



U.S. Army Corps of Engineers

New England District
Concord, Massachusetts

FINAL
~~**DRAFT**~~

SOILS REMEDIAL ACTION OPERABLE UNIT COMPLETION REPORT SOIL, ASPHALT, AND DEBRIS REMOVAL AT AREA OF CONTAMINATION (AOC) 32 DEVENS, MASSACHUSETTS

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**AREA OF CONTAMINATION (AOC) 32
VARIOUS REMOVAL ACTIONS-PHASE II
DEVENS, MASSACHUSETTS**

**FINAL SOILS REMEDIAL ACTION
OPERABLE UNIT COMPLETION REPORT
SOIL, ASPHALT, AND DEBRIS REMOVAL**

Contract No. DACW33-95-D-0004,

Delivery Order No. 0004

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January 2000

**Prepared for
U. S. ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 Virginia Road
Concord, Massachusetts 01742-2751**

**Prepared by
Roy F. Weston, Inc.
One Wall Street, Manchester, NH. 03103**

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EXECUTIVE SUMMARY

The purpose of this *Soils Remedial Action Operable Unit Completion Report* is to document the remedial actions performed in accordance with the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) of 1980, as amended, at Area of Contamination (AOC) 32, Devens, Massachusetts.

AOC 32, also known as the Defense Reutilization and Marketing Office (DRMO) Yard, is located in the northeast corner of the Main Post at Fort Devens, and is bordered on the north by the capped Shepley's Hill Landfill.

Spills from storage yard operations contaminated the asphalt pavement in the yards and the surrounding surface soils with total petroleum hydrocarbon compounds (TPHC), pesticides, polychlorinated biphenyls (PCBs), and metals. Previous remediation activities at the DRMO Yard included removing twelve radium-contaminated "hot spots" in 1996 in the north end of the East Yard. In the northeast part of the East Yard, 40 cubic yards of asphalt and soil contaminated from a rectifier oil spill was removed. Also, an underground storage tank (UST), located northeast of Building T-204, was removed in 1992.

Twenty surface soil samples were collected from AOC 32 and the surrounding area during a *Remedial Investigation (RI)* conducted at the site in March 1994. The samples were analyzed for Target Analyte List (TAL) metals, Target Compound List (TCL) pesticides/PCBs, and TPHC. The elevated TPHC, metals, and PCBs were primarily located around the East Yard and Tire Recycling Yard. It appears that the contaminated soil was due to site drainage, perhaps from oil laden with heavy metals and PCBs. In addition to the surface soil samples, boreholes were advanced at fifteen locations as part of the *RI*. No significant contamination appeared in the subsurface soils at the DRMO Yard. Fifteen asphalt samples were collected and analyzed for pesticides and PCBs. PCB contamination was anticipated to be present in asphalt at the location of the known rectifier oil spill.

A removal action was recommended by the *Final Record of Decision for the Defense Reutilization and Marketing Yard (AOC 32) and Petroleum, Oil, and Lubricants Storage Area (AOC 43A), Devens, MA* dated February 1998 (ROD). The ROD called for the excavation and disposal of approximately 1,500 cubic yards of soil contaminated with TPHC, pesticides, PCBs, and heavy metals; approximately 120 cubic yards of asphalt potentially contaminated with PCBs; debris consisting of metal, concrete, and shredded tires; approximately 1,900 linear feet of chain-link fence with barbed wire and fence posts; and a 30-foot light pole and associated foundation and wiring.

This *Soils Remedial Action Operable Unit Completion Report* was prepared for the Department of the Army, New England District, Corps of Engineers (CENAE) in accordance with the ROD. The remedial actions undertaken at AOC 32 will eliminate the potential risk associated with contaminated soil and debris at AOC 32, which pose a threat to human health or the environment or future use of the property, and are expected to provide a permanent, long-term solution for the site.

1 PURPOSE

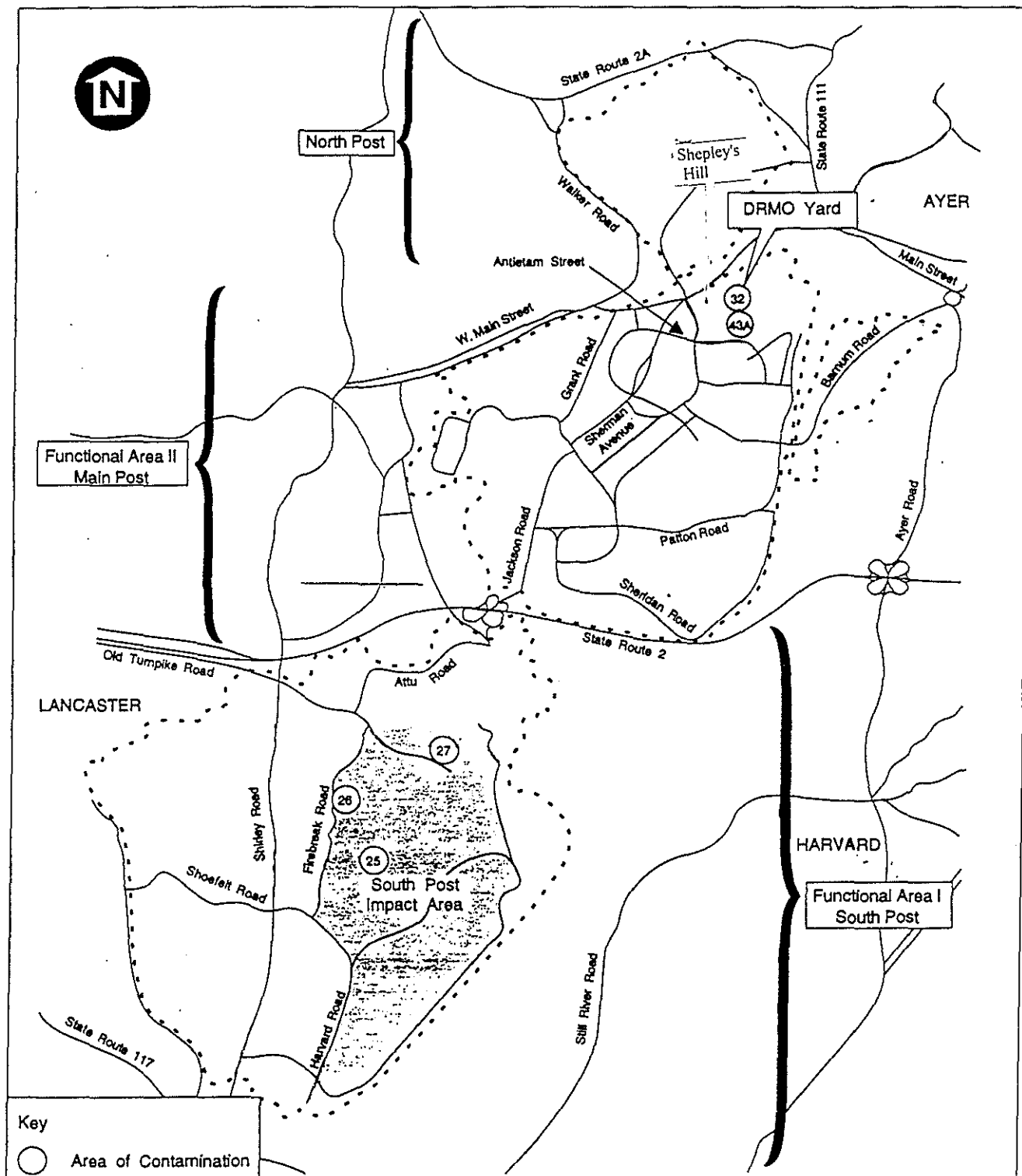
The purpose of this Soils Remedial Action Operable Unit Completion Report is to document the remedial activities conducted at Area of Contamination (AOC) 32, the former Defense Reutilization and Marketing Office Yard (DRMO Yard) at Devens, MA, in accordance with the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) of 1980, as amended. Remedial actions included the removal and disposal of approximately 50 cubic yards of metal debris; removal and disposal of approximately 1200 cubic yards of petroleum-contaminated soil; removal and disposal of approximately 800 cubic yards of non-hazardous soil with shredded tire scrap; removal and disposal of approximately 400 cubic yards of soil contaminated with lead and containing shredded tire scrap; removal and disposal of approximately 600 cubic yards of soil and asphalt contaminated with low levels of PCBs and pesticides.

2. SITE DESCRIPTION AND HISTORY

AOC 32, also known as the DRMO Yard, is located in the northeast corner of the Main Post at Fort Devens (hereafter called Devens), and is bordered on the north by the capped Shepley's Hill Landfill (Figure 2-1). Devens is located within the towns of Ayer, Harvard, Lancaster, and Shirley, Massachusetts, and comprises approximately 9,300 acres. The former 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 101-510, the Base Realignment and Closure (BRAC) Act of 1990. On 21 December 1989, Fort Devens was placed on the National Priorities List (NPL) pursuant to CERCLA.

AOC 32 was used as a materials storage facility from at least 1964 to 1995. The site consists of three fenced areas incorporating approximately 280,000 square feet. The DRMO yard on the west side of Cook Street (West Yard) contained used equipment, including lead-acid batteries, telecommunications equipment, and administrative equipment. The yard on the east side of Cook Street (East Yard) was used for disassembling vehicles for reusable parts and previously contained scrap metal, tires, stored items ready for sale and used photographic solutions. These two enclosed areas are paved with asphalt and are enclosed with a 6-foot tall chain-link fence, topped with barbed wire. The one unpaved fenced area (Tire Recycling Yard) is located just north of the East Yard and was used to store and recycle tires (Figure 2-2).

Spills from storage yard operations have contaminated the asphalt pavement in the yards and the surrounding surface soils with TPHC, pesticides, PCBs and metals. Previous remediation activities at the DRMO Yard include removing twelve radium-contaminated "hot spots" in 1996 in the north end of the East Yard. In the northeast part of the East Yard, 40 cubic yards of asphalt and soil contaminated from a rectifier oil spill were removed. The oil did not contain PCBs. Also, an underground storage tank (UST), located northeast of Building T-204, was removed in 1992. Twenty surface soil samples were collected from



Source: Interagency Agreement USEPA / USAEC

Legend — Road

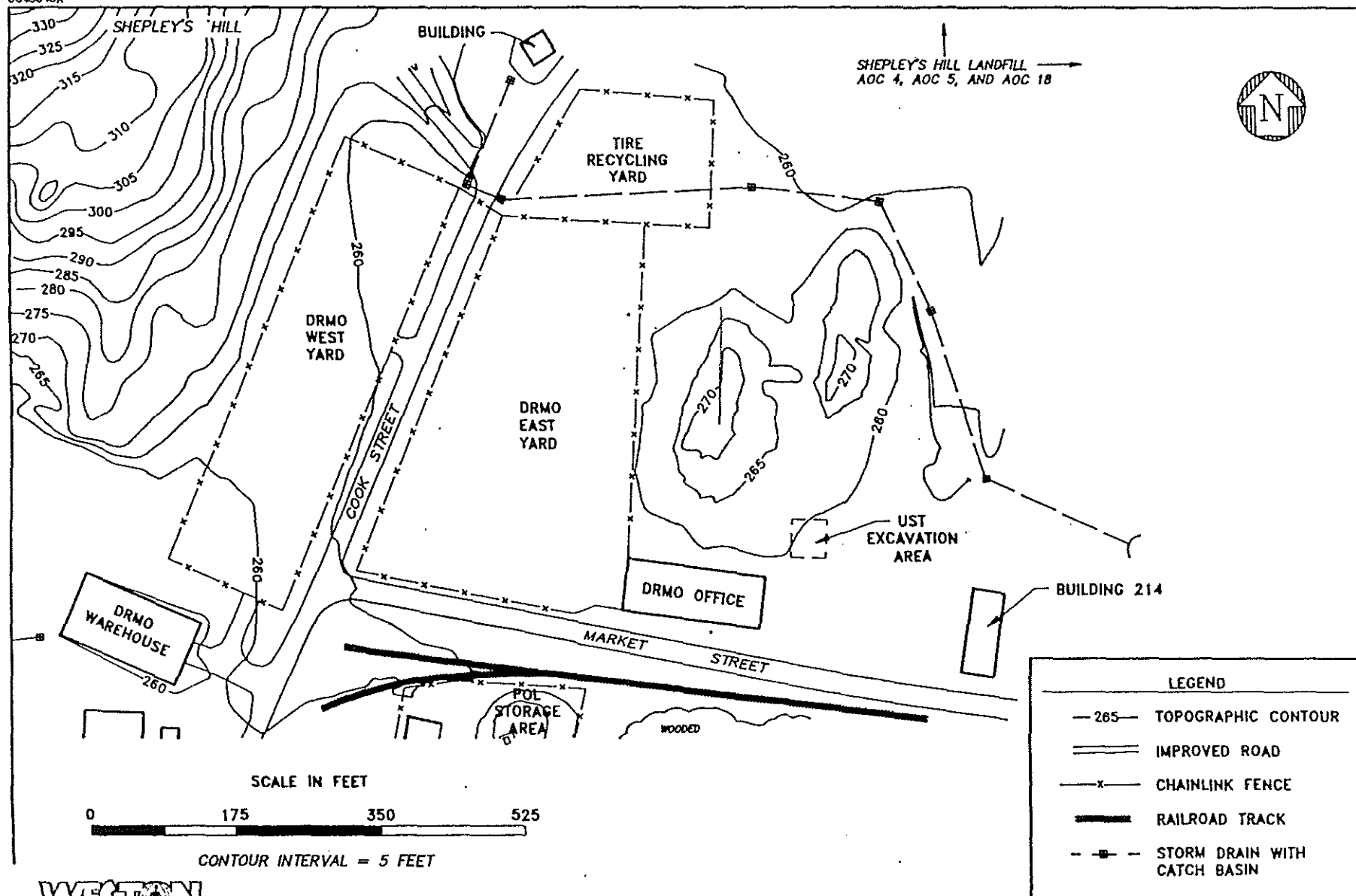
--- Installation Boundary

Scale in miles

1 3/4 1/2 1/4 0

Figure 2-1 Location Map
Area of Contamination (AOC) 32
DRMO Yard
Devens, Massachusetts

UC45045A



WESTON

Figure 2-2 Site Sketch
 Area of Contamination (AOC) 32
 DRMO Yard
 Devens, Massachusetts

AOC 32 and the surrounding area during a *Remedial Investigation (RI)* conducted at the site in March 1994. The samples were analyzed for Target Analyte List (TAL) metals, Target Compound List (TCL) pesticides/PCBs, and TPHC. The elevated TPHC, metals, and PCBs were primarily located around the East Yard and Tire Recycling Yard. It appears that the contamination in the soil was due to site drainage, perhaps from oil laden with heavy metals and PCBs. In addition to the surface soil samples, boreholes were advanced at fifteen locations as part of the *RI*. No significant contamination appeared in the subsurface soils at the DRMO Yard. Fifteen asphalt samples were collected and analyzed for pesticides and PCBs. PCB contamination was expected to be present in asphalt at the location of the known rectifier oil spill.

In February 1998, a *Final Record of Decision (ROD)* for AOC 32 was agreed upon and signed by the appropriate authorities of the U.S. Department of the Army and the U.S. Environmental Protection Agency. The *ROD* presents the proposed remedial activities to be performed at AOC 32, which are outlined in the following sections.

2.1 PROPOSED ACTION DESCRIPTION

The proposed work included the removal and offsite transportation for disposal for the following items:

- Approximately 1,150 cubic yards (1,725 tons) of contaminated surface soil in the grass strips around the East Yard and in a portion of the former Tire Recycling Yard to a depth of one foot;
- Approximately 120 cubic yards of asphalt pavement in the middle of the East Yard and in the northeast corner of the East Yard;
- Approximately 350 cubic yards of soil and debris, consisting of shredded tires, in the remaining portion of the Tire Recycling Yard to a depth of six inches;

- Approximately 20 cubic yards of debris, including metal and concrete, from the northeast corner of the East Yard;
- A 30-foot light pole and associated foundation and wiring to one foot below final grade;
- Approximately 1,900 linear feet of 6-foot tall chain link fence with barbed wire and fence posts from around the perimeter of the East Yard and Tire Recycling Yard.

All contaminated soils and debris was to be disposed at an approved permitted disposal facility. Confirmatory samples were to be collected on the excavation floor and perimeter walls to verify that all contaminated soil has been removed. Analytical results were to be compared to the cleanup goals provided in Table 2-1. The remedial action is expected to provide a permanent, long-term solution for the site and will eliminate the hazard associated with the site.

Table 2-1
Surface/Subsurface Soil Cleanup Goals

Contaminant of Concern	Cleanup Goal
Extractable Petroleum Hydrocarbons (EPH)	
C ₉ - C ₁₈ Aliphatics	2,500 ppm
C ₁₉ - C ₃₆ Aliphatics	5,000 ppm
C ₁₁ - C ₂₂ Aromatics	200 ppm
Volatile Petroleum Hydrocarbons (EPH)	
C ₃ - C ₈ Aliphatics	500 ppm
C ₉ - C ₁₂ Aliphatics	2,500 ppm
C ₉ - C ₁₀ Aromatics	300 ppm
Pesticides	
DDD	3 ppm ^a
DDE	2 ppm ^a
DDT	2 ppm ^a
Polychlorinated Biphenyls (PCBs)	
Aroclor 1254	2 ppm ^a
Aroclor 1260	2 ppm ^a
Inorganics	
Arsenic	24 ppm ^a
Lead	426 ppm ^a

ppm = parts per million

a) Cleanup goal established by the Final Record of Decision for the Defense Utilization and Marketing Office Yard (AOC 32) and Petroleum, Oil, and Lubricants Storage Area (AOC 43A), Devens, Massachusetts, February 1998; Appendix E, Table 21.

3 FIELD ACTIVITIES

3.1 PREPARATION OF PROJECT PLANS

WESTON prepared a Remedial Action Work Plan (RAWP) during July 1998, which was reviewed and approved by regulatory authorities. A Site-specific Health and Safety Plan was also prepared for the site to be used in conjunction with the *Site Safety and Health Plan, Various Sites, Fort Devens, Massachusetts, DCN: VRA-030496-AAAU* prepared by WESTON in April 1996.

