITE FIELD SCREEN SAMPLE LOCATION

DECEMBER 4, 1996
UST FIELD SCREEN SAMPLE LOCATIONS
AREA OF CONTAMINATION 50
MOORE ARMY AIR FIELD
DEVENS, MASSACHUSETTS

WESTON MANAGERS DESIGNERS/CONSULTANTS

FIGURE 3-8



5' 0 5'

1" = 5'

LEGEND

LIMITS OF UST EXCAVATION

WESTON COMPOSITE FIELD SCREEN SAMPLE LOCATION

UST CONFIRMATORY SAMPLE LOCATIONS
AREA OF CONTAMINATION 50
MOORE ARMY AIR FIELD
DEVENS, MASSACHUSETTS

WESTON MANAGERS DESIGNERS/CONSULTANTS

FIGURE 3-9

(EPH) analyses. Table 3-9 presents the sample summary for the soil samples submitted for confirmatory laboratory analyses.

Table 3-9

Confirmatory Sample Summary - AOC 50 UST
Composite Soil Samples Collected by WESTON on December 9, 1996

Sample Identification	Sample Location	Depth (feet bgs)*
AOC50-T-NW	north wall of UST excavation	3 - 6
AOC50-T-SW	south wall of UST excavation	5 - 6
AOC50-T-WW	west wall - below boiler room foundation	7
AOC50-T-B	bottom of UST excavation	9
AOC50-T-DUP	duplicate of AOC50T-B	9

*bgs = below ground surface

Analytical results for soil samples collected from the UST excavation were compared to MCP Method 1 S-2/GW-1 regulatory guidelines. Confirmatory analyses indicated VPH concentrations above laboratory detection limits in all five soil samples; however, none of the data exceeded the applicable S-2/GW-1 action levels. Several VOCs were detected above laboratory detection limits in soil samples AOC50-T-WW. Naphthalene was detected at 16.7 ppm, which exceeds the applicable regulatory standard of 4 ppm; however, the mean concentration for naphthalene for the five samples is less than 4 ppm. In addition to naphthalene, EPH and polyaromatic hydrocarbon (PAH) concentrations were detected above laboratory detection limits in soil sample AOC50-T-WW. The EPH C_{10} - C_{22} Aromatic fraction indicated a concentration of 1,420 ppm which exceeds the S-2/GW-1 benchmark of 200 ppm. The mean concentration of this fraction for the five samples collected is 284 ppm, which remains above the applicable standard. A PAH concentration of benzo(b)fluoranthene at 0.929 ppm was detected above the S-2/GW-1 regulatory guideline of 1 ppm. The mean concentration of this target compound for the five samples is less than the S-2/GW-1 standard. (Attachment E). Table 3-10

presents the mean analytical results for the confirmatory soil samples collected from the UST excavation and their comparison to regulatory guidelines.

Table 3-10

Mean Analytical Results - AOC 50 UST
Composite Soil Samples Collected by WESTON on December 9, 1996

Compound	Mean Concentration (ppm)[a]	MCP S-2/GW-1 Regulatory Level (ppm)
VPH[b]		
C_5 - C_8 Aliphatics	4.5	500
C_9 - C_{12} Aliphatics	1.75	2,500
C_9 - C_{10} Aromatics	13.40	300
EPH[d]		
C_9 - C_{18} Aliphatics	45	2,500
C_{19} - C_{36} Aliphatics	0.824	5,000
C_{10} - C_{22} Aromatics	**284[f]**	200
VOCs[c]		
Ethylbenzene	0.03	80
Naphthalene	3.34	4
1,2,4-Trimethylbenzene	0.03	10,000[g]
PAHs[e]		
Acenaphthene	2.98	20
Acenaphthylene	0.22	100
Anthracene	0.37	2,500
Benzo(b)fluoranthene	0.19	1
Phenanthrene	0.42	700

[a]ppm = parts per million
[b]VPH = volatile petroleum hydrocarbon
[c]VOC = volatile organic compound
[d]EPH = extractable petroleum hydrocarbon
[e]PAH = polyaromatic hydrocarbon
[f]**Bold** numbering indicates mean concentration exceeds applicable Method 1 S-2/GW-1 regulatory guideline.
[g]Regulatory level presented is RCS-2 reportable concentration as no Method 1 S-2/GW-1 guideline has been derived for the target compound.

3.3.4 Waste Characterization Analyses

Approximately 25 cubic yards of TPH contaminated soil were excavated from the former UST location and were stockpiled on-site. Based on the analytical results of confirmatory analyses for the UST excavation which indicated the presence of TPH contamination in excess of 500 ppm, a single soil sample (AOC5-CP1) was submitted for VOC analysis only using EPA Method 8240 (Attachment B). Results did not indicate a VOC concentration above analytical detection limits. Soils generated from the UST excavation were moved to the Building 202 Soil Storage Facility and were stored in Cell C with other TPH contaminated soils.

4. CONCLUSIONS

Based on findings identified during the ongoing ABB *RI*, WESTON arrived at AOC 50 in November 1997 to perform a time-critical removal action of the Building 3840 drywell and associated contaminated soils. Operations conducted by WESTON included attainment of appropriate clearance permits; removal oversight of PCE contaminated sludge and related soils within the drywell for proper off-site disposal; excavation of the drywell and associated piping up to the building foundation; field analytical screening of the excavation limits; and collection of soil samples from the excavation limits and soil stockpiles for confirmatory and waste characterization laboratory analyses, respectively.

Confirmatory laboratory analytical results indicated a PCE concentration in a soil sample collected from the bottom of the drywell to exceed the MCP Method 1 S-2/GW-1 action level of 0.5 ppm. This soil sample was collected just above the depth to groundwater at 10 feet bgs. No other VOC concentrations were detected above laboratory detection limits in any of the other soil samples collected from the drywell location.

Previous interviews with former Fort Devens personnel and subsurface exploration sampling conducted by ABB during the *RI* indicated that PCE may have been disposed within the Building 3803 cesspool. In November 1997, WESTON performed a time-critical removal action of the Building 3803 cesspool and associated contaminated soils. Operations conducted by WESTON included attainment of appropriate clearance permits; oversight of sludge and soil removal activities within the cesspool for proper off-site disposal; excavation of the cesspool and associated piping up to the building foundation; field analytical screening of the excavation limits; and collection of soil samples from the excavation limits and soil stockpiles for confirmatory and waste characterization laboratory analyses, respectively.

Confirmatory laboratory analytical results did not indicate any VOC concentrations to exceed their respective detection limits which are below the applicable S-2/GW-1 regulatory guidelines and USEPA commercial/industrial RBCs.

Field screen headspace results for soil samples collected during drywell removal activities indicated VOC contamination to be migrating beneath the 750-gallon UST located adjacent to the Building 3840 boiler room. In November 1996, WESTON performed a time-critical removal action of the 750-gallon fuel oil UST and associated petroleum-contaminated soils. Operations conducted by WESTON included attainment of appropriate permits; oversight of tank cleaning and removal activities; field analytical screening; collection of soil samples for confirmatory laboratory analyses; and the excavation of associated contaminated soils.

Confirmatory analytical results for soil samples collected from the UST excavation were compared to S-2/GW-1 regulatory guidelines and USEPA commercial/industrial RBCs. Confirmatory analyses indicated VPH concentrations above laboratory detection limits in all five soil samples; however, none of the data exceeded regulatory action levels. Several VOCs were detected above laboratory detection limits in the soil sample collected from the west wall. None of the mean concentrations, for the target compounds detected in this soil sample, exceeded the S-2/GW-1 action level. EPH and PAH concentrations were detected above laboratory detection limits in the soil sample collected from the west wall. The mean EPH concentration for the C_{10} - C_{22} Aromatic fraction exceeded the applicable S-2/GW-1 regulatory standard.

The time-critical removal action was consistent with the National Contingency Plan, and site conditions met the criteria (40 CFR 300.415) for removal action. Previous subsurface investigations at AOC 50 document contamination in both overburden and groundwater. The removal action reduced potential continuing sources of groundwater contamination at AOC 50. Groundwater evaluation and monitoring are on-going as part of the *RI*.

5. REFERENCES

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WESTON (Roy F. Weston, Inc.). 1996. *Contaminated Soil Removal - Phase II, Area of Contamination 50, Field Sampling and Analysis Plan Addendum.* November.

MADEP (Massachusetts Department of Environmental Protection, Bureau of Waste Site Cleanup). 1997. *The Massachusetts Contingency Plan, 310 CMR 40.000.* Revised May 8.

USEPA (United States Environmental Protection Agency Region III). 1994. *Risk- Based Concentrations Table, Second Quarter.*

CENAE (Corps of Engineers, New England District). 1996. *Area of Contamination (AOC) 50, Moore Army Airfield - PCE Spill Area Drywell Removal.* October.

ABB (ABB Environmental Services, Inc.). 1995. Area of Contamination Remedial Investigation/Feasibility Study Work Plan. November.

ABB (ABB Environmental Services, Inc.). 1996. Summary of Analytical Results from Ft. Devens Study - AOC 50. November 4.

ATTACHMENT A

HAZARDOUS WASTE MANIFESTS

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No. MA7210025154	Manifest Document No. 00939 ~~J1069~~ DT	2. Page 1 of	Information in the shaded areas is not required by Federal law

3. Generator's Name and Mailing Address
U. S. ARMY HEADQUARTERS
AFRC-FMD-DPW-EM BOX 19 (GAIL MILLER)
FORT DEVENS, MA 01433-5190

4. Generator's Phone ( ) 508-796-2393

A. State Manifest Document Number MA J 641069

B. State Gen ID SAME

5. Transporter 1 Company Name: Clean Harbors Env. Services, Inc

6. US EPA ID Number: MAD039322250

C. State Trans. ID OHIO P4N91P

D. Transporter's Phone 617 849-1800

7. Transporter 2 Company Name

8. US EPA ID Number

E. State Trans. ID

F. Transporter's Phone ( )

9. Designated Facility Name and Site Address
Clean Harbors Of Braintree Inc
385 Quincy Avenue
Braintree, MA 02184

10. US EPA ID Number: MAD053452637

G. State Facility's ID NOT REQUIRED

H. Facility's Phone ( ) 617 849-1807

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers NO.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. HAZARDOUS WASTE SOLID, N.O.S. (PERCHLOROETHYLENE) 9, NA3077, PGIII	01	TT	004	Y	D039 F002
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above (include physical state and hazard code.)
a. (S)
b.
c.
d.

K. Handling Codes for Wastes Listed Above
a. S01
b.
c.
d.

15. Special Handling Instructions and Additional Information
11a CHD07919
11b

IN EMERGENCY, CALL CHES 1-800-645-8265
WO# D142531
SB4704

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: GAIL F. MILLER — Signature: Gail F Miller — Date: Month 1 1 Day 2 1 Year 9 6

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: DAVE TURNER — Signature: Dave Turner — Date: Month 1 1 Day 2 1 Year 9 6

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name — Signature — Date: Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Kevin Galbreath — Signature: Kevin Galbreath — Date: Month 1 1 Day 2 1 Year 9 6

In case of emergency or spill, immediately call the National Response Center (800) 424-8802.

Form Approved OMB No. 2050-0039 Expires 9-30-96
EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.

Clean Harbors has appropriate permits ... COPY 3 FACILITY MAIL TO GENERATOR

ENVIRONMENTAL COMPLIANCE CORPORATION

CERTIFICATE OF DISPOSAL/RECYCLING

Manifest #: MAH425537

This is to certify that the material received from your facility has been managed at Environmental Compliance Corporation (ECC) or another licensed facility which has been approved by ECC in accordance with all applicable federal, state, and local laws, statutes, and regulations.

Recyclable material has been blended for use in accordance with all applicable federal, state, and local statutes, laws and regulations at ECC, a licensed facility.

All materials consolidated at ECC and subsequently shipped to another licensed facility for treatment and disposal, shall be identified as being generated by ECC.

ECC shall indemnify the generator from any claims as result of damage to any property, contamination of, or adverse effects on the environment, any violation of governmental laws, regulations, or orders, caused by treatment and disposal of the material specified on this manifest.

Waste Description	Treatment/Disposal Method	Facility
Combustible Liquids Oils n.o.s. NA 1270 MA 97/98	T87S T46	ECC 441R Canton St. Stoughton, MA 02072

Authorized by:

Wanda M. Kopcych

Wanda M. Kopcych
Administrative/Compliance
Coordinator

Date: 12/2/96

Please print or type (form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator US EPA ID No. MA7213929515 — Manifest Document No. 425537 — 2. Page 1 of 1 — Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address: Devens Reuse Joint Training Area (Gail Miller) AFRC-FMD-DRU-EM Box 19 Devens, MA 01433-5190 — 00940

4. Generator's Phone: (508) 796-2393

5. Transporter 1 Company Name: Fleet Environmental Services — 6. US EPA ID Number: MR5089466900

7. Transporter 2 Company Name — 8. US EPA ID Number

9. Designated Facility Name and Site Address: Environmental Compliance Corp. 441 R Canton Street Stoughton, MA 02072 — 10. US EPA ID Number: MAD062179896

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste No.
a. Massachusetts State Regulated Oil Waste (oil and water) none, non	001	T	00787	G	MA01
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above (include physical state and hazard code.)
a. oil and water (#2 fuel)
b.

K. Handling Codes for Wastes Listed Above
a. T Y G
b.

15. Special Handling Instructions and Additional Information

10a) DOT ERG# N/A — Emergency Telephone# 1-800-628-1865 (24 hrs)

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GENERATOR — Printed/Typed Name: GAIL F. MILLER — Signature: Gail F Miller — Date: Month 11 Day 26 Year 86

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials — Printed/Typed Name: JOHN W. MONTGOMERY — Signature — Date: Month 11 Day 26 Year 86

18. Transporter 2 Acknowledgement of Receipt of Materials — Printed/Typed Name — Signature — Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. — Printed/Typed Name: JOHN STEAD — Signature — Date: Month 11 Day 26 Year 86

Form Approved OMB No. 2050-0039, Expires 9-30-94

EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.

COPY>3: FACILITY MAILS TO GENERATOR

COPY>3: FACILITY MAILS TO GENERATOR

[redacted]

ENVOTECH® MANAGEMENT SERVICES, INC.

GENERATOR WASTE CHARACTERIZATION REPORT

T# 073145

An **original report form** must be completed for each separate waste stream. **Do not submit copies.**
Is this a ☑ New Waste for Approval?
or ☐ Waste Stream Reapproval? Previous Approval # _____
Complete all sections of this report, attach laboratory reports required and send with a **REPRESENTATIVE ONE-PINT SAMPLE** of this waste to the facility. Waste loads will not be scheduled for shipment until 1.) the facility has issued an approval letter and 2.) the customer has signed and returned the quotation agreement.

SECTION I - TREATMENT, DISPOSAL & RECOVERY NEEDS

This waste approval request is being submitted for (check all that apply):

☐ TREATMENT
Michigan Disposal, Inc.
49350 N. I-94 Service Drive
Belleville, MI 48111
ATTN: Technical Review

Hazardous and non-hazardous waste stabilization of solids, semi-solids slurries and liquids. Inorganic waste treatment to BDAT standards.
Customer Service: (313) 699-7120

☐ RECOVERY/FUEL BLENDING
Michigan Recovery Systems, Inc.
36345 Van Born Road
Romulus, MI 48174
ATTN: Technical Review

Hazardous and non-hazardous waste solvent recovery, recycling, and fuel blending. Containerized and bulk waste handling. Technology is BDAT for many organic wastes. Customer Service: (313) 326-3100

☐ LANDFILL
Wayne Disposal, Inc.
49350 N. I-94 Service Drive
Belleville, MI 48111
ATTN: Technical Review

Secure hazardous and non-hazardous waste landfill services. Containerized and bulk waste management.
Customer Service: (313) 697-7830

SECTION II - GENERATOR/SITE INFORMATION

Generator Name Devens RFTA
Plant Name _____
Address AFRC-FMO-DPW-EM-Box 19
Devens State MA Zip 01433-5190
Contact Gail Miller
Alternate Dave Crispo

S.I.C. Codes* _____
US EPA ID #* MA 721002 5154
Telephone (508) 796-2353 Fax ( ) _____
Telephone (508) 772-2190 Fax ( ) _____

SECTION III - INVOICING INFORMATION

Customer Triumvirate Environmental
Address P.O. Box 136
Boston State MA Zip 02143
Contact Mike Cowan

Has an account been opened? Yes ☐ No ☐
If Yes, Account # _____
Telephone (617) 628-8098 Fax (617) 628-8099

SECTION IV - SAMPLING

A sample bearing this label must accompany this report to initiate the approval review process. Complete this label and attach to a **REPRESENTATIVE ONE-PINT SAMPLE** of the waste.

Record the date and name of person sampling:

Sampling completed by _____

Date sample collected _____

Date sample and form sent _____

Waste Common Name: _____

Generator Site Name: _____

Sample Collected By: _____

Date Collected: _____ T#: 073145

* See full instructions on separate sheet. Printed on Recycled Paper Form 911 (11-91)

SECTION V: SHIPPING AND HANDLING INFORMATION

1. Is this waste:
   a. Reactive? Yes ☐ No ☑
   b. Shock Sensitive? Yes ☐ No ☑
   c. Explosive? Yes ☐ No ☑
   d. Pyrophoric? Yes ☐ No ☑
   e. Oxidizer? Yes ☐ No ☑
   f. Radioactive? Yes ☐ No ☑

   If yes, contact an Envotech Management Services Representative at (313) 697-7830 **before completing this form.**
2. Shipping Mode: Bulk Liquid ☐ Bulk Solid ☑ Drums ☐ Other ☐
3. Shipping Volume per Week _____ per Month _____
4. Annual Total Volume _____ One Time Only Volume 80 tons
5. DOT Shipping Name* Hazardous Waste Solid, N.O.S.
   Hazard Class* 9 UN/NA #* NA 3077

SECTION VI: WASTE FINGERPRINT

1. Select one or more general description(s) for the waste at 70°F:
   Powdery Solid ☐ Sludge (non pumpable) ☐
   Other Solid* ☐ Liquid (pumpable) ☐
   Soils ☑ Liquid (multi phase) ☐
   Debris (describe) _____
2. Does the waste have a characteristic odor?* Yes ☐ No ☑ Describe _____
3. Color Description*: Brown

USEPA SW-846* Method

4. Are Free Liquids associated with this waste? Yes ☐ No ☑ ..... Method 9095
5. Density: 2000 lbs/gallon or lbs/cubic yards or _____ specific gravity
6. pH-Range: <2 ☐ 2-4.9 ☐ 5-9.9 ☒ 10-12.4 ☐ >12.5 ☐ (attach lab results) ..... Method 9040 or 9045
7. Flash Point: - Liquid:* <90°F ☐ 90-140°F ☐ 140-200°F ☐ >200°F ☐ (attach lab results) .. Method 1010
   (If Flash Point <140°F, provide TOC and VOC analytical results.)
   - Solid:* <90°F ☐ 90-140°F ☐ >140°F ☒

SECTION VII: GENERATING PROCESS / HAZARDOUS CHARACTERISTIC(S)

1. Waste Common Name Perchloroethylene Contaminated Soil
2. Provide a description of the process(es) generating this waste: **(A DETAILED EXPLANATION MUST BE PROVIDED. ATTACH ADDITIONAL PAGE(S) SHOWING PROCESS FLOW DIAGRAM AND DETAILS IF NECESSARY*)**

   Soil Excavation From ~~testing~~ UST Drywell and Pool

3. Based upon lab analyses and/or knowledge of the process(es) generating the waste, describe the composition of the waste:

	Minimum		Maximum	
Perchloroethylene contaminated Soil		to	100	%
		to		%
		to		%
TOTAL:			100	%

4. Based upon RCRA Hazardous Waste Regulations (40 CFR 261) and Michigan Act 64 Rules:

	YES	NO	CODES
a. Does this waste meet any F listing description?	☒	☐	F002
b. Does this waste meet any K listing description?	☐	☑	
c. Does this waste meet any P listing description?	☐	☑	
d. Does this waste meet any U listing description?	☐	☑	
e. Does this waste exhibit Ignitability? (attach lab results)	☐	☑	
f. Does this waste exhibit Corrosivity? (attach lab results)	☐	☑	
g. Does this waste exhibit Reactivity? (attach lab results)	☐	☑	
h. Does this waste exhibit Toxicity? (attach lab results)	☐	☑	
i. Does this waste leach Copper > 100ppm? (attach lab results)	☐	☑	
j. Does this waste leach Zinc > 500ppm? (attach lab results)	☐	☐	
5. For hazardous wastes, does the waste exceed any land Disposal restriction treatment standard(s) for the applicable codes?* (attach lab results)	☐	☑	
6. Is this a non-hazardous liquid waste regulated by Michigan Act 136?*	☐	☑	

Attach analytical results for all LDR constituents of concern for waste codes identified in item 4 (above).

* See full instructions on separate sheet.

SECTION VII - RECLAMATION/RECYCLING/FUEL BLENDING*

Only for Michigan Recovery Systems, Inc. wastes, perform all of the following analyses:

Water (%)	_____	Solids (%)	_____	Heat value (BTU/lb)	_____
Sulfur (%)	_____	Chlorine (%)	_____	PCBs (total ppm)	_____
Enclose lab reports for F001 - F005 solvent scan and TCLP metals:*				Ash (%)	_____

SECTION VIII - CERTIFICATIONS

		Yes	No
1.	Does the waste contain cyanide amenable to chlorination above 250 ppm?*	☐	☑
2.	Does the waste contain reactive sulfide above 500 ppm?*	☐	☑
3.	Does this waste contain PCBs greater than 49 ppm?*	☐	☑
4.	Is this a dioxin/furan waste as specified in 40 CFR 261.31 under Hazardous Waste numbers F020, F021, F022, F023, F026, F027, F028?	☐	☑
5.	Is this a California List hazardous waste containing halogenated organic compounds found in Appendix III of 40 CFR Part 268 in total concentration greater than or equal to 1,000 mg/L?	☐	☑
6.	Is this a liquid hazardous waste containing Nickel (>134 mg/L) or Thallium (>130 mg/L)?	☐	☑

7. Mark the "Yes" column to indicate which TCLP testing has been conducted. (attach lab results*)
For those constituents not tested, mark "No" and sign the certification provided.
Either "Yes" or "No" **MUST** be checked for each and every constituent.

	TCLP REGULATORY ACTION LEVELS		CONSTITUENT TESTING CONDUCTED OR CERTIFICATION	
ZHE ORGANICS*	mg./L	YES	NO	CERTIFICATION
D018 Benzene	0.5	☐	☑	"Based upon my knowledge of the
D019 Carbon Tetrachloride	0.5	☐	☑	waste and the process generating
D021 Chlorobenzene	100.0	☐	☑	the waste, these constituents are
D022 Chloroform	6.0	☐	☑	not present in the waste above
D028 1,2-Dichloroethane	0.5	☐	☑	hazardous classification levels."
D029 1,1-Dichloroethylene	0.7	☐	☑	
D035 Methyl Ethyl Ketone	200.0	☐	☑	Signed Gail L Miller
D039 Tetrachloroethylene	0.7	☐	☑	
D040 Trichloroethylene	0.5	☐	☑	
D043 Vinyl Chloride	0.2	☐	☑	
METALS*				CERTIFICATION
D004 Arsenic	5.0	☐	☑	"Based upon my knowledge of the
D005 Barium	100.0	☐	☑	waste and the process generating
D006 Cadmium	1.0	☐	☑	the waste, these constituents are
D007 Chromium	5.0	☐	☑	not present in the waste above
D008 Lead	5.0	☐	☑	hazardous classification levels."
D009 Mercury	0.2	☐	☑	
D010 Selenium	1.0	☐	☑	Signed Gail L Miller
D011 Silver	5.0	☐	☑	
001D Copper	100.0	☐	☑	
003D Zinc	500.0	☐	☑	
ACID EXTRACTABLES*				CERTIFICATION
D023 o-Cresol**	200.0	☐	☑	"Based upon my knowledge of the
D024 m-Cresol**	200.0	☐	☑	waste and the process generating
D025 p-Cresol**	200.0	☐	☑	the waste, these constituents are
D026 Cresol	200.0	☐	☑	not present in the waste above
D037 Pentachlorophenol	100.0	☐	☑	hazardous classification levels."
D041 2,4,5-Trichlorophenol	400.0	☐	☑	
D042 2,4,6-Trichlorophenol	2.0	☐	☑	Signed Gail L Miller

** If o, m and p Cresols cannot be differentiated, use Total Cresol concentration

(Continued)

* See full instructions on separate sheet.

SECTION X: CERTIFICATIONS (Continued)

TCLP REGULATORY ACTION LEVELS			CONSTITUENT TESTING CONDUCTED OR CERTIFICATION
BASE NEUTRAL EXTRACTABLES*	mg./L	YES	NO
D027 1,4-Dichlorobenzene	7.5	☐	☑
D030 2,4-Dinitrotoluene	0.13	☐	☑
D032 Hexachlorobenzene	0.13	☐	☑
D033 Hexachlorobutadiene	0.5	☐	☑
D034 Hexachloroethane	3.0	☐	☑
D036 Nitrobenzene	2.0	☐	☑
D038 Pyridine	5.0	☐	☑
PESTICIDES*			
D020 Chlordane	0.03	☐	☑
D012 Endrin	0.02	☐	☑
D031 Heptachlor (& its Hydroxide)	0.008	☐	☑
D013 Lindane	0.4	☐	☑
D014 Methoxychlor	10.0	☐	☑
D015 Toxaphene	0.5	☐	☑
HERBICIDES*			
D016 2,4-D	10.0	☐	☑
D017 2,4,5-TP (Silvex)	1.0	☐	☑

CERTIFICATION
"Based upon my knowledge of the waste and the process generating the waste, these constituents are not present in the waste above hazardous classification levels."
Signed Gail F Miller

CERTIFICATION
"Based upon my knowledge of the waste and the process generating the waste, these constituents are not present in the waste above hazardous classification levels."
Signed Gail F Miller

REQUIREMENTS FOR A COMPLETE APPLICATION SUBMITTAL

APPLICATION PACKAGE CONTENTS

All pertinent items must be included together in one application package.