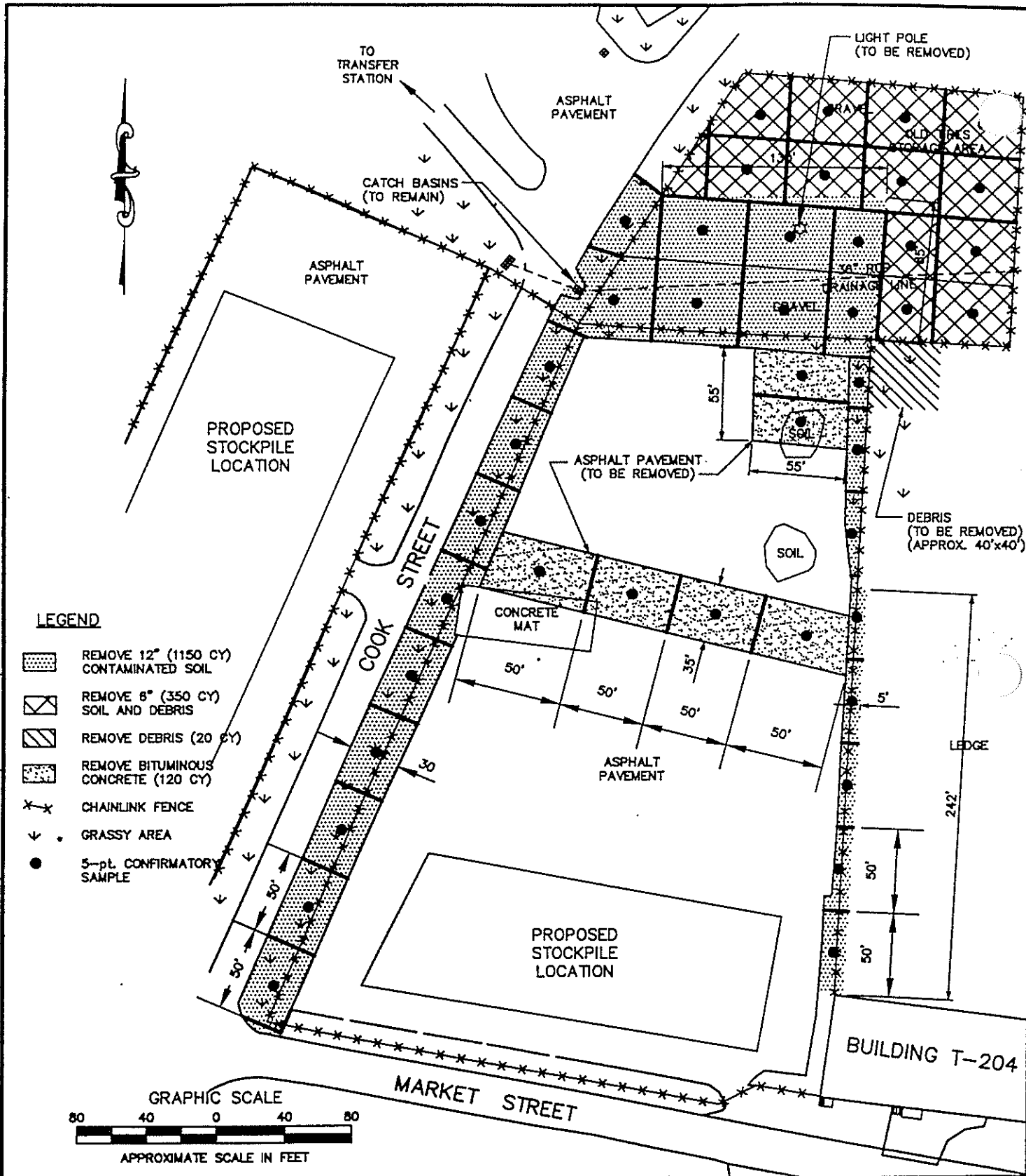
Figure 3-1 shows the site layout with the areas requiring removal action and the grid layout for sampling.

3.2 MOBILIZATION AND SITE PREPARATION

WESTON mobilized to the site on October 20, 1998. Prior to mobilization of equipment and personnel, WESTON's Site Safety Officer conducted a radiological survey of the entire site and surrounding support zone for the presence of radiation using a Ludlum uR meter. This was done in order to verify the levels of radiation at the site. A check was done for background radiation levels at several areas around Devens, away from the site, in order to gauge the average levels of background radiation at Devens and to compare the levels found at the site. No exceedances above the average Devens background radiation levels were detected at the site.

WESTON then contacted DIGSAFE and the Devens Commerce Center to have them verify and delineate the presence of overhead and underground utilities in the work areas. A light pole in the middle of the Tire Recycling Yard was still found to be energized. The power connection to this pole was disconnected by Littleton Electric and Light Department prior to the commencement of intrusive activities in this area. Haybales were placed around storm drain inlets in the vicinity of the excavation areas to prevent silt from entering the storm drains.

FILE NAME: G:\DESIGN\DWG\ACOE\FTDEVENS\VRA\AOC32\AOC32.DWG (PLOT 1=80)



AREA OF CONTAMINATION (AOC) 32
DRMO YARD
DEVENS, MASSACHUSETTS

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS



**EXCAVATION AREAS
AND SAMPLING GRIDS**

WESTON
MANAGERS DESIGNERS/CONSULTANTS
MANCHESTER NEW HAMPSHIRE

DRAWN K.J.C.
DATE JUL 98

Figure 3-1

Approximately 1500 linear feet (LF) of chain-link fence on the eastern and western boundaries of the site were removed, along with the fence posts and concrete footings. Miscellaneous metal debris related to scrap vehicle parts were also removed from the work areas at the site. A temporary staging area was constructed in the southern portion of the site to stage excavated material while waste characterization sampling and analyses were being done on this material at an offsite laboratory. The staging area was constructed by laying down 8-mil polyethylene sheeting, and constructing a berm on all four sides using haybales.

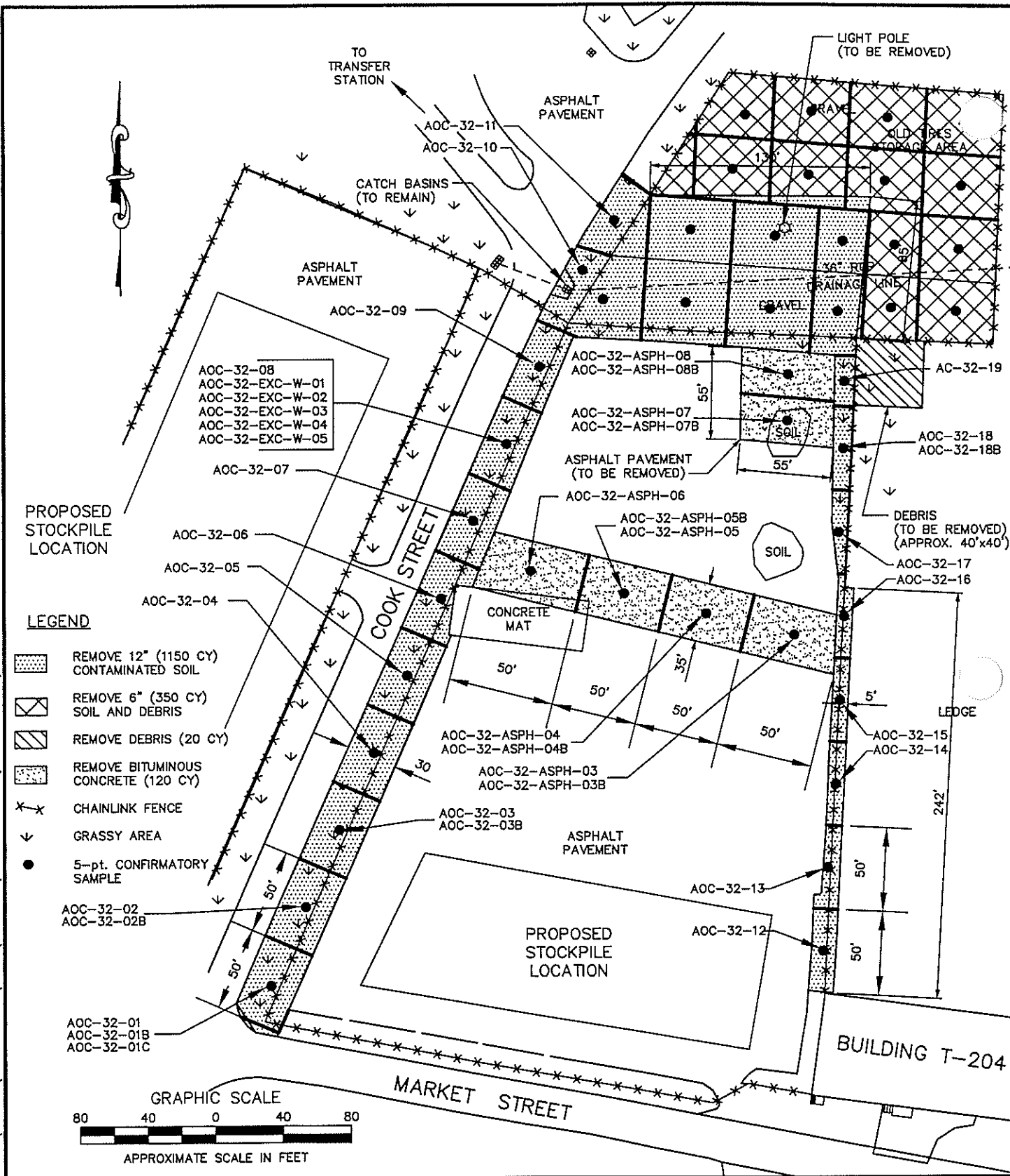
A grid system was laid out in the field in order to track excavation and sampling activities, and to ensure uniform frequency of sampling. The grid layout and grid identification numbers are shown in Figures 3-2 and 3-3. Each grid had an area of approximately 1500 SF or less.

The layout of the grids ensured that statistically, the entire cleanup area was examined uniformly via the use of grids of similar size, the use of the same sampling parameters, the same sampling methodology and the same offsite laboratory of record.

3.3 EXCAVATION OF SOILS AND CONFIRMATORY SAMPLING

Excavation of soils were done in four different locations at the site: a) along the western fenceline of the site; b) along the eastern fenceline of the site; c) the tire recycling yard in the northern portion of the fence and d) excavation of asphalt in the middle of the paved area as shown in Figure 3-1. Excavation areas showing no exceedance of the field-screening goal of 1,000 ppm TPH were sampled for confirmatory soil sampling. Confirmatory soil samples were collected by compositing up to five equidistant grab samples from the floor and sidewalls of each grid. These soil samples were sent for analyses at Recra Environmental Inc. (now Severn Trent Laboratories) in University Park, Illinois, the offsite laboratory for analyses of total arsenic and total lead (by EPA Method 6010), pesticides (by EPA Method 8081A) and PCBs (by EPA Method 8082). Splits from these confirmatory soil samples were also sent to AMRO Environmental Laboratories in Merrimack, New Hampshire for analyses by the MADEP Method for EPH/VPH. QA sample splits were sent to Severn Trent Laboratories in Colchester, VT. A

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AREA OF CONTAMINATION (AOC) 32
DRMO YARD
DEVENS, MASSACHUSETTS

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

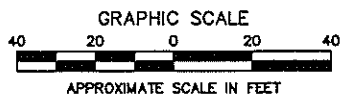
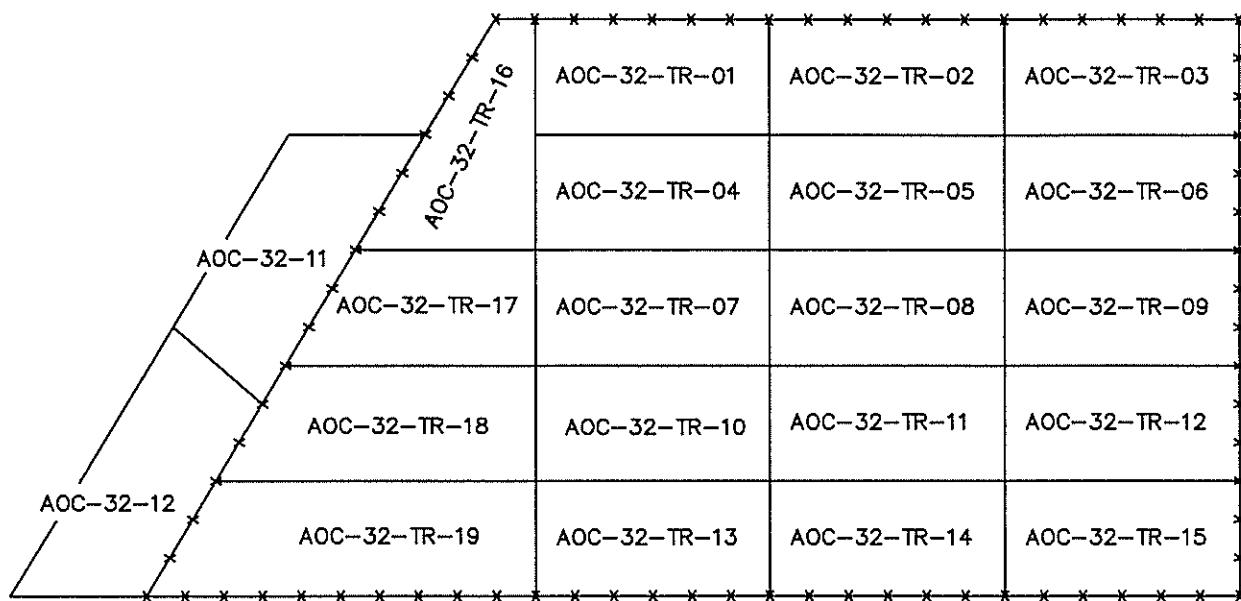


**EXCAVATED AREAS
AND SAMPLING GRID IDs**

WESTON
MANAGERS DESIGNERS/CONSULTANTS
MANCHESTER NEW HAMPSHIRE

DRAWN CDT
DATE JAN 99

Figure 3-2



LEGEND

— * * * * * — FENCE LINE
AOC-32-TR-01 PLOT ID NUMBER

AREA OF CONTAMINATION (AOC) 32
TIRE RECYCLING YARD
DEVENS, MASSACHUSETTS

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS



Sampling Grids
Tire Recycling Yard

WESTON
MANAGERS DESIGNERS/CONSULTANTS
MANCHESTER NEW HAMPSHIRE

DRAWN CDT
DATE JAN 99

Figure 3-3

summary of the analytical results from confirmatory soil samples is shown in Table 3-1 of this document. Copies of the laboratory analytical reports are included in Appendix A.

The analytical results were compared to the site cleanup goals recommended by the ROD as presented in Table 2-1 of this report.

3.3.1 Excavation along the western fenceline

Soil excavation was begun on the southwestern corner of the site along the western fenceline, near the intersection of Market Street and Cook Street. Excavation was done using a John Deere 410E excavator. The width of the excavation was approximately 10 feet. The average depth of the excavation was approximately 12 - 18 inches. Field screening samples were taken from each grid and analyzed using a Non-Dispersive Infrared Spectroscope (NDIR). A field-screening goal of 1,000-ppm TPH was used to guide excavation, as outlined in the Removal Action Work Plan. Each field-screening sample was a composite of five grab samples taken from the floor and sidewalls of the excavation. In grids AOC-32-01 through AOC-32-07, after the top 12 inches of soil were excavated, a dark coloring of the soils was noticed in some of the grids. Field screening of the soils performed on the dark-colored soil did not show the presence of petroleum hydrocarbons. No odor was observed in these soils. Confirmatory soil samples collected from these grids do not indicate the presence of site-specific contaminants.

Grid AOC-32-01 showed exceedances of cleanup goals for EPH. Two additional rounds of excavation and sampling were performed until offsite analytical results (sample ID AOC-32-01C in Table 3-1) indicated that cleanup goals had been achieved.

Grid AOC-32-08 showed some heavy staining due to petroleum contamination in several spots. Excavation was continued in this grid up to a depth of approximately 8 feet, until all soils showing staining or petroleum odor were removed. Confirmatory soil samples (sample IDs AOC-32-EXC-01 thru AOC-32-EXC-05 and AOC-32-FLR-05 in Table 3-1) were collected from the sidewalls and the floor of this grid for offsite laboratory analyses.

3.3.2 Excavation along the eastern fenceline

Excavation was also conducted along the eastern fenceline of the site. The average width of excavation was approximately 3 feet and the average depth of excavation was approximately 12-15 inches. No petroleum contamination was found in grids AOC-32-12 thru AOC-32-17 and AOC-32-19. Soils in grid AOC-32-18 showed heavy staining and petroleum odor after the initial excavation. Field screening of soil samples from this grid showed high levels of petroleum contamination indicating a possible past spill in this area. Excavation in this grid was continued to a depth of 3 feet until all soils showing petroleum staining and odor were removed. Due to the potential for pesticide and PCB contamination in this area as indicated by the site background information in the ROD, these soils were staged in a separate stockpile (stockpile ID AOC-32-STOCK-13). Confirmatory soil samples were collected from these grids after field screening indicated that TPH levels were below the field screening goal of 1,000 ppm.

Analytical results from confirmatory soil samples revealed concentrations of 4,4-DDE at 16 ppm and 4,4-DDT at 14 ppm in the soil sample from grid AOC-32-18. Additional soil excavation was performed in this grid upto 5 feet below ground surface, and the excavated soils stockpiled separately (stockpile ID AOC-32-STOCK-13) for waste characterization analyses. Final confirmatory samples collected from this grid showed no exceedance of cleanup goals (sample ID AOC-32-18B in Table 3-1).

3.3.3 Excavation in the Tire Recycling Yard

Excavation in the Tire Recycling Yard was expected to be done to a depth of up to 15-18 inches in order to remove all the tire scrap entrained in the soil. However, during the excavation, tire scrap was found to a depth of up to 2 feet. Therefore, excavation was extended to an average depth of approximately 2 feet below existing ground surface. No visible petroleum staining or odor was noticed in the soils during excavation. Field screening of soil samples collected from the grids in this area did not indicate the presence of petroleum contamination in the soils.

During the excavation of soils in this area, a total of four pieces of non-energetic ordnance shell covers were found along with a non-energetic ordnance switch. Excavation was temporarily halted until an Unexploded Ordnance specialist was brought to the site to provide oversight of excavation operations. These non-energetic ordnance materials were handed to the U.S. Army authorities at Devens. No additional ordnance material was encountered during the excavation of soils at the site.