- ☑ 1) Waste Characterization Report Form
- ☐ 2) Lab Reports Required for:
  - ☐ a. Free Liquid Testing
  - ☐ b. pH
  - ☐ c. Flashpoint
  - ☐ d. Cyanide
  - ☐ e. Sulfide
  - ☐ f. Land Disposal Restriction Constituent Levels
  - ☐ g. TCLP testing, including Copper and Zinc
- ☑ 3) Representative Sample of Waste
- ☐ 4) MSDS
- ☐ 5) Other: _____

"I hereby authorize Envotech personnel to add supplemental information to the waste approval file provided I am contacted to give verbal permission. I authorize Envotech personnel to obtain a sample from any waste shipment for purposes of verification and confirmation."

Signed Gail F Miller Title Env. Prot. Spec.

"I certify that all information (including attached information) is complete and factual and is an accurate representation of the known and suspected hazards, and waste generator regulations, pertaining to the waste described herein."

Signature Gail F Miller Printed Name Gail F. Miller Date 12/16/96

Company U.S. Army Title Env. Prot. Spec.

* See full instructions on separate sheet. Printed on Recycled Paper Form 911 (11-91)

THE ENVIRONMENTAL QUALITY COMPANY

CERTIFICATION FORM

Volatile Organic Compounds

Michigan Disposal Waste Treatment Plant is requesting generator certification whether the waste material contains any of the Volatile Organic Compounds as listed below.

YES, THE WASTE DOES CONTAIN ONE OR MORE OF THE FOLLOWING VOLATILE ORGANIC COMPOUNDS,

I Gail F. Miller (printed name), hereby certify that this waste material corresponding to Approval or T# 073145 contains the constituents specified below.

NO, THE WASTE DOES NOT CONTAIN ANY OF THE FOLLOWING VOLATILE ORGANIC COMPOUNDS,

[redacted] (printed name), hereby certify that this waste material corresponding to Approval or T# _____ contains none of the constituents specified below.

Compound	*Concentration (mg/kg)*	*Compound*	*Concentration (mg/kg)*
Acetone		Ethyl acetate	
Benzene		Ethyl benzene	
Bromodichloromethane		Ethyl ether	
Bromoform		2-Ethoxyethanol	
n-Butyl alcohol		Isobutanol	
Carbon disulfide		Methanol	
Carbon tetrachloride		Methylene chloride	
Chlorobenzene		Methyl ethyl ketone	
Chlorodibromomethane		Methyl isobutyl ketone	
Chloroethane		Nitrobenzene	
2-Chloroethyl vinyl ether		2-Nitropropane	
Chloroform		Pyridine	
Creosol		1,1,2,2-Tetrachloroethane	
Cyclohexanone		Tetrachloroethylene	.420
1,2-Dichlorobenzene		1,1,1-Trichloroethane	
1,3-Dichlorobenzene		1,1,2-Trichloroethane	
1,1-Dichloroethane		Trichloroethylene	.0065
1,2-Dichloroethane		Trichlorofluoromethane	
1,4-Dichloroethane		1,1,2-Trichloro-1,2,2-trifluoroethane	
trans-1,2-Dichloroethene			
1,2-Dichloropropane		Toluene	
cis-1,3-Dichloropropene		Xylene	
trans-1,3-Dichloropropene			

I hereby certify that all information submitted on this and all associated documents is complete and accurate to the best of my knowledge and information.

Signature: Gail F Miller Title: Env. Prot. Spec.

Company Name: U.S. Army Date: 12/16/96

k:\marketin\voc.doc

06-02-97 02:18PM P006 #46 313 699 1532

DNR
MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DO NOT WRITE IN THIS SPACE
ATT. ☐ DIS. ☐ REJ. ☐ PR. ☐

Required under authority of Act 64, 1979, as amended and Act 136, P.A. 1969.
Failure to file is punishable under section 299.548 MCL or Section 10 of Act 136, P.A. 1969.

Please print or type. Form Approved. OMB No. 2050-0039 Expires

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: MA7210025151
Manifest Document No.: 46810143
2. Page 1 of 1
Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address: Devens RFTA, AFRC-FMD-DPW-EM-Box 19, Devens, MA 01433-5190 — 00943
4. Generator's Phone (508) 796-2393 attn: Gail Miller

A. State Manifest Document Number: MI 3922888
B. State Generator's ID

5. Transporter 1 Company Name: DART TRUCKING CO, INC.
6. US EPA ID Number: OHD000865825
C. State Transporter's ID
D. Transporter's Phone (216) 533-9...

7. Transporter 2 Company Name:
8. US EPA ID Number:
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address: Wayne Disposal, 49350 N. I 94 Service Drive, Belleville, MI 48111
10. US EPA ID Number: MID048090633
G. State Facility's ID
H. Facility's Phone (313) 699-6254

	HM	11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a.	X	Hazardous waste, solid, n.o.s. 9, NA3077, PG III (Perchloroethylene) ERG# 31	001	CM	00018	T	F002
b.							
c.							
d.							

J. Additional Descriptions for Materials Listed Above
a. (S) ... consolidated ...
K. Handling Codes for Wastes Listed Above: a/ b/ c/ d/

15. Special Handling Instructions and Additional Information
REQUIRES C.D. a. Approval# 121896WC
ER# 800-966-9282

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

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Printed/Typed Name: Gail F. Miller Signature: Gail F Miller Date: Month Day 11 21 20

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: William K. Allender Signature: Will K. Allender Date: Month Day

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name Signature Date: Month Day

19. Discrepancy Indication Space
Wayne ... NO. Received ... at ...

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: James ... Signature Date: Month Day

ALL SPILLS MUST BE REPORTED TO THE MICHIGAN POLLUTION EMERGENCY ALERTING SYSTEM, IN MICHIGAN AT 1-800-292-4706 OR OUT OF STATE AT 517-373-7660 AND THE NATIONAL RESPONSE CENTER AT 1-800-424-8802 24 HOURS PER DAY.

FROM : ED-WASTE RECEIVING/SCHEDULING PHONE NO. : 313 699 1532 Jun. 02 1997 01:07PM P6

06-02-97 02:18PM P005 #46

313 699 1532

DNR
MICHIGAN DEPARTMENT
OF NATURAL RESOURCES

DO NOT WRITE IN THIS SPACE
ATT. ☐ DIS. ☐ REJ. ☐ PR. ☐

Required under authority of Act 64, P.A. 1979, as amended and Act 136, P.A. 1969.

Failure to file is punishable under section 299.548 MCL or Section 10 of Act 136, P.A. 1969.

Please print or type.

Form Approved. OMB No. 2050-0039 Expires 9-30-

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: MA7210025154 — Manifest Document No.: 6 6 0 4 4
2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address: Devens RFTA, AFRC-FMD-DPW-EM-Box 19, Devens, MA 01433-5190 — 00944
4. Generator's Phone (508) 796-2393 — attn:Gail Miller

A. State Manifest Document Number: MI 3922889
B. State Generator's ID: SAME

5. Transporter 1 Company Name: DART TRUCKING CO, INC.
6. US EPA ID Number: OHD000865824
C. State Transporter's ID
D. Transporter's Phone (216) 533-9841

7. Transporter 2 Company Name
8. US EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address: Wayne Disposal, 49350 N. I 94 Service Drive, Belleville, MI 48111
10. US EPA ID Number: MID048090633
G. State Facility's ID
H. Facility's Phone (313) 699-6254

	HM	11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID NUMBER)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a.	X	Hazardous waste, solid, n.o.s. 9, NA3077, PG III (Perchloroethylene) ERG# 31	[illegible]	[illegible]	Est 00018	T	F002
b.							
c.							
d.							

J. Additional Descriptions for Materials Listed Above
a. (S,T) Perchloroethylene contaminated soil 100%
b.

K. Handling Codes for Wastes Listed Above
a/ b/ c/ d/

15. Special Handling Instructions and Additional Information
a. Approval# 121896WC
*** REQUIRES C.D. ***
ER# 800-966-9282

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: GAIL F. MILLER — Signature: Gail F Miller — Date: Month Day Year 1 2 2 0 9[illegible]

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Larry Allender — Signature: Larry Allender — Date: Month Day Year 1 2 2 0 9

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name — Signature — Date: Month Day Year

19. Discrepancy Indication Space
Wayne 03 — W.D. [illegible] 3EUU6 [illegible] 19 Ton

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: James M [illegible] — Signature — Date: Month Day Year 1 2 2 3 [illegible]

GENERATOR — TRANSPORTER — FACILITY

ALL SPILLS MUST BE REPORTED TO THE MICHIGAN POLLUTION EMERGENCY ALERTING SYSTEM, IN MICHIGAN AT 1-800-292-4706 OR OUT OF STATE AT 517-373-7660 AND THE NATIONAL RESPONSE CENTER AT 1-800-424-8802 24 HOURS PER DAY.

PR 51

Jun. 02 1997 01:07PM P5 — FROM : ED-WASTE RECEIVING/SCHEDULING PHONE NO. : 313 699 1532

DNR
MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DO NOT WRITE IN THIS SPACE
ATT. ☐ DIS. ☐ REJ. ☐ PR. ☐

Required under authority of ... 1979, as amended and Act 136, P.A. 1969.
Failure to file is punishable under section 299.548 MCL or Section 10 of Act 136, P.A. 1969.

%96-4 -

Please print or type. Form Approved. OMB No. 2050-0039 Expires 9-30-

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: M A 7 2 1 0 0 2 5 1 5 4 5 — Manifest Document No.: 8 0 4 6 — 2. Page 1 of 1
Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address: Devens RFTA, AFRC-FMD-DPW-EM-Box 19, Devens, MA 01433-5190 — 00946
4. Generator's Phone (508) 796-2393 attn: Gail Miller

A. State Manifest Document Number: MI 3922891
B. State Generator's ID: SAME

5. Transporter 1 Company Name: DART TRUCKING CO. INC.
6. US EPA ID Number: OHD000865826
C. State Transporter's ID
D. Transporter's Phone (216) 533-9841

7. Transporter 2 Company Name
8. US EPA ID Number
E. State Transporter's ID
F. Transporter's Phone

9. Designated Facility Name and Site Address: Wayne Disposal, 49350 N. I 94 Service Drive, Belleville, MI 48111
10. US EPA ID Number: MID048090633
G. State Facility's ID
H. Facility's Phone (313) 699-6264

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID NUMBER)	HM	Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.	N/H
a.	X	Hazardous waste, solid, n.o.s. 9; NA3077, PG III (Perchloroethylene) ERG# 31	001	CM	00011	T	F002	H
b.								
c.								
d.								

J. Additional Descriptions for Materials Listed Above: a. Spent Perchloroethylene Contaminated Soil 100% b. c. d.

K. Handling Codes for Wastes Listed Above: a/ b/ c/ d/

15. Special Handling Instructions and Additional Information
** REQUIRES C.D. ** a. Approval# 121896WC ER# 800-966-9282

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

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Printed/Typed Name: GAIL F. MILLER — Signature: Gail F. Miller — Date: Month Day Year 1 2 2 0 9

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: DAVE FOOR — Signature: Dave Foor — Date: Month Day Year 1 2 3 0 9

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name — Signature — Date: Month Day Year

19. Discrepancy Indication Space: WDI Received ... 10 ...

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: James M Combs — Signature: Wayne ... — Date: Month Day Year

ALL SPILLS MUST BE REPORTED TO THE MICHIGAN POLLUTION EMERGENCY ALERTING SYSTEM, IN MICHIGAN AT 1-800-292-4706 OR OUT OF STATE AT 517-373-7660 AND THE NATIONAL RESPONSE CENTER AT 1-800-424-8802 24 HOURS PER DAY.

313 699 1532

DNR

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DO NOT WRITE IN THIS SPACE

ATT. ☐ DIS. ☒ REJ. ☐ PR. ☐

Required under authority of Act 136, P.A. 1979, as amended and Act 136, P.A. 1988.

Failure to file is punishable under section 299.549 MCL or Section 10 of Act 136, P.A. 1988.

Please print or type.

Form Approved OMB No. 2050-0039 Expires 9-30

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. M|A|7|2|1|0|0|2|5|1|5|4 Manifest Document No. 00945

2. Page 1 of 1 — Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
Devens RFTA
AFRC-FMD-DPW-EM-Box 19
Devens, MA 01433-5190
attn:Gail Miller

A. State Manifest Document Number MI 3922890

B. State Generator's ID NONE

4. Generator's Phone (508) 796-2393

5. Transporter 1 Company Name: DART TRUCKING CO, INC.

6. US EPA ID Number: O H D 0 0 9 8 6 5 8 2 5

C. State Transporter's ID T207KR

D. Transporter's Phone (216) 533-9841

7. Transporter 2 Company Name

8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
Wayne Disposal
49350 N. I 94 Service Drive
Belleville, MI 48111

10. US EPA ID Number: M I D 0 4 8 0 9 0 6 3 3

G. State Facility's ID

H. Facility's Phone (313) 699-6254

	11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID NUMBER). HM	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a.	X Hazardous waste, solid, n.o.s. 9, NA3077, PG III (Perchloroethylene) ERG# 31	001	CM		T	F002
b.						
c.						
d.						

J. Additional Descriptions for Materials Listed Above
a. (S,T) Perchloroethylene contaminated soil 100%
b.
c.
d.

K. Handling Codes for Wastes Listed Above: a/ / b/ / c/ / d/ /

15. Special Handling Instructions and Additional Information
** REQUIRES C.O. **
a. Approval# 121896UC
ER# 800-966-9282

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: GAIL F MILLER — Signature: Gail F Miller — Date: Month 11 Day 21

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: JACK L MOORE — Signature: Jack L Moore — Date: Month 12 Day 12

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name — Signature — Date: Month Day

19. Discrepancy Indication Space
WDI RECEIVED 33670 LBS IN TEN
Wayne #2

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name — Signature — Date: Month Day

GENERATOR — TRANSPORTER — FACILITY

ALL SPILLS MUST BE REPORTED TO THE MICHIGAN POLLUTION EMERGENCY ALERTING SYSTEM IN MICHIGAN AT 1-800-292-4706 OR OUT OF STATE AT 517-373-7660 AND THE NATIONAL RESPONSE CENTER AT 1-800-424-8802 IN WORD PER DAY.

Jun. 02 1997 01:05PM P3

FROM : EQ-WASTE RECEIVING/SCHEDULING PHONE NO. : 313 699 1532

06-02-97 02:18PM P004 #45 313 699 1532

DNR MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DO NOT WRITE IN THIS SPACE

ATT. ☐ DIS. ☐ REJ. ☐ PR. ☐

Required under authority of Act ..., P.A. 1979, as amended and Act 136, P.A. 1969.

Failure to file is punishable under section 299.548 MCL or Section 10 of Act 136, P.A. 1969.

Please print or type.

Form Approved. OMB No. 2050-0039 Expires ...

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: MA7210025154 — Manifest Document No.: 6 8 0 4 1 — 2. Page 1 of 1 — Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address: Devens RFTA, AFRC-FMD-DPW-EN-Box 19, Devens, MA 01433-5190 — 00941

A. State Manifest Document Number: MI 3922886

B. State Generator's ID: SAME

4. Generator's Phone: (508) 796-2393 attn:Gail Miller

5. Transporter 1 Company Name: DART TRUCKING CO, INC. — 6. US EPA ID Number: OHD000865825

C. State Transporter's ID

D. Transporter's Phone (216) 533-984...

7. Transporter 2 Company Name — 8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address: Wayne Disposal, 49350 N. I 94 Service Drive, Belleville, MI 48111 — 10. US EPA ID Number: MID048090633

G. State Facility's ID

H. Facility's Phone: (313) 699-6254

HM	11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. X	Hazardous waste, solid, n.o.s. 9, NA3077, PG III (Perchloroethylene) ERG# 31	001	CM	19.40	T	F002
b.						
c.						
d.						

J. Additional Descriptions for Materials Listed Above: a. (S,T) Perchloroethylene contaminated soil 100% — b. — c. — d.

K. Handling Codes for Wastes Listed Above: a/ b/ c/ d/

15. Special Handling Instructions and Additional Information: ** REQUIRES C.D.** — a.Approval# 121896NC — ER# 800-966-9282

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

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Printed/Typed Name: GAIL F MILLER — Signature: Gail F Miller — Date: 12 20 ...

17. Transporter 1 Acknowledgement of Receipt of Materials — Printed/Typed Name: CALVIN HANKS — Signature: Calvin Hanks — Date: ...

18. Transporter 2 Acknowledgement of Receipt of Materials — Printed/Typed Name — Signature — Date Month Day

19. Discrepancy Indication Space: Wayne a3 WDI received ... 16 ...

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: JAmes A. Vignast ... — Signature — Date Month Day

ALL SPILLS MUST BE REPORTED TO THE MICHIGAN POLLUTION EMERGENCY ALERTING SYSTEM, IN MICHIGAN AT 1-800-292-4706 OR OUT OF STATE AT 517-373-7660 AND THE NATIONAL RESPONSE CENTER AT 1-800-424-8802 24 HOURS PER DAY.

Jun. 02 1997 01:06PM P4 — FROM : EQ-WASTE RECEIVING/SCHEDULING PHONE NO. : 313 699 1532

DNR

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DO NOT WRITE IN THIS SPACE
ATT. ☐ DIS. ☐ REJ. ☐ PR. ☐

X96-X

Required under authority of Act 64, P.A. 1979, as amended and Act 136, P.A. 1969.

Failure to file is punishable under section 299.648 MCL or Section 10 of Act 136, P.A. 1969.

Please print or type.

Form Approved. OMB No. 2050-0039 Expires 9-30-

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. M|A|7|2|1|0|0|2|5|1|5|4|5|8|0|4|2 — Manifest Document No. 00942

2. Page 1 of 1 — Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
Devens RFTA
AFRC-FMD-DPW-EM-Box 19
Devens, MA 01433-5190
attn: Gail Miller

A. State Manifest Document Number MI 3922887

B. State Generator's ID

4. Generator's Phone (508) 796-2393

5. Transporter 1 Company Name
DART TRUCKING CO, INC.

6. US EPA ID Number 0|1|0|0|0|2|2|6|5|8|2|5

C. State Transporter's ID 2256 RL

D. Transporter's Phone (216) 533-9841

7. Transporter 2 Company Name

8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
Wayne Disposal
49350 N. I 94 Service Drive
Belleville, MI 48111

10. US EPA ID Number MID048090633

G. State Facility's ID

H. Facility's Phone (313) 699-6254

	11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID NUMBER). HM		12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.	N/
a.	X	Hazardous waste, solid, n.o.s. 9, NA3077, PG III (Perchloroethylene) ERG# 31	00	CM	030	T	F002	H
b.								
c.								
d.								

J. Additional Descriptions for Materials Listed Above
a. (S,T) Perchloroethylene contaminated soil 100%.
b.
c.
d.

K. Handling Codes for Wastes Listed Above
a/
b/
c/
d/

15. Special Handling Instructions and Additional Information
** REQUIRES C.D. **
a. Approval # 121896WC
ER# 800-966-9282

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

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Printed/Typed Name	Signature	Date (Month Day Yr)
Gail F. Miller	Gail F. Miller	12 12 96

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date (Month Day Yr)
Arthur Medeiros	Arthur Medeiros	12 12 96

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date (Month Day Yr)

19. Discrepancy Indication Space
WDI received 2400 lbs not 16000
Wayne A3

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Date (Month Day Yr)
James M. Jones Jr		6 2 97

GENERATOR — TRANSPORTER — FACILITY

ALL SPILLS MUST BE REPORTED TO THE MICHIGAN POLLUTION EMERGENCY ALERTING SYSTEM, IN MICHIGAN AT 1-800-292-4706 OR OUT OF STATE AT 517-373-7660 AND THE NATIONAL RESPONSE CENTER AT 1-800-424-8802 24 HOURS PER DAY.

ATTACHMENT B

CONFIRMATORY AND STOCKPILED SOIL ANALYTICAL RESULTS

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation

ANALYTICAL DIVISION

Laboratory Analysis

Report(s) #621803

Client: Roy F. Weston, Inc.

Attn: Bill Dale

Project: 300595

Date Samples Received: December 5, 1996 **Date Data Due:** December 10, 1996

Date Order Received: December 5, 1996 **Date Data Reported:** December 7, 1996

Reviewed and Approved by: Joseph A. Hnatow ***Date:*** December 10, 1996

Joseph A. Hnatow, Laboratory Manager

16106 U.S. Route 224 East ■ P.O. Box 551 ■ Findlay, OH 45839-0551 ■ 419-423-3526

PROJECT NARRATIVE

The following items relate to the samples and analytical data contained in this report.

- The sample temperature upon receipt by the laboratory was 3°C, which is within the temperature acceptability range of 2°C to 6°C.
- All solid sample results are reported on a "dry weight" basis.
- Note any comments at the bottom of the tables in appendices B and C.

The following relate to the timeliness and completeness of the analytical data reported:

- All data was reported two days prior to the due date. Data was reported to Mr. Bill Dale on Saturday, December 7, 1996, at Roy F. Weston, Inc., Devens, Massachusetts.

SAMPLE INFORMATION SUMMARY

Sample Id	Lab Id	Sample Date	Matrix	Method	QC Batch #	Prep Date	Analysis Date	Hold Met	Dry Wgt	Run #	Analyst
AOC50-NW	JQ5803	12/03/96	Solid	160.3			12/05/96	N/A	N/A		Crawford M.
			Solid	8240	Q2V5716	12/05/96	12/05/96	Yes	Yes	C12557	Lucy R.
AOC50-SW	JQ5804	12/03/96	Solid	160.3			12/05/96	N/A	N/A		Crawford M.
			Solid	8240	Q2V5716	12/05/96	12/05/96	Yes	Yes	C12562	Lucy R.
AOC50-WW	JQ5805	12/03/96	Solid	160.3			12/05/96	N/A	N/A		Crawford M.
			Solid	8240	Q2V5716	12/05/96	12/05/96	Yes	Yes	C12559	Lucy R.
AOC50-EW	JQ5806	12/03/96	Solid	160.3			12/05/96	N/A	N/A		Crawford M.
			Solid	8240	Q2V5716	12/05/96	12/05/96	Yes	Yes	C12560	Lucy R.
AOC50-BOT	JQ5807	12/03/96	Solid	160.3			12/05/96	N/A	N/A		Crawford M.
			Solid	8240	Q2V5716	12/05/96	12/05/96	Yes	Yes	C12561	Lucy R.
AOC50-DUP	JQ5808	12/03/96	Solid	160.3			12/05/96	N/A	N/A		Crawford M.
			Solid	8240	Q2V5716	12/05/96	12/05/96	Yes	Yes	C12558	Lucy R.
AOC50-CP1	JQ5809	12/03/96	Solid	160.3			12/05/96	N/A	N/A		Crawford M.
			Solid	8240	Q2V5716	12/05/96	12/05/96	Yes	Yes	C12563	Lucy R.
AOC50-CP2	JQ5810	12/03/96	Solid	160.3			12/05/96	N/A	N/A		Crawford M.
			Solid	8240	Q2V5716	12/05/96	12/05/96	Yes	Yes	C12564	Lucy R.
AOC50-CP3	JQ5811	12/03/96	Solid	160.3			12/05/96	N/A	N/A		Crawford M.
			Solid	8240	Q2V5716	12/05/96	12/05/96	Yes	Yes	C12565	Lucy R.
AOC50CP-SW	JQ5812	12/04/96	Solid	160.3			12/05/96	N/A	N/A		Crawford M.
			Solid	8240	Q2V5716	12/05/96	12/05/96	Yes	Yes	C12566	Lucy R.
AOC50CP-EW	JQ5813	12/04/96	Solid	160.3			12/05/96	N/A	N/A		Crawford M.
			Solid	8240	Q2V5716	12/05/96	12/05/96	Yes	Yes	C12567	Lucy R.
AOC50CP-WW	JQ5814	12/04/96	Solid	160.3			12/05/96	N/A	N/A		Crawford M.
			Solid	8240	Q2V5716	12/05/96	12/05/96	Yes	Yes	C12568	Lucy R.
AOC50CP-NW	JQ5815	12/04/96	Solid	160.3			12/05/96	N/A	N/A		Crawford M.
			Solid	8240	Q2V5716	12/05/96	12/05/96	Yes	Yes	C12569	Lucy R.
AOC50CP-B	JQ5816	12/04/96	Solid	160.3			12/05/96	N/A	N/A		Crawford M.
			Solid	8240	Q2V5716	12/05/96	12/05/96	Yes	Yes	C12570	Lucy R.
03DEC96TB	JQ5817	12/03/96	Aqueous	8240	Q1V5719	12/06/96	12/06/96	Yes	N/A	C12580	Lucy R.

APPENDIX A

DATA SUMMARY REPORT

DATA SUMMARY REPORT

DATE: 12/07/96

PAGE: 1

Company: ROY F. WESTON, INC.

Parameters	Units	AOC50-NW	AOC50-SW	AOC50-WW	AOC50-EW	AOC50-BOT	AOC50-DUP	AOC50-CP1	AOC50-CP2
Sample Point ID:		AOC50-NW	AOC50-SW	AOC50-WW	AOC50-EW	AOC50-BOT	AOC50-DUP	AOC50-CP1	AOC50-CP2
ASC Sample Number:		JQ5803	JQ5804	JQ5805	JQ5806	JQ5807	JQ5808	JQ5809	JQ5810
Sample Date:		961203	961203	961203	961203	961203	961203	961203	961203
Facility Code:		300595	300595	300595	300595	300595	300595	300595	300595
CV10 Wet Chemistry									
Solids, Total	%	97.6	88.2	93.1	96.1	85.2	92.9	78.1	92.9

Parameters	Units	AOC50-NW	AOC50-SW	AOC50-WW	AOC50-EW	AOC50-BOT	AOC50-DUP	AOC50-CP1	AOC50-CP2
Sample Point ID:		AOC50-NW	AOC50-SW	AOC50-WW	AOC50-EW	AOC50-BOT	AOC50-DUP	AOC50-CP1	AOC50-CP2
ASC Sample Number:		JQ5803	JQ5804	JQ5805	JQ5806	JQ5807	JQ5808	JQ5809	JQ5810
Sample Date:		961203	961203	961203	961203	961203	961203	961203	961203
Facility Code:		300595	300595	300595	300595	300595	300595	300595	300595
MV00 GCMS Volatiles									
Acetone	mg/kg	<.045	<.054	<.044	<.052	<.051	<.053	<.061	<.047
Acrolein	mg/kg	<.113	<.135	<.111	<.129	<.126	<.132	<.152	<.118
Acrylonitrile	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
Benzene	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
Bromodichloromethane	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
Bromoform	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
Bromomethane	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
2-Butanone	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
Carbon disulfide	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
Carbon tetrachloride	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
Chlorobenzene	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
Chloroethane	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
Chloroform	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
2-Chloroethylvinyl ether	mg/kg	<.227	<.270	<.222	<.258	<.253	<.264	<.305	<.236
Chloromethane	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
Dibromochloromethane	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
1,2-Dibromo-3-chloropropane	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
Dichlorodifluoromethane	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
1,1-Dichloroethane	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
1,2-Dichloroethane	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
1,1-Dichloroethene	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
1,2-Dichloroethene (total)	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
1,2-Dichloropropane	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
cis-1,3-Dichloropropene	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024

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Company: ROY F. WESTON, INC.

Parameters	Units	AOC50-NW	AOC50-SW	AOC50-WW	AOC50-EW	AOC50-BOT	AOC50-DUP	AOC50-CP1	AOC50-CP2
Sample Point ID:		AOC50-NW	AOC50-SW	AOC50-WW	AOC50-EW	AOC50-BOT	AOC50-DUP	AOC50-CP1	AOC50-CP2
ASC Sample Number:		JQ5803	JQ5804	JQ5805	JQ5806	JQ5807	JQ5808	JQ5809	JQ5810
Sample Date:		961203	961203	961203	961203	961203	961203	961203	961203
Facility Code:		300595	300595	300595	300595	300595	300595	300595	300595
MV00 GCMS Volatiles									
trans-1,3-Dichloropropene	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
Dibromomethane	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
Ethylbenzene	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
Ethylene dibromide	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
Ethyl acetate	mg/kg	<.091	<.108	<.089	<.103	<.101	<.106	<.122	<.094
Ethyl ether	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
2-Hexanone	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
Methylene chloride	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
4-Methyl-2-pentanone	mg/kg	<.045	<.054	<.044	<.052	<.051	<.053	<.061	<.047
Styrene	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
1,1,1,2-Tetrachloroethane	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
1,1,2,2-Tetrachloroethane	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
Tetrachloroethene	mg/kg	<.023	<.027	<.022	<.026	.648	<.026	<.030	<.024
Toluene	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
1,1,1-Trichloroethane	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
1,1,2-Trichloroethane	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
Trichloroethene	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
1,2-Trans-dichloroethylene	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
Trichlorofluoromethane	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
1,2,3-Trichloropropane	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
1,1,2-Trichlorotrifluoroethane	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
Vinyl chloride	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024
Xylenes	mg/kg	<.023	<.027	<.022	<.026	<.025	<.026	<.030	<.024

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Company: ROY F. WESTON, INC.

Parameters	Units	Sample Point ID: AOC50-CP3 / ASC Sample Number: JQ5811 / Sample Date: 961203 / Facility Code: 300595	Sample Point ID: AOC50CP-SW / ASC Sample Number: JQ5812 / Sample Date: 961204 / Facility Code: 300595	Sample Point ID: AOC50CP-EW / ASC Sample Number: JQ5813 / Sample Date: 961204 / Facility Code: 300595	Sample Point ID: AOC50CP-WW / ASC Sample Number: JQ5814 / Sample Date: 961204 / Facility Code: 300595	Sample Point ID: AOC50CP-NW / ASC Sample Number: JQ5815 / Sample Date: 961204 / Facility Code: 300595	Sample Point ID: AOC50CP-B / ASC Sample Number: JQ5816 / Sample Date: 961204 / Facility Code: 300595
CV10 Wet Chemistry							
Solids, Total	%	93.3	92.8	93.6	90.8	94.0	77.5

Parameters	Units	Sample Point ID: AOC50-CP3 / ASC Sample Number: JQ5811 / Sample Date: 961203 / Facility Code: 300595	Sample Point ID: AOC50CP-SW / ASC Sample Number: JQ5812 / Sample Date: 961204 / Facility Code: 300595	Sample Point ID: AOC50CP-EW / ASC Sample Number: JQ5813 / Sample Date: 961204 / Facility Code: 300595	Sample Point ID: AOC50CP-WW / ASC Sample Number: JQ5814 / Sample Date: 961204 / Facility Code: 300595	Sample Point ID: AOC50CP-NW / ASC Sample Number: JQ5815 / Sample Date: 961204 / Facility Code: 300595	Sample Point ID: AOC50CP-B / ASC Sample Number: JQ5816 / Sample Date: 961204 / Facility Code: 300595
MV00 GCMS Volatiles							
Acetone	mg/kg	<.047	<.051	<.050	<.052	<.050	<.061
Acrolein	mg/kg	<.117	<.127	<.126	<.131	<.124	<.152
Acrylonitrile	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
Benzene	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
Bromodichloromethane	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
Bromoform	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
Bromomethane	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
2-Butanone	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
Carbon disulfide	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
Carbon tetrachloride	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
Chlorobenzene	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
Chloroethane	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
Chloroform	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
2-Chloroethylvinyl ether	mg/kg	<.233	<.254	<.252	<.262	<.249	<.304
Chloromethane	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
Dibromochloromethane	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
1,2-Dibromo-3-chloropropane	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
Dichlorodifluoromethane	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
1,1-Dichloroethane	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
1,2-Dichloroethane	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
1,1-Dichloroethene	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
1,2-Dichloroethene (total)	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
1,2-Dichloropropane	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
cis-1,3-Dichloropropene	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030

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Company: ROY F. WESTON, INC.

Parameters	Units	Sample Point ID: AOC50-CP3 / ASC Sample Number: JQ5811 / Sample Date: 961203 / Facility Code: 300595	Sample Point ID: AOC50CP-SW / ASC Sample Number: JQ5812 / Sample Date: 961204 / Facility Code: 300595	Sample Point ID: AOC50CP-EW / ASC Sample Number: JQ5813 / Sample Date: 961204 / Facility Code: 300595	Sample Point ID: AOC50CP-WW / ASC Sample Number: JQ5814 / Sample Date: 961204 / Facility Code: 300595	Sample Point ID: AOC50CP-NW / ASC Sample Number: JQ5815 / Sample Date: 961204 / Facility Code: 300595	Sample Point ID: AOC50CP-B / ASC Sample Number: JQ5816 / Sample Date: 961204 / Facility Code: 300595
MV00 GCMS Volatiles							
trans-1,3-Dichloropropene	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
Dibromomethane	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
Ethylbenzene	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
Ethylene dibromide	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
Ethyl acetate	mg/kg	<.093	<.102	<.101	<.105	<.099	<.122
Ethyl ether	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
2-Hexanone	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
Methylene chloride	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
4-Methyl-2-pentanone	mg/kg	<.047	<.051	<.050	<.052	<.050	<.061
Styrene	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
1,1,1,2-Tetrachloroethane	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
1,1,2,2-Tetrachloroethane	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
Tetrachloroethene	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
Toluene	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
1,1,1-Trichloroethane	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
1,1,2-Trichloroethane	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
Trichloroethene	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
1,2-Trans-dichloroethylene	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
Trichlorofluoromethane	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
1,2,3-Trichloropropane	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
1,1,2-Trichlorotrifluoroethane	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
Vinyl chloride	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030
Xylenes	mg/kg	<.023	<.025	<.025	<.026	<.025	<.030

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Company: ROY F. WESTON, INC.

Sample Point ID: 03DEC96TB
ASC Sample Number: JQ5817
Sample Date: 961203
Facility Code: 300595

Parameters	Units	
MV00 GCMS Volatiles		
Acetone	mg/L	<.010
Acrolein	mg/L	<.025
Acrylonitrile	mg/L	<.005
Benzene	mg/L	<.005
Bromodichloromethane	mg/L	<.005
Bromoform	mg/L	<.005
Bromomethane	mg/L	<.005
2-Butanone	mg/L	<.005
Carbon disulfide	mg/L	<.005
Carbon tetrachloride	mg/L	<.005
Chlorobenzene	mg/L	<.005
Chloroethane	mg/L	<.005
Chloroform	mg/L	<.005
2-Chloroethylvinyl ether	mg/L	<.050
Chloromethane	mg/L	<.005
Dibromochloromethane	mg/L	<.005
1,2-Dibromo-3-chloropropane	mg/L	<.005
Dichlorodifluoromethane	mg/L	<.005
1,1-Dichloroethane	mg/L	<.005
1,2-Dichloroethane	mg/L	<.005
1,1-Dichloroethene	mg/L	<.005
1,2-Dichloroethene (total)	mg/L	<.005
1,2-Dichloropropane	mg/L	<.005
cis-1,3-Dichloropropene	mg/L	<.005
trans-1,3-Dichloropropene	mg/L	<.005
Dibromomethane	mg/L	<.005
Ethylbenzene	mg/L	<.005
Ethylene dibromide	mg/L	<.005
Ethyl acetate	mg/L	<.020
Ethyl ether	mg/L	<.005
2-Hexanone	mg/L	<.005
Methylene chloride	mg/L	<.005
4-Methyl-2-pentanone	mg/L	<.010
Styrene	mg/L	<.005
1,1,1,2-Tetrachloroethane	mg/L	<.005

DATA SUMMARY REPORT

Company: ROY F. WESTON, INC.

Sample Point ID: 03DEC96TB
ASC Sample Number: JQ5817
Sample Date: 961203
Facility Code: 300595

Parameters	Units	
MV00 GCMS Volatiles		
1,1,2,2-Tetrachloroethane	mg/L	<.005
Tetrachloroethene	mg/L	<.005
Toluene	mg/L	<.005
1,1,1-Trichloroethane	mg/L	<.005
1,1,2-Trichloroethane	mg/L	<.005
Trichloroethene	mg/L	<.005
1,2-Trans-dichloroethylene	mg/L	<.005
Trichlorofluoromethane	mg/L	<.005
1,2,3-Trichloropropane	mg/L	<.005
1,1,2-Trichlorotrifluoroethane	mg/L	<.005
Vinyl chloride	mg/L	<.005
Xylenes	mg/L	<.005

APPENDIX B

QUANTITATIVE RESULTS

MV00 GCMS VOLATILES

Company Name	Facility	Sample Point	ASC Sample No.
ROY F. WESTON, INC.	300595	AOC50-NW	JQ5803

Compounds	Sample Results mg/kg	Detection Limits mg/kg	Blank Results mg/kg	Batch Number
Acetone	ND	.045	ND	Q2V5716
Acrolein	ND	.113	ND	Q2V5716
Acrylonitrile	ND	.023	ND	Q2V5716
Benzene	ND	.023	ND	Q2V5716
Bromodichloromethane	ND	.023	ND	Q2V5716
Bromoform	ND	.023	ND	Q2V5716
Bromomethane	ND	.023	ND	Q2V5716
2-Butanone	ND	.023	ND	Q2V5716
Carbon disulfide	ND	.023	ND	Q2V5716
Carbon tetrachloride	ND	.023	ND	Q2V5716
Chlorobenzene	ND	.023	ND	Q2V5716
Chloroethane	ND	.023	ND	Q2V5716
Chloroform	ND	.023	ND	Q2V5716
2-Chloroethylvinyl ether	ND	.227	ND	Q2V5716
Chloromethane	ND	.023	ND	Q2V5716
Dibromochloromethane	ND	.023	ND	Q2V5716
1,2-Dibromo-3-chloropropane	ND	.023	ND	Q2V5716
Dichlorodifluoromethane	ND	.023	ND	Q2V5716
1,1-Dichloroethane	ND	.023	ND	Q2V5716
1,2-Dichloroethane	ND	.023	ND	Q2V5716
1,1-Dichloroethene	ND	.023	ND	Q2V5716
1,2-Dichloroethene (total)	ND	.023	ND	Q2V5716
1,2-Dichloropropane	ND	.023	ND	Q2V5716
cis-1,3-Dichloropropene	ND	.023	ND	Q2V5716
trans-1,3-Dichloropropene	ND	.023	ND	Q2V5716
Dibromomethane	ND	.023	ND	Q2V5716
Ethylbenzene	ND	.023	ND	Q2V5716
Ethylene dibromide	ND	.023	ND	Q2V5716
Ethyl acetate	ND	.091	ND	Q2V5716
Ethyl ether	ND	.023	ND	Q2V5716
2-Hexanone	ND	.023	ND	Q2V5716
Methylene chloride	ND	.023	ND	Q2V5716
4-Methyl-2-pentanone	ND	.045	ND	Q2V5716
Styrene	ND	.023	ND	Q2V5716
1,1,1,2-Tetrachloroethane	ND	.023	ND	Q2V5716
1,1,2,2-Tetrachloroethane	ND	.023	ND	Q2V5716
Tetrachloroethene	ND	.023	ND	Q2V5716
Toluene	ND	.023	ND	Q2V5716
1,1,1-Trichloroethane	ND	.023	ND	Q2V5716
1,1,2-Trichloroethane	ND	.023	ND	Q2V5716
Trichloroethene	ND	.023	ND	Q2V5716
1,2-Trans-dichloroethylene	ND	.023	ND	Q2V5716
Trichlorofluoromethane	ND	.023	ND	Q2V5716
1,2,3-Trichloropropane	ND	.023	ND	Q2V5716
1,1,2-Trichlorotrifluoroethane	ND	.023	ND	Q2V5716
Vinyl chloride	ND	.023	ND	Q2V5716
Xylenes	ND	.023	ND	Q2V5716

MV00 GCMS Volatiles

Company Name	Facility	Sample Point	ASC Sample No.
ROY F. WESTON, INC.	300595	AOC50-SW	JQ5804

Compounds	Sample Results mg/kg	Detection Limits mg/kg	Blank Results mg/kg	Batch Number
Acetone	ND	.054	ND	Q2V5716
Acrolein	ND	.135	ND	Q2V5716
Acrylonitrile	ND	.027	ND	Q2V5716
Benzene	ND	.027	ND	Q2V5716
Bromodichloromethane	ND	.027	ND	Q2V5716
Bromoform	ND	.027	ND	Q2V5716
Bromomethane	ND	.027	ND	Q2V5716
2-Butanone	ND	.027	ND	Q2V5716
Carbon disulfide	ND	.027	ND	Q2V5716
Carbon tetrachloride	ND	.027	ND	Q2V5716
Chlorobenzene	ND	.027	ND	Q2V5716
Chloroethane	ND	.027	ND	Q2V5716
Chloroform	ND	.027	ND	Q2V5716
2-Chloroethylvinyl ether	ND	.270	ND	Q2V5716
Chloromethane	ND	.027	ND	Q2V5716
Dibromochloromethane	ND	.027	ND	Q2V5716
1,2-Dibromo-3-chloropropane	ND	.027	ND	Q2V5716
Dichlorodifluoromethane	ND	.027	ND	Q2V5716
1,1-Dichloroethane	ND	.027	ND	Q2V5716
1,2-Dichloroethane	ND	.027	ND	Q2V5716
1,1-Dichloroethene	ND	.027	ND	Q2V5716
1,2-Dichloroethene (total)	ND	.027	ND	Q2V5716
1,2-Dichloropropane	ND	.027	ND	Q2V5716
cis-1,3-Dichloropropene	ND	.027	ND	Q2V5716
trans-1,3-Dichloropropene	ND	.027	ND	Q2V5716
Dibromomethane	ND	.027	ND	Q2V5716
Ethylbenzene	ND	.027	ND	Q2V5716
Ethylene dibromide	ND	.027	ND	Q2V5716
Ethyl acetate	ND	.108	ND	Q2V5716
Ethyl ether	ND	.027	ND	Q2V5716
2-Hexanone	ND	.027	ND	Q2V5716
Methylene chloride	ND	.027	ND	Q2V5716
4-Methyl-2-pentanone	ND	.054	ND	Q2V5716
Styrene	ND	.027	ND	Q2V5716
1,1,1,2-Tetrachloroethane	ND	.027	ND	Q2V5716
1,1,2,2-Tetrachloroethane	ND	.027	ND	Q2V5716
Tetrachloroethene	ND	.027	ND	Q2V5716
Toluene	ND	.027	ND	Q2V5716
1,1,1-Trichloroethane	ND	.027	ND	Q2V5716
1,1,2-Trichloroethane	ND	.027	ND	Q2V5716
Trichloroethene	ND	.027	ND	Q2V5716
1,2-Trans-dichloroethylene	ND	.027	ND	Q2V5716
Trichlorofluoromethane	ND	.027	ND	Q2V5716
1,2,3-Trichloropropane	ND	.027	ND	Q2V5716
1,1,2-Trichlorotrifluoroethane	ND	.027	ND	Q2V5716
Vinyl chloride	ND	.027	ND	Q2V5716
Xylenes	ND	.027	ND	Q2V5716

MV00 GCMS VOLATILES

Company Name	Facility	Sample Point	ASC Sample No.
ROY F. WESTON, INC.	300595	AOC50-WW	JQ5805

Compounds	Sample Results mg/kg	Detection Limits mg/kg	Blank Results mg/kg	Batch Number
Acetone	ND	.044	ND	Q2V5716
Acrolein	ND	.111	ND	Q2V5716
Acrylonitrile	ND	.022	ND	Q2V5716
Benzene	ND	.022	ND	Q2V5716
Bromodichloromethane	ND	.022	ND	Q2V5716
Bromoform	ND	.022	ND	Q2V5716
Bromomethane	ND	.022	ND	Q2V5716
2-Butanone	ND	.022	ND	Q2V5716
Carbon disulfide	ND	.022	ND	Q2V5716
Carbon tetrachloride	ND	.022	ND	Q2V5716
Chlorobenzene	ND	.022	ND	Q2V5716
Chloroethane	ND	.022	ND	Q2V5716
Chloroform	ND	.022	ND	Q2V5716
2-Chloroethylvinyl ether	ND	.222	ND	Q2V5716
Chloromethane	ND	.022	ND	Q2V5716
Dibromochloromethane	ND	.022	ND	Q2V5716
1,2-Dibromo-3-chloropropane	ND	.022	ND	Q2V5716
Dichlorodifluoromethane	ND	.022	ND	Q2V5716
1,1-Dichloroethane	ND	.022	ND	Q2V5716
1,2-Dichloroethane	ND	.022	ND	Q2V5716
1,1-Dichloroethene	ND	.022	ND	Q2V5716
1,2-Dichloroethene (total)	ND	.022	ND	Q2V5716
1,2-Dichloropropane	ND	.022	ND	Q2V5716
cis-1,3-Dichloropropene	ND	.022	ND	Q2V5716
trans-1,3-Dichloropropene	ND	.022	ND	Q2V5716
Dibromomethane	ND	.022	ND	Q2V5716
Ethylbenzene	ND	.022	ND	Q2V5716
Ethylene dibromide	ND	.022	ND	Q2V5716
Ethyl acetate	ND	.089	ND	Q2V5716
Ethyl ether	ND	.022	ND	Q2V5716
2-Hexanone	ND	.022	ND	Q2V5716
Methylene chloride	ND	.022	ND	Q2V5716
4-Methyl-2-pentanone	ND	.044	ND	Q2V5716
Styrene	ND	.022	ND	Q2V5716
1,1,1,2-Tetrachloroethane	ND	.022	ND	Q2V5716
1,1,2,2-Tetrachloroethane	ND	.022	ND	Q2V5716
Tetrachloroethene	ND	.022	ND	Q2V5716
Toluene	ND	.022	ND	Q2V5716
1,1,1-Trichloroethane	ND	.022	ND	Q2V5716
1,1,2-Trichloroethane	ND	.022	ND	Q2V5716
Trichloroethene	ND	.022	ND	Q2V5716
1,2-Trans-dichloroethylene	ND	.022	ND	Q2V5716
Trichlorofluoromethane	ND	.022	ND	Q2V5716
1,2,3-Trichloropropane	ND	.022	ND	Q2V5716
1,1,2-Trichlorotrifluoroethane	ND	.022	ND	Q2V5716
Vinyl chloride	ND	.022	ND	Q2V5716
Xylenes	ND	.022	ND	Q2V5716

MV00 GCMS VOLATILES

Company Name	Facility	Sample Point	ASC Sample No.
ROY F. WESTON, INC.	300595	AOC50-EW	JQ5806

Compounds	Sample Results mg/kg	Detection Limits mg/kg	Blank Results mg/kg	Batch Number
Acetone	ND	.052	ND	Q2V5716
Acrolein	ND	.129	ND	Q2V5716
Acrylonitrile	ND	.026	ND	Q2V5716
Benzene	ND	.026	ND	Q2V5716
Bromodichloromethane	ND	.026	ND	Q2V5716
Bromoform	ND	.026	ND	Q2V5716
Bromomethane	ND	.026	ND	Q2V5716
2-Butanone	ND	.026	ND	Q2V5716
Carbon disulfide	ND	.026	ND	Q2V5716
Carbon tetrachloride	ND	.026	ND	Q2V5716
Chlorobenzene	ND	.026	ND	Q2V5716
Chloroethane	ND	.026	ND	Q2V5716
Chloroform	ND	.026	ND	Q2V5716
2-Chloroethylvinyl ether	ND	.258	ND	Q2V5716
Chloromethane	ND	.026	ND	Q2V5716
Dibromochloromethane	ND	.026	ND	Q2V5716
1,2-Dibromo-3-chloropropane	ND	.026	ND	Q2V5716
Dichlorodifluoromethane	ND	.026	ND	Q2V5716
1,1-Dichloroethane	ND	.026	ND	Q2V5716
1,2-Dichloroethane	ND	.026	ND	Q2V5716
1,1-Dichloroethene	ND	.026	ND	Q2V5716
1,2-Dichloroethene (total)	ND	.026	ND	Q2V5716
1,2-Dichloropropane	ND	.026	ND	Q2V5716
cis-1,3-Dichloropropene	ND	.026	ND	Q2V5716
trans-1,3-Dichloropropene	ND	.026	ND	Q2V5716
Dibromomethane	ND	.026	ND	Q2V5716
Ethylbenzene	ND	.026	ND	Q2V5716
Ethylene dibromide	ND	.026	ND	Q2V5716
Ethyl acetate	ND	.103	ND	Q2V5716
Ethyl ether	ND	.026	ND	Q2V5716
2-Hexanone	ND	.026	ND	Q2V5716
Methylene chloride	ND	.026	ND	Q2V5716
4-Methyl-2-pentanone	ND	.052	ND	Q2V5716
Styrene	ND	.026	ND	Q2V5716
1,1,1,2-Tetrachloroethane	ND	.026	ND	Q2V5716
1,1,2,2-Tetrachloroethane	ND	.026	ND	Q2V5716
Tetrachloroethene	ND	.026	ND	Q2V5716
Toluene	ND	.026	ND	Q2V5716
1,1,1-Trichloroethane	ND	.026	ND	Q2V5716
1,1,2-Trichloroethane	ND	.026	ND	Q2V5716
Trichloroethene	ND	.026	ND	Q2V5716
1,2-Trans-dichloroethylene	ND	.026	ND	Q2V5716
Trichlorofluoromethane	ND	.026	ND	Q2V5716
1,2,3-Trichloropropane	ND	.026	ND	Q2V5716
1,1,2-Trichlorotrifluoroethane	ND	.026	ND	Q2V5716
Vinyl chloride	ND	.026	ND	Q2V5716
Xylenes	ND	.026	ND	Q2V5716

MV00 GCMS VOLATILES

Company Name	Facility	Sample Point	ASC Sample No.
ROY F. WESTON, INC.	300595	AOC50-BOT	JQ5807

Compounds	Sample Results mg/kg	Detection Limits mg/kg	Blank Results mg/kg	Batch Number
Acetone	ND	.051	ND	Q2V5716
Acrolein	ND	.126	ND	Q2V5716
Acrylonitrile	ND	.025	ND	Q2V5716
Benzene	ND	.025	ND	Q2V5716
Bromodichloromethane	ND	.025	ND	Q2V5716
Bromoform	ND	.025	ND	Q2V5716
Bromomethane	ND	.025	ND	Q2V5716
2-Butanone	ND	.025	ND	Q2V5716
Carbon disulfide	ND	.025	ND	Q2V5716
Carbon tetrachloride	ND	.025	ND	Q2V5716
Chlorobenzene	ND	.025	ND	Q2V5716
Chloroethane	ND	.025	ND	Q2V5716
Chloroform	ND	.025	ND	Q2V5716
2-Chloroethylvinyl ether	ND	.253	ND	Q2V5716
Chloromethane	ND	.025	ND	Q2V5716
Dibromochloromethane	ND	.025	ND	Q2V5716
1,2-Dibromo-3-chloropropane	ND	.025	ND	Q2V5716
Dichlorodifluoromethane	ND	.025	ND	Q2V5716
1,1-Dichloroethane	ND	.025	ND	Q2V5716
1,2-Dichloroethane	ND	.025	ND	Q2V5716
1,1-Dichloroethene	ND	.025	ND	Q2V5716
1,2-Dichloroethene (total)	ND	.025	ND	Q2V5716
1,2-Dichloropropane	ND	.025	ND	Q2V5716
cis-1,3-Dichloropropene	ND	.025	ND	Q2V5716
trans-1,3-Dichloropropene	ND	.025	ND	Q2V5716
Dibromomethane	ND	.025	ND	Q2V5716
Ethylbenzene	ND	.025	ND	Q2V5716
Ethylene dibromide	ND	.025	ND	Q2V5716
Ethyl acetate	ND	.101	ND	Q2V5716
Ethyl ether	ND	.025	ND	Q2V5716
2-Hexanone	ND	.025	ND	Q2V5716
Methylene chloride	ND	.025	ND	Q2V5716
4-Methyl-2-pentanone	ND	.051	ND	Q2V5716
Styrene	ND	.025	ND	Q2V5716
1,1,1,2-Tetrachloroethane	ND	.025	ND	Q2V5716
1,1,2,2-Tetrachloroethane	ND	.025	ND	Q2V5716
Tetrachloroethene	.648	.025	ND	Q2V5716
Toluene	ND	.025	ND	Q2V5716
1,1,1-Trichloroethane	ND	.025	ND	Q2V5716
1,1,2-Trichloroethane	ND	.025	ND	Q2V5716
Trichloroethene	ND	.025	ND	Q2V5716
1,2-Trans-dichloroethylene	ND	.025	ND	Q2V5716
Trichlorofluoromethane	ND	.025	ND	Q2V5716
1,2,3-Trichloropropane	ND	.025	ND	Q2V5716
1,1,2-Trichlorotrifluoroethane	ND	.025	ND	Q2V5716
Vinyl chloride	ND	.025	ND	Q2V5716
Xylenes	ND	.025	ND	Q2V5716