3.3.4 Excavation of asphalt pavement

Excavation of asphalt pavement from the paved parking lot was done to remove residual PCB contamination in the location of a former rectifier oil spill. Figure 3-1 shows the locations of excavation conducted (grids AOC-32-ASPH-03 thru AOC-32-ASPH-08). The asphalt pavement was found to be approximately 6 inches thick. The soils underlying the asphalt (grids AOC-32-03 thru AOC-32-08 in Figure 3-3) were also excavated initially to a depth of approximately 4 inches below the asphalt and field screened for TPH. After soils showed no exceedances of the field-screening goal of 1,000 ppm TPH, confirmatory samples were collected. Due to the potential for pesticide and PCB contamination in soils from these grids (as indicated by the site background information from the ROD), the excavated soils from these grids were staged separately (stockpile ID AOC-32-STOCK13).

Analytical results of confirmatory soil samples from initial excavation showed concentrations of total lead of 436 ppm in soil sample from AOC-32-ASPH-03, 915 ppm in soil sample from AOC-32-ASPH-04, 1100 ppm in soil sample from AOC-32-ASPH-07 and 1100 ppm in soil sample from AOC-32-ASPH-08 which exceeded the site cleanup goal of 426 ppm total lead. Concentrations of pesticides in soil sample from AOC-32-ASPH-07 were 4.6 ppm DDE and 10 ppm DDT which were above the site cleanup goals of 2 ppm for DDE and 2 ppm for DDT. Concentrations of PCBs of 29 ppm were also detected in the soil sample from AOC-32-ASPH-05. No exceedances of site cleanup goals for Arsenic were detected in these grids.

Additional excavation of soils was conducted in these grids and the excavated soils added to the stockpile (stockpile ID AOC-32-STOCK-13). Final confirmatory soil samples were then collected from these grids.

Analytical results from confirmatory soil sampling indicate very low-level presence of two PAH compounds in one grid (AOC-32-ASPH-03B) attributable to the presence of remnants of previous asphalt pavement in these grids, and no exceedance of site cleanup goals in the soils from any other grids after final excavation.”

3.4 BACKFILLING OF EXCAVATED AREAS

After confirmatory soil samples indicated that site cleanup goals had been met, excavated areas along the eastern and western fencelines of the site were backfilled with gravel and stone dust. Since the excavations were very shallow, the backfilled areas were compacted using the excavator and front-end loader by placing the backfill material in lifts of 4 - 6 inches thickness. The excavation in grid AOC-32-08 which was approximately 8 feet in depth was backfilled in lifts of 1 ft. thickness and compacted using the track excavator.

3.5 EXCAVATION SOIL STORAGE AND WASTE CHARACTERIZATION SAMPLING

Excavated soils showing petroleum contamination in excess of the field-screening goal of 1,000 ppm were stockpiled in a temporary staging area inside the southern fence of the site (along Market Street). Soils excavated from the eastern and western fencelines were staged in this stockpile. Approximately 1200 CY of soil were excavated from grids AOC-32-01 thru AOC-32-17, and AOC-32-19 (stockpile IDs AOC-32-STOCK-01 thru AOC-32-STOCK-06). Soils from grid AOC-32-18 were staged in a separate stockpile (stockpile ID AOC-32-STOCK-13).

Approximately 1200 cubic yards of soils excavated from the Tire Recycling Yard were staged separately (stockpile IDs AOC-32-STOCK-07 thru AOC-32-STOCK-12).

Approximately 200 cubic yards of soil excavated from grid AOC-32-18, grids AOC-32-ASPH-03 thru AOC-32-ASPH-08 from the asphalt pavement excavation areas were stockpiled separately (stockpile ID AOC-32-STOCK13).

Approximately 300 cubic yards of asphalt pavement removed from grids AOC-32-ASPH-03 thru AOC-32-ASPH-08 were stockpiled separately (stockpile ID AOC-32-ASPH-01 and AOC-32-ASPH-02).

All stockpiled material (soil and asphalt) were sampled for waste characterization analyses at a frequency of one sample per 200 cubic yards as established in the RAWP. These samples were analyzed at Recra Environmental Inc., University Park, IL, (the offsite laboratory of record for the project) for the following parameters:

- Volatile Organic Compounds (Method 8260)
- Total Petroleum Hydrocarbons (Method 8015)
- Semi-volatile Organic Compounds (Method 8270B)
- Pesticides/Polychlorinated Biphenyls (Method 8081A/8082)
- Total RCRA Metals (Methods 6010/7061/7471)
- Corrosivity (Method 9045)
- Reactivity (Methods 7.3.3.2, 7.3.4.2)
- Ignitability (Method 1010)

Copies of laboratory analytical reports are included in Appendix A of this report.

3.6 DISPOSAL OF WASTE MATERIAL

Approximately 40 cubic yards of metal from the chain-link fence, fences posts and scrap metal debris found lying at the site was disposed of as scrap metal at Winthrop Steel, a metal recycling facility in Fitchburg, MA. All metal debris was screened with the uR meter for the presence of radiation, and visually checked for the presence of petroleum or PCB contamination and found not to contain these contaminants.

Waste characterization analyses on samples from the stockpiled soils indicated that the soils excavated from all the grids on the western fenceline, and soils from all the grids on the eastern fenceline except grid AOC-32-18 met the MADEP criteria for soil reuse as landfill cover as outlined in Table 1 of the MADEP document *Reuse and Disposal of Contaminated Soil at Massachusetts Landfills, DEP Policy # COMM-97-001 dated 15 August, 1997*. These soils were represented by sample IDs AOC-32-STOCK-01 thru AOC-32-STOCK06. Accordingly, these soils were transferred to Central Soil Storage Facility (Building 202 area) at Devens, MA for future disposal.

Six samples collected from the stockpile generated by the excavation of soils from the Tire Recycling Yard area (stockpile IDs AOC-32-STOCK-07 thru AOC-32-STOCK-12) showed significant levels of total lead ranging from 119 ppm in AOC-32-STOCK-07 to 1250 ppm in AOC-32-STOCK-12. These concentrations were above levels at which the theoretical TCLP criteria may be exceeded. Therefore, these samples were reanalyzed by the TCLP method for lead. Five of the stockpile samples (AOC-32-07, AOC-32-08, AOC-32-10 and AOC-32-11) showed TCLP lead levels below 5.0 ppm. The soils represented by these five samples (approximately 1000 CY) were disposed of by Charter Environmental, Inc. at Waste Management Inc. of New Hampshire's disposal facility in Rochester, NH.

Two of the stockpile soil samples showed a slight exceedance of the TCLP lead criterion of 5 ppm (AOC-32-STOCK-09 at 6.3 ppm and AOC-32-STOCK-11 at 5.3 ppm). The soils represented by these two samples (approximate quantity of 400 CY) were disposed of at CWM Chemical Services, L.L.C.'s disposal facility in Model City, NY.

The soil sample from stockpile AOC-32-STOCK-13 (which represented soils underlying the asphalt in grids AOC-32-ASPH-03 thru AOC-32-ASPH-08, and grid AOC-32-18 along the eastern fenceline) showed DDT concentrations at 5.9 ppm. The samples was reanalyzed for TCLP lead and showed a TCLP level of 2.0 ppm. which is below the 5 ppm TCLP Lead criterion for landfill reuse. However, due the presence of low-level pesticides and PCBs, these soils were set aside for offsite dissposal. The soils were

disposed of by Charter Environmental, Inc. at Waste Management Inc. of New Hampshire's disposal facility in Rochester, NH.

Waste characterization analyses samples from the asphalt stockpile (sample IDs AOC-32-ASPH-01 and AOC-32-ASPH-02) showed low-levels of pesticides (DDD at 2.1 ppm and DDT at 2.4 ppm in AOC-32-ASPH-02). The asphalt was disposed of by Charter Environmental, Inc. at Waste Management Inc. of New Hampshire's disposal facility in Rochester, NH. Copies of laboratory analytical reports are included in Appendix B.

4. CONCLUSIONS

Remedial actions conducted at AOC-32 at Devens, MA involving excavation of soils, asphalt and tire debris, and removal of metal scrap were conducted during the period between October 1998 and December 1998. These remedial actions were recommended by the *Final Record of Decision for the Defense Reutilization and Marketing Office Yard (AOC 32) and Petroleum, Oil, and Lubricants Storage Area (AOC 43A) Devens, Massachusetts*, dated February 1998 (ROD). The remedial action description was outlined in the Final Remedial Action Work Plan (RAWP) for AOC 32 that was approved by the regulatory authorities. The excavated material has been removed from the AOC-32 site and disposed of at appropriate disposal facilities.

Based on indications from analytical results of confirmatory soil samples collected from excavated areas, and the offsite disposal of excavated material and metal debris from AOC-32, site cleanup goals and remedial action objectives established by the ROD and the Final Remedial Action Work Plan for AOC 32 have been satisfied.

Table 3-1 AOC-32 Confirmatory Sampling Results

	Cleanup Goal	AOC-32-01-C	AOC-32-02B	AOC-32-03B	AOC-32-04	AOC-32-05	AOC-32-06	AOC-32-07	AOC-32-08	AOC-32-EXC-W-01
EPH PARAMETERS	(ppm)	(final grid sample)								(Grid AOC-32-08)
C9-C18 Aliphatics	2,500	<51	<53	<56	<56	<57	<53	<56	<55	<54
C19-C36 Aliphatics	5,000	<51	<53	<56	380	<57	180	110	<55	<54
C10-C22 Aromatics	200	<51	<53	<56	<56	<57	<53	<56	<55	<54
Naphthalene	4	<0.26	<0.27	<0.28	<0.28	<0.28	0.35	0.41	<0.27	<0.27
2-Methylnaphthalene	0.70	<0.26	<0.27	<0.28	<0.28	<0.28	0.49	0.55	<0.27	<0.27
Acenaphthylene	100	<0.26	<0.27	<0.28	<0.28	<0.28	<0.27	<0.28	<0.27	<0.27
Acenaphthene	20	<0.26	<0.27	<0.28	<0.28	<0.28	<0.27	<0.28	<0.27	<0.27
Flourene	400	<0.26	<0.27	<0.28	<0.28	<0.28	<0.27	<0.28	<0.27	<0.27
Phenanthrene	700	<0.26	<0.27	<0.28	<0.28	<0.28	0.62	0.76	<0.27	<0.27
Anthracene	2,500	<0.26	<0.27	<0.28	<0.28	<0.28	<0.27	<0.28	<0.27	<0.27
Fluoranthene	2,000	<0.26	<0.27	<0.28	0.75	<0.28	0.94	0.89	0.3	<0.27
Pyrene	1,000	<0.26	<0.27	<0.28	0.63	<0.28	0.69	0.78	0.25	<0.27
Benzo (a) anthracene	1.00	<0.26	<0.27	<0.28	0.57	<0.28	0.41	0.56	<0.27	<0.27
Chrysene	10	<0.26	<0.27	<0.28	0.58	<0.28	0.61	0.69	<0.27	<0.27
Benzo (b) fluoranthene	1.00	<0.26	<0.27	<0.28	0.81	<0.28	0.88	0.92	0.36	<0.27
Benzo (k) fluoranthene	10	<0.26	<0.27	<0.28	0.29	<0.28	0.28	<0.28	<0.27	<0.27
Benzo (a) pyrene	0.70	<0.26	<0.27	<0.28	0.53	<0.28	0.41	0.62	<0.27	<0.27
Dibenzo (a,h) anthracene	0.70	<0.26	<0.27	<0.28	<0.28	<0.28	<0.27	<0.28	<0.27	<0.27
Indeno (1,2,3-cd) pyrene	1	<0.26	<0.27	<0.28	0.43	<0.28	0.51	0.46	<0.27	<0.27
Benzo (g,h,i) perylene	2,500	<0.26	<0.27	<0.28	0.41	<0.28	0.43	0.39	<0.27	<0.27
VPH PARAMETERS										
C5-C8 Aliphatics	500	5.7	<3.8	<3.4	<3.2	<3.8	<3.4	<2.9	2.4	3.5
C-9-C12 Aliphatics	2,500	2.2	1.5	<0.86	<0.81	<0.96	<0.86	<0.73	<0.6	<0.87
C9-C10 Aromatics	300	4.3	2	<0.86	<0.81	<0.96	<0.86	<0.73	<0.6	<0.87
Methyl-tert-butylether	0.3	<0.069	<0.069	<0.069	<0.065	<0.065	<0.069	<0.059	<0.049	<0.07
Benzene	10	0.26	0.13	<0.069	<0.065	<0.065	<0.069	<0.059	<0.049	<0.07
Toluene	90	0.82	0.44	<0.069	<0.065	<0.065	<0.069	<0.059	<0.049	<0.07
Ethylbenzene	80	0.17	0.09	<0.069	<0.065	<0.065	<0.069	<0.059	<0.049	<0.07
m,p-Xylenes	1	0.7	0.38	<0.069	<0.065	<0.065	<0.069	<0.059	<0.049	<0.07
o-Xylene	800	0.55	0.29	<0.069	<0.065	<0.065	<0.069	<0.059	<0.049	<0.07
Naphthalene	4	0.68	0.35	<0.069	<0.065	<0.065	<0.069	<0.059	<0.049	<0.07
INORGANICS										
Arsenic	24	20.5	17.3	14.9	9.4	9.8	14.3	9	12.8	9.7
Lead	426	84.8	96.3	63.2	24.5	4.9	130	261	37.2	5.3
PESTICIDES										
DDD	3	<0.051	<0.025	<0.025	<0.026	<0.028	<0.054	<0.054	<0.011	<0.0052
DDE	2	0.12	<0.052	<0.052	<0.026	<0.028	<0.054	<0.054	<0.011	<0.0052
DDT	2	0.58	0.28	0.28	<0.026	<0.028	0.19	<0.054	<0.011	<0.0052
PCBs										
Aroclor 1254	2	<0.26	<0.12	<0.14	<0.13	<0.14	<0.27	<0.27	<0.055	<0.026
Aroclor 1260	2	<0.26	<0.12	<0.14	<0.13	<0.14	<0.27	<0.27	<0.055	<0.026

Table 3-1 AOC-32 Confirmatory Sampling Results

	Cleanup Goal	AOC-32-EXC-W-02	AOC-32-EXC-W-03	AOC-32-EXC-W-04	AOC-32-EXC-FLR-05	AOC-32-09	AOC-32-10	AOC-32-11	AOC-32-12
EPH PARAMETERS	(ppm)	(Grid AOC-32-08)	(Grid AOC-32-08)	(Grid AOC-32-08)	(Grid AOC-32-08)				
C9-C18 Aliphatics	2,500	<53	<51	<53	<52	<52	<54	<54	<57
C19-C36 Aliphatics	5,000	<53	<51	<53	<52	<63	610	<54	<57
C10-C22 Aromatics	200	<53	<51	<53	<52	<52	<54	<54	<57
Naphthalene	4	<0.27	<0.26	<0.26	<0.26	<0.26	<0.27	<0.27	<0.28
2-Methylnaphthalene	0.70	<0.27	<0.26	<0.26	<0.26	<0.26	<0.27	<0.27	<0.28
Acenaphthylene	100	<0.27	<0.26	<0.26	<0.26	<0.26	<0.27	<0.27	<0.28
Acenaphthene	20	<0.27	<0.26	<0.26	<0.26	<0.26	<0.27	<0.27	<0.28
Flourene	400	<0.27	<0.26	<0.26	<0.26	<0.26	<0.27	<0.27	<0.28
Phenanthrene	700	<0.27	<0.26	<0.26	<0.26	<0.26	<0.27	<0.27	<0.28
Anthracene	2,500	<0.27	<0.26	<0.26	<0.26	<0.26	<0.27	<0.27	<0.28
Fluoranthene	2,000	<0.27	<0.26	<0.26	<0.26	<0.26	<0.27	<0.27	<0.28
Pyrene	1,000	<0.27	<0.26	<0.26	<0.26	<0.26	<0.27	<0.27	<0.28
Benzo (a) anthracene	1.00	<0.27	<0.26	<0.26	<0.26	<0.26	<0.27	<0.27	<0.28
Chrysene	10	<0.27	<0.26	<0.26	<0.26	<0.26	<0.27	<0.27	<0.28
Benzo (b) fluoranthene	1.00	<0.27	<0.26	<0.26	<0.26	<0.26	<0.27	<0.27	<0.28
Benzo (k) fluoranthene	10	<0.27	<0.26	<0.26	<0.26	<0.26	<0.27	<0.27	<0.28
Benzo (a) pyrene	0.70	<0.27	<0.26	<0.26	<0.26	<0.26	<0.27	<0.27	<0.28
Dibenzo (a,h) anthracene	0.70	<0.27	<0.26	<0.26	<0.26	<0.26	<0.27	<0.27	<0.28
Indeno (1,2,3-cd) pyrene	1	<0.27	<0.26	<0.26	<0.26	<0.26	<0.27	<0.27	<0.28
Benzo (g,h,i) perylene	2,500	<0.27	<0.26	<0.26	<0.26	<0.26	<0.27	<0.27	<0.28
VPH PARAMETERS									
C5-C8 Aliphatics	500	2.5	2.4	2.1	2.5	3.1	<2.7	<2.2	<3.4
C-9-C12 Aliphatics	2,500	<0.63	<0.61	<0.53	<0.63	<0.78	<0.67	<0.55	<0.84
C9-C10 Aromatics	300	<0.63	<0.61	<0.53	<0.63	<0.78	<0.67	<0.55	<0.84
Methyl-tert-butylether	0.3	<0.051	<0.049	<0.043	<0.051	<0.063	<0.054	<0.044	<0.057
Benzene	10	<0.051	<0.049	<0.043	<0.051	<0.063	<0.054	<0.044	<0.057
Toluene	90	<0.051	<0.049	<0.043	<0.051	<0.063	<0.054	<0.044	<0.057
Ethylbenzene	80	<0.051	<0.049	<0.043	<0.051	<0.063	<0.054	<0.044	<0.057
m,p-Xylenes	1	<0.051	<0.049	<0.043	<0.051	<0.063	<0.054	<0.044	<0.057
o-Xylene	800	<0.051	<0.049	<0.043	<0.051	<0.063	<0.054	<0.044	<0.057
Naphthalene	4	<0.051	<0.049	<0.043	<0.051	<0.063	<0.054	<0.044	<0.057
INORGANICS									
Arsenic	24	23.7	21.4	18.5	9.1	9.3	10	9.9	9.7
Lead	426	12.3	7	12.1	5.3	7.6	11.1	6.1	25.3
PESTICIDES									
DDD	3	<0.051	<0.0052	<0.0049	<0.0048	<0.01	<0.051	<0.051	<0.0055
DDE	2	<0.051	<0.0052	<0.0049	<0.0048	<0.01	<0.051	<0.051	<0.0055
DDT	2	<0.01	<0.0052	<0.0049	<0.0048	<0.01	<0.051	<0.051	<0.0055
PCBs									
Aroclor 1254	2	<0.025	<0.026	<0.024	<0.024	<0.052	<0.25	<0.25	<0.028
Aroclor 1260	2	<0.025	<0.026	<0.024	<0.024	<0.052	<0.25	<0.25	<0.028

Table 3-1 AOC-32 Confirmatory Sampling Results

	Cleanup Goal	AOC-32-13	AOC-32-14	AOC-32-15	AOC-32-16	AOC-32-17	AOC-32-18B	AOC-32-19	AOC-32-TR-01	AOC-32-TR-02
EPH PARAMETERS	(ppm)									
C9-C18 Aliphatics	2,500	<55	<56	<57	<57	<55	<56	<54	<53	<55
C19-C36 Aliphatics	5,000	<55	<56	<57	<57	<55	170	140	<53	<55
C10-C22 Aromatics	200	<55	<56	<57	<57	<55	<56	<54	<53	<55
Naphthalene	4	<0.28	<0.28	<0.29	<0.28	<0.27	<0.28	<0.27	<0.26	<0.28
2-Methylnaphthalene	0.70	<0.28	<0.28	<0.29	<0.28	<0.27	<0.28	<0.27	<0.26	<0.28
Acenaphthylene	100	<0.28	<0.28	<0.29	<0.28	<0.27	<0.28	<0.27	<0.26	<0.28
Acenaphthene	20	<0.28	<0.28	<0.29	<0.28	<0.27	<0.28	<0.27	<0.26	<0.28
Flourene	400	<0.28	<0.28	<0.29	<0.28	<0.27	<0.28	<0.27	<0.26	<0.28
Phenanthrene	700	<0.28	<0.28	<0.29	<0.28	<0.27	<0.28	<0.27	<0.26	<0.28
Anthracene	2,500	<0.28	<0.28	<0.29	<0.28	<0.27	<0.28	<0.27	<0.26	<0.28
Fluoranthene	2,000	<0.28	<0.28	<0.29	<0.28	<0.27	<0.28	<0.27	<0.26	<0.28
Pyrene	1,000	<0.28	<0.28	<0.29	<0.28	<0.27	<0.28	<0.27	<0.26	<0.28
Benzo (a) anthracene	1.00	<0.28	<0.28	<0.29	<0.28	<0.27	<0.28	<0.27	<0.26	<0.28
Chrysene	10	<0.28	<0.28	<0.29	<0.28	<0.27	<0.28	<0.27	<0.26	<0.28
Benzo (b) fluoranthene	1.00	<0.28	<0.28	<0.29	<0.28	<0.27	<0.28	<0.27	<0.26	<0.28
Benzo (k) fluoranthene	10	<0.28	<0.28	<0.29	<0.28	<0.27	<0.28	<0.27	<0.26	<0.28
Benzo (a) pyrene	0.70	<0.28	<0.28	<0.29	<0.28	<0.27	<0.28	<0.27	<0.26	<0.28
Dibenzo (a,h) anthracene	0.70	<0.28	<0.28	<0.29	<0.28	<0.27	<0.28	<0.27	<0.26	<0.28
Indeno (1,2,3-cd) pyrene	1	<0.28	<0.28	<0.29	<0.28	<0.27	<0.28	<0.27	<0.26	<0.28
Benzo (g,h,i) perylene	2,500	<0.28	<0.28	<0.29	<0.28	<0.27	<0.28	<0.27	<0.26	<0.28
VPH PARAMETERS										
C5-C8 Aliphatics	500	<3.1	<2.9	<3.1	<2.8	<2.6	<3.7	<2.5	<2.4	<4.0
C-9-C12 Aliphatics	2,500	<0.77	<0.71	<0.77	<0.69	<0.65	<0.78	<0.63	<0.59	<0.99
C9-C10 Aromatics	300	<0.77	<0.71	<0.77	<0.69	<0.65	<0.78	<0.63	<0.59	<0.99
Methyl-tert-butylether	0.3	<0.062	<0.057	<0.062	<0.056	<0.052	<0.063	<0.051	<0.047	<0.08
Benzene	10	<0.062	<0.057	<0.062	<0.056	<0.052	<0.063	<0.051	<0.047	<0.08
Toluene	90	<0.062	<0.057	<0.062	<0.056	<0.052	<0.063	<0.051	<0.047	<0.08
Ethylbenzene	80	<0.062	<0.057	<0.062	<0.056	<0.052	<0.063	<0.051	<0.047	<0.08
m,p-Xylenes	1	<0.062	<0.057	<0.062	<0.056	<0.052	<0.063	<0.051	<0.047	<0.08
o-Xylene	800	<0.062	<0.057	<0.062	<0.056	<0.052	<0.063	<0.051	<0.047	<0.08
Naphthalene	4	<0.062	<0.057	<0.062	<0.056	<0.052	<0.063	<0.051	<0.047	<0.08
INORGANICS										
Arsenic	24	8.6	9.9	10	9.4	8.5	9	8.7	9.9	9.9
Lead	426	25.8	5.5	59.1	16.5	77.8	9.7	15.6	12.8	20.1
PESTICIDES										
DDD	3	<0.0044	<0.0055	<0.0057	<0.0056	<0.01	<0.0096	<0.053	<0.0052	<0.01
DDE	2	<0.01	<0.0055	<0.0034	<0.0056	<0.01	<0.0096	<0.053	<0.0052	<0.013
DDT	2	<0.028	<0.0055	<0.022	<0.016	<0.048	<0.036	<0.053	<0.0052	<0.021
PCBs										
Aroclor 1254	2	<0.028	<0.028	<0.028	<0.028	<0.053	<0.048	<0.26	<0.026	<0.052
Aroclor 1260	2	<0.028	<0.028	<0.028	<0.028	<0.053	<0.14	<0.26	<0.026	<0.052

Table 3-1 AOC-32 Confirmatory Sampling Results

	Cleanup Goal	AOC-32-TR-03	AOC-32-TR-04	AOC-32-TR-05	AOC-32-TR-06	AOC-32-TR-07	AOC-32-TR-08	AOC-32-TR-09	AOC-32-TR-10
EPH PARAMETERS	(ppm)								
C9-C18 Aliphatics	2,500	<55	<51	<54	<54	<51	<52	<54	<52
C19-C36 Aliphatics	5,000	<55	<51	<54	<54	<51	<52	<54	<52
C10-C22 Aromatics	200	<55	<51	<54	<54	<51	<52	<54	<52
Naphthalene	4	<0.28	<0.26	<0.27	<0.27	<0.26	<0.26	<0.27	<0.26
2-Methylnaphthalene	0.70	<0.28	<0.26	<0.27	<0.27	<0.26	<0.26	<0.27	<0.26
Acenaphthylene	100	<0.28	<0.26	<0.27	<0.27	<0.26	<0.26	<0.27	<0.26
Acenaphthene	20	<0.28	<0.26	<0.27	<0.27	<0.26	<0.26	<0.27	<0.26
Flourene	400	<0.28	<0.26	<0.27	<0.27	<0.26	<0.26	<0.27	<0.26
Phenanthrene	700	<0.28	<0.26	<0.27	<0.27	<0.26	<0.26	<0.27	<0.26
Anthracene	2,500	<0.28	<0.26	<0.27	<0.27	<0.26	<0.26	<0.27	<0.26
Fluoranthene	2,000	<0.28	<0.26	<0.27	<0.27	<0.26	<0.26	<0.27	<0.26
Pyrene	1,000	<0.28	<0.26	<0.27	<0.27	<0.26	<0.26	<0.27	<0.26
Benzo (a) anthracene	1.00	<0.28	<0.26	<0.27	<0.27	<0.26	<0.26	<0.27	<0.26
Chrysene	10	<0.28	<0.26	<0.27	<0.27	<0.26	<0.26	<0.27	<0.26
Benzo (b) fluoranthene	1.00	<0.28	<0.26	<0.27	<0.27	<0.26	<0.26	<0.27	<0.26
Benzo (k) fluoranthene	10	<0.28	<0.26	<0.27	<0.27	<0.26	<0.26	<0.27	<0.26
Benzo (a) pyrene	0.70	<0.28	<0.26	<0.27	<0.27	<0.26	<0.26	<0.27	<0.26
Dibenzo (a,h) anthracene	0.70	<0.28	<0.26	<0.27	<0.27	<0.26	<0.26	<0.27	<0.26
Indeno (1,2,3-cd) pyrene	1	<0.28	<0.26	<0.27	<0.27	<0.26	<0.26	<0.27	<0.26
Benzo (g,h,i) perylene	2,500	<0.28	<0.26	<0.27	<0.27	<0.26	<0.26	<0.27	<0.26
VPH PARAMETERS									
C5-C8 Aliphatics	500	<4.1	<2.3	<3.3	<2.7	<2.4	<2.1	3.1	<2.3
C-9-C12 Aliphatics	2,500	<1.0	<0.57	<0.81	<0.66	<0.61	<0.51	<0.77	<0.57
C9-C10 Aromatics	300	<1.0	<0.57	<0.81	<0.66	<0.61	<0.51	<0.77	<0.57
Methyl-tert-butylether	0.3	<0.082	<0.046	<0.066	<0.053	<0.049	<0.041	<0.062	<0.046
Benzene	10	<0.082	<0.046	<0.066	<0.053	<0.049	<0.041	<0.062	<0.046
Toluene	90	<0.082	<0.046	<0.066	<0.053	<0.049	<0.041	<0.062	<0.046
Ethylbenzene	80	<0.082	<0.046	<0.066	<0.053	<0.049	<0.041	<0.062	<0.046
m,p-Xylenes	1	<0.082	<0.046	<0.066	<0.053	<0.049	<0.041	<0.062	<0.046
o-Xylene	800	<0.082	<0.046	<0.066	<0.053	<0.049	<0.041	<0.062	<0.046
Naphthalene	4	<0.082	<0.046	<0.066	<0.053	<0.049	<0.041	<0.062	<0.046
INORGANICS									
Arsenic	24	8.6	10.3	8.8	9.6	11.2	8.3	8.9	8.8
Lead	426	13.4	7.5	13.2	9.9	8	5.1	22.5	71.1
PESTICIDES									
DDD	3	<0.01	<0.0053	<0.0054	<0.0053	<0.0048	<0.0051	<0.0052	<0.072
DDE	2	<0.013	<0.0053	<0.0054	<0.0053	<0.0048	<0.0051	<0.0041	<0.032
DDT	2	<0.0063	<0.0053	<0.0043	<0.0053	<0.0048	<0.0051	<0.0093	0.3
PCBs									
Aroclor 1254	2	<0.053	<0.026	<0.027	<0.026	<0.024	<0.026	<0.026	<0.024
Aroclor 1260	2	<0.053	<0.026	<0.027	<0.026	<0.024	<0.026	<0.026	<0.024

Table 3-1 AOC-32 Confirmatory Sampling Results

	Cleanup Goal	AOC-32-TR-11	AOC-32-TR-12	AOC-32-TR-13	AOC-32-TR-14	AOC-32-TR-15	AOC-32-TR-16	AOC-32-TR-17	AOC-32-TR-18
EPH PARAMETERS	(ppm)								
C9-C18 Aliphatics	2,500	67	<52	<51	<51	<55	<57	<53	<53
C19-C36 Aliphatics	5,000	<51	<52	96	65	55	<57	610	<53
C10-C22 Aromatics	200	<51	<52	<51	<51	<55	<57	<53	<53
Naphthalene	4	<0.25	<0.26	<0.26	<0.25	<0.28	<0.28	<0.26	<0.27
2-Methylnaphthalene	0.70	<0.25	<0.26	<0.26	<0.25	<0.28	<0.28	<0.26	<0.27
Acenaphthylene	100	<0.25	<0.26	<0.26	<0.25	<0.28	<0.28	<0.26	<0.27
Acenaphthene	20	<0.25	<0.26	<0.26	<0.25	<0.28	<0.28	<0.26	<0.27
Flourene	400	<0.25	<0.26	<0.26	<0.25	<0.28	<0.28	<0.26	<0.27
Phenanthrene	700	<0.25	<0.26	<0.26	<0.25	<0.28	<0.28	<0.26	<0.27
Anthracene	2,500	<0.25	<0.26	<0.26	<0.25	<0.28	<0.28	<0.26	<0.27
Fluoranthene	2,000	<0.25	<0.26	0.37	<0.25	0.29	0.29	<0.26	<0.27
Pyrene	1,000	<0.25	<0.26	0.32	<0.25	<0.28	<0.28	<0.26	<0.27
Benzo (a) anthracene	1.00	<0.25	<0.26	<0.26	<0.25	<0.28	<0.28	<0.26	<0.27
Chrysene	10	<0.25	<0.26	<0.26	<0.25	<0.28	<0.28	<0.26	<0.27
Benzo (b) fluoranthene	1.00	<0.25	<0.26	0.3	<0.25	<0.28	<0.28	<0.26	<0.27
Benzo (k) fluoranthene	10	<0.25	<0.26	<0.26	<0.25	<0.28	<0.28	<0.26	<0.27
Benzo (a) pyrene	0.70	<0.25	<0.26	<0.26	<0.25	<0.28	<0.28	<0.26	<0.27
Dibenzo (a,h) anthracene	0.70	<0.25	<0.26	<0.26	<0.25	<0.28	<0.28	<0.26	<0.27
Indeno (1,2,3-cd) pyrene	1	<0.25	<0.26	<0.26	<0.25	<0.28	<0.28	<0.26	<0.27
Benzo (g,h,i) perylene	2,500	<0.25	<0.26	<0.26	<0.25	<0.28	<0.28	<0.26	<0.27
YPH PARAMETERS									
C5-C8 Aliphatics	500	<2.3	<2.2	3.2	<2.3	<3.9	<3.1	<3.2	<3.2
C-9-C12 Aliphatics	2,500	<0.57	<0.55	<0.81	<0.58	<0.96	<0.78	<0.8	<0.8
C9-C10 Aromatics	300	<0.57	<0.55	<0.81	<0.58	<0.96	<0.78	<0.8	<0.8
Methyl-tert-butylether	0.3	<0.046	<0.044	<0.065	<0.046	<0.078	<0.063	<0.064	<0.064
Benzene	10	<0.046	<0.044	<0.065	<0.046	<0.078	<0.063	<0.064	<0.064
Toluene	90	<0.046	<0.044	<0.065	<0.046	<0.078	<0.063	<0.064	<0.064
Ethylbenzene	80	<0.046	<0.044	<0.065	<0.046	<0.078	<0.063	<0.064	<0.064
m,p-Xylenes	1	<0.046	<0.044	<0.065	<0.046	<0.078	<0.063	<0.064	<0.064
o-Xylene	800	<0.046	<0.044	<0.065	<0.046	<0.078	<0.063	<0.064	<0.064
Naphthalene	4	<0.046	<0.044	<0.065	<0.046	<0.078	<0.063	<0.064	<0.064
INORGANICS									
Arsenic	24	10	14.3	15.7	13.3	9.3	12.1	9.4	15.7
Lead	426	150	83.3	101	160	95	7.9	5.5	54.3
PESTICIDES									
DDD	3	0.36	<0.0089	<0.092	0.15	<0.016	<0.0056	<0.005	<0.0053
DDE	2	0.11	<0.0098	<0.076	0.1	<0.045	<0.0056	<0.005	<0.0053
DDT	2	1.7	<0.052	0.45	0.87	0.11	<0.0056	<0.005	<0.0053
PCBS									
Aroclor 1254	2	<0.049	<0.049	<0.25	<0.049	<0.051	<0.028	<0.025	<0.027
Aroclor 1260	2	<0.049	<0.049	<0.25	<0.049	<0.051	<0.028	<0.025	<0.027

Table 3-1 AOC-32 Confirmatory Sampling Results

	Cleanup Goal	A0C-32-TR-19	A0C-32-ASPH-03B	A0C-32-ASPH-04B	A0C-32-ASPH-05B	A0C-32-ASPH-06B	A0C-32-ASPH-07B	A0C-32-ASPH-08B
EPH PARAMETERS	(ppm)							
C9-C18 Aliphatics	2,500	<54	<54	<56	<53	<52	<53	<55
C19-C36 Aliphatics	5,000	<54	<54	100	230	<52	69	<55
C10-C22 Aromatics	200	<54	<54	<56	<53	<52	<53	<55
Naphthalene	4	<0.27	<0.27	<0.28	<0.26	<0.26	<0.26	<0.28
2-Methylnaphthalene	0.70	<0.27	<0.27	<0.28	<0.26	<0.26	<0.26	<0.28
Acenaphthylene	100	<0.27	<0.27	<0.28	<0.26	<0.26	<0.26	<0.28
Acenaphthene	20	<0.27	<0.27	<0.28	<0.26	<0.26	<0.26	<0.28
Flourene	400	<0.27	<0.27	<0.28	<0.26	<0.26	<0.26	<0.28
Phenanthrene	700	<0.27	0.85	<0.28	<0.26	<0.26	<0.26	<0.28
Anthracene	2,500	<0.27	<0.27	<0.28	<0.26	<0.26	<0.26	<0.28
Fluoranthene	2,000	<0.27	1.8	0.35	<0.26	<0.26	<0.26	<0.28
Pyrene	1,000	<0.27	1.3	0.29	<0.26	<0.26	<0.26	<0.28
Benzo (a) anthracene	1.00	<0.27	0.93	<0.28	<0.26	<0.26	<0.26	<0.28
Chrysene	10	<0.27	0.89	<0.28	<0.26	<0.26	<0.26	<0.28
Benzo (b) fluoranthene	1.00	<0.27	1.1	<0.28	<0.26	<0.26	<0.26	<0.28
Benzo (k) fluoranthene	10	<0.27	0.43	<0.28	<0.26	<0.26	<0.26	<0.28
Benzo (a) pyrene	0.70	<0.27	0.81	<0.28	<0.26	<0.26	<0.26	<0.28
Dibenzo (a,h) anthracene	0.70	<0.27	<0.27	<0.28	<0.26	<0.26	<0.26	<0.28
Indeno (1,2,3-cd) pyrene	1	<0.27	0.54	<0.28	<0.26	<0.26	<0.26	<0.28
Benzo (g,h,i) perylene	2,500	<0.27	0.53	<0.28	<0.26	<0.26	<0.26	<0.28
VPH PARAMETERS								
C5-C8 Aliphatics	500	<2.4	<3.8	<4.6	<2.3	<2.5	<4.4	<3.8
C-9-C12 Aliphatics	2,500	<0.61	0.99	<1.2	<0.57	<0.62	1.9	<0.94
C9-C10 Aromatics	300	<0.61	<0.96	<1.2	<0.57	<0.62	2.2	<0.94
Methyl-tert-butylether	0.3	<0.049	<0.077	<0.093	<0.046	<0.05	<0.088	<0.076
Benzene	10	<0.049	<0.077	<0.093	<0.046	<0.05	<0.088	<0.076
Toluene	90	<0.049	<0.077	<0.093	<0.046	<0.05	0.26	<0.076
Ethylbenzene	80	<0.049	<0.077	<0.093	<0.046	<0.05	<0.088	<0.076
m,p-Xylenes	1	<0.049	<0.077	<0.093	<0.046	<0.05	0.28	<0.076
o-Xylene	800	<0.049	<0.077	<0.093	<0.046	<0.05	0.17	<0.076
Naphthalene	4	<0.049	<0.077	<0.093	<0.046	<0.05	0.16	<0.076
INORGANICS								
Arsenic	24	12.7	10.6	9	20.8	23.5	13.8	9.8
Lead	426	30.9	52	99.7	108	76.3	5.8	5.5
PESTICIDES								
DDD	3	<0.05	0.37	<0.053	<0.52	<0.051	<0.0052	<0.054
DDE	2	<0.05	0.76	<0.053	<0.52	<0.051	<0.0052	0.59
DDT	2	<0.05	0.34	<0.024	<0.52	<0.071	<0.0052	1.7
PCBs								
Aroclor 1254	2	<0.25	<0.26	<0.26	<<0.27	<0.25	<0.28	<0.27
Aroclor 1260	2	<0.25	<0.26	<0.26	<<0.27	<0.25	<0.28	<0.27