MV00 GCMS VOLATILES

Company Name	Facility	Sample Point	ASC Sample No.
ROY F. WESTON, INC.	300595	AOC50-DUP	JQ5808

Compounds	Sample Results mg/kg	Detection Limits mg/kg	Blank Results mg/kg	Batch Number
Acetone	ND	.053	ND	Q2V5716
Acrolein	ND	.132	ND	Q2V5716
Acrylonitrile	ND	.026	ND	Q2V5716
Benzene	ND	.026	ND	Q2V5716
Bromodichloromethane	ND	.026	ND	Q2V5716
Bromoform	ND	.026	ND	Q2V5716
Bromomethane	ND	.026	ND	Q2V5716
2-Butanone	ND	.026	ND	Q2V5716
Carbon disulfide	ND	.026	ND	Q2V5716
Carbon tetrachloride	ND	.026	ND	Q2V5716
Chlorobenzene	ND	.026	ND	Q2V5716
Chloroethane	ND	.026	ND	Q2V5716
Chloroform	ND	.026	ND	Q2V5716
2-Chloroethylvinyl ether	ND	.264	ND	Q2V5716
Chloromethane	ND	.026	ND	Q2V5716
Dibromochloromethane	ND	.026	ND	Q2V5716
1,2-Dibromo-3-chloropropane	ND	.026	ND	Q2V5716
Dichlorodifluoromethane	ND	.026	ND	Q2V5716
1,1-Dichloroethane	ND	.026	ND	Q2V5716
1,2-Dichloroethane	ND	.026	ND	Q2V5716
1,1-Dichloroethene	ND	.026	ND	Q2V5716
1,2-Dichloroethene (total)	ND	.026	ND	Q2V5716
1,2-Dichloropropane	ND	.026	ND	Q2V5716
cis-1,3-Dichloropropene	ND	.026	ND	Q2V5716
trans-1,3-Dichloropropene	ND	.026	ND	Q2V5716
Dibromomethane	ND	.026	ND	Q2V5716
Ethylbenzene	ND	.026	ND	Q2V5716
Ethylene dibromide	ND	.026	ND	Q2V5716
Ethyl acetate	ND	.106	ND	Q2V5716
Ethyl ether	ND	.026	ND	Q2V5716
2-Hexanone	ND	.026	ND	Q2V5716
Methylene chloride	ND	.026	ND	Q2V5716
4-Methyl-2-pentanone	ND	.053	ND	Q2V5716
Styrene	ND	.026	ND	Q2V5716
1,1,1,2-Tetrachloroethane	ND	.026	ND	Q2V5716
1,1,2,2-Tetrachloroethane	ND	.026	ND	Q2V5716
Tetrachloroethene	ND	.026	ND	Q2V5716
Toluene	ND	.026	ND	Q2V5716
1,1,1-Trichloroethane	ND	.026	ND	Q2V5716
1,1,2-Trichloroethane	ND	.026	ND	Q2V5716
Trichloroethene	ND	.026	ND	Q2V5716
1,2-Trans-dichloroethylene	ND	.026	ND	Q2V5716
Trichlorofluoromethane	ND	.026	ND	Q2V5716
1,2,3-Trichloropropane	ND	.026	ND	Q2V5716
1,1,2-Trichlorotrifluoroethane	ND	.026	ND	Q2V5716
Vinyl chloride	ND	.026	ND	Q2V5716
Xylenes	ND	.026	ND	Q2V5716

MV00 GCMS VOLATILES

Company Name	Facility	Sample Point	ASC Sample No.
ROY F. WESTON, INC.	300595	AOC50-CP1	JQ5809

Compounds	Sample Results mg/kg	Detection Limits mg/kg	Blank Results mg/kg	Batch Number
Acetone	ND	.061	ND	Q2V5716
Acrolein	ND	.152	ND	Q2V5716
Acrylonitrile	ND	.030	ND	Q2V5716
Benzene	ND	.030	ND	Q2V5716
Bromodichloromethane	ND	.030	ND	Q2V5716
Bromoform	ND	.030	ND	Q2V5716
Bromomethane	ND	.030	ND	Q2V5716
2-Butanone	ND	.030	ND	Q2V5716
Carbon disulfide	ND	.030	ND	Q2V5716
Carbon tetrachloride	ND	.030	ND	Q2V5716
Chlorobenzene	ND	.030	ND	Q2V5716
Chloroethane	ND	.030	ND	Q2V5716
Chloroform	ND	.030	ND	Q2V5716
2-Chloroethylvinyl ether	ND	.305	ND	Q2V5716
Chloromethane	ND	.030	ND	Q2V5716
Dibromochloromethane	ND	.030	ND	Q2V5716
1,2-Dibromo-3-chloropropane	ND	.030	ND	Q2V5716
Dichlorodifluoromethane	ND	.030	ND	Q2V5716
1,1-Dichloroethane	ND	.030	ND	Q2V5716
1,2-Dichloroethane	ND	.030	ND	Q2V5716
1,1-Dichloroethene	ND	.030	ND	Q2V5716
1,2-Dichloroethene (total)	ND	.030	ND	Q2V5716
1,2-Dichloropropane	ND	.030	ND	Q2V5716
cis-1,3-Dichloropropene	ND	.030	ND	Q2V5716
trans-1,3-Dichloropropene	ND	.030	ND	Q2V5716
Dibromomethane	ND	.030	ND	Q2V5716
Ethylbenzene	ND	.030	ND	Q2V5716
Ethylene dibromide	ND	.030	ND	Q2V5716
Ethyl acetate	ND	.122	ND	Q2V5716
Ethyl ether	ND	.030	ND	Q2V5716
2-Hexanone	ND	.030	ND	Q2V5716
Methylene chloride	ND	.030	ND	Q2V5716
4-Methyl-2-pentanone	ND	.061	ND	Q2V5716
Styrene	ND	.030	ND	Q2V5716
1,1,1,2-Tetrachloroethane	ND	.030	ND	Q2V5716
1,1,2,2-Tetrachloroethane	ND	.030	ND	Q2V5716
Tetrachloroethene	ND	.030	ND	Q2V5716
Toluene	ND	.030	ND	Q2V5716
1,1,1-Trichloroethane	ND	.030	ND	Q2V5716
1,1,2-Trichloroethane	ND	.030	ND	Q2V5716
Trichloroethene	ND	.030	ND	Q2V5716
1,2-Trans-dichloroethylene	ND	.030	ND	Q2V5716
Trichlorofluoromethane	ND	.030	ND	Q2V5716
1,2,3-Trichloropropane	ND	.030	ND	Q2V5716
1,1,2-Trichlorotrifluoroethane	ND	.030	ND	Q2V5716
Vinyl chloride	ND	.030	ND	Q2V5716
Xylenes	ND	.030	ND	Q2V5716

MV00 GCMS VOLATILES

Company Name	Facility	Sample Point	ASC Sample No.
ROY F. WESTON, INC.	300595	AOC50-CP2	JQ5810

Compounds	Sample Results mg/kg	Detection Limits mg/kg	Blank Results mg/kg	Batch Number
Acetone	ND	.047	ND	Q2V5716
Acrolein	ND	.118	ND	Q2V5716
Acrylonitrile	ND	.024	ND	Q2V5716
Benzene	ND	.024	ND	Q2V5716
Bromodichloromethane	ND	.024	ND	Q2V5716
Bromoform	ND	.024	ND	Q2V5716
Bromomethane	ND	.024	ND	Q2V5716
2-Butanone	ND	.024	ND	Q2V5716
Carbon disulfide	ND	.024	ND	Q2V5716
Carbon tetrachloride	ND	.024	ND	Q2V5716
Chlorobenzene	ND	.024	ND	Q2V5716
Chloroethane	ND	.024	ND	Q2V5716
Chloroform	ND	.024	ND	Q2V5716
2-Chloroethylvinyl ether	ND	.236	ND	Q2V5716
Chloromethane	ND	.024	ND	Q2V5716
Dibromochloromethane	ND	.024	ND	Q2V5716
1,2-Dibromo-3-chloropropane	ND	.024	ND	Q2V5716
Dichlorodifluoromethane	ND	.024	ND	Q2V5716
1,1-Dichloroethane	ND	.024	ND	Q2V5716
1,2-Dichloroethane	ND	.024	ND	Q2V5716
1,1-Dichloroethene	ND	.024	ND	Q2V5716
1,2-Dichloroethene (total)	ND	.024	ND	Q2V5716
1,2-Dichloropropane	ND	.024	ND	Q2V5716
cis-1,3-Dichloropropene	ND	.024	ND	Q2V5716
trans-1,3-Dichloropropene	ND	.024	ND	Q2V5716
Dibromomethane	ND	.024	ND	Q2V5716
Ethylbenzene	ND	.024	ND	Q2V5716
Ethylene dibromide	ND	.024	ND	Q2V5716
Ethyl acetate	ND	.094	ND	Q2V5716
Ethyl ether	ND	.024	ND	Q2V5716
2-Hexanone	ND	.024	ND	Q2V5716
Methylene chloride	ND	.024	ND	Q2V5716
4-Methyl-2-pentanone	ND	.047	ND	Q2V5716
Styrene	ND	.024	ND	Q2V5716
1,1,1,2-Tetrachloroethane	ND	.024	ND	Q2V5716
1,1,2,2-Tetrachloroethane	ND	.024	ND	Q2V5716
Tetrachloroethene	ND	.024	ND	Q2V5716
Toluene	ND	.024	ND	Q2V5716
1,1,1-Trichloroethane	ND	.024	ND	Q2V5716
1,1,2-Trichloroethane	ND	.024	ND	Q2V5716
Trichloroethene	ND	.024	ND	Q2V5716
1,2-Trans-dichloroethylene	ND	.024	ND	Q2V5716
Trichlorofluoromethane	ND	.024	ND	Q2V5716
1,2,3-Trichloropropane	ND	.024	ND	Q2V5716
1,1,2-Trichlorotrifluoroethane	ND	.024	ND	Q2V5716
Vinyl chloride	ND	.024	ND	Q2V5716
Xylenes	ND	.024	ND	Q2V5716

MV00 GCMS VOLATILES

Company Name	Facility	Sample Point	ASC Sample No.
ROY F. WESTON, INC.	300595	AOC50-CP3	JQ5811

Compounds	Sample Results mg/kg	Detection Limits mg/kg	Blank Results mg/kg	Batch Number
Acetone	ND	.047	ND	Q2V5716
Acrolein	ND	.117	ND	Q2V5716
Acrylonitrile	ND	.023	ND	Q2V5716
Benzene	ND	.023	ND	Q2V5716
Bromodichloromethane	ND	.023	ND	Q2V5716
Bromoform	ND	.023	ND	Q2V5716
Bromomethane	ND	.023	ND	Q2V5716
2-Butanone	ND	.023	ND	Q2V5716
Carbon disulfide	ND	.023	ND	Q2V5716
Carbon tetrachloride	ND	.023	ND	Q2V5716
Chlorobenzene	ND	.023	ND	Q2V5716
Chloroethane	ND	.023	ND	Q2V5716
Chloroform	ND	.023	ND	Q2V5716
2-Chloroethylvinyl ether	ND	.233	ND	Q2V5716
Chloromethane	ND	.023	ND	Q2V5716
Dibromochloromethane	ND	.023	ND	Q2V5716
1,2-Dibromo-3-chloropropane	ND	.023	ND	Q2V5716
Dichlorodifluoromethane	ND	.023	ND	Q2V5716
1,1-Dichloroethane	ND	.023	ND	Q2V5716
1,2-Dichloroethane	ND	.023	ND	Q2V5716
1,1-Dichloroethene	ND	.023	ND	Q2V5716
1,2-Dichloroethene (total)	ND	.023	ND	Q2V5716
1,2-Dichloropropane	ND	.023	ND	Q2V5716
cis-1,3-Dichloropropene	ND	.023	ND	Q2V5716
trans-1,3-Dichloropropene	ND	.023	ND	Q2V5716
Dibromomethane	ND	.023	ND	Q2V5716
Ethylbenzene	ND	.023	ND	Q2V5716
Ethylene dibromide	ND	.023	ND	Q2V5716
Ethyl acetate	ND	.093	ND	Q2V5716
Ethyl ether	ND	.023	ND	Q2V5716
2-Hexanone	ND	.023	ND	Q2V5716
Methylene chloride	ND	.023	ND	Q2V5716
4-Methyl-2-pentanone	ND	.047	ND	Q2V5716
Styrene	ND	.023	ND	Q2V5716
1,1,1,2-Tetrachloroethane	ND	.023	ND	Q2V5716
1,1,2,2-Tetrachloroethane	ND	.023	ND	Q2V5716
Tetrachloroethene	ND	.023	ND	Q2V5716
Toluene	ND	.023	ND	Q2V5716
1,1,1-Trichloroethane	ND	.023	ND	Q2V5716
1,1,2-Trichloroethane	ND	.023	ND	Q2V5716
Trichloroethene	ND	.023	ND	Q2V5716
1,2-Trans-dichloroethylene	ND	.023	ND	Q2V5716
Trichlorofluoromethane	ND	.023	ND	Q2V5716
1,2,3-Trichloropropane	ND	.023	ND	Q2V5716
1,1,2-Trichlorotrifluoroethane	ND	.023	ND	Q2V5716
Vinyl chloride	ND	.023	ND	Q2V5716
Xylenes	ND	.023	ND	Q2V5716

MV00 GCMS VOLATILES

Company Name	Facility	Sample Point	ASC Sample No.
ROY F. WESTON, INC.	300595	AOC50CP-SW	JQ5812

Compounds	Sample Results mg/kg	Detection Limits mg/kg	Blank Results mg/kg	Batch Number
Acetone	ND	.051	ND	Q2V5716
Acrolein	ND	.127	ND	Q2V5716
Acrylonitrile	ND	.025	ND	Q2V5716
Benzene	ND	.025	ND	Q2V5716
Bromodichloromethane	ND	.025	ND	Q2V5716
Bromoform	ND	.025	ND	Q2V5716
Bromomethane	ND	.025	ND	Q2V5716
2-Butanone	ND	.025	ND	Q2V5716
Carbon disulfide	ND	.025	ND	Q2V5716
Carbon tetrachloride	ND	.025	ND	Q2V5716
Chlorobenzene	ND	.025	ND	Q2V5716
Chloroethane	ND	.025	ND	Q2V5716
Chloroform	ND	.025	ND	Q2V5716
2-Chloroethylvinyl ether	ND	.254	ND	Q2V5716
Chloromethane	ND	.025	ND	Q2V5716
Dibromochloromethane	ND	.025	ND	Q2V5716
1,2-Dibromo-3-chloropropane	ND	.025	ND	Q2V5716
Dichlorodifluoromethane	ND	.025	ND	Q2V5716
1,1-Dichloroethane	ND	.025	ND	Q2V5716
1,2-Dichloroethane	ND	.025	ND	Q2V5716
1,1-Dichloroethene	ND	.025	ND	Q2V5716
1,2-Dichloroethene (total)	ND	.025	ND	Q2V5716
1,2-Dichloropropane	ND	.025	ND	Q2V5716
cis-1,3-Dichloropropene	ND	.025	ND	Q2V5716
trans-1,3-Dichloropropene	ND	.025	ND	Q2V5716
Dibromomethane	ND	.025	ND	Q2V5716
Ethylbenzene	ND	.025	ND	Q2V5716
Ethylene dibromide	ND	.025	ND	Q2V5716
Ethyl acetate	ND	.102	ND	Q2V5716
Ethyl ether	ND	.025	ND	Q2V5716
2-Hexanone	ND	.025	ND	Q2V5716
Methylene chloride	ND	.025	ND	Q2V5716
4-Methyl-2-pentanone	ND	.051	ND	Q2V5716
Styrene	ND	.025	ND	Q2V5716
1,1,1,2-Tetrachloroethane	ND	.025	ND	Q2V5716
1,1,2,2-Tetrachloroethane	ND	.025	ND	Q2V5716
Tetrachloroethene	ND	.025	ND	Q2V5716
Toluene	ND	.025	ND	Q2V5716
1,1,1-Trichloroethane	ND	.025	ND	Q2V5716
1,1,2-Trichloroethane	ND	.025	ND	Q2V5716
Trichloroethene	ND	.025	ND	Q2V5716
1,2-Trans-dichloroethylene	ND	.025	ND	Q2V5716
Trichlorofluoromethane	ND	.025	ND	Q2V5716
1,2,3-Trichloropropane	ND	.025	ND	Q2V5716
1,1,2-Trichlorotrifluoroethane	ND	.025	ND	Q2V5716
Vinyl chloride	ND	.025	ND	Q2V5716
Xylenes	ND	.025	ND	Q2V5716

MV00 GCMS VOLATILES

Company Name	Facility	Sample Point	ASC Sample No.
ROY F. WESTON, INC.	300595	AOC50CP-EW	JQ5813

Compounds	Sample Results mg/kg	Detection Limits mg/kg	Blank Results mg/kg	Batch Number
Acetone	ND	.050	ND	Q2V5716
Acrolein	ND	.126	ND	Q2V5716
Acrylonitrile	ND	.025	ND	Q2V5716
Benzene	ND	.025	ND	Q2V5716
Bromodichloromethane	ND	.025	ND	Q2V5716
Bromoform	ND	.025	ND	Q2V5716
Bromomethane	ND	.025	ND	Q2V5716
2-Butanone	ND	.025	ND	Q2V5716
Carbon disulfide	ND	.025	ND	Q2V5716
Carbon tetrachloride	ND	.025	ND	Q2V5716
Chlorobenzene	ND	.025	ND	Q2V5716
Chloroethane	ND	.025	ND	Q2V5716
Chloroform	ND	.025	ND	Q2V5716
2-Chloroethylvinyl ether	ND	.252	ND	Q2V5716
Chloromethane	ND	.025	ND	Q2V5716
Dibromochloromethane	ND	.025	ND	Q2V5716
1,2-Dibromo-3-chloropropane	ND	.025	ND	Q2V5716
Dichlorodifluoromethane	ND	.025	ND	Q2V5716
1,1-Dichloroethane	ND	.025	ND	Q2V5716
1,2-Dichloroethane	ND	.025	ND	Q2V5716
1,1-Dichloroethene	ND	.025	ND	Q2V5716
1,2-Dichloroethene (total)	ND	.025	ND	Q2V5716
1,2-Dichloropropane	ND	.025	ND	Q2V5716
cis-1,3-Dichloropropene	ND	.025	ND	Q2V5716
trans-1,3-Dichloropropene	ND	.025	ND	Q2V5716
Dibromomethane	ND	.025	ND	Q2V5716
Ethylbenzene	ND	.025	ND	Q2V5716
Ethylene dibromide	ND	.025	ND	Q2V5716
Ethyl acetate	ND	.101	ND	Q2V5716
Ethyl ether	ND	.025	ND	Q2V5716
2-Hexanone	ND	.025	ND	Q2V5716
Methylene chloride	ND	.025	ND	Q2V5716
4-Methyl-2-pentanone	ND	.050	ND	Q2V5716
Styrene	ND	.025	ND	Q2V5716
1,1,1,2-Tetrachloroethane	ND	.025	ND	Q2V5716
1,1,2,2-Tetrachloroethane	ND	.025	ND	Q2V5716
Tetrachloroethene	ND	.025	ND	Q2V5716
Toluene	ND	.025	ND	Q2V5716
1,1,1-Trichloroethane	ND	.025	ND	Q2V5716
1,1,2-Trichloroethane	ND	.025	ND	Q2V5716
Trichloroethene	ND	.025	ND	Q2V5716
1,2-Trans-dichloroethylene	ND	.025	ND	Q2V5716
Trichlorofluoromethane	ND	.025	ND	Q2V5716
1,2,3-Trichloropropane	ND	.025	ND	Q2V5716
1,1,2-Trichlorotrifluoroethane	ND	.025	ND	Q2V5716
Vinyl chloride	ND	.025	ND	Q2V5716
Xylenes	ND	.025	ND	Q2V5716

MV00 GCMS VOLATILES

Company Name	Facility	Sample Point	ASC Sample No.
ROY F. WESTON, INC.	300595	AOC50CP-B	JQ5816

Compounds	Sample Results mg/kg	Detection Limits mg/kg	Blank Results mg/kg	Batch Number
Acetone	ND	.061	ND	Q2V5716
Acrolein	ND	.152	ND	Q2V5716
Acrylonitrile	ND	.030	ND	Q2V5716
Benzene	ND	.030	ND	Q2V5716
Bromodichloromethane	ND	.030	ND	Q2V5716
Bromoform	ND	.030	ND	Q2V5716
Bromomethane	ND	.030	ND	Q2V5716
2-Butanone	ND	.030	ND	Q2V5716
Carbon disulfide	ND	.030	ND	Q2V5716
Carbon tetrachloride	ND	.030	ND	Q2V5716
Chlorobenzene	ND	.030	ND	Q2V5716
Chloroethane	ND	.030	ND	Q2V5716
Chloroform	ND	.030	ND	Q2V5716
2-Chloroethylvinyl ether	ND	.304	ND	Q2V5716
Chloromethane	ND	.030	ND	Q2V5716
Dibromochloromethane	ND	.030	ND	Q2V5716
1,2-Dibromo-3-chloropropane	ND	.030	ND	Q2V5716
Dichlorodifluoromethane	ND	.030	ND	Q2V5716
1,1-Dichloroethane	ND	.030	ND	Q2V5716
1,2-Dichloroethane	ND	.030	ND	Q2V5716
1,1-Dichloroethene	ND	.030	ND	Q2V5716
1,2-Dichloroethene (total)	ND	.030	ND	Q2V5716
1,2-Dichloropropane	ND	.030	ND	Q2V5716
cis-1,3-Dichloropropene	ND	.030	ND	Q2V5716
trans-1,3-Dichloropropene	ND	.030	ND	Q2V5716
Dibromomethane	ND	.030	ND	Q2V5716
Ethylbenzene	ND	.030	ND	Q2V5716
Ethylene dibromide	ND	.030	ND	Q2V5716
Ethyl acetate	ND	.122	ND	Q2V5716
Ethyl ether	ND	.030	ND	Q2V5716
2-Hexanone	ND	.030	ND	Q2V5716
Methylene chloride	ND	.030	ND	Q2V5716
4-Methyl-2-pentanone	ND	.061	ND	Q2V5716
Styrene	ND	.030	ND	Q2V5716
1,1,1,2-Tetrachloroethane	ND	.030	ND	Q2V5716
1,1,2,2-Tetrachloroethane	ND	.030	ND	Q2V5716
Tetrachloroethene	ND	.030	ND	Q2V5716
Toluene	ND	.030	ND	Q2V5716
1,1,1-Trichloroethane	ND	.030	ND	Q2V5716
1,1,2-Trichloroethane	ND	.030	ND	Q2V5716
Trichloroethene	ND	.030	ND	Q2V5716
1,2-Trans-dichloroethylene	ND	.030	ND	Q2V5716
Trichlorofluoromethane	ND	.030	ND	Q2V5716
1,2,3-Trichloropropane	ND	.030	ND	Q2V5716
1,1,2-Trichlorotrifluoroethane	ND	.030	ND	Q2V5716
Vinyl chloride	ND	.030	ND	Q2V5716
Xylenes	ND	.030	ND	Q2V5716

MV00 GCMS VOLATILES

Company Name	Facility	Sample Point	ASC Sample No.
ROY F. WESTON, INC.	300595	03DEC96TB	JQ5817

Compounds	Sample Results mg/L	Detection Limits mg/L	Blank Results mg/L	Batch Number
Acetone	ND	.010	ND	Q1V5719
Acrolein	ND	.025	ND	Q1V5719
Acrylonitrile	ND	.005	ND	Q1V5719
Benzene	ND	.005	ND	Q1V5719
Bromodichloromethane	ND	.005	ND	Q1V5719
Bromoform	ND	.005	ND	Q1V5719
Bromomethane	ND	.005	ND	Q1V5719
2-Butanone	ND	.005	ND	Q1V5719
Carbon disulfide	ND	.005	ND	Q1V5719
Carbon tetrachloride	ND	.005	ND	Q1V5719
Chlorobenzene	ND	.005	ND	Q1V5719
Chloroethane	ND	.005	ND	Q1V5719
Chloroform	ND	.005	ND	Q1V5719
2-Chloroethylvinyl ether	ND	.050	ND	Q1V5719
Chloromethane	ND	.005	ND	Q1V5719
Dibromochloromethane	ND	.005	ND	Q1V5719
1,2-Dibromo-3-chloropropane	ND	.005	ND	Q1V5719
Dichlorodifluoromethane	ND	.005	ND	Q1V5719
1,1-Dichloroethane	ND	.005	ND	Q1V5719
1,2-Dichloroethane	ND	.005	ND	Q1V5719
1,1-Dichloroethene	ND	.005	ND	Q1V5719
1,2-Dichloroethene (total)	ND	.005	ND	Q1V5719
1,2-Dichloropropane	ND	.005	ND	Q1V5719
cis-1,3-Dichloropropene	ND	.005	ND	Q1V5719
trans-1,3-Dichloropropene	ND	.005	ND	Q1V5719
Dibromomethane	ND	.005	ND	Q1V5719
Ethylbenzene	ND	.005	ND	Q1V5719
Ethylene dibromide	ND	.005	ND	Q1V5719
Ethyl acetate	ND	.020	ND	Q1V5719
Ethyl ether	ND	.005	ND	Q1V5719
2-Hexanone	ND	.005	ND	Q1V5719
Methylene chloride	ND	.005	ND	Q1V5719
4-Methyl-2-pentanone	ND	.010	ND	Q1V5719
Styrene	ND	.005	ND	Q1V5719
1,1,1,2-Tetrachloroethane	ND	.005	ND	Q1V5719
1,1,2,2-Tetrachloroethane	ND	.005	ND	Q1V5719
Tetrachloroethene	ND	.005	ND	Q1V5719
Toluene	ND	.005	ND	Q1V5719
1,1,1-Trichloroethane	ND	.005	ND	Q1V5719
1,1,2-Trichloroethane	ND	.005	ND	Q1V5719
Trichloroethene	ND	.005	ND	Q1V5719
1,2-Trans-dichloroethylene	ND	.005	ND	Q1V5719
Trichlorofluoromethane	ND	.005	ND	Q1V5719
1,2,3-Trichloropropane	ND	.005	ND	Q1V5719
1,1,2-Trichlorotrifluoroethane	ND	.005	ND	Q1V5719
Vinyl chloride	ND	.005	ND	Q1V5719
Xylenes	ND	.005	ND	Q1V5719