APPENDIX A
LABORATORY ANALYTICAL REPORTS

Laboratory Report Extractable Petroleum Hydrocarbons (EPH)

EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID	AOC-32-02-B		AOC-32-03-B			
Method for Ranges: MADEP EPH 98-1							
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	21027-07		21027-08			
EPH Surrogate Standards - Extraction	Date Collected	11/19/98		11/19/98			
Aliphatic: 1-Chlorooctadecane	Date Received	11/20/98		11/20/98			
Aromatic: o-Terphenyl	Date Extracted	11/25/98		11/25/98			
EPH Surrogate Standards - Analysis	Date Analyzed	11/30/98		11/30/98			
2-Fluorobiphenyl	Dilution Factor	1		1			
2-Bromonaphthalene	% Solids	93.9		88.9			
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₉ -C ₁₈ Aliphatic Hydrocarbons ¹	mg/Kg	ND	53	ND	56		
C ₁₉ -C ₃₆ Aliphatic Hydrocarbons ¹	mg/Kg	ND	53	ND	56		
C ₁₁ -C ₂₂ Aromatic Hydrocarbons ^{1,2}	mg/Kg	ND	53	ND	56		
Naphthalene	mg/Kg	ND	0.27	ND	0.28		
2-Methylnaphthalene	mg/Kg	ND	0.27	ND	0.28		
Acenaphthylene	mg/Kg	ND	0.27	ND	0.28		
Acenaphthene	mg/Kg	ND	0.27	ND	0.28		
Fluorene	mg/Kg	ND	0.27	ND	0.28		
Phenanthrene	mg/Kg	ND	0.27	ND	0.28		
Anthracene	mg/Kg	ND	0.27	ND	0.28		
Fluoranthene	mg/Kg	0.80	0.27	ND	0.28		
Pyrene	mg/Kg	0.69	0.27	ND	0.28		
Benzo(a)Anthracene	mg/Kg	0.39	0.27	ND	0.28		
Chrysene	mg/Kg	0.48	0.27	ND	0.28		
Benzo(b)fluoranthene	mg/Kg	0.64	0.27	ND	0.28		
Benzo(k)fluoranthene	mg/Kg	ND	0.27	ND	0.28		
Benzo(a)pyrene	mg/Kg	0.42	0.27	ND	0.28		
Dibenzo(a,h)anthracene	mg/Kg	ND	0.27	ND	0.28		
Indeno(1,2,3-cd)pyrene	mg/Kg	0.37	0.27	ND	0.28		
Benzo(g,h,i)perylene	mg/Kg	0.35	0.27	ND	0.28		
2-Fluorobiphenyl % Recovery	%	102	N/A	94.1	N/A		
2-Bromonaphthalene % Recovery	%	102	N/A	96.5	N/A		
o-Terphenyl % Recovery	%	101	N/A	91.9	N/A		
1-Chlorooctadecane % Recovery	%	92.7	N/A	86.7	N/A		
Surrogate Acceptance Range	%	40-140%	40-140%	40-140%	40-140%	40-140%	40-140%

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₁₁-C₂₂ Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

N/A = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS:

CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed?	☒ Yes ☐ No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	☒ Yes ☐ No - See Comments
Were any significant modifications made to the EPH method, as specified in Sect 11.3?	☐ No ☒ Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE:

Richard Ravenelle

POSITION:

Organic Division Manager

PRINTED NAME:

Richard Ravenelle

DATE:

12/2/98

Laboratory Report Extractable Petroleum Hydrocarbons (EPH)

EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID	AOC-32-ASPH-08B		AOC-32-ASPH-07B		AOC-32-ASPH-03	
Method for Ranges: MADEP EPH 98-1							
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	21302-01		21302-02		21302-03	
EPH Surrogate Standards - Extraction Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl	Date Collected	12/8/98		12/8/98		12/8/98	
	Date Received	12/11/98		12/11/98		12/11/98	
	Date Extracted	12/14/98		12/14/98		12/14/98	
EPH Surrogate Standards - Analysis 2-Fluorobiphenyl 2-Bromonaphthalene	Date Analyzed	12/17/98		12/17/98		12/17/98	
	Dilution Factor	1		1		1	
	% Solids	90.1		93.9		91.5	
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₉ -C ₁₈ Aliphatic Hydrocarbons ¹	mg/Kg	ND	55	ND	53	ND	54
C ₁₉ -C ₃₅ Aliphatic Hydrocarbons ¹	mg/Kg	ND	55	69	53	ND	54
C ₁₁ -C ₂₂ Aromatic Hydrocarbons ^{1,2}	mg/Kg	ND	55	ND	53	ND	54
Naphthalene	mg/Kg	ND	0.28	ND	0.26	ND	0.27
2-Methylnaphthalene	mg/Kg	ND	0.28	ND	0.26	ND	0.27
Acenaphthylene	mg/Kg	ND	0.28	ND	0.26	ND	0.27
Acenaphthene	mg/Kg	ND	0.28	ND	0.26	ND	0.27
Fluorene	mg/Kg	ND	0.28	ND	0.26	ND	0.27
Phenanthrene	mg/Kg	ND	0.28	ND	0.26	0.85	0.27
Anthracene	mg/Kg	ND	0.28	ND	0.26	ND	0.27
Fluoranthene	mg/Kg	ND	0.28	ND	0.26	1.8	0.27
Pyrene	mg/Kg	ND	0.28	ND	0.26	1.3	0.27
Benzo(a)Anthracene	mg/Kg	ND	0.28	ND	0.26	0.93	0.27
Chrysene	mg/Kg	ND	0.28	ND	0.26	0.89	0.27
Benzo(b)fluoranthene	mg/Kg	ND	0.28	ND	0.26	1.1	0.27
Benzo(k)fluoranthene	mg/Kg	ND	0.28	ND	0.26	0.43	0.27
Benzo(a)pyrene	mg/Kg	ND	0.28	ND	0.26	0.81	0.27
Dibenzo(a,h)anthracene	mg/Kg	ND	0.28	ND	0.26	ND	0.27
Indeno(1,2,3-cd)pyrene	mg/Kg	ND	0.28	ND	0.26	0.54	0.27
Benzo(g,h,i)perylene	mg/Kg	ND	0.28	ND	0.26	0.53	0.27
2-Fluorobiphenyl % Recovery	%	87.8	N/A	88.0	N/A	87.0	N/A
2-Bromonaphthalene % Recovery	%	90.9	N/A	90.2	N/A	95.4	N/A
o-Terphenyl % Recovery	%	70.5	N/A	83.5	N/A	87.0	N/A
1-Chlorooctadecane % Recovery	%	62.8	N/A	82.7	N/A	82.6	N/A
Surrogate Acceptance Range	%	40-140%	40-140%	40-140%	40-140%	40-140%	40-140%

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₁₁-C₂₂ Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

N/A = Not Applicable

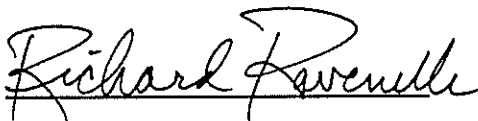
ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS:

CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed?	☒ Yes	☐ No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	☒ Yes	☐ No - See Comments
Were any significant modifications made to the EPH method, as specified in Sect 11.3?	☐ No	☒ Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: 

POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle

DATE: 12/22/98

Recra LabNet - Chicago

PESTICIDES/PCB BY GC, SPECIAL LIST

Report Date: 12/23/98 09:17

RFW Batch Number: 9812G477

Client: RFW Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 1

Cust ID: AOC-32-ASPH- PBLKXA PBLKXA BS PBLKXA BSD
07B

Sample Information	RFW#:	006	98GP1162-MB1	98GP1162-MB1	98GP1162-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL
	D.F.:	0.50	0.50	0.50	0.50
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg

Surrogate: Tetrachloro-m-xylene	88	%	92	%	62	%	82	%
Decachlorobiphenyl	98	%	108	%	110	%	108	%
alpha-BHC	2.6	U	2.5	U	95	%	102	%
beta-BHC	2.6	U	2.5	U	95	%	95	%
delta-BHC	2.6	U	2.5	U	112	%	112	%
gamma-BHC (Lindane)	2.6	U	2.5	U	98	%	100	%
Heptachlor	2.6	U	2.5	U	95	%	98	%
Aldrin	2.6	U	2.5	U	95	%	98	%
Heptachlor epoxide	2.6	U	2.5	U	100	%	102	%
Endosulfan I	2.6	U	2.5	U	98	%	100	%
Dieldrin	5.2	U	5.0	U	102	%	102	%
4,4'-DDE	5.2	U	5.0	U	100	%	100	%
Endrin	5.2	U	5.0	U	105	%	108	%
Endosulfan II	5.2	U	5.0	U	102	%	105	%
4,4'-DDD	5.2	U	5.0	U	108	%	108	%
Endosulfan sulfate	5.2	U	5.0	U	105	%	108	%
4,4'-DDT	10	U	5.0	U	105	%	105	%
Methoxychlor	26	U	25	U	102	%	102	%
Endrin ketone	5.2	U	5.0	U	102	%	102	%
Endrin aldehyde	5.2	U	5.0	U	132	%	138	%
alpha-Chlordane	2.6	U	2.5	U	110	%	115	%
gamma-Chlordane	2.6	U	2.5	U	100	%	100	%
Toxaphene	52	U	50	U	50	U	50	U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
% = Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Laboratory Report Extractable Petroleum Hydrocarbons (EPH)

EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID	AOC-32-TR-01		AOC-32-TR-02		AOC-32-TR-03	
Method for Ranges: MADEP EPH 98-1							
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	20864-01		20864-02		20864-03	
EPH Surrogate Standards - Extraction Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl	Date Collected	11/7/98		11/7/98		11/7/98	
	Date Received	11/10/98		11/10/98		11/10/98	
	Date Extracted	11/13/98		11/13/98		11/13/98	
EPH Surrogate Standards - Analysis 2-Fluorobiphenyl 2-Bromonaphthalene	Date Analyzed	11/17/98		11/17/98		11/17/98	
	Dilution Factor	1		1		1	
	% Solids	93.8		89.7		90.1	
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₉ -C ₁₈ Aliphatic Hydrocarbons ¹	mg/Kg	ND	53	ND	55	ND	55
C ₁₉ -C ₃₆ Aliphatic Hydrocarbons ¹	mg/Kg	ND	53	ND	55	ND	55
C ₁₁ -C ₂₂ Aromatic Hydrocarbons ^{1,2}	mg/Kg	ND	53	ND	55	ND	55
Naphthalene	mg/Kg	ND	0.26	ND	0.28	ND	0.28
2-Methylnaphthalene	mg/Kg	ND	0.26	ND	0.28	ND	0.28
Acenaphthylene	mg/Kg	ND	0.26	ND	0.28	ND	0.28
Acenaphthene	mg/Kg	ND	0.26	ND	0.28	ND	0.28
Fluorene	mg/Kg	ND	0.26	ND	0.28	ND	0.28
Phenanthrene	mg/Kg	ND	0.26	ND	0.28	ND	0.28
Anthracene	mg/Kg	ND	0.26	ND	0.28	ND	0.28
Fluoranthene	mg/Kg	ND	0.26	ND	0.28	ND	0.28
Pyrene	mg/Kg	ND	0.26	ND	0.28	ND	0.28
Benzo(a)Anthracene	mg/Kg	ND	0.26	ND	0.28	ND	0.28
Chrysene	mg/Kg	ND	0.26	ND	0.28	ND	0.28
Benzo(b)fluoranthene	mg/Kg	ND	0.26	ND	0.28	ND	0.28
Benzo(k)fluoranthene	mg/Kg	ND	0.26	ND	0.28	ND	0.28
Benzo(a)pyrene	mg/Kg	ND	0.26	ND	0.28	ND	0.28
Dibenzo(a,h)anthracene	mg/Kg	ND	0.26	ND	0.28	ND	0.28
Indeno(1,2,3-cd)pyrene	mg/Kg	ND	0.26	ND	0.28	ND	0.28
Benzo(g,h,i)perylene	mg/Kg	ND	0.26	ND	0.28	ND	0.28
2-Fluorobiphenyl % Recovery	%	103	N/A	88.6	N/A	102	N/A
2-Bromonaphthalene % Recovery	%	96.8	N/A	84.2	N/A	95.7	N/A
o-Terphenyl % Recovery	%	75.3	N/A	75.9	N/A	77.3	N/A
1-Chlorooctadecane % Recovery	%	82.2	N/A	80.8	N/A	84.8	N/A
Surrogate Acceptance Range	%	40-140%	40-140%	40-140%	40-140%	40-140%	40-140%

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₁₁-C₂₂ Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

N/A = Not Applicable

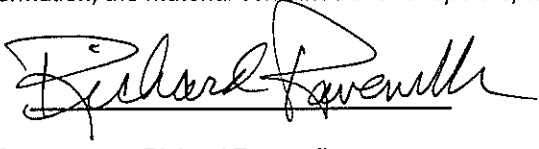
ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS:

CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed?	☒ Yes	☐ No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	☒ Yes	☐ No - See Comments
Were any significant modifications made to the EPH method, as specified in Sect 11.3?	☐ No	☒ Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE:  POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle DATE: 11/18/98

Laboratory Report Volatile Petroleum Hydrocarbons (VPH)

Method for Ranges: MADEP VPH 98-1	Client ID	AOC-32-TR-04		AOC-32-TR-05		AOC-32-TR-06	
Method for Target Analytes: EPA 8260	AMRO Lab ID	20864-04		20864-05		20864-06	
VPH Surrogate Standards 1,2-Dichloroethane-d4 Toluene-d8 Bromofluorobenzene 2,5-Dibromotoluene	Date Collected	11/07/98		11/07/98		11/07/98	
	Date Received	11/10/98		11/10/98		11/10/98	
	Date Analyzed	11/14/98		11/14/98		11/14/98	
	mL Methanol/g soil 1:1 +/- 25%	[X] Yes [] No		[X] Yes [] No		[X] Yes [] No	
	Dilution Factor	1		1		1	
	% Solids	94.4		91.3		92.4	
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₅ -C ₈ Aliphatic Hydrocarbons ^{1,2}	mg/Kg	ND	2.3	ND	3.3	ND	2.7
C ₉ -C ₁₂ Aliphatic Hydrocarbons ^{1,3}	mg/Kg	ND	0.57	ND	0.81	ND	0.66
C ₉ -C ₁₀ Aromatic Hydrocarbons ¹	mg/Kg	ND	0.57	ND	0.81	ND	0.66
Methyl-tert-butylether	mg/Kg	ND	0.046	ND	0.066	ND	0.053
Benzene	mg/Kg	ND	0.046	ND	0.066	ND	0.053
Toluene	mg/Kg	ND	0.046	ND	0.066	ND	0.053
Ethylbenzene	mg/Kg	ND	0.046	ND	0.066	ND	0.053
m- & p-Xylenes	mg/Kg	ND	0.046	ND	0.066	ND	0.053
o-Xylene	mg/Kg	ND	0.046	ND	0.066	ND	0.053
Phthalene	mg/Kg	ND	0.046	ND	0.066	ND	0.053
1,2-Dichloroethane-d4 Limits (70-130%)	%	100	NA	98.5	NA	91.0	NA
Toluene-d8 Limits (70-130%)	%	101	NA	97.5	NA	92.3	NA
Bromofluorobenzene Limits (70-130%)	%	92.3	NA	88.0	NA	82.1	NA
2,5-Dibromotoluene Limits (70-130%)	%	81.8	NA	74.3	NA	67.3*	NA

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range

³ C₉-C₁₂ Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND conc of C₉-C₁₀ Aromatic Hydrocarbons

NA = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

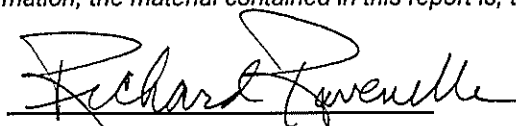
COMMENTS: * = 2,5-Dibromotoluene recovered below acceptance limits, no impact to data.

CERTIFICATION

Were all QA/QC procedures REQUIRED by the VPH Method followed?	[X] Yes [] No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	[] Yes [X] No - See Comments
Were any significant modifications made to the VPH method, as specified in Sect 11.3?	[] No [X] Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE:



POSITION:

Organic Division Manager

PRINTED NAME:

Richard Ravenelle

DATE:

11/18/98

Laboratory Report Volatile Petroleum Hydrocarbons (VPH)

Method for Ranges: MADEP VPH 98-1	Client ID	AOC-32-TR-13	AOC-32-TR-14	AOC-32-TR-15			
Method for Target Analytes: EPA 8260	AMRO Lab ID	20864-13	20864-14	20864-15			
VPH Surrogate Standards	Date Collected	11/09/98	11/09/98	11/09/98			
1,2-Dichloroethane-d4	Date Received	11/10/98	11/10/98	11/10/98			
Toluene-d8	Date Analyzed	11/17/98	11/17/98	11/17/98			
Bromofluorobenzene	mL Methanol/g soil						
2,5-Dibromotoluene	1:1 +/- 25%	☒ Yes ☐ No	☒ Yes ☐ No	☐ Yes ☒ No			
	Dilution Factor	1	1	1			
	% Solids	96.7	96.6	90.2			
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₅ -C ₈ Aliphatic Hydrocarbons ^{1,2}	mg/Kg	ND	3.2	ND	2.3	ND	3.9
C ₉ -C ₁₂ Aliphatic Hydrocarbons ^{1,3}	mg/Kg	ND	0.81	ND	0.58	ND	0.96
C ₉ -C ₁₀ Aromatic Hydrocarbons ¹	mg/Kg	ND	0.81	ND	0.58	ND	0.96
Methyl-tert-butylether	mg/Kg	ND	0.065	ND	0.046	ND	0.078
Benzene	mg/Kg	ND	0.065	ND	0.046	ND	0.078
Toluene	mg/Kg	ND	0.065	ND	0.046	ND	0.078
Ethylbenzene	mg/Kg	ND	0.065	ND	0.046	ND	0.078
m- & p-Xylenes	mg/Kg	ND	0.065	ND	0.046	ND	0.078
o-Xylene	mg/Kg	ND	0.065	ND	0.046	ND	0.078
Naphthalene	mg/Kg	ND	0.065	ND	0.046	ND	0.0
1,2-Dichloroethane-d4 Limits (70-130%)	%	95.9	NA	92.8	NA	103	NA
Toluene-d8 Limits (70-130%)	%	90.9	NA	92.5	NA	99.7	NA
Bromofluorobenzene Limits (70-130%)	%	83.0	NA	82.2	NA	90.3	NA
2,5-Dibromotoluene Limits (70-130%)	%	84.5	NA	83.3	NA	83.9	NA

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range
² C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range
³ C₉-C₁₂ Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND conc of C₉-C₁₀ Aromatic Hydrocarbons
 NA = Not Applicable
 ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS:

CERTIFICATION

Were all QA/QC procedures REQUIRED by the VPH Method followed?	☒ Yes ☐ No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	☒ Yes ☐ No - See Comments
Were any significant modifications made to the VPH method, as specified in Sect 11.3?	☐ No ☒ Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: Richard Ravenelle POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle DATE: 11/18/98

Laboratory Report Extractable Petroleum Hydrocarbons (EPH)

EPH ANALYTICAL RESULTS

Action Method: EPA 3541	Client ID	AOC-32-TR-04		AOC-32-TR-05		AOC-32-TR-06	
Method for Ranges: MADEP EPH 98-1							
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	20864-04		20864-05		20864-06	
EPH Surrogate Standards - Extraction Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl	Date Collected	11/7/98		11/7/98		11/7/98	
	Date Received	11/10/98		11/10/98		11/10/98	
	Date Extracted	11/13/98		11/13/98		11/13/98	
EPH Surrogate Standards - Analysis 2-Fluorobiphenyl 2-Bromonaphthalene	Date Analyzed	11/17/98		11/17/98		11/17/98	
	Dilution Factor	1		1		1	
	% Solids	97.5		91.3		92.4	
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₉ -C ₁₈ Aliphatic Hydrocarbons ¹	mg/Kg	ND	51	ND	54	ND	54
C ₁₉ -C ₃₆ Aliphatic Hydrocarbons ¹	mg/Kg	ND	51	ND	54	ND	54
C ₁₁ -C ₂₂ Aromatic Hydrocarbons ^{1,2}	mg/Kg	ND	51	ND	54	ND	54
Naphthalene	mg/Kg	ND	0.26	ND	0.27	ND	0.27
2-Methylnaphthalene	mg/Kg	ND	0.26	ND	0.27	ND	0.27
Acenaphthylene	mg/Kg	ND	0.26	ND	0.27	ND	0.27
Acenaphthene	mg/Kg	ND	0.26	ND	0.27	ND	0.27
Fluorene	mg/Kg	ND	0.26	ND	0.27	ND	0.27
Phenanthrene	mg/Kg	ND	0.26	ND	0.27	ND	0.27
Anthracene	mg/Kg	ND	0.26	ND	0.27	ND	0.27
Fluoranthene	mg/Kg	ND	0.26	ND	0.27	ND	0.27
Pyrene	mg/Kg	ND	0.26	ND	0.27	ND	0.27
Benzo(a)Anthracene	mg/Kg	ND	0.26	ND	0.27	ND	0.27
Chrysene	mg/Kg	ND	0.26	ND	0.27	ND	0.27
Benzo(b)fluoranthene	mg/Kg	ND	0.26	ND	0.27	ND	0.27
Benzo(k)fluoranthene	mg/Kg	ND	0.26	ND	0.27	ND	0.27
Benzo(a)pyrene	mg/Kg	ND	0.26	ND	0.27	ND	0.27
Dibenzo(a,h)anthracene	mg/Kg	ND	0.26	ND	0.27	ND	0.27
Indeno(1,2,3-cd)pyrene	mg/Kg	ND	0.26	ND	0.27	ND	0.27
Benzo(g,h,i)perylene	mg/Kg	ND	0.26	ND	0.27	ND	0.27
2-Fluorobiphenyl % Recovery	%	108	N/A	97.1	N/A	110	N/A
2-Bromonaphthalene % Recovery	%	104	N/A	92.1	N/A	109	N/A
o-Terphenyl % Recovery	%	83.6	N/A	74.0	N/A	78.6	N/A
1-Chlorooctadecane % Recovery	%	95.3	N/A	76.7	N/A	89.7	N/A
Surrogate Acceptance Range	%	40-140%	40-140%	40-140%	40-140%	40-140%	40-140%

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₁₁-C₂₂ Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

N/A = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS:

CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed? ☒ Yes ☐ No - See Comments
 Were all performance/acceptance standards for required QA/QC procedures achieved? ☒ Yes ☐ No - See Comments
 Were any significant modifications made to the EPH method, as specified in Sect 11.3? ☐ No ☒ Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: 

POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle

DATE: 11/12/98

Laboratory Report Extractable Petroleum Hydrocarbons (EPH)

EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID	AOC-32-TR-07		AOC-32-TR-08		AOC-32-TR-09	
Method for Ranges: MADEP EPH 98-1							
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	20864-07		20864-08		20864-09	
EPH Surrogate Standards - Extraction Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl	Date Collected	11/9/98		11/9/98		11/9/98	
	Date Received	11/10/98		11/10/98		11/10/98	
	Date Extracted	11/13/98		11/13/98		11/13/98	
EPH Surrogate Standards - Analysis 2-Fluorobiphenyl 2-Bromonaphthalene	Date Analyzed	11/17/98		11/17/98		11/17/98	
	Dilution Factor	1		1		1	
	% Solids	96.5		94.0		90.9	
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₉ -C ₁₈ Aliphatic Hydrocarbons ¹	mg/Kg	ND	51	ND	52	ND	54
C ₁₉ -C ₃₆ Aliphatic Hydrocarbons ¹	mg/Kg	ND	51	ND	52	ND	54
C ₁₁ -C ₂₂ Aromatic Hydrocarbons ^{1,2}	mg/Kg	ND	51	ND	52	ND	54
Naphthalene	mg/Kg	ND	0.26	ND	0.26	ND	0.27
2-Methylnaphthalene	mg/Kg	ND	0.26	ND	0.26	ND	0.27
Acenaphthylene	mg/Kg	ND	0.26	ND	0.26	ND	0.27
Acenaphthene	mg/Kg	ND	0.26	ND	0.26	ND	0.27
Fluorene	mg/Kg	ND	0.26	ND	0.26	ND	0.27
Phenanthrene	mg/Kg	ND	0.26	ND	0.26	ND	0.27
Anthracene	mg/Kg	ND	0.26	ND	0.26	ND	0.27
Fluoranthene	mg/Kg	ND	0.26	ND	0.26	ND	0.27
Pyrene	mg/Kg	ND	0.26	ND	0.26	ND	0.27
Benzo(a)Anthracene	mg/Kg	ND	0.26	ND	0.26	ND	0.27
Chrysene	mg/Kg	ND	0.26	ND	0.26	ND	0.27
Benzo(b)fluoranthene	mg/Kg	ND	0.26	ND	0.26	ND	0.27
Benzo(k)fluoranthene	mg/Kg	ND	0.26	ND	0.26	ND	0.27
Benzo(a)pyrene	mg/Kg	ND	0.26	ND	0.26	ND	0.27
Dibenzo(a,h)anthracene	mg/Kg	ND	0.26	ND	0.26	ND	0.27
Indeno(1,2,3-cd)pyrene	mg/Kg	ND	0.26	ND	0.26	ND	0.27
Benzo(g,h,i)perylene	mg/Kg	ND	0.26	ND	0.26	ND	0.27
2-Fluorobiphenyl % Recovery	%	108	N/A	92.2	N/A	104	N/A
2-Bromonaphthalene % Recovery	%	104	N/A	92.4	N/A	97.8	N/A
o-Terphenyl % Recovery	%	92.9	N/A	73.8	N/A	82.1	N/A
1-Chlorooctadecane % Recovery	%	91.5	N/A	82.9	N/A	96.3	N/A
Surrogate Acceptance Range	%	40-140%	40-140%	40-140%	40-140%	40-140%	40-140%

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₁₁-C₂₂ Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

N/A = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS:

CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed?	☒ Yes ☐ No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	☒ Yes ☐ No - See Comments
Were any significant modifications made to the EPH method, as specified in Sect 11.3?	☐ No ☒ Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: Richard Ravenelle POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle DATE: 11/18/98

Laboratory Report

Extractable Petroleum Hydrocarbons (EPH)

EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID	AOC-32-TR-10		AOC-32-TR-11		AOC-32-TR-12	
Method for Ranges: MADEP EPH 98-1							
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	20864-10		20864-11		20864-12	
EPH Surrogate Standards - Extraction	Date Collected	11/9/98		11/9/98		11/9/98	
Aliphatic: 1-Chlorooctadecane	Date Received	11/10/98		11/10/98		11/10/98	
Aromatic: o-Terphenyl	Date Extracted	11/13/98		11/13/98		11/13/98	
EPH Surrogate Standards - Analysis	Date Analyzed	11/17/98		11/17/98		11/17/98	
2-Fluorobiphenyl	Dilution Factor	1		1		1	
2-Bromonaphthalene	% Solids	95.0		97.4		96.1	
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₉ -C ₁₈ Aliphatic Hydrocarbons ¹	mg/Kg	ND	52	67	51	ND	52
C ₁₉ -C ₃₆ Aliphatic Hydrocarbons ¹	mg/Kg	ND	52	ND	51	ND	52
C ₁₁ -C ₂₂ Aromatic Hydrocarbons ^{1,2}	mg/Kg	ND	52	ND	51	ND	52
Naphthalene	mg/Kg	ND	0.26	ND	0.25	ND	0.26
2-Methylnaphthalene	mg/Kg	ND	0.26	ND	0.25	ND	0.26
Acenaphthylene	mg/Kg	ND	0.26	ND	0.25	ND	0.26
Acenaphthene	mg/Kg	ND	0.26	ND	0.25	ND	0.26
Fluorene	mg/Kg	ND	0.26	ND	0.25	ND	0.26
Phenanthrene	mg/Kg	ND	0.26	ND	0.25	ND	0.26
Anthracene	mg/Kg	ND	0.26	ND	0.25	ND	0.26
Fluoranthene	mg/Kg	ND	0.26	ND	0.25	ND	0.26
Pyrene	mg/Kg	ND	0.26	ND	0.25	ND	0.26
Benzo(a)Anthracene	mg/Kg	ND	0.26	ND	0.25	ND	0.26
Chrysene	mg/Kg	ND	0.26	ND	0.25	ND	0.26
Benzo(b)fluoranthene	mg/Kg	ND	0.26	ND	0.25	ND	0.26
Benzo(k)fluoranthene	mg/Kg	ND	0.26	ND	0.25	ND	0.26
Benzo(a)pyrene	mg/Kg	ND	0.26	ND	0.25	ND	0.26
Dibenzo(a,h)anthracene	mg/Kg	ND	0.26	ND	0.25	ND	0.26
Indeno(1,2,3-cd)pyrene	mg/Kg	ND	0.26	ND	0.25	ND	0.26
Benzo(g,h,i)perylene	mg/Kg	ND	0.26	ND	0.25	ND	0.26
2-Fluorobiphenyl % Recovery	%	103	N/A	99.3	N/A	104	N/A
2-Bromonaphthalene % Recovery	%	102	N/A	95.2	N/A	99.1	N/A
o-Terphenyl % Recovery	%	89.1	N/A	90.0	N/A	90.5	N/A
1-Chlorooctadecane % Recovery	%	101	N/A	102	N/A	106	N/A
Surrogate Acceptance Range	%	40-140%	40-140%	40-140%	40-140%	40-140%	40-140%

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range² C₁₁-C₂₂ Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

N/A = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS:**CERTIFICATION**

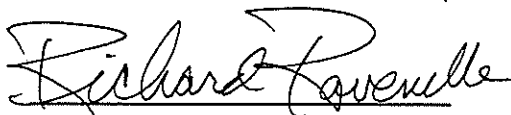
Were all QA/QC procedures REQUIRED by the EPH Method followed? ☒ Yes ☐ No - See Comments

Were all performance/acceptance standards for required QA/QC procedures achieved? ☒ Yes ☐ No - See Comments

Were any significant modifications made to the EPH method, as specified in Sect 11.3? ☐ No ☒ Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE:



POSITION:

Organic Division Manager

PRINTED NAME:

Richard Ravenelle

DATE:

11/18/98

Laboratory Report Extractable Petroleum Hydrocarbons (EPH)

EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID	AOC-32-TR-13		AOC-32-TR-14		AOC-32-TR-15	
Method for Ranges: MADEP EPH 98-1							
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	20864-13		20864-14		20864-15	
EPH Surrogate Standards - Extraction	Date Collected	11/9/98		11/9/98		11/9/98	
Aliphatic: 1-Chlorooctadecane	Date Received	11/10/98		11/10/98		11/10/98	
Aromatic: o-Terphenyl	Date Extracted	11/13/98		11/13/98		11/13/98	
EPH Surrogate Standards - Analysis	Date Analyzed	11/17/98		11/17/98		11/17/98	
2-Fluorobiphenyl	Dilution Factor	1		1		1	
2-Bromonaphthalene	% Solids	96.7		96.6		90.2	
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₉ -C ₁₈ Aliphatic Hydrocarbons ¹	mg/Kg	ND	51	ND	51	ND	55
C ₁₉ -C ₃₆ Aliphatic Hydrocarbons ¹	mg/Kg	96	51	65	51	ND	55
C ₁₁ -C ₂₂ Aromatic Hydrocarbons ^{1,2}	mg/Kg	ND	51	ND	51	ND	55
Naphthalene	mg/Kg	ND	0.26	ND	0.25	ND	0.28
2-Methylnaphthalene	mg/Kg	ND	0.26	ND	0.25	ND	0.28
Acenaphthylene	mg/Kg	ND	0.26	ND	0.25	ND	0.28
Acenaphthene	mg/Kg	ND	0.26	ND	0.25	ND	0.28
Fluorene	mg/Kg	ND	0.26	ND	0.25	ND	0.28
Phenanthrene	mg/Kg	ND	0.26	ND	0.25	ND	0.28
Anthracene	mg/Kg	ND	0.26	ND	0.25	ND	0.28
Fluoranthene	mg/Kg	0.37	0.26	ND	0.25	0.29	0.28
Pyrene	mg/Kg	0.32	0.26	ND	0.25	ND	0.28
Benzo(a)Anthracene	mg/Kg	ND	0.26	ND	0.25	ND	0.28
Chrysene	mg/Kg	ND	0.26	ND	0.25	ND	0.28
Benzo(b)fluoranthene	mg/Kg	0.30	0.26	ND	0.25	ND	0.28
Benzo(k)fluoranthene	mg/Kg	ND	0.26	ND	0.25	ND	0.28
Benzo(a)pyrene	mg/Kg	ND	0.26	ND	0.25	ND	0.28
Dibenzo(a,h)anthracene	mg/Kg	ND	0.26	ND	0.25	ND	0.28
Indeno(1,2,3-cd)pyrene	mg/Kg	ND	0.26	ND	0.25	ND	0.28
Benzo(g,h,i)perylene	mg/Kg	ND	0.26	ND	0.25	ND	0.28
2-Fluorobiphenyl % Recovery	%	111	N/A	102	N/A	104	N/A
2-Bromonaphthalene % Recovery	%	106	N/A	101	N/A	105	N/A
o-Terphenyl % Recovery	%	82.8	N/A	93.2	N/A	73.4	N/A
1-Chlorooctadecane % Recovery	%	107	N/A	112	N/A	84.0	N/A
Surrogate Acceptance Range	%	40-140%	40-140%	40-140%	40-140%	40-140%	40-140%

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₁₁-C₂₂ Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

N/A = Not Applicable

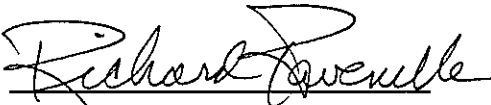
ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS:

CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed?	☒ Yes	☐ No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	☒ Yes	☐ No - See Comments
Were any significant modifications made to the EPH method, as specified in Sect 11.3?	☐ No	☒ Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: 

POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle

DATE: 11/18/98

Laboratory Report Volatile Petroleum Hydrocarbons (VPH)

Method for Ranges: MADEP VPH 98-1	Client ID	AOC-32-TR-01		AOC-32-TR-02		AOC-32-TR-03	
Method for Target Analytes: EPA 8260	AMRO Lab ID	20864-01		20864-02		20864-03	
VPH Surrogate Standards 1,2-Dichloroethane-d4 Toluene-d8 Bromofluorobenzene 2,5-Dibromotoluene	Date Collected	11/07/98		11/07/98		11/07/98	
	Date Received	11/10/98		11/10/98		11/10/98	
	Date Analyzed	11/14/98		11/14/98		11/14/98	
	mL Methanol/g soil 1:1 +/- 25%	[X] Yes [] No		[] Yes [X] No		[] Yes [X] No	
	Dilution Factor	1		1		1	
	% Solids	93.8		95.8		90.1	
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₅ -C ₈ Aliphatic Hydrocarbons ^{1,2}	mg/Kg	ND	2.4	ND	4.0	ND	4.1
C ₉ -C ₁₂ Aliphatic Hydrocarbons ^{1,3}	mg/Kg	ND	0.59	ND	0.99	ND	1.0
C ₉ -C ₁₀ Aromatic Hydrocarbons ¹	mg/Kg	ND	0.59	ND	0.99	ND	1.0
Methyl-tert-butylether	mg/Kg	ND	0.047	ND	0.080	ND	0.082
Benzene	mg/Kg	ND	0.047	ND	0.080	ND	0.082
Toluene	mg/Kg	ND	0.047	ND	0.080	ND	0.082
Ethylbenzene	mg/Kg	ND	0.047	ND	0.080	ND	0.082
m- & p-Xylenes	mg/Kg	ND	0.047	ND	0.080	ND	0.082
o-Xylene	mg/Kg	ND	0.047	ND	0.080	ND	0.082
Phthalene	mg/Kg	ND	0.047	ND	0.080	ND	0.082
1,2-Dichloroethane-d4 Limits (70-130%)	%	104	NA	101	NA	102	NA
Toluene-d8 Limits (70-130%)	%	99.0	NA	97.1	NA	99.1	NA
Bromofluorobenzene Limits (70-130%)	%	88.7	NA	86.9	NA	89.7	NA
2,5-Dibromotoluene Limits (70-130%)	%	41.9*	NA	73.8	NA	74.3	NA

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range

³ C₉-C₁₂ Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND conc of C₉-C₁₀ Aromatic Hydrocarbons

NA = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS: * = 2,5-Dibromotoluene recovered below acceptance limits, no impact to data.