APPENDIX C

QUALITY ASSURANCE DATA

QUALITY ASSURANCE REPORT

Joblink: 621803

Compound(s)		METHOD SPIKE					MATRIX SPIKE						SPIKE DUPLICATE					% COMPLETE	
		Blank Conc.	Added Conc.	Spiked Conc.	% Rec.	Rec. Limits	Spiked Sample Id.	Unspk Conc.	Added Conc.	Spiked Conc.	% Rec.	Rec. Limits	Added Conc.	Spiked Conc.	% Rec.	RPD	RPD Limit	Batch #	%
1,1,1,2-Tetrachloroethane	mg/kg	0	.0500	.0553	111L	89-110L	AOC50-SW	0	.267	.293	110	76-118L	.245	.261	107	3	0-22L	Q2V5716	90L
1,1,1-Trichloroethane	mg/kg	0	.0500	.0583	117L	75-115L 52-162M	AOC50-SW	0	.267	.320	120L	72-117L 52-162M	.245	.302	123L	2	0-14L		100M
1,1,2,2-Tetrachloroethane	mg/kg	0	.0500	.0506	101	77-117L 46-157M	AOC50-SW	0	.267	.257	96	76-119L 46-157M	.245	.250	102	6	0-21L		
1,1,2-Trichloroethane	mg/kg	0	.0500	.0516	103	80-114L 52-150M	AOC50-SW	0	.267	.271	101	56-132L 52-150M	.245	.255	104	3	0-12L		
1,1,2-Trichlorotrifluoroethane	mg/kg	0	.0500	.0532	106	70-122L	AOC50-SW	0	.267	.280	105	58-127L	.245	.267	109	4	0-25L		
1,1-Dichloroethane	mg/kg	0	.0500	.0506	101	87-110L 59-155M	AOC50-SW	0	.267	.268	100	85-115L 59-155M	.245	.249	102	2	0-13L		
1,1-Dichloroethene	mg/kg	0	.0500	.0479	96	80-113L 1-234M	AOC50-SW	0	.267	.236	88	76-119L 1-234M	.245	.223	91	3	0-20L		
1,1-Dichloropropene	mg/kg	0	.0500	.0514	103	79-113L	AOC50-SW	0	.267	.273	102	74-113L	.245	.260	106	4	0-11L		
1,2,3-Trichlorobenzene	mg/kg	0	.0500	.0436	87	83-110L	AOC50-SW	0	.267	.222	83	42-123L	.245	.213	87	5	0-23L		
1,2,3-Trichloropropane	mg/kg	0	.0500	.0510	102	78-118L	AOC50-SW	0	.267	.262	98	72-127L	.245	.244	100	2	0-12L		
1,2,4-Trichlorobenzene	mg/kg	0	.0500	.0468	94	85-110L	AOC50-SW	0	.267	.232	87	44-124L	.245	.219	89	2	0-23L		
1,2,4-Trimethylbenzene	mg/kg	0	.0500	.0500	100	86-110L	AOC50-SW	0	.267	.250	94	58-126L	.245	.233	95	1	0-19L		
1,2-Dibromo-3-chloropropane	mg/kg	0	.0500	.0502	100	76-122L	AOC50-SW	0	.267	.253	95	52-134L -992M	.245	.253	103	8	0-20L		
1,2-Dichlorobenzene	mg/kg	0	.0500	.0519	104	86-111L 18-190M	AOC50-SW	0	.267	.259	97	67-117L 18-190M	.245	.245	100	3	0-13L		
1,2-Dichloroethane	mg/kg	0	.0500	.0534	107	79-119L 49-155M	AOC50-SW	0	.267	.290	109	80-118L 49-155M	.245	.268	109	0	0-15L		
1,2-Dichloroethene (total)	mg/kg	0	.100	.0994	99	76-117L 54-156M	AOC50-SW	0	.535	.532	99	74-117L 54-156M	.490	.494	101	2	0-12L		
1,2-Dichloropropane	mg/kg	0	.0500	.0504	101	86-112L 1-210M	AOC50-SW	0	.267	.272	102	87-113L 1-210M	.245	.257	105	3	0-11L		
1,2-Trans-dichloroethylene	mg/kg	0	.0500	.0502	100	83-113L 54-156M	AOC50-SW	0	.267	.278	104	79-118L 54-156M	.245	.252	103	1	0-12L		
1,2-cis-Dichloroethylene	mg/kg	0	.0500	.0492	98	84-113L	AOC50-SW	0	.267	.255	96	86-114L	.245	.241	98	2	0-16L		
1,3,5-Trimethylbenzene	mg/kg	0	.0500	.0512	102	88-110L	AOC50-SW	0	.267	.258	97	54-124L	.245	.243	99	2	0-12L		
1,3-Dichlorobenzene	mg/kg	0	.0500	.0516	103	87-110L 59-156M	AOC50-SW	0	.267	.249	93	67-116L 59-156M	.245	.241	98	5	0-17L		
1,3-Dichloropropane	mg/kg	0	.0500	.0516	103	89-110L	AOC50-SW	0	.267	.277	104	82-126L	.245	.252	103	1	0-12L		
1,4-Dichlorobenzene	mg/kg	0	.0500	.0513	103	87-110L 18-190M	AOC50-SW	0	.267	.253	95	68-116L 18-190M	.245	.239	98	3	0-14L		
2,2-Dichloropropane	mg/kg	0	.0500	.0608	122L	79-110L	AOC50-SW	0	.267	.332	124L	72-110L	.245	.330	135L	8	0-14L		
2-Butanone	mg/kg	0	.0500	.0558	112	48-138L	AOC50-SW	0	.267	.263	99	68-120L	.245	.261	107	8	0-20L		
2-Chloroethylvinyl ether	mg/kg	0	.0500	.0599	120	71-124L 1-305M	AOC50-SW	0	.267	.316	118	58-136L 1-305M	.245	.278	113	4	0-27L		

QUALITY ASSURANCE REPORT

Joblink: 621803

Compound(s)		METHOD SPIKE					MATRIX SPIKE						SPIKE DUPLICATE					% COMPLETE	
		Blank Conc.	Added Conc.	Spiked Conc.	% Rec.	Rec. Limits	Spiked Sample Id.	Unspk Conc.	Added Conc.	Spiked Conc.	% Rec.	Rec. Limits	Added Conc.	Spiked Conc.	% Rec.	RPD	RPD Limit	Batch #	%
2-Hexanone	mg/kg	0	.0500	.0544	109	74-127L	AOC50-SW	0	.267	.234	88	51-143L	.245	.242	99	12	0-27L		
4-Isopropyltoluene	mg/kg	0	.0500	.0514	103	87-110L	AOC50-SW	0	.267	.263	99	42-129L	.245	.247	101	2	0-16L		
4-Methyl-2-pentanone	mg/kg	0	.0500	.0477	95	78-130L	AOC50-SW	0	.267	.242	91	71-123L	.245	.241	98	7	0-21L		
Acetone	mg/kg	0	.0500	.0578	116	41-137L	AOC50-SW	.0269	.267	.210	69	39-139L	.245	.227	82	17	0-30L		
Acrolein	mg/kg	0	.253	.0455	18	10-137L	AOC50-SW	0	1.35	.245	18	10-128L	1.24	.220	18	0	0-31L		
Acrylonitrile	mg/kg	0	.0500	.0460	92	78-129L	AOC50-SW	0	.267	.245	92	63-140L	.245	.223	91	1	0-30L		
Benzene	mg/kg	0	.0500	.0522	104	85-113L 37-151M	AOC50-SW	0	.267	.278	104	85-117L 37-151M	.245	.262	107	3	0-13L		
Bromobenzene	mg/kg	0	.0500	.0526	105	88-110L	AOC50-SW	0	.267	.263	99	82-111L	.245	.255	104	5	0-10L		
Bromodichloromethane	mg/kg	0	.0500	.0608	122L	74-114L 35-155M	AOC50-SW	0	.267	.350	131L	72-111L 35-155M	.245	.325	133L	2	0-17L		
Bromoform	mg/kg	0	.0500	.0646	129L	71-119L 45-169M	AOC50-SW	0	.267	.358	134L	57-118L 45-169M	.245	.320	131L	2	0-12L		
Bromomethane	mg/kg	0	.0500	.0478	96	61-130L 1-242M	AOC50-SW	0	.267	.211	79	56-137L 1-242M	.245	.233	95	18	0-18L		
Carbon disulfide	mg/kg	0	.0500	.0483	97	76-116L	AOC50-SW	0	.267	.253	95	49-135L	.245	.231	94	1	0-15L		
Carbon tetrachloride	mg/kg	0	.0500	.0634	127L	75-112L 70-140M	AOC50-SW	0	.267	.321	120L	62-119L 70-140M	.245	.300	122L	2	0-20L		
Chlorobenzene	mg/kg	0	.0500	.0479	96	89-110L 37-160M	AOC50-SW	0	.267	.249	93	85-112L 37-160M	.245	.234	96	3	0-10L		
Chloroethane	mg/kg	0	.0500	.0480	96	62-121L	AOC50-SW	0	.267	.264	99	71-119L	.245	.233	95	4	0-22L		
Chloroform	mg/kg	0	.0500	.0526	105	86-110L 51-138M	AOC50-SW	0	.267	.283	106	87-110L 51-138M	.245	.261	107	.9	0-12L		
Chloromethane	mg/kg	0	.0500	.0463	93	58-137L 1-273M	AOC50-SW	0	.267	.243	91	86-130L 1-273M	.245	.217	89	2	0-22L		
Dibromochloromethane	mg/kg	0	.0500	.0635	127L	69-119L 53-149M	AOC50-SW	0	.267	.359	134L	67-113L 53-149M	.245	.342	140L	4	0-20L		
Dibromomethane	mg/kg	0	.0500	.0502	100	85-111L 30-130M	AOC50-SW	0	.267	.265	99	84-113L	.245	.253	103	4	0-12L		
Dichlorodifluoromethane	mg/kg	0	.0500	.0514	103	49-134L	AOC50-SW	0	.267	.269	101	65-124L	.245	.241	98	3	0-13L		
Ethyl acetate	mg/kg	0	.100	.0514	51	42-110L	AOC50-SW	0	.535	.266	50	10-110L	.490	.257	52	4	0-28L		
Ethyl ether	mg/kg	0	.0500	.0506	101	74-128L	AOC50-SW	0	.267	.274	103	72-133L	.245	.251	102	1	0-22L		
Ethylbenzene	mg/kg	0	.0500	.0522	104	88-110L 37-162M	AOC50-SW	0	.267	.271	101	83-113L 37-162M	.245	.261	107	6	0-13L		
Ethylene dibromide	mg/kg	0	.0500	.0574	115L	90-110L	AOC50-SW	0	.267	.311	116	83-118L	.245	.297	121L	4	0-15L		
Hexachlorobutadiene	mg/kg	0	.0500	.0499	100	84-111L	AOC50-SW	0	.267	.247	93	33-127L	.245	.240	98	5	0-27L		
Isopropylbenzene	mg/kg	0	.0500	.0545	109	88-111L	AOC50-SW	0	.267	.275	103	68-124L	.245	.264	108	5	0-10L		

QUALITY ASSURANCE REPORT

Joblink: 621803

Compound(s)		METHOD SPIKE					MATRIX SPIKE						SPIKE DUPLICATE					% COMPLETE	
		Blank Conc.	Added Conc.	Spiked Conc.	% Rec.	Rec. Limits	Spiked Sample Id.	Unspk Conc.	Added Conc.	Spiked Conc.	% Rec.	Rec. Limits	Added Conc.	Spiked Conc.	% Rec.	RPD	RPD Limit	Batch #	%
Methyl methacrylate	mg/kg	0	.0503	.0529	105	30-130L	AOC50-SW	0	.269	.264	98	30-130L	.247	.251	102	4	0-20L		
Methylene chloride	mg/kg	0	.0500	.0514	103	66-114L 1-221M	AOC50-SW	0	.267	.259	97	62-121L 1-221M	.245	.239	98	1	0-17L		
Naphthalene	mg/kg	0	.0500	.0408	82	80-115L	AOC50-SW	0	.267	.201	75	34-138L	.245	.194	79	5	0-26L		
Styrene	mg/kg	0	.0500	.0534	107	86-110L	AOC50-SW	0	.267	.267	100	72-125L	.245	.253	103	3	0-12L		
Tert-Butyl Methyl Ether	mg/kg	0	.0500	.0565	113	75-127L	AOC50-SW	0	.267	.307	115	80-133L	.245	.296	121	5	0-19L		
Tetrachloroethene	mg/kg	0	.0500	.0485	97	86-110L 64-148M	AOC50-SW	0	.267	.250	94	84-112L 64-148M	.245	.236	96	2	0-17L		
Toluene	mg/kg	0	.0500	.0503	101	87-111L 47-150M	AOC50-SW	0	.267	.254	95	79-125L 47-150M	.245	.243	99	4	0-15L		
Trichloroethene	mg/kg	0	.0500	.0504	101	84-113L 71-157M	AOC50-SW	0	.267	.258	97	65-127L 71-157M	.245	.241	98	1	0-21L		
Trichlorofluoromethane	mg/kg	0	.0500	.0536	107	45-129L 17-181M	AOC50-SW	0	.267	.295	110	52-135L 17-181M	.245	.267	109	.9	0-18L		
Vinyl chloride	mg/kg	0	.0500	.0494	99	68-124L 1-251M	AOC50-SW	0	.267	.263	99	83-121L 1-251M	.245	.238	97	2	0-10L		
Xylenes	mg/kg	0	.150	.160	107	87-110L	AOC50-SW	0	.802	.817	102	74-117L	.735	.763	104	2	0-10L		
cis-1,3-Dichloropropene	mg/kg	0	.0500	.0614	123L	79-114L 1-227M	AOC50-SW	0	.267	.360	135L	77-113L 1-227M	.245	.311	127L	6	0-16L		
n-Butylbenzene	mg/kg	0	.0500	.0485	97	83-110L	AOC50-SW	0	.267	.240	90	40-130L	.245	.225	92	2	0-16L		
n-Propylbenzene	mg/kg	0	.0500	.0507	101	86-110L	AOC50-SW	0	.267	.262	98	62-120L	.245	.245	100	2	0-15L		
o-Chlorotoluene	mg/kg	0	.0500	.0524	105	88-110L	AOC50-SW	0	.267	.273	102	65-124L	.245	.250	102	0	0-17L		
p-Chlorotoluene	mg/kg	0	.0500	.0518	104	85-110L	AOC50-SW	0	.267	.253	95	69-114L	.245	.243	99	4	0-22L		
sec-Butylbenzene	mg/kg	0	.0500	.0445	89	86-110L	AOC50-SW	0	.267	.256	96	49-125L	.245	.238	97	1	0-21L		
tert-Butylbenzene	mg/kg	0	.0500	.0514	103	86-110L	AOC50-SW	0	.267	.263	99	61-121L	.245	.247	101	2	0-17L		
trans-1,3-Dichloropropene	mg/kg	0	.0500	.0616	123L	77-112L 17-183M	AOC50-SW	0	.267	.334	125L	75-110L 17-183M	.245	.296	121L	3	0-18L		

QUALITY ASSURANCE REPORT

Joblink: 621803

Compound(s)		METHOD SPIKE					MATRIX SPIKE						SPIKE DUPLICATE					% COMPLETE	
		Blank Conc.	Added Conc.	Spiked Conc.	% Rec.	Rec. Limits	Spiked Sample Id.	Unspk Conc.	Added Conc.	Spiked Conc.	% Rec.	Rec. Limits	Added Conc.	Spiked Conc.	% Rec.	RPD	RPD Limit	Batch #	%
1,1,1,2-Tetrachloroethane	mg/l	0	.0500	.0569	114	90-114L	03DEC96TB	0	.0500	.0516	103	89-111L	.0500	.0523	105	2	0-10L	Q1V5719	93L
1,1,1-Trichloroethane	mg/l	0	.0500	.0504	101	89-114L 52-162M	03DEC96TB	0	.0500	.0498	100	84-114L 52-162M	.0500	.0504	101	1	0-13L		100M
1,1,2,2-Tetrachloroethane	mg/l	0	.0500	.0539	108	81-124L 46-157M	03DEC96TB	0	.0500	.0484	97	81-121L 46-157M	.0500	.0540	108	11	0-22L		
1,1,2-Trichloroethane	mg/l	0	.0500	.0527	105	89-117L 52-150M	03DEC96TB	0	.0500	.0505	101	85-119L 52-150M	.0500	.0536	107	6	0-12L		
1,1,2-Trichlorotrifluoroethane	mg/l	0	.0500	.0487	97	83-114L	03DEC96TB	0	.0500	.0499	100	81-115L	.0500	.0468	94	6	0-10L		
1,1-Dichloroethane	mg/l	0	.0500	.0517	103	87-115L 59-155M	03DEC96TB	0	.0500	.0538	108	86-116L 59-155M	.0500	.0508	102	6	0-15L		
1,1-Dichloroethene	mg/l	0	.0500	.0468	94	83-112L 1-234M	03DEC96TB	0	.0500	.0519	104	80-113L 1-234M	.0500	.0523	105	1	0-15L		
1,1-Dichloropropene	mg/l	0	.0500	.0517	103	86-113L	03DEC96TB	0	.0500	.0511	102	83-115L	.0500	.0509	102	0	0-18L		
1,2,3-Trichlorobenzene	mg/l	0	.0500	.0577	115L	88-114L	03DEC96TB	0	.0500	.0548	110	86-112L	.0500	.0579	116L	5	0-20L		
1,2,3-Trichloropropane	mg/l	0	.0500	.0548	110	88-117L	03DEC96TB	0	.0500	.0491	98	84-119L 84-120M	.0500	.0529	106	8	0-11L		
1,2,4-Trichlorobenzene	mg/l	0	.0500	.0568	114	89-115L	03DEC96TB	0	.0500	.0548	110	85-111L	.0500	.0566	113L	3	0-16L		
1,2,4-Trimethylbenzene	mg/l	0	.0500	.0573	115	81-124L	03DEC96TB	0	.0500	.0540	108	82-115L	.0500	.0570	114	5	0-17L		
1,2-Dibromo-3-chloropropane	mg/l	0	.0500	.0551	110	71-133L	03DEC96TB	0	.0500	.0498	100	70-134L	.0500	.0563	113	12	0-28L		
1,2-Dichlorobenzene	mg/l	0	.0500	.0550	110	89-116L 18-190M	03DEC96TB	0	.0500	.0526	105	86-116L 18-190M	.0500	.0548	110	5	0-10L		
1,2-Dichloroethane	mg/l	0	.0500	.0566	113	86-119L 49-155M	03DEC96TB	0	.0500	.0550	110	85-123L 49-155M	.0500	.0557	111	.9	0-10L		
1,2-Dichloroethene (total)	mg/l	0	.100	.108	108	90-110L 54-156M	03DEC96TB	0	.100	.109	109	88-110L 54-156M	.100	.104	104	5	0-10L		
1,2-Dichloropropane	mg/l	0	.0500	.0515	103	90-113L 1-210M	03DEC96TB	0	.0500	.0483	97	87-115L 1-210M	.0500	.0496	99	2	0-10L		
1,2-Trans-dichloroethylene	mg/l	0	.0500	.0546	109	90-111L 54-156M	03DEC96TB	0	.0500	.0547	109	89-111L 54-156M	.0500	.0520	104	5	0-10L		
1,2-cis-Dichloroethylene	mg/l	0	.0500	.0530	106	89-111L	03DEC96TB	0	.0500	.0540	108	90-110L	.0500	.0523	105	3	0-10L		
1,3,5-Trimethylbenzene	mg/l	0	.0500	.0560	112	90-112L	03DEC96TB	0	.0500	.0541	108	88-112L	.0500	.0555	111	3	0-10L		
1,3-Dichlorobenzene	mg/l	0	.0500	.0564	113	90-115L 59-156M	03DEC96TB	0	.0500	.0540	108	85-116L 59-156M	.0500	.0551	110	2	0-10L		
1,3-Dichloropropane	mg/l	0	.0500	.0534	107	90-112L	03DEC96TB	0	.0500	.0476	95	90-110L	.0500	.0506	101	6	0-10L		
1,4-Dichlorobenzene	mg/l	0	.0500	.0539	108	90-113L 18-190M	03DEC96TB	0	.0500	.0524	105	85-116L 18-190M	.0500	.0541	108	3	0-12L		
2,2-Dichloropropane	mg/l	0	.0500	.0488	98	81-114L	03DEC96TB	0	.0500	.0514	103	78-110L	.0500	.0523	105	2	0-11L		
2-Butanone	mg/l	0	.0500	.0440	88	83-125L	03DEC96TB	0	.0500	.0387	77 L	84-124L	.0500	.0431	86	11	0-22L		
2-Chloroethylvinyl ether	mg/l	0	.0500	.0521	104	74-125L 1-305M	03DEC96TB	0	.0500	.0633	127	44-138L 1-305M	.0500	.0644	129	2	0-21L		

QUALITY ASSURANCE REPORT

Joblink: 621803

Compound(s)		METHOD SPIKE					MATRIX SPIKE						SPIKE DUPLICATE					% COMPLETE	
		Blank Conc.	Added Conc.	Spiked Conc.	% Rec.	Rec. Limits	Spiked Sample Id.	Unspk Conc.	Added Conc.	Spiked Conc.	% Rec.	Rec. Limits	Added Conc.	Spiked Conc.	% Rec.	RPD	RPD Limit	Batch #	%
2-Hexanone	mg/l	0	.0500	.0499	100	74-133L	03DEC96TB	0	.0500	.0429	86	72-132L	.0500	.0483	97	12	0-17L		
4-Isopropyltoluene	mg/l	0	.0500	.0580	116L	89-115L	03DEC96TB	0	.0500	.0551	110	86-111L	.0500	.0569	114L	4	0-10L		
4-Methyl-2-pentanone	mg/l	0	.0500	.0526	105	88-125L	03DEC96TB	0	.0500	.0501	100	90-122L	.0500	.0561	112	11	0-15L		
Acetone	mg/l	0	.0500	.0565	113	53-133L	03DEC96TB	0	.0500	.0395	79	45-131L	.0500	.0409	82	4	0-27L		
Acrolein	mg/l	0	.253	.0523	21	10-150L	03DEC96TB	0	.253	.0562	22	10-150L	.253	.0526	21	5	0-27L		
Acrylonitrile	mg/l	0	.0500	.0548	110	80-125L	03DEC96TB	0	.0500	.0557	111	77-131L	.0500	.0538	108	3	0-19L		
Benzene	mg/l	0	.0500	.0505	101	89-112L	03DEC96TB	0	.0500	.0516	103	86-115L	.0500	.0511	102	1	0-12L		
Bromobenzene	mg/l	0	.0500	.0553	111L	37-151M 90-110L	03DEC96TB	0	.0500	.0529	106	37-151M 90-110L	.0500	.0529	106	0	0-10L		
Bromodichloromethane	mg/l	0	.0500	.0502	100	90-112L	03DEC96TB	0	.0500	.0493	99	90-112L	.0500	.0502	100	1	0-10L		
Bromoform	mg/l	0	.0500	.0551	110	35-155M 86-119L 45-169M	03DEC96TB	0	.0500	.0520	104	35-155M 84-118L 45-169M	.0500	.0542	108	4	0-12L		
Bromomethane	mg/l	0	.0500	.0500	100	84-124L	03DEC96TB	0	.0500	.0593	119	84-120L	.0500	.0556	111	7	0-12L		
Carbon disulfide	mg/l	0	.0500	.0491	98	1-242M 83-112L	03DEC96TB	0	.0500	.0503	101	1-242M 81-113L	.0500	.0508	102	1	0-10L		
Carbon tetrachloride	mg/l	0	.0500	.0487	97	88-115L	03DEC96TB	0	.0500	.0504	101	84-117L	.0500	.0520	104	3	0-16L		
Chlorobenzene	mg/l	0	.0500	.0507	101	70-140M 90-110L 37-160M	03DEC96TB	0	.0500	.0488	98	70-140M 86-112L 37-160M	.0500	.0514	103	5	0-11L		
Chloroethane	mg/l	0	.0500	.0462	92	85-121L	03DEC96TB	0	.0500	.0468	94	78-127L	.0500	.0497	99	5	0-11L		
Chloroform	mg/l	0	.0500	.0544	109	90-111L 51-138M	03DEC96TB	0	.0500	.0555	111	89-112L 51-138M	.0500	.0533	107	4	0-10L		
Chloromethane	mg/l	0	.0500	.0512	102	80-119L	03DEC96TB	0	.0500	.0678	136L	75-127L	.0500	.0663	133L	2	0-24L		
Dibromochloromethane	mg/l	0	.0500	.0533	107	1-273M 90-114L 53-149M	03DEC96TB	0	.0500	.0500	100	1-273M 87-115L 53-149M	.0500	.0525	105	5	0-11L		
Dibromomethane	mg/l	0	.0500	.0506	101	90-112L	03DEC96TB	0	.0500	.0482	96	86-114L	.0500	.0515	103	7	0-11L		
Dichlorodifluoromethane	mg/l	0	.0500	.0526	105	69-122L	03DEC96TB	0	.0500	.0500	100	77-110L	.0500	.0495	99	1	0-14L		
Ethyl acetate	mg/l	0	.100	.0552	55	40-110L	03DEC96TB	0	.100	.0549	55	38-110L	.100	.0549	55	0	0-12L		
Ethyl ether	mg/l	0	.0500	.0532	106	85-114L	03DEC96TB	0	.0500	.0517	103	86-118L	.0500	.0529	106	3	0-10L		
Ethylbenzene	mg/l	0	.0500	.0533	107	90-110L	03DEC96TB	0	.0500	.0509	102	89-110L	.0500	.0530	106	4	0-10L		
Ethylene dibromide	mg/l	0	.0500	.0520	104	37-162M 90-111L	03DEC96TB	0	.0500	.0455	91	37-162M 90-112L	.0500	.0514	103	12 L	0-10L		
Hexachlorobutadiene	mg/l	0	.0500	.0619	124	77-131L	03DEC96TB	0	.0500	.0582	116L	83-115L	.0500	.0592	118L	2	0-17L		
Isopropylbenzene	mg/l	0	.0500	.0560	112	88-115L	03DEC96TB	0	.0500	.0535	107	86-114L	.0500	.0556	111	4	0-10L		

QUALITY ASSURANCE REPORT

Joblink: 621803

Compound(s)		METHOD SPIKE					MATRIX SPIKE						SPIKE DUPLICATE					% COMPLETE	
		Blank Conc.	Added Conc.	Spiked Conc.	% Rec.	Rec. Limits	Spiked Sample Id.	Unspk Conc.	Added Conc.	Spiked Conc.	% Rec.	Rec. Limits	Added Conc.	Spiked Conc.	% Rec.	RPD	RPD Limit	Batch #	%
Methyl methacrylate	mg/l	0	.0503	.0486	97	30-130L	03DEC96TB	0	.0503	.0478	95	30-130L	.0503	.0506	101	6	0-20L		
Methylene chloride	mg/l	0	.0500	.0537	107	73-119L 1-221M	03DEC96TB	.00412	.0500	.0517	95	70-118L 1-221M	.0500	.0501	92	3	0-17L		
Naphthalene	mg/l	0	.0500	.0570	114	81-123L	03DEC96TB	0	.0500	.0538	108	83-115L	.0500	.0574	115	6	0-22L		
Styrene	mg/l	0	.0500	.0532	106	90-110L	03DEC96TB	0	.0500	.0512	102	70-125L	.0500	.0523	105	3	0-16L		
Tert-Butyl Methyl Ether	mg/l	0	.0500	.0539	108	89-115L	03DEC96TB	0	.0500	.0553	111	87-115L	.0500	.0553	111	0	0-11L		
Tetrachloroethene	mg/l	0	.0500	.0535	107	90-111L 64-148M	03DEC96TB	0	.0500	.0523	105	87-114L 64-148M	.0500	.0527	105	0	0-10L		
Toluene	mg/l	0	.0500	.0530	106	88-111L 47-150M	03DEC96TB	0	.0500	.0492	98	83-115L 47-150M	.0500	.0526	105	7	0-13L		
Trichloroethene	mg/l	0	.0500	.0516	103	85-114L 71-157M	03DEC96TB	0	.0500	.0520	104	81-116L 71-157M	.0500	.0516	103	1	0-19L		
Trichlorofluoromethane	mg/l	0	.0500	.0457	91	63-133L 17-181M	03DEC96TB	0	.0500	.0503	101	56-137L 17-181M	.0500	.0466	93	8	0-10L		
Vinyl chloride	mg/l	0	.0500	.0496	99	82-118L 1-251M	03DEC96TB	0	.0500	.0511	102	79-121L 1-251M	.0500	.0511	102	0	0-11L		
Xylenes	mg/l	0	.150	.158	105	83-114L	03DEC96TB	0	.150	.146	97	77-120L	.150	.151	101	4	0-10L		
cis-1,3-Dichloropropene	mg/l	0	.0500	.0512	102	88-115L 1-227M	03DEC96TB	0	.0500	.0474	95	87-113L 1-227M	.0500	.0501	100	5	0-12L		
n-Butylbenzene	mg/l	0	.0500	.0585	117L	88-114L	03DEC96TB	0	.0500	.0564	113	83-113L	.0500	.0589	118L	4	0-10L		
n-Propylbenzene	mg/l	0	.0500	.0577	115L	90-110L	03DEC96TB	0	.0500	.0552	110	89-110L	.0500	.0569	114L	4	0-10L		
o-Chlorotoluene	mg/l	0	.0500	.0543	109	84-118L	03DEC96TB	0	.0500	.0511	102	86-112L	.0500	.0536	107	5	0-21L		
o-Xylene	mg/l	0	.0500	.0552	110	70-124L	03DEC96TB	0	.0500	.0540	108	65-125L	.0500	.0528	106	2	0-15L		
p-Chlorotoluene	mg/l	0	.0500	.0528	106	85-119L	03DEC96TB	0	.0500	.0521	104	88-112L	.0500	.0535	107	3	0-16L		
sec-Butylbenzene	mg/l	0	.0500	.0577	115L	88-112L	03DEC96TB	0	.0500	.0549	110	86-110L	.0500	.0565	113L	3	0-10L		
tert-Butylbenzene	mg/l	0	.0500	.0583	117L	90-112L	03DEC96TB	0	.0500	.0555	111	88-112L	.0500	.0567	113L	2	0-10L		
trans-1,3-Dichloropropene	mg/l	0	.0500	.0523	105	85-115L 17-183M	03DEC96TB	0	.0500	.0488	98	85-115L 17-183M	.0500	.0506	101	3	0-12L		

SURROGATE SUMMARY REPORT

SURROGATE ID	A047	B185	B668	# OUT
QC BATCH: Q1V5719 Aqueous (Volatile organics by MS)				
SAMPLE ID				
03DEC96TB	103	91	97	0
03DEC96TB MD	103	106	97	0
03DEC96TB MS	102	104	97	0
METHOD BLK	106	95	101	0
METHOD SPK	103	99	98	0
QC LIMITS	(76-114)	(88-110)	(86-115)	
QC BATCH: Q2V5716 Solid (Volatile organics by MS)				
SAMPLE ID				
AOC50-BOT	114	90	95	0
AOC50-CP1	110	90	98	0
AOC50-CP2	114	93	97	0
AOC50-CP3	114	90	95	0
AOC50-DUP	111	88	100	0
AOC50-EW	110	89	106	0
AOC50-NW	109	83	99	0
AOC50-SW	110	89	101	0
AOC50-SW MD	110	98	101	0
AOC50-SW MS	110	94	96	0
AOC50-WW	111	86	100	0
AOC50CP-B	115	92	105	0
AOC50CP-EW	111	90	103	0
AOC50CP-NW	110	87	98	0
AOC50CP-SW	112	90	106	0
AOC50CP-WW	109	87	99	0
METHOD BLK	112	90	107	0
METHOD SPK	107	99	102	0
QC LIMITS	(70-121)	(81-117)	(74-121)	

SURROGATE ID

A047 = 1,2-Dichloroethane-D4
B185 = Toluene-D8
B668 = Bromofluorobenzene

* Values outside of method quality control limits
D Sample was diluted, however, some surrogates may be reported if results were observed.

It is laboratory policy to allow one surrogate per sample fraction (acid, base-neutral or pesticide) to exceed the stated QC limits. This policy is based upon the USEPA SOW for the Contract Laboratory Program (CLP).

SUMMARY OF ANALYTICAL METHODOLOGY

Joblink # 621803

REFERENCE		TITLE
8240	SW-846	GC/MS for Volatile Organics

METHODOLOGY REFERENCES

ASTM	*American Society for Testing and Materials*, 1985, edition.
MCAWW	*Methods for Chemical Analysis of Water and Wastes*, April 1979 and Update #1 March 1983.
CLP	USEPA Contract Laboratory Program, Document #OLMO3.0, update August 1994 #OLMO3.1 and Document #ILMO4.0.
EPA-500	*USEPA Methods for the Determination of Organic Compounds in Drinking Water*, EPA-600/4-88/039 July 1991 and Supplement II (EPA/600/R-92-129) August 1992.
EPA-600	*USEPA Test Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater*, 40CFR, 136, APP.A. July 1992.
NIOSH	*National Institute for Occupational Safety and Health*, 3rd edition, 1984.
SMEWW	*Standard Methods for the Examination of Water and Wastewater*, 18th edition, 1992.
STOA	*Spot Tests In Organic Analysis*, 7th edition, 1966.
SW-846	*Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods*, 3rd edition, Updates I and II, September 1986 to January 1995.
(1)	This method was modified to incorporate the use of Boron Trifluoride (BF3) as the derivatizing reagent according to Method 6640 in *SMEWW*, 18th edition, 1992.
Title 22	*Waste Extraction Test*, Title 22, Section 66261.126 Appendix 2 of the California Administrative Code, May 1991.
LUFT	*California Leaking Underground Fuel Tank Field Manual*, October 1989.

LABORATORY CERTIFICATIONS

STATE	AGENCY	NUMBER
Alabama	ADEM	40830
Arizona	AZDOHS	AZ0533
California	CADOH	1178
Colorado	CODOH	OH113
Connecticut	CTDPH & AS	PH-0154
Florida	FLHRS	E87537
Delaware	DEHSS	OH113
Iowa	IADNR	129
Kansas	KSDHE	E-10202
Louisiana	LADOHH	92-10
Maryland	MDDHMH	210
Massachusetts	MADEP	M-OH113
New Hampshire	NHDES	2490
New Jersey	NJDEP	74603
New York	NYDOH	10712
North Carolina	NCDEM	392
Ohio	OHEPA	OH113
Oklahoma	OKDEQ	9216
Pennsylvania	PADER	68-450
Rhode Island	RIDOH	214/142
South Carolina	SCDEHNR	92002
Tennessee	TNDOH/TNDEC	2978
Utah	UTDOH	E-288
Virginia	VADGS	00011
Washington	WADOE	C154
Wisconsin	WIDNR	999037160

Validated by:

- o US Army Corps of Engineers ..... Chemical Analysis in Various Matrices

Approvals:

- o USDA ..... Permit for Importing Soils
- o Florida DEP ..... Quality Assurance Plan #930034
- o Naval Facilities Engineering Service Center..... Chemical Analysis in Various Matrices

REPORT KEY

%	=	Percent
<	=	Less than
>	=	Greater than
µg/kg	=	Microgram per kilogram (ppb)
µg/L	=	Microgram per liter (ppb)
µg/SMP	=	Microgram per sample (Tedlar Bag)
µg/smp	=	Microgram per sample
µg/W	=	Microgram per wipe
BTU/lb	=	British thermal units per pound
CV	=	Conventionals
Deg. C	=	Degrees Celsius
DRO	=	Diesel Range Organics
EP TOX	=	Extraction Procedure Toxicity
GC	=	Gas Chromatography Instrument
GC/MS	=	Gas Chromatography/Mass Spectrometer Instrument
gm/cc	=	Grams per cubic centimeter
GRO	=	Gasoline Range Organics
IR	=	Infrared Spectrophotometric
J	=	Estimated value due to calculated result < detection limit or result is from GC/MS library search
L	=	Laboratory
M	=	Method
µm/cm	=	MicroMho per centimeter
mg/kg	=	Milligram per kilogram (ppm)
mg/L	=	Milligram per liter (ppm)
mg/m^3	=	Milligram per cubic meter
mg/SMP	=	Milligram per sample
mg/W	=	Milligram per wipe
n/a	=	Not applicable
ND	=	Not detected at or above stated detection limit
ng/SMP	=	Nanogram per sample
NVR	=	Not a valid recovery
PCB	=	Polychlorinated Biphenyls (PCBs)
pCi/l	=	Picocurie per liter
ppb	=	Parts per billion
ppm	=	Parts per million
RCRA	=	Resource Conservation and Recovery Act
SOW	=	Statement of Work
std	=	Result is relative to standard pH units
TCLP	=	Toxicity Characteristic Leaching Procedure
Unk	=	Unknown

APPENDIX D

SAMPLE RECEIPT DOCUMENTATION

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON

Page 1 of 2

Client CENED

Est. Final Proj. Sampling Date

Work Order # 03886-118-004-4960-00

Project Contact/Phone # Bill Dale / 508-772-7190

AD Project Manager TOM ABDELLA

QC II Del Fedex TAT 3 Day

Date Rec'd ____ Date Due ____

Account # ____

Refrigerator #

#/Type Container: Liquid / Solid — VOA's

Volume: Liquid / Solid — Very

Preservatives — 4°c

ANALYSES REQUESTED →

ORGANIC: VOA | BNA | Pest/PCB | Herb | VOA+ (TCE)

INORG: Metal | CN

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; WI - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	WESTON Analytics Use Only
	AOC50-NW			S	3-DEC-96	1615	X 2-40ml ag
	AOC 50-SW	✓	✓	S	3-DEC-96	1609	X 1-8g ag
	AOC 50-WW			S	3-DEC-96	1625	X
	AOC 50-EW			S	3-DEC-96	1640	X
	AOC50-BOT			S	3-DEC-96	1700	X
	AOC50-DUP			S	3-DEC-96	1625	X
	AOC50-CP1			S	3-DEC-96	1532	X
	AOC50-CP2			S	3-DEC-96	1549	X
	AOC50-CP3			S	3-DEC-96	1604	X
	AOC50CP-SW			S	4-DEC-96	1059	X 1-8g

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

DATE/REVISIONS:

Special Instructions:

* All Sample preserved to 4°c Temperature Blank Included
* VOAs require a minimum detection limit of 500 ppb
* Batch LCS must report Compounds of Interest
* 3DAY TAT
* Include Workorder # (see above) on Invoice
* Please call w/ any problems

1. ____
2. ____
3. ____
4. ____
5. ____
6. ____

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___ Airbill # ____
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

Relinquished by	Received by	Date	Time
William Dale	Federal Express	4-DEC-96	1900
FEDEX 013647820 2449			

Relinquished by	Received by	Date	Time
FEDEX			

RFW 21-21-001/A-7/91

temp 3°C OK

____ L372 ____ L373 ____ L375 ____ L377 ____ L378 Rel# ____ Cooler# ____

381-596a

WESTON Analytics Use Only

Custody Transfer Record/Lab Work Request

WESTON

Client CENED
Est. Final Proj. Sampling Date
Work Order # 03826-118-004-4960-00
Project Contact/Phone # Bill Dale / 508-772-7190
AD Project Manager TOM ABDELLA
QC II Del Fed Ex TAT 3 Day
Date Rec'd Date Due
Account #

Refrigerator #
#/Type Container: Liquid / Solid
Volume: Liquid / Solid
Preservatives

ANALYSES REQUESTED →

ORGANIC						INORG	
VOA	BNA	Pest/PCB	Herb	VOAs (CLEE)		Metal	CN
				VOA			
				VOA			
				4°C			

WESTON Analytics Use Only

MATRIX CODES: S - Soil, SE - Sediment, SO - Solid, SL - Sludge, W - Water, O - Oil, A - Air, DS - Drum Solids, DL - Drum Liquids, L - EP/TCLP Leachate, WI - Wipe, X - Other, F - Fish	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected													
		AOC50CP-EW			S	4-DEC-96	1106				X							1-8oz pg		
		AOC50CP-WW			S	4-DEC-96	1117				X									
		AOC50CP-NW			S	4-DEC-96	1050				X									
		AOC50CP-B			S	4-DEC-96	1130				X									
		03DEC96TB									X							2-40ml pg		

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:
* All Samples preserved to 4° Temperature Blank Included
* VOAs require a minimum detection limit of 5 ppb
* Batch LCS must report all compounds of interest
* 3 DAY TAT
* Include Work order # (see above) on invoice
* Please call w/ any Problems

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___ Airbill # _____
2) Ambient or Chilled
3) Received In Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Relinquished by	Received by	Date	Time
William Dale	Federal Express	4-DEC-96	1900
FEDEX 836422242	Donita Jensen	12/5/96	1046

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES:

RFW 21-21-001/A-7/91 ___ L372 ___ L373 ___ L375 ___ L377 ___ L378 Rel# _____ Cooler# _____ 381-596a

Temp 3°C ok

Roy F. Weston "SAMPLE RECEIPT FORM"

Tote____ Box____ Bucket____ COC #: No #'s

Project: _____ Cooler #: ✓ COC #: _____

Cooler #: _____ COC #: _____

Cooler #: _____ COC #: _____

Use other side of this form to note further details concerning check-in problems and to specify and describe any action(s) regarding the resolution(s) of problem(s).

1) Have designated person initial here to acknowledge receipt of sample(s): DF (date) 12/5/96

2) Were sample custody seals on outside of cooler? If Yes, how many & where? ✓ yes ___ no

[ ] front [ ] back [ ] right side [ ] left side 2 of 2 intact

seal date: 12/4/96 name: WmDale

3) Were custody papers sealed in a plastic bag & taped inside to the lid? ✓ yes ___ no

4) Were custody papers filled out properly (ink, signed, etc.)? ✓ yes ___ no

5) Samples came via: [ ] A/B [✓] FED EXP [ ] UPS [ ] H/D [ ] other

Attach & enter air bill or invoice number here: 01 364202444

6) Describe packing: [ ] sorbent [ ] bubble pk [✓] paper [ ] cardboard [ ] rags
[ ] vermiculite [ ] foam [ ] peanuts [✓] tyvek [ ] other: _____

7) Temperature = 3°C (Acceptance Range = 2 to 6°C) Blk ✓ Smp ___ Cooler ___ ✓ yes ___ no

8) Were all bottles sealed in separate plastic bags? ✓ yes ___ no

9) Did all bottles arrive unbroken & in good condition? ✓ yes ___ no

10) Were Custody Seals on sample jar lids? If YES, were they intact upon arrival?
Seal Date: _____ Name: _____ ___ yes ✓ no

11) Labels complete? ✓ yes ___ no

12) Labels agree with custody papers? If NO, list on other side. ✓ yes ___ no

[ ] Matrix on COC and Jar don't agree

13) Correct containers? ✓ yes ___ no

14) Were preservatives used when required? ✓ yes ___ no

15) Was a sufficient amount of sample sent for tests indicated? ✓ yes ___ no

16) Bubbles in VOA vials? If YES, list samples on other side. ✓ N/A ___ yes ___ no

pH Range:

[ ] Metals 0 to 2	[ ] Sulfide > 9	[ ] COD < 2
[ ] Oil & Grease 0 to 2	[ ] Hardness < 2	[ ] TOC < 2
[ ] Cyanide > 12	[ ] Phenols < 2	[ ] _____

[ ] Health Warnings Listed

ATTACHMENT C

CONTAINERIZED SOIL WASTE CHARACTERIZATION RESULTS

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive
Westborough, Massachusetts 01581-1019
(508) 898-9220

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

CERTIFICATE OF ANALYSIS

Client: Triumvirate Environmental	**Laboratory Job Number:** L9608828
Address: 63 Inner Belt Road	**Invoice Number:** 89092
Somerville, MA 02143	**Date Received:** 25-NOV-96
Attn: M. Coveno	**Date Reported:** 02-DEC-96
Project Number: T6804	**Delivery Method:** Alpha
Site: Weston	

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L9608828-01	#1	Ft. Devens

Authorized by:

Scott McLean - Laboratory Director

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9608828-01
#1
Sample Matrix: SOIL

Date Collected: 22-NOV-96
Date Received : 25-NOV-96
Date Reported : 02-DEC-96

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1 Amber Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Solids, Total	95.	%	0.10	3	2540B		02-Dec	ST
Volatile Organics by GC/MS				1	8260	02-Dec	02-Dec	DB
Methylene chloride	ND	ug/kg	25.					
1,1-Dichloroethane	ND	ug/kg	7.5					
Chloroform	ND	ug/kg	7.5					
Carbon tetrachloride	ND	ug/kg	5.0					
1,2-Dichloropropane	ND	ug/kg	18.					
Dibromochloromethane	ND	ug/kg	5.0					
1,1,2-Trichloroethane	ND	ug/kg	7.5					
2-Chloroethylvinyl ether	ND	ug/kg	50.					
Tetrachloroethene	420	ug/kg	7.5					
Chlorobenzene	ND	ug/kg	18.					
Trichlorofluoromethane	ND	ug/kg	25.					
1,2-Dichloroethane	ND	ug/kg	7.5					
1,1,1-Trichloroethane	ND	ug/kg	5.0					
Bromodichloromethane	ND	ug/kg	5.0					
trans-1,3-Dichloropropene	ND	ug/kg	7.5					
cis-1,3-Dichloropropene	ND	ug/kg	5.0					
Bromoform	ND	ug/kg	5.0					
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0					
Benzene	ND	ug/kg	5.0					
Toluene	ND	ug/kg	7.5					
Ethylbenzene	ND	ug/kg	5.0					
Chloromethane	ND	ug/kg	50.					
Bromomethane	ND	ug/kg	10.					
Vinyl chloride	ND	ug/kg	18.					
Chloroethane	ND	ug/kg	10.					
1,1-Dichloroethene	ND	ug/kg	7.5					
trans-1,2-Dichloroethene	ND	ug/kg	7.5					
Trichloroethene	6.5	ug/kg	5.0					
1,2-Dichlorobenzene	ND	ug/kg	50.					
1,3-Dichlorobenzene	ND	ug/kg	50.					
1,4-Dichlorobenzene	ND	ug/kg	50.					
Methyl tert butyl ether	ND	ug/kg	50.					
Xylenes	ND	ug/kg	5.0					
cis-1,2-Dichloroethene	ND	ug/kg	5.0					
Dibromomethane	ND	ug/kg	50.					

Comments: Complete list of References and Glossary of Terms found in Addendum I

Laboratory Sample Number: L9608828-01
#1

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Volatile Organics by GC/MS continued				1	8260	02-Dec	02-Dec	DB
1,4-Dichlorobutane	ND	ug/kg	50.					
Iodomethane	ND	ug/kg	50.					
1,2,3-Trichloropropane	ND	ug/kg	50.					
Styrene	ND	ug/kg	5.0					
Dichlorodifluoromethane	ND	ug/kg	50.					
Acetone	ND	ug/kg	50.					
Carbon Disulfide	ND	ug/kg	50.					
2-Butanone	ND	ug/kg	23.					
Vinyl Acetate	ND	ug/kg	50.					
4-Methyl-2-pentanone	ND	ug/kg	50.					
2-Hexanone	ND	ug/kg	50.					
Ethyl methacrylate	ND	ug/kg	50.					
Acrolein	ND	ug/kg	130					
Acrylonitrile	ND	ug/kg	50.					
Bromochloromethane	ND	ug/kg	25.					
2,2-Dichloropropane	ND	ug/kg	25.					
1,2-Dibromoethane	ND	ug/kg	25.					
1,3-Dichloropropane	ND	ug/kg	25.					
1,1,1,2-Tetrachloroethane	ND	ug/kg	25.					
Bromobenzene	ND	ug/kg	25.					
n-Butylbenzene	ND	ug/kg	25.					
sec-Butylbenzene	ND	ug/kg	25.					
tert-Butylbenzene	ND	ug/kg	25.					
o-Chlorotoluene	ND	ug/kg	25.					
p-Chlorotoluene	ND	ug/kg	25.					
1,2-Dibromo-3-chloropropane	ND	ug/kg	25.					
Hexachlorobutadiene	ND	ug/kg	25.					
Isopropylbenzene	ND	ug/kg	25.					
p-Isopropyltoluene	ND	ug/kg	25.					
Naphthalene	ND	ug/kg	25.					
n-Propylbenzene	ND	ug/kg	25.					
1,2,3-Trichlorobenzene	ND	ug/kg	25.					
1,2,4-Trichlorobenzene	ND	ug/kg	25.					
1,3,5-Trimethylbenzene	ND	ug/kg	25.					
1,2,4-Trimethylbenzene	ND	ug/kg	25.					
trans-1,4-Dichloro-2-butene	ND	ug/kg	25.					
Ethyl ether	ND	ug/kg	130					
SURROGATE RECOVERY								
Toluene-d8	89.0	%						
4-Bromofluorobenzene	76.0	%						
Dibromofluoromethane	72.0	%						

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH MS/MSD ANALYSIS

Laboratory Job Number: L9608828

Parameter	MS %	MSD %	RPD
Volatile Organics by GC/MS Spike Recovery MS/MSD for sample(s) 01			
1,1-Dichloroethene	75	76	1
Trichloroethene	85	71	18
Benzene	91	80	13
Toluene	103	90	13
Chlorobenzene	103	88	16

REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. 1986.

3. Standard Methods for Examination of Water and Waste Water. APHA-AWWA-WPCF. 17th Edition. 1989.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.

METHOD Method number by which analysis was performed.

ID Initials of the analyst.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

P.07

ALPHA
Analytical Laboratories, Inc.

Eight Walkup Drive
Westborough, MA 01581-1019
508-898-9220 FAX 508-898-9193

CHAIN OF CUSTODY RECORD and ANALYSIS REQUEST RECORD

No. 71734
Sheet ___ of ___

Company Name: Triumvirate Environmental	Project Number: T6804 P.O. Number: T6804	Project Name/Location: Weston / Ft. Devens	Date Received in Lab: 11/25	Date Due: 12/2
Company Address: 63 Inner Belt Road, Somerville, MA 02143	Phone Number: 617-628-8098 617-628-8099 FAX No.:	Project Manager: M. Cowan	Alpha Job Number: (Lab use only) 9608828	

Container Codes: P = Plastic V = Vial C = Cube G = Glass A = Amber Glass B = Bacteria Container O = Other

MATRIX / SOURCE CODES: MW = Monitoring Well, RO = Runoff, O = Outfall, W = Well, LF = Landfill, L = Lake/Pond/Ocean, I = Influent, E = Effluent, DW = Drinking Water, R = River Stream, S = Soil, SG = Sludge, B = Bottom Sediment, X1 = Other, X2 = Other

ALPHA Lab # (Lab Use Only)	Sample I.D.	Containers (number/type)	Matrix/Source	Method Preserve. (number of containers): Unpres.	Ice	Nitric	Sulfuric	HCl	Other	Solubles - F.F.	Sampling: Date	Time	Analysis Requested
8828.1	#1	1-A	S	1							11/22	12:00	8260 TS

Sampler's Signature	Affiliation	Date	Time
	TEI	11/22	12:00

ADDITIONAL COMMENTS:

NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1			11-25-96	1300
2			11/25/96	1400
3				
4				

Form No. OOP/06-03

DEC-05-1996 08:23

TOTAL P.07

EQ - The Environmental Quality Company
49350 N. I-94 Service Drive
Belleville, Michigan 48111

December 6, 1996

Triumvirate Environmental
PO Box 136
Boston, Mass. 02143-0003
ATTN:

Dear Triumvirate Environmental:

Below are results of analysis of the sample received for examination on November 27, 1996:

Sample I.D. AA06889 CLIENT CODE: 1610
Purchase order number: COVENO Tracking number: 73145-1
Generator: DEVENS RFTA Waste Name: PERC CONT. SOL
Sample collection date: 11/25/96
Lab submittal date: 11/27/96 Time: 15:38

TEST PARAMETER		UNITS	TEST RESULT	DETECTION LIMIT
Multicomponent analysis: F SERIES 1 TO 5 SCAN				
CARBON TETRACHLORIDE		MG/KG	less than	6.0
METHYLENE CHLORIDE		MG/KG	less than	30
TETRACHLOROETHYLENE		MG/KG	less than	6.0
1,1,1-TRICHLOROETHANE		MG/KG	less than	6.0
TRICHLOROETHYLENE		MG/KG	less than	6.0
TRICHLOROFLUOROMETHANE		MG/KG	less than	30
1,1,2TRICHLORO1,2,2TRIFLUOROETHAN		MG/KG	less than	30
CHLOROBENZENE		MG/KG	less than	6.0
1,2-DICHLOROBENZENE		MG/KG	less than	6.0
ACETONE		MG/KG	less than	160
N-BUTYL ALCOHOL		MG/KG	less than	2.6
ETHYL ACETATE		MG/KG	less than	33
ETHYL BENZENE		MG/KG	less than	10
METHYL ISOBUTYL KETONE		MG/KG	less than	33
XYLENE		MG/KG	less than	30
ETHYL ETHER		MG/KG	less than	160
ISOBUTANOL		MG/KG	less than	170
METHYL ETHYL KETONE		MG/KG	less than	36
PYRIDINE		MG/KG	less than	16
TOLUENE		MG/KG	less than	10
CRESOL		MG/KG	less than	5.6
NITROBENZENE		MG/KG	less than	14
1,1,2-TRICHLOROETHANE		MG/KG	less than	6.0
BENZENE		MG/KG	less than	10
CYCLOHEXANONE	MG/L	MG/KG	not tested	0.75
METHANOL	MG/L	MG/KG	not tested	0.75
CARBON DISULFIDE	MG/L	MG/KG	not tested	4.8

Sample comments:

Sample was received in a glass container at room temperature with headspace.