CERTIFICATION

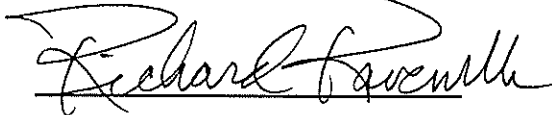
Were all QA/QC procedures REQUIRED by the VPH Method followed? [X] Yes [] No - See Comments

Were all performance/acceptance standards for required QA/QC procedures achieved? [] Yes [X] No - See Comments

Were any significant modifications made to the VPH method, as specified in Sect 11.3? [] No [X] Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE:



POSITION:

Organic Division Manager

PRINTED NAME:

Richard Ravenelle

DATE:

11/18/98

Laboratory Report Volatile Petroleum Hydrocarbons (VPH)

Method for Ranges: MADEP VPH 98-1	Client ID	AOC-32-TR-07		AOC-32-TR-08		AOC-32-TR-09	
Method for Target Analytes: EPA 8260	AMRO Lab ID	20864-07		20864-08		20864-09	
VPH Surrogate Standards	Date Collected	11/09/98		11/09/98		11/09/98	
1,2-Dichloroethane-d4	Date Received	11/10/98		11/10/98		11/10/98	
Toluene-d8	Date Analyzed	11/17/98		11/17/98		11/17/98	
Bromofluorobenzene	mL Methanol/g soil	1:1 +/- 25%					
2,5-Dibromotoluene		☒ Yes ☐ No		☐ Yes ☒ No		☒ Yes ☐ No	
	Dilution Factor	1		1		1	
	% Solids	96.5		94.0		90.9	
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₅ -C ₈ Aliphatic Hydrocarbons ^{1,2}	mg/Kg	ND	2.4	ND	2.1	ND	3.1
C ₉ -C ₁₂ Aliphatic Hydrocarbons ^{1,3}	mg/Kg	ND	0.61	ND	0.51	ND	0.77
C ₉ -C ₁₀ Aromatic Hydrocarbons ¹	mg/Kg	ND	0.61	ND	0.51	ND	0.77
Methyl-tert-butylether	mg/Kg	ND	0.049	ND	0.041	ND	0.062
Benzene	mg/Kg	ND	0.049	ND	0.041	ND	0.062
Toluene	mg/Kg	ND	0.049	ND	0.041	ND	0.062
Ethylbenzene	mg/Kg	ND	0.049	ND	0.041	ND	0.062
m- & p-Xylenes	mg/Kg	ND	0.049	ND	0.041	ND	0.062
o-Xylene	mg/Kg	ND	0.049	ND	0.041	ND	0.062
Naphthalene	mg/Kg	ND	0.049	ND	0.041	ND	0.062
1,2-Dichloroethane-d4 Limits (70-130%)	%	103	NA	117	NA	110	NA
Toluene-d8 Limits (70-130%)	%	95.7	NA	107	NA	104	NA
Bromofluorobenzene Limits (70-130%)	%	90.2	NA	98.5	NA	92.8	NA
2,5-Dibromotoluene Limits (70-130%)	%	73.9	NA	93.4	NA	82.1	NA

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range
² C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range
³ C₉-C₁₂ Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND conc of C₉-C₁₀ Aromatic Hydrocarbons
 NA = Not Applicable
 ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS:

CERTIFICATION

Were all QA/QC procedures REQUIRED by the VPH Method followed?	[X] Yes [] No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	[X] Yes [] No - See Comments
Were any significant modifications made to the VPH method, as specified in Sect 11.3?	[] No [X] Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: Richard Ravenelle POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle DATE: 11/12/98

Laboratory Report Volatile Petroleum Hydrocarbons (VPH)

Method for Ranges: MADEP VPH 98-1	Client ID	AOC-32-TR-10		AOC-32-TR-11		AOC-32-TR-12	
Method for Target Analytes: EPA 8260	AMRO Lab ID	20864-10		20864-11		20864-12	
VPH Surrogate Standards 1,2-Dichloroethane-d4 Toluene-d8 Bromofluorobenzene 2,5-Dibromotoluene	Date Collected	11/09/98		11/09/98		11/09/98	
	Date Received	11/10/98		11/10/98		11/10/98	
	Date Analyzed	11/17/98		11/17/98		11/17/98	
	mL Methanol/g soil 1:1 +/- 25%	[X] Yes [] No		[X] Yes [] No		[X] Yes [] No	
	Dilution Factor	1		1		1	
	% Solids	95.0		97.4		96.1	
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₅ -C ₈ Aliphatic Hydrocarbons ^{1,2}	mg/Kg	ND	2.3	ND	2.3	ND	2.2
C ₉ -C ₁₂ Aliphatic Hydrocarbons ^{1,3}	mg/Kg	ND	0.57	ND	0.57	ND	0.55
C ₉ -C ₁₀ Aromatic Hydrocarbons ¹	mg/Kg	ND	0.57	ND	0.57	ND	0.55
Methyl-tert-butylether	mg/Kg	ND	0.046	ND	0.046	ND	0.044
Benzene	mg/Kg	ND	0.046	ND	0.046	ND	0.044
Toluene	mg/Kg	ND	0.046	ND	0.046	ND	0.044
Ethylbenzene	mg/Kg	ND	0.046	ND	0.046	ND	0.044
m- & p-Xylenes	mg/Kg	ND	0.046	ND	0.046	ND	0.044
o-Xylene	mg/Kg	ND	0.046	ND	0.046	ND	0.044
Phthalene	mg/Kg	ND	0.046	ND	0.046	ND	0.044
1,2-Dichloroethane-d4 Limits (70-130%)	%	111	NA	108	NA	108	NA
Toluene-d8 Limits (70-130%)	%	107	NA	101	NA	100	NA
Bromofluorobenzene Limits (70-130%)	%	98.4	NA	92.7	NA	91.6	NA
2,5-Dibromotoluene Limits (70-130%)	%	44.3*	NA	94.9	NA	82.3	NA

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range

³ C9-C12 Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND conc of C9-C10 Aromatic Hydrocarbons

NA = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range

³ C₉-C₁₂ Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND conc of C₉-C₁₀ Aromatic Hydrocarbons

NA = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS: * = 2,5-Dibromotoluene recovered below acceptance limits, no impact to data.

CERTIFICATION

Were all QA/QC procedures REQUIRED by the VPH Method followed? ☒ Yes ☐ No - See Comments
 Were all performance/acceptance standards for required QA/QC procedures achieved? ☐ Yes ☒ No - See Comments
 Were any significant modifications made to the VPH method, as specified in Sect 11.3? ☐ No ☒ Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: Richard Ravenelle

POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle

DATE: 11/18/98

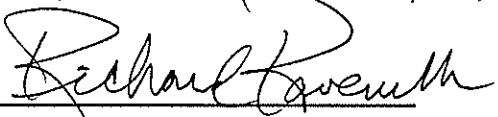
Laboratory Report Volatile Petroleum Hydrocarbons (VPH)

Method for Ranges: MADEP VPH 98-1	Client ID	METH BLANK					
Method for Target Analytes: EPA 8260	AMRO Lab ID	20864-16					
VPH Surrogate Standards	Date Collected	11/07/98					
1,2-Dichloroethane-d4	Date Received	11/10/98					
Toluene-d8	Date Analyzed	11/17/98					
Bromofluorobenzene	mL Methanol/g soil	1:1 +/- 25%		NA	[] Yes [] No	[] Yes [] No	
2,5-Dibromotoluene	Dilution Factor	1					
	% Solids	NA					
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₅ -C ₈ Aliphatic Hydrocarbons ^{1,2}	mg/Kg	ND	2.5				
C ₉ -C ₁₂ Aliphatic Hydrocarbons ^{1,3}	mg/Kg	ND	0.62				
C ₉ -C ₁₀ Aromatic Hydrocarbons ¹	mg/Kg	ND	0.62				
Methyl-tert-butylether	mg/Kg	ND	0.050				
Benzene	mg/Kg	ND	0.050				
Toluene	mg/Kg	ND	0.050				
Ethylbenzene	mg/Kg	ND	0.050				
m- & p-Xylenes	mg/Kg	ND	0.050				
o-Xylene	mg/Kg	ND	0.050				
Naphthalene	mg/Kg	ND	0.050				
1,2-Dichloroethane-d4 Limits (70-130%)	%	112	NA				
Toluene-d8 Limits (70-130%)	%	101	NA				
Bromofluorobenzene Limits (70-130%)	%	94.5	NA				
2,5-Dibromotoluene Limits (70-130%)	%	54.6*	NA				

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range
² C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range
³ C₉-C₁₂ Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND conc of C₉-C₁₀ Aromatic Hydrocarbons
NA = Not Applicable
ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS: * = 2,5-Dibromotoluene recovered below acceptance limits, no impact to data.

CERTIFICATION

Were all QA/QC procedures REQUIRED by the VPH Method followed?	[X] Yes [] No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	[] Yes [X] No - See Comments
Were any significant modifications made to the VPH method, as specified in Sect 11.3?	[] No [X] Yes - Details attached
<i>I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.</i>	
SIGNATURE: 	POSITION: Organic Division Manager
PRINTED NAME: Richard Ravenelle	DATE: 11/18/98

Laboratory Report Volatile Petroleum Hydrocarbons (VPH)

Method for Ranges: MADEP VPH 98-1	Client ID	AOC-32-01		AOC-32-02		AOC-32-03	
Method for Target Analytes: EPA 8260	AMRO Lab ID	20753-08RR		20753-09		20753-10	
VPH Surrogate Standards 1,2-Dichloroethane-d4 Toluene-d8 Bromofluorobenzene 2,5-Dibromotoluene	Date Collected	10/30/98		10/30/98		10/30/98	
	Date Received	10/30/98		10/30/98		10/30/98	
	Date Analyzed	11/04/98		11/04/98		11/04/98	
	mL Methanol/g soil 1:1 +/- 25%	[] Yes [X] No		[] Yes [X] No		[X] Yes [] No	
	Dilution Factor	1		1		1	
	% Solids	92.0		91.0		89.5	
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₅ -C ₈ Aliphatic Hydrocarbons ^{1,2}	mg/Kg	5.7	3.9	ND	3.8	ND	3.4
C ₉ -C ₁₂ Aliphatic Hydrocarbons ^{1,3}	mg/Kg	2.2	0.98	1.5	0.95	ND	0.86
C ₉ -C ₁₀ Aromatic Hydrocarbons ¹	mg/Kg	4.3	0.98	2.0	0.95	ND	0.86
Methyl-tert-butylether	mg/Kg	ND	0.079	ND	0.077	ND	0.069
Benzene	mg/Kg	0.26	0.079	0.13	0.077	ND	0.069
Toluene	mg/Kg	0.82	0.079	0.44	0.077	ND	0.069
Ethylbenzene	mg/Kg	0.17	0.079	0.090	0.077	ND	0.069
m- & p-Xylenes	mg/Kg	0.70	0.079	0.38	0.077	ND	0.069
Xylene	mg/Kg	0.55	0.079	0.29	0.077	ND	0.069
Phthalene	mg/Kg	0.68E	0.079	0.35	0.077	ND	0.069
1,2-Dichloroethane-d4 Limits (70-130%)	%	96.6	NA	105	NA	98.9	NA
Toluene-d8 Limits (70-130%)	%	95.6	NA	102	NA	93.8	NA
Bromofluorobenzene Limits (70-130%)	%	80.2	NA	91.7	NA	89.4	NA
2,5-Dibromotoluene Limits (70-130%)	%	62.8*	NA	71.5	NA	78.4	NA

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range

³ C₉-C₁₂ Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND conc of C₉-C₁₀ Aromatic Hydrocarbons

NA = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS: * = Low surrogate recovery confirmed by reanalysis.

E = The reported value of this analyte should be considered as estimated due to the low recovery of the associate surrogate.

Several compounds exceed the RPD QC limits for sample duplicate 20753-08 Dup, due to non-homogeneity.

Sample results for 20753-08 should be considered estimates.

CERTIFICATION

Were all QA/QC procedures REQUIRED by the VPH Method followed?	[X] Yes [] No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	[] Yes [X] No - See Comments
Were any significant modifications made to the VPH method, as specified in Sect 11.3?	[] No [X] Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE:

Richard Ravenelle

POSITION:

Organic Division Manager

PRINTED NAME:

Richard Ravenelle

DATE:

11/5/98

Laboratory Report Volatile Petroleum Hydrocarbons (VPH)

Method for Ranges: MADEP VPH 98-1	Client ID	AOC-32-04	AOC-32-05	AOC-32-06
Method for Target Analytes: EPA 8260	AMRO Lab ID	20753-11	20753-12	20753-13
VPH Surrogate Standards	Date Collected	10/30/98	10/30/98	10/30/98
1,2-Dichloroethane-d4	Date Received	10/30/98	10/30/98	10/30/98
Toluene-d8	Date Analyzed	11/04/98	11/04/98	11/04/98
Bromofluorobenzene	mL Methanol/g soil			
2,5-Dibromotoluene	1:1 +/- 25%	[x] Yes [] No	[] Yes [X] No	[X] Yes [] No
	Dilution Factor	1	1	1
	% Solids	88.3	88.0	92.6

Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₅ -C ₈ Aliphatic Hydrocarbons ^{1,2}	mg/Kg	ND	3.2	ND	3.8	ND	3.4
C ₉ -C ₁₂ Aliphatic Hydrocarbons ^{1,3}	mg/Kg	ND	0.81	ND	0.96	ND	0.86
C ₉ -C ₁₀ Aromatic Hydrocarbons ¹	mg/Kg	ND	0.81	ND	0.96	ND	0.86
Methyl-tert-butylether	mg/Kg	ND	0.065	ND	0.077	ND	0.069
Benzene	mg/Kg	ND	0.065	ND	0.077	ND	0.069
Toluene	mg/Kg	ND	0.065	ND	0.077	ND	0.069
Ethylbenzene	mg/Kg	ND	0.065	ND	0.077	ND	0.069
m- & p-Xylenes	mg/Kg	ND	0.065	ND	0.077	ND	0.069
o-Xylene	mg/Kg	ND	0.065	ND	0.077	ND	0.069
Naphthalene	mg/Kg	ND	0.065	ND	0.077	ND	0.069
1,2-Dichloroethane-d4 Limits (70-130%)	%	106	NA	110	NA	104	NA
Toluene-d8 Limits (70-130%)	%	99.2	NA	107	NA	102	NA
Bromofluorobenzene Limits (70-130%)	%	92.9	NA	99.0	NA	91.5	NA
2,5-Dibromotoluene Limits (70-130%)	%	77.6	NA	91.3	NA	80.6	NA

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range
² C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range
³ C₉-C₁₂ Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND conc of C₉-C₁₀ Aromatic Hydrocarbons
 NA = Not Applicable
 ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS:

CERTIFICATION

Were all QA/QC procedures REQUIRED by the VPH Method followed?	[X] Yes [] No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	[] Yes [X] No - See Comments
Were any significant modifications made to the VPH method, as specified in Sect 11.3?	[] No [X] Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: Richard Ravenelle POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle DATE: 11/5/98

Laboratory Report

Volatile Petroleum Hydrocarbons (VPH)

Method for Ranges: MADEP VPH 98-1	Client ID	AOC-32-07		Meth Blank			
Method for Target Analytes: EPA 8260	AMRO Lab ID	20753-14		20753-15			
VPH Surrogate Standards 1,2-Dichloroethane-d4 Toluene-d8 Bromofluorobenzene 2,5-Dibromotoluene	Date Collected	10/30/98		10/30/98			
	Date Received	10/30/98		10/30/98			
	Date Analyzed	11/04/98		11/03/98			
	mL Methanol/g soil			NA			
	1:1 +/- 25%	[x] Yes [] No		[] Yes [] No		[] Yes [] No	
	Dilution Factor	1		1			
	% Solids	87.2		N/A			
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₅ -C ₈ Aliphatic Hydrocarbons ^{1,2}	mg/Kg	ND	2.9	ND	2.5		
C ₉ -C ₁₂ Aliphatic Hydrocarbons ^{1,3}	mg/Kg	ND	0.73	ND	0.62		
C ₉ -C ₁₀ Aromatic Hydrocarbons ¹	mg/Kg	ND	0.73	ND	0.62		
Methyl-tert-butylether	mg/Kg	ND	0.059	ND	0.050		
Benzene	mg/Kg	ND	0.059	ND	0.050		
Toluene	mg/Kg	ND	0.059	ND	0.050		
Ethylbenzene	mg/Kg	ND	0.059	ND	0.050		
m- & p-Xylenes	mg/Kg	ND	0.059	ND	0.050		
Xylene	mg/Kg	ND	0.059	ND	0.050		
Naphthalene	mg/Kg	ND	0.059	ND	0.050		
1,2-Dichloroethane-d4 Limits (70-130%)	%	105	NA	95.4	NA		NA
Toluene-d8 Limits (70-130%)	%	101	NA	95.3	NA		NA
Bromofluorobenzene Limits (70-130%)	%	88.0	NA	90.3	NA		NA
2,5-Dibromotoluene Limits (70-130%)	%	78.6	NA	40.3*	NA		NA

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range

³ C₉-C₁₂ Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND conc of C₉-C₁₀ Aromatic Hydrocarbons

NA = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS: * = Low surrogate recovery confirmed by re-analysis.