Please advise should you have questions concerning these data.

Respectfully submitted,

Validation by
Roberta J. Hooft

Validation by
Belinda W. Pace

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive
Westborough, Massachusetts 01581-1019
(508) 898-9220

MA:M-MA-086 NH:200395-B/C CT:PH-0574 NE:MA086 RI:65

CERTIFICATE OF ANALYSIS

Client: Triumvirate Environmental	Laboratory Job Number: L9609246
Address: 63 Inner Belt Road	Invoice Number: 89416
Somerville, MA 02143	Date Received: 10-DEC-96
Attn: Mike Coveno	Date Reported: 12-DEC-96
Project Number: T6804	Delivery Method: Alpha
Site: Weston	

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L9609246-01	#2	Ft. Devens
L9609246-02	#3 - #79	Ft. Devens
L9609246-03	#4 - #56	Ft. Devens
L9609246-04	#5 - #38	Ft. Devens

Authorized by:

Scott McLean - Laboratory Director

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 ME:200395-B/C CT:PH-0574 NH:MA086 RI:65

Laboratory Sample Number: L9609246-01
#2
Sample Matrix: SOIL

Date Collected: 09-DEC-96
Date Received : 10-DEC-96
Date Reported : 12-DEC-96

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1 Amber Glass

PARAMETER	RESULT	UNITS	MDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Solids, Total	86.	%	0.10	3	2540B		12-Dec	ST
Volatile Organics by GC/MS				1	8260	11-Dec	11-Dec	DB
Methylene chloride	ND	ug/kg	25.					
1,1-Dichloroethane	ND	ug/kg	7.5					
Chloroform	ND	ug/kg	7.5					
Carbon tetrachloride	ND	ug/kg	5.0					
1,2-Dichloropropane	ND	ug/kg	18.					
Dibromochloromethane	ND	ug/kg	5.0					
1,1,2-Trichloroethane	ND	ug/kg	7.5					
2-Chloroethylvinyl ether	ND	ug/kg	50.					
Tetrachloroethene	ND	ug/kg	7.5					
Chlorobenzene	ND	ug/kg	18.					
Trichlorofluoromethane	ND	ug/kg	25.					
1,2-Dichloroethane	ND	ug/kg	7.5					
1,1,1-Trichloroethane	ND	ug/kg	5.0					
Bromodichloromethane	ND	ug/kg	5.0					
trans-1,3-Dichloropropene	ND	ug/kg	7.5					
cis-1,3-Dichloropropene	ND	ug/kg	5.0					
Bromoform	ND	ug/kg	5.0					
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0					
Benzene	ND	ug/kg	5.0					
Toluene	ND	ug/kg	7.5					
Ethylbenzene	ND	ug/kg	5.0					
Chloromethane	ND	ug/kg	50.					
Bromomethane	ND	ug/kg	10.					
Vinyl chloride	ND	ug/kg	18.					
Chloroethane	ND	ug/kg	10.					
1,1-Dichloroethene	ND	ug/kg	7.5					
trans-1,2-Dichloroethene	ND	ug/kg	7.5					
Trichloroethene	ND	ug/kg	5.0					
1,2-Dichlorobenzene	ND	ug/kg	50.					
1,3-Dichlorobenzene	ND	ug/kg	50.					
1,4-Dichlorobenzene	ND	ug/kg	50.					
Methyl tert butyl ether	ND	ug/kg	50.					
Xylenes	ND	ug/kg	5.0					
cis-1,2-Dichloroethene	ND	ug/kg	5.0					
Dibromomethane	ND	ug/kg	50.					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L9609246-01
#2

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Volatile Organics by GC/MS continued				1	8260		11-Dec	DB
1,4-Dichlorobutane	ND	ug/kg	50.					
Iodomethane	ND	ug/kg	50.					
1,2,3-Trichloropropane	ND	ug/kg	50.					
Styrene	ND	ug/kg	5.0					
Dichlorodifluoromethane	ND	ug/kg	50.					
Acetone	ND	ug/kg	50.					
Carbon Disulfide	ND	ug/kg	50.					
2-Butanone	ND	ug/kg	23.					
Vinyl Acetate	ND	ug/kg	50.					
4-Methyl-2-pentanone	ND	ug/kg	50.					
2-Hexanone	ND	ug/kg	50.					
Ethyl methacrylate	ND	ug/kg	50.					
Acrolein	ND	ug/kg	130					
Acrylonitrile	ND	ug/kg	50.					
Bromochloromethane	ND	ug/kg	25.					
2,2-Dichloropropane	ND	ug/kg	25.					
1,2-Dibromoethane	ND	ug/kg	25.					
1,3-Dichloropropane	ND	ug/kg	25.					
1,1,1,2-Tetrachloroethane	ND	ug/kg	25.					
Bromobenzene	ND	ug/kg	25.					
n-Butylbenzene	ND	ug/kg	25.					
sec-Butylbenzene	ND	ug/kg	25.					
tert-Butylbenzene	ND	ug/kg	25.					
o-Chlorotoluene	ND	ug/kg	25.					
p-Chlorotoluene	ND	ug/kg	25.					
1,2-Dibromo-3-chloropropane	ND	ug/kg	25.					
Hexachlorobutadiene	ND	ug/kg	25.					
Isopropylbenzene	ND	ug/kg	25.					
p-Isopropyltoluene	ND	ug/kg	25.					
Naphthalene	ND	ug/kg	25.					
n-Propylbenzene	ND	ug/kg	25.					
1,2,3-Trichlorobenzene	ND	ug/kg	25.					
1,2,4-Trichlorobenzene	ND	ug/kg	25.					
1,3,5-Trimethylbenzene	ND	ug/kg	25.					
1,2,4-Trimethylbenzene	ND	ug/kg	25.					
trans-1,4-Dichloro-2-butene	ND	ug/kg	25.					
Ethyl ether	ND	ug/kg	130					
SURROGATE RECOVERY								
Toluene-d8	102.	%						
4-Bromofluorobenzene	89.0	%						
Dibromofluoromethane	101.	%						

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9609246-02 Date Collected: 09-DEC-96
#3 - #79 Date Received : 10-DEC-96
Sample Matrix: SOIL Date Reported : 12-DEC-96

Condition of Sample: Satisfactory Field Prep: None

Number & Type of Containers: 1 Amber Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Solids, Total	86.	%	0.10	3	2540B		12-Dec	ST
Volatile Organics by GC/MS				1	8260	11-Dec	11-Dec	DB
Methylene chloride	ND	ug/kg	25.					
1,1-Dichloroethane	ND	ug/kg	7.5					
Chloroform	ND	ug/kg	7.5					
Carbon tetrachloride	ND	ug/kg	5.0					
1,2-Dichloropropane	ND	ug/kg	18.					
Dibromochloromethane	ND	ug/kg	5.0					
1,1,2-Trichloroethane	ND	ug/kg	7.5					
2-Chloroethylvinyl ether	ND	ug/kg	50.					
Tetrachloroethene	ND	ug/kg	7.5					
Chlorobenzene	ND	ug/kg	18.					
Trichlorofluoromethane	ND	ug/kg	25.					
1,2-Dichloroethane	ND	ug/kg	7.5					
1,1,1-Trichloroethane	ND	ug/kg	5.0					
Bromodichloromethane	ND	ug/kg	5.0					
trans-1,3-Dichloropropene	ND	ug/kg	7.5					
cis-1,3-Dichloropropene	ND	ug/kg	5.0					
Bromoform	ND	ug/kg	5.0					
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0					
Benzene	ND	ug/kg	5.0					
Toluene	ND	ug/kg	7.5					
Ethylbenzene	ND	ug/kg	5.0					
Chloromethane	ND	ug/kg	50.					
Bromomethane	ND	ug/kg	10.					
Vinyl chloride	ND	ug/kg	18.					
Chloroethane	ND	ug/kg	10.					
,1-Dichloroethene	ND	ug/kg	7.5					
rans-1,2-Dichloroethene	ND	ug/kg	7.5					
richloroethene	ND	ug/kg	5.0					
,2-Dichlorobenzene	ND	ug/kg	50.					
,3-Dichlorobenzene	ND	ug/kg	50.					
,4-Dichlorobenzene	ND	ug/kg	50.					
ethyl tert butyl ether	ND	ug/kg	50.					
ylenes	ND	ug/kg	5.0					
is-1,2-Dichloroethene	ND	ug/kg	5.0					
ibromomethane	ND	ug/kg	50.					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L9609246-02
#3 - #79

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Volatile Organics by GC/MS continued				1	8260	11-Dec	11-Dec	DB
1,4-Dichlorobutane	ND	ug/kg	50.					
Iodomethane	ND	ug/kg	50.					
1,2,3-Trichloropropane	ND	ug/kg	50.					
Styrene	ND	ug/kg	5.0					
Dichlorodifluoromethane	ND	ug/kg	50.					
Acetone	ND	ug/kg	50.					
Carbon Disulfide	ND	ug/kg	50.					
2-Butanone	ND	ug/kg	23.					
Vinyl Acetate	ND	ug/kg	50.					
4-Methyl-2-pentanone	ND	ug/kg	50.					
2-Hexanone	ND	ug/kg	50.					
Ethyl methacrylate	ND	ug/kg	50.					
Acrolein	ND	ug/kg	130					
Acrylonitrile	ND	ug/kg	50.					
Bromochloromethane	ND	ug/kg	25.					
2,2-Dichloropropane	ND	ug/kg	25.					
1,2-Dibromoethane	ND	ug/kg	25.					
1,3-Dichloropropane	ND	ug/kg	25.					
1,1,1,2-Tetrachloroethane	ND	ug/kg	25.					
Bromobenzene	ND	ug/kg	25.					
n-Butylbenzene	ND	ug/kg	25.					
sec-Butylbenzene	ND	ug/kg	25.					
tert-Butylbenzene	ND	ug/kg	25.					
o-Chlorotoluene	ND	ug/kg	25.					
p-Chlorotoluene	ND	ug/kg	25.					
1,2-Dibromo-3-chloropropane	ND	ug/kg	25.					
Hexachlorobutadiene	ND	ug/kg	25.					
Isopropylbenzene	ND	ug/kg	25.					
p-Isopropyltoluene	ND	ug/kg	25.					
Naphthalene	ND	ug/kg	25.					
n-Propylbenzene	ND	ug/kg	25.					
1,2,3-Trichlorobenzene	ND	ug/kg	25.					
1,2,4-Trichlorobenzene	ND	ug/kg	25.					
1,3,5-Trimethylbenzene	ND	ug/kg	25.					
1,2,4-Trimethylbenzene	ND	ug/kg	25.					
trans-1,4-Dichloro-2-butene	ND	ug/kg	25.					
Ethyl ether	ND	ug/kg	130					
SURROGATE RECOVERY								
Toluene-d8	98.0	%						
4-Bromofluorobenzene	82.0	%						
Dibromofluoromethane	104.	%						

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 NE:MA086 RI:65

Laboratory Sample Number: L9609246-03 Date Collected: 09-DEC-96
#4 - #56 Date Received : 10-DEC-96
Sample Matrix: SOIL Date Reported : 12-DEC-96

Condition of Sample: Satisfactory Field Prep: None

Number & Type of Containers: 1 Amber Glass

PARAMETER	RESULT	UNITS	RDL	REP	METHOD	DATES PREP	DATES ANALYSIS	ID
Solids, Total	88.	%	0.10	3	2540B		12-Dec	ST
Volatile Organics by GC/MS				1	8260	11-Dec	11-Dec	DB
Methylene chloride	ND	ug/kg	25.					
1,1-Dichloroethane	ND	ug/kg	7.5					
Chloroform	ND	ug/kg	7.5					
Carbon tetrachloride	ND	ug/kg	5.0					
1,2-Dichloropropane	ND	ug/kg	18.					
Dibromochloromethane	ND	ug/kg	5.0					
1,1,2-Trichloroethane	ND	ug/kg	7.5					
2-Chloroethylvinyl ether	ND	ug/kg	50.					
Tetrachloroethene	ND	ug/kg	7.5					
Chlorobenzene	ND	ug/kg	18.					
Trichlorofluoromethane	ND	ug/kg	25.					
1,2-Dichloroethane	ND	ug/kg	7.5					
1,1,1-Trichloroethane	ND	ug/kg	5.0					
Bromodichloromethane	ND	ug/kg	5.0					
trans-1,3-Dichloropropene	ND	ug/kg	7.5					
cis-1,3-Dichloropropene	ND	ug/kg	5.0					
Bromoform	ND	ug/kg	5.0					
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0					
Benzene	ND	ug/kg	5.0					
Toluene	ND	ug/kg	7.5					
Ethylbenzene	ND	ug/kg	5.0					
Chloromethane	ND	ug/kg	50.					
Bromomethane	ND	ug/kg	10.					
Vinyl chloride	ND	ug/kg	18.					
Chloroethane	ND	ug/kg	10.					
1,1-Dichloroethene	ND	ug/kg	7.5					
trans-1,2-Dichloroethene	ND	ug/kg	7.5					
Trichloroethene	ND	ug/kg	5.0					
1,2-Dichlorobenzene	ND	ug/kg	50.					
1,3-Dichlorobenzene	ND	ug/kg	50.					
1,4-Dichlorobenzene	ND	ug/kg	50.					
Methyl tert butyl ether	ND	ug/kg	50.					
Xylenes	ND	ug/kg	5.0					
cis-1,2-Dichloroethene	ND	ug/kg	5.0					
Dibromomethane	ND	ug/kg	50.					

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L9609246-03
#4 - #56

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Volatile Organics by GC/MS continued				1	8260	11-Dec	11-Dec	DB
1,4-Dichlorobutane	ND	ug/kg	50.					
Iodomethane	ND	ug/kg	50.					
1,2,3-Trichloropropane	ND	ug/kg	50.					
Styrene	ND	ug/kg	5.0					
Dichlorodifluoromethane	ND	ug/kg	50.					
Acetone	ND	ug/kg	50.					
Carbon Disulfide	ND	ug/kg	50.					
2-Butanone	ND	ug/kg	23.					
Vinyl Acetate	ND	ug/kg	50.					
4-Methyl-2-pentanone	ND	ug/kg	50.					
2-Hexanone	ND	ug/kg	50.					
Ethyl methacrylate	ND	ug/kg	50.					
Acrolein	ND	ug/kg	130					
Acrylonitrile	ND	ug/kg	50.					
Bromochloromethane	ND	ug/kg	25.					
2,2-Dichloropropane	ND	ug/kg	25.					
1,2-Dibromoethane	ND	ug/kg	25.					
1,3-Dichloropropane	ND	ug/kg	25.					
1,1,1,2-Tetrachloroethane	ND	ug/kg	25.					
Bromobenzene	ND	ug/kg	25.					
n-Butylbenzene	ND	ug/kg	25.					
sec-Butylbenzene	ND	ug/kg	25.					
tert-Butylbenzene	ND	ug/kg	25.					
o-Chlorotoluene	ND	ug/kg	25.					
p-Chlorotoluene	ND	ug/kg	25.					
1,2-Dibromo-3-chloropropane	ND	ug/kg	25.					
Hexachlorobutadiene	ND	ug/kg	25.					
Isopropylbenzene	ND	ug/kg	25.					
p-Isopropyltoluene	ND	ug/kg	25.					
Naphthalene	ND	ug/kg	25.					
n-Propylbenzene	ND	ug/kg	25.					
1,2,3-Trichlorobenzene	ND	ug/kg	25.					
1,2,4-Trichlorobenzene	ND	ug/kg	25.					
1,3,5-Trimethylbenzene	ND	ug/kg	25.					
1,2,4-Trimethylbenzene	ND	ug/kg	25.					
trans-1,4-Dichloro-2-butene	ND	ug/kg	25.					
Ethyl ether	ND	ug/kg	130					
SURROGATE RECOVERY								
Toluene-d8	100.	%						
4-Bromofluorobenzene	85.0	%						
Dibromofluoromethane	108.	%						

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 NE:MA086 RI:65

Laboratory Sample Number: L9609246-04 #5 - #38
Sample Matrix: SOIL

Date Collected: 09-DEC-96
Date Received : 10-DEC-96
Date Reported : 12-DEC-96

Condition of Sample: Satisfactory
Field Prep: None

Number & Type of Containers: 1 Amber Glass

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Solids, Total	85.	%	0.10	3	2540B		12-Dec	ST
Volatile Organics by GC/MS				1	8260	11-Dec	11-Dec	DB
Methylene chloride	ND	ug/kg	25.					
1,1-Dichloroethane	ND	ug/kg	7.5					
Chloroform	ND	ug/kg	7.5					
Carbon tetrachloride	ND	ug/kg	5.0					
1,2-Dichloropropane	ND	ug/kg	18.					
Dibromochloromethane	ND	ug/kg	5.0					
1,1,2-Trichloroethane	ND	ug/kg	7.5					
2-Chloroethylvinyl ether	ND	ug/kg	50.					
Tetrachloroethene	ND	ug/kg	7.5					
Chlorobenzene	ND	ug/kg	18.					
Trichlorofluoromethane	ND	ug/kg	25.					
1,2-Dichloroethane	ND	ug/kg	7.5					
1,1,1-Trichloroethane	ND	ug/kg	5.0					
Bromodichloromethane	ND	ug/kg	5.0					
trans-1,3-Dichloropropene	ND	ug/kg	7.5					
cis-1,3-Dichloropropene	ND	ug/kg	5.0					
Bromoform	ND	ug/kg	5.0					
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0					
Benzene	ND	ug/kg	5.0					
Toluene	ND	ug/kg	7.5					
Ethylbenzene	ND	ug/kg	5.0					
Chloromethane	ND	ug/kg	50.					
Bromomethane	ND	ug/kg	10.					
Vinyl chloride	ND	ug/kg	18.					
Chloroethane	ND	ug/kg	10.					
,1-Dichloroethene	ND	ug/kg	7.5					
rans-1,2-Dichloroethene	ND	ug/kg	7.5					
richloroethene	ND	ug/kg	5.0					
,2-Dichlorobenzene	ND	ug/kg	50.					
,3-Dichlorobenzene	ND	ug/kg	50.					
,4-Dichlorobenzene	ND	ug/kg	50.					
ethyl tert butyl ether	ND	ug/kg	50.					
ylenes	ND	ug/kg	5.0					
is-1,2-Dichloroethene	ND	ug/kg	5.0					
ibromomethane	ND	ug/kg	50.					

omments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L9609246-04
#5 - #38

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Volatile Organics by GC/MS continued				1	8260	11-Dec	11-Dec	DB
1,4-Dichlorobutane	ND	ug/kg	50.					
Iodomethane	ND	ug/kg	50.					
1,2,3-Trichloropropane	ND	ug/kg	50.					
Styrene	ND	ug/kg	5.0					
Dichlorodifluoromethane	ND	ug/kg	50.					
Acetone	ND	ug/kg	50.					
Carbon Disulfide	ND	ug/kg	50.					
2-Butanone	ND	ug/kg	23.					
Vinyl Acetate	ND	ug/kg	50.					
4-Methyl-2-pentanone	ND	ug/kg	50.					
2-Hexanone	ND	ug/kg	50.					
Ethyl methacrylate	ND	ug/kg	50.					
Acrolein	ND	ug/kg	130					
Acrylonitrile	ND	ug/kg	50.					
Bromochloromethane	ND	ug/kg	25.					
2,2-Dichloropropane	ND	ug/kg	25.					
1,2-Dibromoethane	ND	ug/kg	25.					
1,3-Dichloropropane	ND	ug/kg	25.					
1,1,1,2-Tetrachloroethane	ND	ug/kg	25.					
Bromobenzene	ND	ug/kg	25.					
n-Butylbenzene	ND	ug/kg	25.					
sec-Butylbenzene	ND	ug/kg	25.					
tert-Butylbenzene	ND	ug/kg	25.					
o-Chlorotoluene	ND	ug/kg	25.					
p-Chlorotoluene	ND	ug/kg	25.					
1,2-Dibromo-3-chloropropane	ND	ug/kg	25.					
Hexachlorobutadiene	ND	ug/kg	25.					
Isopropylbenzene	ND	ug/kg	25.					
p-Isopropyltoluene	ND	ug/kg	25.					
Naphthalene	ND	ug/kg	25.					
n-Propylbenzene	ND	ug/kg	25.					
1,2,3-Trichlorobenzene	ND	ug/kg	25.					
1,2,4-Trichlorobenzene	ND	ug/kg	25.					
1,3,5-Trimethylbenzene	ND	ug/kg	25.					
1,2,4-Trimethylbenzene	ND	ug/kg	25.					
trans-1,4-Dichloro-2-butene	ND	ug/kg	25.					
Ethyl ether	ND	ug/kg	130					
SURROGATE RECOVERY								
Toluene-d8	102.	%						
4-Bromofluorobenzene	92.0	%						
Dibromofluoromethane	104.	%						

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH DUPLICATE ANALYSIS

Laboratory Job Number: L9609246

Parameter	Value 1	Value 2	RPD	Units
Solids, Total	DUPLICATE for sample(s) 01-04			
	85.	83.	2	%

ALPHA ANALYTICAL LABORATORIES
ADDENDUM I

REFERENCES

1. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW 846. 1986.

3. Standard Methods for Examination of Water and Waste Water. APHA-AWWA-WPCF. 17th Edition. 1989.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.

METHOD Method number by which analysis was performed.

TO Initials of the analyst.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical, Inc., shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical, Inc. be held liable for any incidental consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical, Inc.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding times and splitting of samples in the field.

ATTACHMENT D

FUEL OIL UST REMOVAL PERMIT AND BILL OF LADING

F.P. 292

The Commonwealth of Massachusetts

Department of Public Safety—Division of Fire Prevention

APPLICATION FOR PERMIT FOR REMOVAL AND TRANSPORTATION TO APPROVED TANK YARD

Nov. 25 1996

C.82 S.40 M.G.L.

DIG SAFE NUMBER
96460197 1
Start Date 11-15-95

To: HEAD OF FIRE DEPARTMENT
Devens, MA
City or Town

In accordance with the provisions of Chapter 148, G.L. as provided in Section 38A Application is hereby made by Roy F. Weston, Inc.
(Name of Person, Firm or Corporation)

P.O. Box 425 Ayer, MA 01432-0425
Address

For permission to remove and transport underground steel storage tank(s) from

Street address (city or town)

FDID# 17919 to approved Tank Yard# 009

State clearly type of inert gas used in steel storage tank: Nitrogen Gas
Type of inert gas used

Name of Person, Firm, Corporation disposing tank John C. Tombarello + Sons

Date issued - rejected 11/26 1996 By:
Date of expiration 19 paid/due Signature of Applicant
Fee N.C. (MGL C-148, S-10A)

The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC SAFETY—DIVISION OF FIRE PREVENTION

PERMIT

FOR REMOVAL AND TRANSPORTATION TO APPROVED TANK YARD

19

C.82 S.40 M.G.L.

DIG SAFE NUMBER
96460197 1
Start Date 11-15-95

In accordance with the provisions of Chapter 148, G.L. as provided in Section 38A this permit is granted to
Name: Amsco
Full name of person, firm or Corporation
To transport underground steel storage tank(s)
to Approved tank yard# 009

State clearly type of inert gas used in steel storage tank: steel tank: Nitrogen gas
method

FDID#
Fee paid $ 175.00

Name and address of contractor disposing tank John C. Tombarello + Sons.
Location to which tank will be transported 207 Marston St. Lawrence, MA 01841

009
Approved tank yard#

This permit will expire 19

Signature of official granting permit (TITLE)
(Head of Fire Dept.)

STRAIGHT BILL OF LADING—SHORT FORM—ORIGINAL—NOT NEGOTIABLE

254

NAME OF CARRIER	CARRIER'S NO.	DATE
AMSCO, INC (nhd-9(186959)	n/a	3/31/97

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of the issue of this Original Bill of Lading, the property described below in apparent good order, except as noted (contents and condition of contents of packages unkn marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of, said property over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the sh and accepted for himself and his assigns.

FROM SHIPPER: (ORIGIN)	TO CONSIGNEE:
AMSCO, INC. 12 DELTA DRIVE LONDONDERRY, NH 03053 (603) 434-8900	Roy F. Weston, Inc. STREET Bldg #3701-Barnum Road DESTINATION 12 Delta Drive, Londonderry, N. H 03053 ZIP CODE

DELIVERING CARRIER	ROUTE	CAR OR VEHICLE INITIALS & NO.
AMSCO, Inc.	via-495n to 93N-exit #5	T-90

NO. PACKAGES	KIND OF PACKAGE, DESCRIPTION OF ARTICLES, SPECIAL MARKS AND EXCEPTIONS	*WEIGHT (SUBJECT TO CORR.)	CLASS OR RATE	✓	CHARGES (FOR CARRIER USE ONLY)
1	500 gallon storage tank (empty-fuel)	1,000	n/a	*	----------
	shipped to AMSCO, INC-for disposal				

REMIT C.O.D. TO: N/A

COD AMT $ n/a

C.O.D. FEE:
☐ Prepaid
☐ Collect $ n/a

*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight".

†Shipper's imprint in lieu of stamp; not a part of bill of lading approved by the Interstate Commerce Commission.

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding n/a $_____ per_____

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.
S. Clark
(Signature of Consignor)

TOTAL CHARGES $ ---

Freight charges are PREPAID unless marked collect. ☐ Check b if charge are Collect.

"This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation".

AMSCO, INC.
12 DELTA DRIVE • LONDONDERRY, NH 03053

Shipper, Per _____ Agent, Per _____

Permanent post office address of shipper

ATTACHMENT E

FUEL OIL UST CONFIRMATORY ANALYTICAL RESULTS

Eight Walkup Drive
Westborough, MA 01581-1019
(508) 898-9220 FAX: (508) 898-9193

ALPHA
ANALYTICAL LABS

April 8, 1997

Bill Dale
Roy F. Weston, Inc.
88 Pine Street
Fort Devens, MA 01433

RE: Validation Statement

Project: AOC5OT/Fort Devens

Alpha Job No.: L9609253

Analysis: VPH Deluxe

The data was evaluated based on the following parameters:

* - data completeness
* - holding times
- blanks
- surrogate recovery
* - sample results

* All criteria were met for this parameter.

Surrogate Recovery:

Sample No. L9609253-03 - surrogate was high, due to coelution of target analytes.

◊ Action - All positive results for the sample are flagged as estimated (J).

Blank:

Sample No. L9609253-06 - trip blank - positive results - sample was contaminated.

◊ Action - All positive results for all samples are flagged as estimated (J).

Sincerely,

Scott McLean
Laboratory Director

L9609253.narrative

Eight Walkup Drive
Westborough, MA 01581-1019
(508) 898-9220 FAX: (508) 898-9193

ALPHA
ANALYTICAL LABS

April 8, 1997

Bill Dale
Roy F. Weston, Inc.
88 Pine Street
Fort Devens, MA 01433

RE: Validation Statement

Project: AOC5OT/Fort Devens

Alpha Job No.: L9609253

Analysis: EPH Deluxe

The data was evaluated based on the following parameters:

- * - data completeness
- * - holding times
- - blanks
- - surrogate recovery
- * - sample results

* All criteria were met for this parameter.

Surrogate Recovery:

Sample No. L9609253-03 - surrogate was high, due to coelution of target analytes.

◊ Action - All positive results for the sample are flagged as estimated (J).

Blank:

Sample No. L9609253-07 - rinseate blank - positive results - sample was contaminated.

◊ Action - All positive results for all samples are flagged as estimated (J).

Sincerely,

Scott McLean
Laboratory Director

L9609253.narrative

ALPHA ANALYTICAL LABORATORIES

Eight Walkup Drive
Westborough, Massachusetts 01581-1019
(508) 898-9220

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

CERTIFICATE OF ANALYSIS

Client: Roy F. Weston, Inc.
Address: 88 Pine Street
Fort Devens, MA 01433
Attn: Tom Abdella
Project Number:
Site: CENED

Laboratory Job Number: L9609253
Invoice Number: 89451
Date Received: 10-DEC-96
Date Reported: 09-APR-97
Delivery Method: Alpha

ALPHA SAMPLE NUMBER	CLIENT IDENTIFICATION	SAMPLE LOCATION
L9609253-01	AOC50T-SW	
L9609253-02	AOC50T-NW	
L9609253-03	AOC50T-WW	
L9609253-04	AOC50T-B	
L9609253-05	AOC50T-DUP	
L9609253-06	TRIP BLANK- VPH	
L9609253-07	9DEC96ER	

Authorized by: _____

Scott McLean - Laboratory Director

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9609253-01
AOC50T-SW
Sample Matrix: SOIL

Date Collected: 09-DEC-96
Date Received : 10-DEC-96
Date Reported : 09-APR-97

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1 Glass,1 Vial

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Solids, Total	94.	%	0.10	3	2540B		12-Dec	ST
Volatile Petroleum Hydrocarbon				39	Draft 1.0		12-Dec	DB
C5-C8 Aliphatics	9040J	ug/kg	200.					
C9-C12 Aliphatics	2660J	ug/kg	200.					
C9-C10 Aromatics	298.J	ug/kg	200.					
----------	-							
C5-C8 Aliphatics, Equiv.	4570J	ug/kg	100.					
C9-C12 Aliphatics, Equiv.	138.J	ug/kg	10.0					
C9-C10 Aromatics, Equiv.	298.J	ug/kg	200.					
VPH, Total	5000J	ug/kg	200.					
----------	-							
Benzene	ND	ug/kg	100.					
Toluene	ND	ug/kg	100.					
Ethylbenzene	ND	ug/kg	100.					
p/m-Xylene	ND	ug/kg	100.					
o-Xylene	ND	ug/kg	100.					
Methyl tert butyl ether	ND	ug/kg	100.					
Naphthalene	ND	ug/kg	100.					
1,2,4-Trimethylbenzene	ND	ug/Kg	100.					
SURROGATE RECOVERY								
2,5-Dibromotoluene	108.	%						

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L9609253-01
AOC50T-SW

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Extractable Petroleum Hydrocarbon				40	Draft 1.0	11-Dec	12-Dec	DB
C9-C18 Aliphatics	ND	ug/kg	5000					
C19-C36 Aliphatics	ND	ug/kg	5000					
C10-C22 Aromatics	ND	ug/kg	5000					
----------	-							
C9-C18 Aliphatics, Equiv.	ND	ug/kg	250.					
C19-C36 Aliphatics, Equiv.	ND	ug/kg	25.0					
C10-C22 Aromatics, Equiv.	ND	ug/kg	5000					
EPH, Total	ND	ug/kg	5000					
----------	-							
Acenaphthene	ND	ug/kg	700.					
Acenaphthylene	ND	ug/kg	700.					
Anthracene	ND	ug/kg	700.					
Benzo(a)anthracene	ND	ug/kg	700.					
Benzo(a)pyrene	ND	ug/kg	700.					
Benzo(b)fluoranthene	ND	ug/kg	700.					
Benzo(ghi)perylene	ND	ug/kg	700.					
Benzo(k)fluoranthene	ND	ug/kg	700.					
Chrysene	ND	ug/kg	700.					
Dibenzo(a,h)anthracene	ND	ug/kg	700.					
Fluoranthene	ND	ug/kg	700.					
Fluorene	ND	ug/kg	700.					
Indeno(1,2,3-c,d)pyrene	ND	ug/kg	700.					
Naphthalene	ND	ug/kg	700.					
Phenanthrene	ND	ug/kg	700.					
Pyrene	ND	ug/kg	700.					
2-Methylnaphthalene	ND	ug/kg	700.					
SURROGATE RECOVERY								
Chloro-octadecane	64.0	%						
o-Terphenyl	79.0	%						

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9609253-02
AOC50T-NW
Sample Matrix: SOIL

Date Collected: 09-DEC-96
Date Received : 10-DEC-96
Date Reported : 09-APR-97

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1 Glass,1 Vial

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Solids, Total	97.	%	0.10	3	2540B		12-Dec	ST
Volatile Petroleum Hydrocarbon				39	Draft 1.0		12-Dec	DE
C5-C8 Aliphatics	8140J	ug/kg	200.					
C9-C12 Aliphatics	2060J	ug/kg	200.					
C9-C10 Aromatics	ND	ug/kg	200.					
----------	-							
C5-C8 Aliphatics, Equiv.	4120J	ug/kg	100.					
C9-C12 Aliphatics, Equiv.	103.J	ug/kg	10.0					
C9-C10 Aromatics, Equiv.	ND	ug/kg	200.					
VPH, Total	4230J	ug/kg	200.					
----------	-							
Benzene	ND	ug/kg	100.					
Toluene	ND	ug/kg	100.					
Ethylbenzene	ND	ug/kg	100.					
p/m-Xylene	ND	ug/kg	100.					
o-Xylene	ND	ug/kg	100.					
Methyl tert butyl ether	ND	ug/kg	100.					
Naphthalene	ND	ug/kg	100.					
1,2,4-Trimethylbenzene	ND	ug/Kg	100.					
SURROGATE RECOVERY								
2,5-Dibromotoluene	98.0	%						

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L9609253-02
AOC50T-NW

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Extractable Petroleum Hydrocarbon				40	Draft 1.0	11-Dec	12-Dec	DB
C9-C18 Aliphatics	ND	ug/kg	5000					
C19-C36 Aliphatics	ND	ug/kg	5000					
C10-C22 Aromatics	ND	ug/kg	5000					
----------	-							
C9-C18 Aliphatics, Equiv.	ND	ug/kg	250.					
C19-C36 Aliphatics, Equiv.	ND	ug/kg	25.0					
C10-C22 Aromatics, Equiv.	ND	ug/kg	5000					
EPH, Total	ND	ug/kg	5000					
----------	-							
Acenaphthene	ND	ug/kg	700.					
Acenaphthylene	ND	ug/kg	700.					
Anthracene	ND	ug/kg	700.					
Benzo(a)anthracene	ND	ug/kg	700.					
Benzo(a)pyrene	ND	ug/kg	700.					
Benzo(b)fluoranthene	ND	ug/kg	700.					
Benzo(ghi)perylene	ND	ug/kg	700.					
Benzo(k)fluoranthene	ND	ug/kg	700.					
Chrysene	ND	ug/kg	700.					
Dibenzo(a,h)anthracene	ND	ug/kg	700.					
Fluoranthene	ND	ug/kg	700.					
Fluorene	ND	ug/kg	700.					
Indeno(1,2,3-c,d)pyrene	ND	ug/kg	700.					
Naphthalene	ND	ug/kg	700.					
Phenanthrene	ND	ug/kg	700.					
Pyrene	ND	ug/kg	700.					
2-Methylnaphthalene	ND	ug/kg	700.					
SURROGATE RECOVERY								
Chloro-octadecane	60.0	%						
o-Terphenyl	110.	%						

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9609253-03
AOC50T-WW
Sample Matrix: SOIL

Date Collected: 09-DEC-96
Date Received : 10-DEC-96
Date Reported : 09-APR-97

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1 Glass,1 Vial

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Solids, Total	90.	%	0.10	3	2540B		12-Dec	ST
Volatile Petroleum Hydrocarbon				39	Draft 1.0		12-Dec	DE
C5-C8 Aliphatics	8560 J	ug/kg	200.					
C9-C12 Aliphatics	167000 J	ug/kg	200.					
C9-C10 Aromatics	66700 J	ug/kg	200.					
----------	-							
C5-C8 Aliphatics, Equiv.	4330 J	ug/kg	100.					
C9-C12 Aliphatics, Equiv.	8330 J	ug/kg	10.0					
C9-C10 Aromatics, Equiv.	66700 J	ug/kg	200.					
VPH, Total	78900 J	ug/kg	200.					
----------	-							
Benzene	ND	ug/kg	100.					
Toluene	ND	ug/kg	100.					
Ethylbenzene	133. J	ug/kg	100.					
p/m-Xylene	ND	ug/kg	100.					
o-Xylene	ND	ug/kg	100.					
Methyl tert butyl ether	ND	ug/kg	100.					
Naphthalene	16700 J	ug/kg	100.					
1,2,4-Trimethylbenzene	156. J	ug/Kg	100.					
SURROGATE RECOVERY								
2,5-Dibromotoluene	250.	%						

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L9609253-03
AOC50T-WW

PARAMETER	RESULT		UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Extractable Petroleum Hydrocarbon					40	Draft 1.0	11-Dec	13-Dec	DB
C9-C18 Aliphatics	4490000	J	ug/kg	5000					
C19-C36 Aliphatics	823000	J	ug/kg	5000					
C10-C22 Aromatics	1420000	J	ug/kg	5000					
---	-								
C9-C18 Aliphatics, Equiv.	225000	J	ug/kg	250.					
C19-C36 Aliphatics, Equiv.	4120	J	ug/kg	25.0					
C10-C22 Aromatics, Equiv.	1420000	J	ug/kg	5000					
EPH, Total	1650000	J	ug/kg	5000					
---	-								
Acenaphthene	14900	J	ug/kg	700.					
Acenaphthylene	1110	J	ug/kg	700.					
Anthracene	1870	J	ug/kg	700.					
Benzo(a)anthracene	ND		ug/kg	700.					
Benzo(a)pyrene	ND		ug/kg	700.					
Benzo(b)fluoranthene	929.	J	ug/kg	700.					
Benzo(ghi)perylene	ND		ug/kg	700.					
Benzo(k)fluoranthene	ND		ug/kg	700.					
Chrysene	ND		ug/kg	700.					
Dibenzo(a,h)anthracene	ND		ug/kg	700.					
Fluoranthene	ND		ug/kg	700.					
Fluorene	ND		ug/kg	700.					
Indeno(1,2,3-c,d)pyrene	ND		ug/kg	700.					
Naphthalene	ND		ug/kg	700.					
Phenanthrene	2120	J	ug/kg	700.					
Pyrene	ND		ug/kg	700.					
2-Methylnaphthalene	ND		ug/kg	700.					
SURROGATE RECOVERY									
Chloro-octadecane	3210		%						
o-Terphenyl	1080		%						

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9609253-04
AOC50T-B
Sample Matrix: SOIL

Date Collected: 09-DEC-96
Date Received : 10-DEC-96
Date Reported : 09-APR-97

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1 Glass,1 Vial

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Solids, Total	95.	%	0.10	3	2540B		12-Dec	ST
Volatile Petroleum Hydrocarbon				39	Draft 1.0		12-Dec	DB
C5-C8 Aliphatics	10300 J	ug/kg	200.					
C9-C12 Aliphatics	2000 J	ug/kg	200.					
C9-C10 Aromatics	ND	ug/kg	200.					
---	-							
C5-C8 Aliphatics, Equiv.	5160 J	ug/kg	100.					
C9-C12 Aliphatics, Equiv.	100. J	ug/kg	10.0					
C9-C10 Aromatics, Equiv.	ND	ug/kg	200.					
VPH, Total	5210 J	ug/kg	200.					
---	-							
Benzene	ND	ug/kg	100.					
Toluene	ND	ug/kg	100.					
Ethylbenzene	ND	ug/kg	100.					
p/m-Xylene	ND	ug/kg	100.					
o-Xylene	ND	ug/kg	100.					
Methyl tert butyl ether	ND	ug/kg	100.					
Naphthalene	ND	ug/kg	100.					
1,2,4-Trimethylbenzene	ND	ug/Kg	100.					
SURROGATE RECOVERY								
2,5-Dibromotoluene	86.0	%						

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L9609253-04
AOC50T-B

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Extractable Petroleum Hydrocarbon				40	Draft 1.0	11-Dec	13-Dec	DB
C9-C18 Aliphatics	ND	ug/kg	5000					
C19-C36 Aliphatics	ND	ug/kg	5000					
C10-C22 Aromatics	ND	ug/kg	5000					
---	-							
C9-C18 Aliphatics, Equiv.	ND	ug/kg	250.					
C19-C36 Aliphatics, Equiv.	ND	ug/kg	25.0					
C10-C22 Aromatics, Equiv.	ND	ug/kg	5000					
EPH, Total	ND	ug/kg	5000					
---	-							
Acenaphthene	ND	ug/kg	700.					
Acenaphthylene	ND	ug/kg	700.					
Anthracene	ND	ug/kg	700.					
Benzo(a)anthracene	ND	ug/kg	700.					
Benzo(a)pyrene	ND	ug/kg	700.					
Benzo(b)fluoranthene	ND	ug/kg	700.					
Benzo(ghi)perylene	ND	ug/kg	700.					
Benzo(k)fluoranthene	ND	ug/kg	700.					
Chrysene	ND	ug/kg	700.					
Dibenzo(a,h)anthracene	ND	ug/kg	700.					
Fluoranthene	ND	ug/kg	700.					
Fluorene	ND	ug/kg	700.					
Indeno(1,2,3-c,d)pyrene	ND	ug/kg	700.					
Naphthalene	ND	ug/kg	700.					
Phenanthrene	ND	ug/kg	700.					
Pyrene	ND	ug/kg	700.					
2-Methylnaphthalene	ND	ug/kg	700.					
SURROGATE RECOVERY								
Chloro-octadecane	30.0	%						
o-Terphenyl	109.	%						

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9609253-05
AOC50T-DUP
Sample Matrix: SOIL

Date Collected: 09-DEC-96
Date Received : 10-DEC-96
Date Reported : 09-APR-97

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1 Glass,1 Vial

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Solids, Total	95.	%	0.10	3	2540B		12-Dec	ST
Volatile Petroleum Hydrocarbon				39	Draft 1.0		12-Dec	DB
C5-C8 Aliphatics	8530 J	ug/kg	200.					
C9-C12 Aliphatics	1260 J	ug/kg	200.					
C9-C10 Aromatics	ND	ug/kg	200.					
----------	-							
C5-C8 Aliphatics, Equiv.	4320 J	ug/kg	100.					
C9-C12 Aliphatics, Equiv.	63.2 J	ug/kg	10.0					
C9-C10 Aromatics, Equiv.	ND	ug/kg	200.					
VPH, Total	4390 J	ug/kg	200.					
----------	-							
Benzene	ND	ug/kg	100.					
Toluene	ND	ug/kg	100.					
Ethylbenzene	ND	ug/kg	100.					
p/m-Xylene	ND	ug/kg	100.					
o-Xylene	ND	ug/kg	100.					
Methyl tert butyl ether	ND	ug/kg	100.					
Naphthalene	ND	ug/kg	100.					
1,2,4-Trimethylbenzene	ND	ug/Kg	100.					
SURROGATE RECOVERY								
2,5-Dibromotoluene	76.0	%						

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L9609253-05
AOC50T-DUP

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Extractable Petroleum Hydrocarbon				40	Draft 1.0	11-Dec	13-Dec	DB
C9-C18 Aliphatics	ND	ug/kg	5000					
C19-C36 Aliphatics	ND	ug/kg	5000					
C10-C22 Aromatics	ND	ug/kg	5000					
----------	-							
C9-C18 Aliphatics, Equiv.	ND	ug/kg	250.					
C19-C36 Aliphatics, Equiv.	ND	ug/kg	25.0					
C10-C22 Aromatics, Equiv.	ND	ug/kg	5000					
EPH, Total	ND	ug/kg	5000					
----------	-							
Acenaphthene	ND	ug/kg	700.					
Acenaphthylene	ND	ug/kg	700.					
Anthracene	ND	ug/kg	700.					
Benzo(a)anthracene	ND	ug/kg	700.					
Benzo(a)pyrene	ND	ug/kg	700.					
Benzo(b)fluoranthene	ND	ug/kg	700.					
Benzo(ghi)perylene	ND	ug/kg	700.					
Benzo(k)fluoranthene	ND	ug/kg	700.					
Chrysene	ND	ug/kg	700.					
Dibenzo(a,h)anthracene	ND	ug/kg	700.					
Fluoranthene	ND	ug/kg	700.					
Fluorene	ND	ug/kg	700.					
Indeno(1,2,3-c,d)pyrene	ND	ug/kg	700.					
Naphthalene	ND	ug/kg	700.					
Phenanthrene	ND	ug/kg	700.					
Pyrene	ND	ug/kg	700.					
2-Methylnaphthalene	ND	ug/kg	700.					
SURROGATE RECOVERY								
Chloro-octadecane	53.0	%						
o-Terphenyl	94.0	%						

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9609253-06
TRIP BLANK- VPH
Sample Matrix: SOIL

Date Collected: 22-NOV-96
Date Received : 10-DEC-96
Date Reported : 09-APR-97

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 1 Vial

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Volatile Petroleum Hydrocarbon				39	Draft 1.0		12-Dec	DB
C5-C8 Aliphatics	7500	ug/kg	200.					
C9-C12 Aliphatics	8100	ug/kg	200.					
C9-C10 Aromatics	1000	ug/kg	200.					
----------	-							
C5-C8 Aliphatics, Equiv.	3800	ug/kg	100.					
C9-C12 Aliphatics, Equiv.	410.	ug/kg	10.0					
C9-C10 Aromatics, Equiv.	1000	ug/kg	200.					
VPH, Total	5200	ug/kg	200.					
----------	-							
Benzene	ND	ug/kg	100.					
Toluene	ND	ug/kg	100.					
Ethylbenzene	ND	ug/kg	100.					
p/m-Xylene	ND	ug/kg	100.					
o-Xylene	ND	ug/kg	100.					
Methyl tert butyl ether	ND	ug/kg	100.					
Naphthalene	ND	ug/kg	100.					
1,2,4-Trimethylbenzene	ND	ug/Kg	100.					
SURROGATE RECOVERY								
2,5-Dibromotoluene	105.	%						

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

MA:M-MA-086 NH:200395-B/C CT:PH-0574 ME:MA086 RI:65

Laboratory Sample Number: L9609253-07
9DEC96ER
Sample Matrix: WATER

Date Collected: 09-DEC-96
Date Received : 10-DEC-96
Date Reported : 09-APR-97

Condition of Sample: Satisfactory

Field Prep: None

Number & Type of Containers: 2 Amber Glass,2 Vial

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Volatile Petroleum Hydrocarbon				39	Draft 1.0		12-Dec	DB
C5-C8 Aliphatics	ND	ug/l	20.0					
C9-C12 Aliphatics	ND	ug/l	20.0					
C9-C10 Aromatics	ND	ug/l	20.0					
----------	-							
C5-C8 Aliphatics, Equiv.	ND	ug/l	10.0					
C9-C12 Aliphatics, Equiv.	ND	ug/l	1.00					
C9-C10 Aromatics, Equiv.	ND	ug/l	20.0					
VPH, Total	ND	ug/l	20.0					
----------	-							
Benzene	ND	ug/l	20.0					
Toluene	ND	ug/l	20.0					
Ethylbenzene	ND	ug/l	20.0					
p/m-Xylene	ND	ug/l	20.0					
o-Xylene	ND	ug/l	20.0					
Methyl tert butyl ether	ND	ug/l	20.0					
Naphthalene	ND	ug/l	20.0					
1,2,4-Trimethylbenzene	ND	ug/l	20.0					
SURROGATE RECOVERY								
2,5-Dibromotoluene	120.	%						

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
CERTIFICATE OF ANALYSIS

Laboratory Sample Number: L9609253-07
9DEC96ER

PARAMETER	RESULT	UNITS	RDL	REF	METHOD	DATES PREP	DATES ANALYSIS	ID
Extractable Petroleum Hydrocarbon				40	Draft 1.0	11-Dec	11-Dec	DB
C9-C18 Aliphatics	167.	ug/l	50.0					
C19-C36 Aliphatics	ND	ug/l	50.0					
C10-C22 Aromatics	52.0	ug/l	20.0					
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C9-C18 Aliphatics, Equiv.	8.40	ug/l	2.50					
C19-C36 Aliphatics, Equiv.	ND	ug/l	0.250					
C10-C22 Aromatics, Equiv.	52.0	ug/l	20.0					
EPH, Total	60.0	ug/l	20.0					
----------	-							
Acenaphthene	ND	ug/l	20.0					
Acenaphthylene	ND	ug/l	20.0					
Anthracene	ND	ug/l	20.0					
Benzo(a)anthracene	ND	ug/l	20.0					
Benzo(a)pyrene	ND	ug/l	50.0					
Benzo(b)fluoranthene	ND	ug/l	50.0					
Benzo(ghi)perylene	ND	ug/l	50.0					
Benzo(k)fluoranthene	ND	ug/l	50.0					
Chrysene	ND	ug/l	50.0					
Dibenzo(a,h)anthracene	ND	ug/l	50.0					
Fluoranthene	ND	ug/l	50.0					
Fluorene	ND	ug/l	50.0					
Indeno(1,2,3-c,d)pyrene	ND	ug/l	50.0					
Naphthalene	ND	ug/l	50.0					
Phenanthrene	ND	ug/l	50.0					
Pyrene	ND	ug/l	50.0					
2-Methylnaphthalene	ND	ug/l	50.0					
SURROGATE RECOVERY								
Chloro-octadecane	80.0	%						
o-Terphenyl	88.0	%						

Comments: Complete list of References and Glossary of Terms found in Addendum I

ALPHA ANALYTICAL LABORATORIES
QUALITY ASSURANCE BATCH MS/MSD ANALYSIS

Laboratory Job Number: L9609253

Parameter	MS %	MSD %	RPD
Volatile Petroleum Hydrocarbon-Spike Recovery MS/MSD for sample(s) 01-06			
2-Methylpentane	67	93	33
Toluene	95	95	0
1,2,4-Trimethylbenzene	84	86	2
SURROGATE RECOVERY			
2,5-Dibromotoluene	106	89	17
Extractable Petroleum Hydrocarbon Spike Recovery MS/MSD for sample(s) 01-05			
Nonane (C9)	21	22	5
Tetradecane (C14)	57	61	7
Nonadecane (C19)	87	80	8
Eicosane (C20)	90	83	8
Octacosane (C28)	121	98	21
Naphthalene	47	88	61
Acenaphthene	66	110	50
Anthracene	57	73	25
Pyrene	106	58	59
Chrysene	154	29	137
SURROGATE RECOVERY			
Chloro-octadecane	46	20	79
o-Terphenyl	76	112	38
Extractable Petroleum Hydrocarbon Spike Recovery MS/MSD for sample(s) 07			
Tetradecane (C14)	66	16	122
Nonadecane (C19)	100	29	110
Eicosane (C20)	93	30	102
Octacosane (C28)	152	47	106
Naphthalene	57	17	108
Acenaphthene	80	27	99
Anthracene	66	27	84
Pyrene	71	33	73
Chrysene	53	34	44
SURROGATE RECOVERY			
Chloro-octadecane	84	20	123
o-Terphenyl	85	34	86

REFERENCES

3. Standard Methods for Examination of Water and Waste Water. APHA-AWWA-WPCF. 17th Edition. 1989.

39. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Draft 1.0, Massachusetts Department of Environmental Protection, 1995.

40. Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), Draft 1.0, Massachusetts Department of Environmental Protection, 1995.

GLOSSARY OF TERMS AND SYMBOLS

REF Reference number in which test method may be found.

METHOD Method number by which analysis was performed.

ID Initials of the analyst.

LIMITATION OF LIABILITIES

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