CERTIFICATION

Were all QA/QC procedures REQUIRED by the VPH Method followed? [X] Yes [] No - See Comments
 Were all performance/acceptance standards for required QA/QC procedures achieved? [] Yes [X] No - See Comments
 Were any significant modifications made to the VPH method, as specified in Sect 11.3? [] No [X] Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: Richard Ravenelle

POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle

DATE: 11/5/98

Laboratory Report Extractable Petroleum Hydrocarbons (EPH)

EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID	AOC-32-01		AOC-32-02		AOC-32-03	
Method for Ranges: MADEP EPH 98-1							
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	20753-01		20753-02		20753-03	
EPH Surrogate Standards - Extraction	Date Collected	10/30/98		10/30/98		10/30/98	
Aliphatic: 1-Chlorooctadecane	Date Received	10/30/98		10/30/98		10/30/98	
Aromatic: o-Terphenyl	Date Extracted	11/2/98		11/2/98		11/2/98	
EPH Surrogate Standards - Analysis	Date Analyzed	11/4/98		11/5/98		11/4/98	
2-Fluorobiphenyl	Dilution Factor	1		1		1	
2-Bromonaphthalene	% Solids	92.0		91.0		89.5	
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₉ -C ₁₈ Aliphatic Hydrocarbons ¹	mg/Kg	ND	54	ND	54	ND	56
C ₁₉ -C ₃₆ Aliphatic Hydrocarbons ¹	mg/Kg	57	54	ND	54	ND	56
C ₁₁ -C ₂₂ Aromatic Hydrocarbons ^{1,2}	mg/Kg	ND	54	ND	54	ND	56
Naphthalene	mg/Kg	0.88	0.27	0.48	0.27	ND	0.28
2-Methylnaphthalene	mg/Kg	1.1	0.27	0.68	0.27	ND	0.28
Acenaphthylene	mg/Kg	0.99	0.27	0.47	0.27	ND	0.28
Acenaphthene	mg/Kg	ND	0.27	ND	0.27	ND	0.28
Fluorene	mg/Kg	ND	0.27	ND	0.27	ND	0.28
Phenanthrene	mg/Kg	2.2	0.27	1.2	0.27	2.0	0.28
Anthracene	mg/Kg	0.62	0.27	0.34	0.27	0.61	0.28
Fluoranthene	mg/Kg	4.0	0.27	2.4	0.27	3.2	0.28
Pyrene	mg/Kg	3.6	0.27	2.0	0.27	2.6	0.28
Benzo(a)Anthracene	mg/Kg	1.9	0.27	1.1	0.27	1.5	0.28
Chrysene	mg/Kg	2.8	0.27	1.4	0.27	1.2	0.28
Benzo(b)fluoranthene	mg/Kg	3.9	0.27	1.9	0.27	1.5	0.28
Benzo(k)fluoranthene	mg/Kg	1.2	0.27	0.68	0.27	0.60	0.28
Benzo(a)pyrene	mg/Kg	2.3	0.27	1.2	0.27	1.3	0.28
Dibenzo(a,h)anthracene	mg/Kg	0.56	0.27	0.30	0.27	ND	0.28
Indeno(1,2,3-cd)pyrene	mg/Kg	2.5	0.27	1.3	0.27	0.82	0.28
Benzo(g,h,i)perylene	mg/Kg	2.3	0.27	1.1	0.27	0.76	0.28
2-Fluorobiphenyl % Recovery	%	90.8	N/A	78.5	N/A	93.4	N/A
2-Bromonaphthalene % Recovery	%	85.5	N/A	72.4	N/A	95.4	N/A
o-Terphenyl % Recovery	%	71.8	N/A	62.2	N/A	66.4	N/A
1-Chlorooctadecane % Recovery	%	88.9	N/A	81.5	N/A	83.4	N/A
Surrogate Acceptance Range	%	40-140%	40-140%	40-140%	40-140%	40-140%	40-140%

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₁₁-C₂₂ Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

N/A = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) Indicated.

COMMENTS:

CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed? ☒ Yes ☐ No - See Comments
 Were all performance/acceptance standards for required QA/QC procedures achieved? ☒ Yes ☐ No - See Comments
 Were any significant modifications made to the EPH method, as specified in Sect 11.3? ☐ No ☒ Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: Richard Ravenelle

POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle

DATE: 11/5/98

Laboratory Report Extractable Petroleum Hydrocarbons (EPH)

EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID		AOC-32-04		AOC-32-05		AOC-32-06	
Method for Ranges: MADEP EPH 98-1								
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	20753-04		20753-05		20753-06		
EPH Surrogate Standards - Extraction	Date Collected	10/30/98		10/30/98		10/30/98		
Aliphatic: 1-Chlorooctadecane	Date Received	10/30/98		10/30/98		10/30/98		
Aromatic: o-Terphenyl	Date Extracted	11/2/98		11/2/98		11/2/98		
EPH Surrogate Standards - Analysis	Date Analyzed	11/4/98		11/4/98		11/4/98		
2-Fluorobiphenyl	Dilution Factor	1		1		1		
2-Bromonaphthalene	% Solids	88.3		88.0		92.6		
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL	
C ₉ -C ₁₈ Aliphatic Hydrocarbons ¹	mg/Kg	ND	56	ND	57	ND	53	
C ₁₉ -C ₃₆ Aliphatic Hydrocarbons ¹	mg/Kg	380	56	ND	57	180	53	
C ₁₁ -C ₂₂ Aromatic Hydrocarbons ^{1,2}	mg/Kg	ND	56	ND	57	ND	53	
Naphthalene	mg/Kg	ND	0.28	ND	0.28	0.35	0.27	
2-Methylnaphthalene	mg/Kg	ND	0.28	ND	0.28	0.49	0.27	
Acenaphthylene	mg/Kg	ND	0.28	ND	0.28	ND	0.27	
Acenaphthene	mg/Kg	ND	0.28	ND	0.28	ND	0.27	
Fluorene	mg/Kg	ND	0.28	ND	0.28	ND	0.27	
Phenanthrene	mg/Kg	ND	0.28	ND	0.28	0.62	0.27	
Anthracene	mg/Kg	ND	0.28	ND	0.28	ND	0.27	
Fluoranthene	mg/Kg	0.75	0.28	ND	0.28	0.94	0.27	
Pyrene	mg/Kg	0.63	0.28	ND	0.28	0.69	0.27	
Benzo(a)Anthracene	mg/Kg	0.57	0.28	ND	0.28	0.41	0.27	
Chrysene	mg/Kg	0.58	0.28	ND	0.28	0.61	0.27	
Benzo(b)fluoranthene	mg/Kg	0.81	0.28	ND	0.28	0.88	0.27	
Benzo(k)fluoranthene	mg/Kg	0.29	0.28	ND	0.28	0.28	0.27	
Benzo(a)pyrene	mg/Kg	0.53	0.28	ND	0.28	0.41	0.27	
Dibenzo(a,h)anthracene	mg/Kg	ND	0.28	ND	0.28	ND	0.27	
Indeno(1,2,3-cd)pyrene	mg/Kg	0.43	0.28	ND	0.28	0.51	0.27	
Benzo(g,h,i)perylene	mg/Kg	0.41	0.28	ND	0.28	0.43	0.27	
2-Fluorobiphenyl % Recovery	%	116	N/A	111	N/A	131	N/A	
2-Bromonaphthalene % Recovery	%	104	N/A	109	N/A	116	N/A	
o-Terphenyl % Recovery	%	88.4	N/A	80.6	N/A	104	N/A	
1-Chlorooctadecane % Recovery	%	96.1	N/A	84.8	N/A	107	N/A	
Surrogate Acceptance Range	%	40-140%	40-140%	40-140%	40-140%	40-140%	40-140%	

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₁₁-C₂₂ Aromatic Hydrocarbons exlude the concentration of Target PAH Analytes

N/A = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₁₁-C₂₂ Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

N/A = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS:

CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed? ☒ Yes ☐ No - See Comments
 Were all performance/acceptance standards for required QA/QC procedures achieved? ☒ Yes ☐ No - See Comments
 Were any significant modifications made to the EPH method, as specified in Sect 11.3? ☐ No ☒ Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: Richard Ravenelle

POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle

DATE: 11/5/98

Laboratory Report Extractable Petroleum Hydrocarbons (EPH)

EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID	AOC-32-07					
Method for Ranges: MADEP EPH 98-1							
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	20753-07					
EPH Surrogate Standards - Extraction	Date Collected	10/30/98					
Aliphatic: 1-Chlorooctadecane	Date Received	10/30/98					
Aromatic: o-Terphenyl	Date Extracted	11/2/98					
EPH Surrogate Standards - Analysis	Date Analyzed	11/5/98					
2-Fluorobiphenyl	Dilution Factor	1					
2-Bromonaphthalene	% Solids	87.2					
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₉ -C ₁₈ Aliphatic Hydrocarbons ¹	mg/Kg	ND	56				
C ₁₉ -C ₃₅ Aliphatic Hydrocarbons ¹	mg/Kg	110	56				
C ₁₁ -C ₂₂ Aromatic Hydrocarbons ^{1,2}	mg/Kg	ND	56				
Naphthalene	mg/Kg	0.41	0.28				
2-Methylnaphthalene	mg/Kg	0.55	0.28				
Acenaphthylene	mg/Kg	ND	0.28				
Acenaphthene	mg/Kg	ND	0.28				
Fluorene	mg/Kg	ND	0.28				
Phenanthrene	mg/Kg	0.76	0.28				
Anthracene	mg/Kg	ND	0.28				
Fluoranthene	mg/Kg	0.89	0.28				
Pyrene	mg/Kg	0.78	0.28				
Benzo(a)Anthracene	mg/Kg	0.56	0.28				
Chrysene	mg/Kg	0.69	0.28				
Benzo(b)fluoranthene	mg/Kg	0.92	0.28				
Benzo(k)fluoranthene	mg/Kg	ND	0.28				
Benzo(a)pyrene	mg/Kg	0.62	0.28				
Dibenzo(a,h)anthracene	mg/Kg	ND	0.28				
Indeno(1,2,3-cd)pyrene	mg/Kg	0.46	0.28				
Benzo(g,h,i)perylene	mg/Kg	0.39	0.28				
2-Fluorobiphenyl % Recovery	%	106	N/A				
2-Bromonaphthalene % Recovery	%	101	N/A				
o-Terphenyl % Recovery	%	82.9	N/A				
1-Chlorooctadecane % Recovery	%	94.1	N/A				
Surrogate Acceptance Range	%	40-140%	40-140%	40-140%	40-140%	40-140%	40-140%

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₁₁-C₂₂ Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

N/A = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS:

CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed? ☒ Yes ☐ No - See Comments
 Were all performance/acceptance standards for required QA/QC procedures achieved? ☒ Yes ☐ No - See Comments
 Were any significant modifications made to the EPH method, as specified in Sect 11.3? ☐ No ☒ Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: Richard Ravenelle

POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle

DATE: 11/5/98

Volatile Petroleum Hydrocarbons (VPH)
Massachusetts Department of Environmental Protection (MADEP)
Method 1.0 - January 1998
AMRO Modifications

This modification is based on the use of a purge and trap gas chromatography mass spectrometer (GCMS) system to analyze samples for VPH. The hydrocarbon ranges are quantified using predominant mass fragmentation ions which are characteristic for the range being measured. This approach eliminates potential false positives for the target analytes while providing accurate hydrocarbon range data.

The chromatographic column is an HP-624 capillary column which has been validated by GCMS analysis of a gasoline standard to correctly identify the marker compounds and elution order of specific gasoline components. Batch quality control includes, at a minimum, method blank, laboratory control sample, and duplicate analysis. A matrix spike and/or matrix spike duplicate is analyzed if sufficient sample is submitted to the laboratory.

The Reporting Limit (RL) of this method for each of the collective aliphatic and aromatic ranges is approximately 0.6-2.8 mg/kg in soil and 25-110 µg/L in water. The RL of this method for the target analytes ranges from approximately 0.05-0.13 mg/kg in soil and 2.0-5.0 µg/L for water samples.

Extractable Petroleum Hydrocarbons (EPH)
Massachusetts Department of Environmental Protection (MADEP)
Method 1.0 - January 1998
AMRO Modifications

This modification is based on a solvent extraction and gas chromatography mass spectrometer (GCMS) analysis. The hydrocarbon ranges are quantified using predominant mass fragmentation ions which are characteristic for the range being measured. This approach eliminates the silica gel solid-phase fractionation step. False positives for targeted PAH analytes are eliminated by using GCMS as the primary analysis technique.

The chromatographic column is a J&W Scientific DB-5ms capillary column. Internal standard calibration is performed using 5 α -Androstane at a concentration of 40 ng/µL. o-Terphenyl and 1-Chlorooctadecane are added as surrogate compounds at 20 ng/µL in the sample extract. These two surrogates monitor the effects of the sample matrix and extraction efficiency. Two additional surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, are added to the finished extract prior to analysis to monitor instrument performance. Batch quality control includes, at a minimum, a procedure blank, laboratory control sample and duplicate sample analysis. A matrix spike is analyzed if sufficient sample is submitted to the laboratory.

The Reporting Limit (RL) of this method for each of the collective aliphatic and aromatic ranges is approximately 2-15 mg/kg in soil and 10-50 µg/L in water. The RL of this method for the Target PAH analytes ranges from approximately 0.25 to 0.5 mg/kg in soil, 1.0 µg/L for water when operating the GCMS in full scan mode, and 0.1 to 1.0 µg/L when operating the GCMS in SIM mode. For sites requiring the lowest levels cited in the Massachusetts Contingency Plan for water, GCMS in the Selected Ion Monitoring (SIM) mode is used.

AMRO Environmental Laboratories Corporation

111 Herrick Street

Merrimack, N.H. 03054

Office: 603-424-2022 Fax: 603-429-8496

23860

CHAIN OF CUSTODY RECORD

Proj. No.		Project Name				Project State		MATRIX Water - A Soil/Solid-S Waste-W Other-O Explain		PAGE <u>1</u> OF <u>2</u>											
		AOC (32) DRMO EAST YARD				MA															
Samplers (Signature) <i>Edwin J. Benton</i>						Type Size, & No. of Containers															
Sta. No.	Date	Time	Comp	Grab	Station Location			VPH	EPH									Remarks			
	10-30-98	0840		X	AOC-32-01	10ml VIAL (2)	S	X													
	10-30-98	0840	X		AOC-32-01	AMBER 120CC (1)	S		X												
	10-30-98	0850		X	AOC-32-02	10ml VIAL (2)	S	X													
	10-30-98	0850	X		AOC-32-02	AMBER 120CC (1)	S		X												
	10-30-98	0855		X	AOC-32-03	10ml VIAL (2)	S	X													
	10-30-98	0855	X		AOC-32-03	AMBER 120CC (1)	S		X												
	10-30-98	0900		X	AOC-32-04	10ml VIAL (2)	S	X													
	10-30-98	0900	X		AOC-32-04	AMBER 120CC (1)	S		X												
	10-30-98	0910		X	AOC-32-05	10ml VIAL (2)	S	X													
	10-30-98	0910	X		AOC-32-05	AMBER 120CC (1)	S		X												
	10-30-98	1045		X	AOC-32-06	10ml VIAL (2)	S	X													
	10-30-98	1045	X		AOC-32-06	AMBER 120CC (1)	S		X												
	10-30-98	1050		X	AOC-32-07	10ml VIAL (2)	S	X													

Please print clearly, legibly and completely. Samples cannot be logged in and the turnaround time clock will not start until any ambiguities are resolved.

PRIORITY TURNAROUND TIME AUTHORIZATION
 Before submitting samples for expedited T.A.T., you must have requested in advance and received a coded T.A.T. AUTHORIZATION NUMBER.
 AUTHORIZATION NO. 5047 T.A.T. authorized by: _____

Relinquished by (Signature) <i>Edwin J. Benton</i>		Date Time 10-30-98 1330		Received by (Signature) <i>DW Thibault</i>		☐ Fax to (phone) _____ Results needed _____ PO# _____		Send Results to: _____ _____ _____ _____	
Relinquished by (Signature)		Date Time		Received by (Signature)					
Relinquished by (Signature)		Date Time		Received by (Signature)		AMRO Project No. <u>10753</u>		Remarks	
Relinquished by (Signature) <i>DW Thibault</i>		Date Time 10-30-98		Received for Laboratory by: (Signature) <i>Robert Wilson</i>		Seal Intact? Yes No N/A			

AMRO Environmental Laboratories Corporation

111 Herrick Street

Merrimack, N.H. 03054

Office: 603-424-2022 Fax: 603-429-8496

23863

CHAIN OF CUSTODY RECORD

Proj. No.		Project Name AOC (32) DRMD EAST YARD				Project State MA		MATRIX Water - A Soil/Solid-S Waste-W Other-O Explain										PAGE <u>2</u> OF <u>2</u>	
Samplers (Signature) Edwin J. Benton						Type Size, & No. of Containers		VPH EPH											
Sta. No.	Date	Time	Comp	Grab	Station Location													Remarks	
	10-30-98	1050	X		AOC-32-07	AMBER 120CC		S		X									
	10-30-98	1240			METH BLANK	10 ML VIAL (1)		W/ MGR	X										
	10-30-98	1240			TEMP BLANK	AMBER 120CC (1)													

Please print clearly, legibly and completely. Samples cannot be logged in and the turnaround time clock will not start until any ambiguities are resolved.

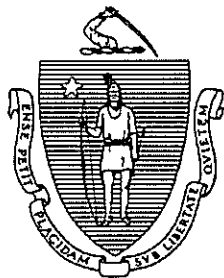
PRIORITY TURNAROUND TIME AUTHORIZATION

Before submitting samples for expedited T.A.T., you must have requested in advance and received a coded T.A.T. AUTHORIZATION NUMBER.

AUTHORIZATION NO. SDAY T.A.T. authorized by: _____

Relinquished by (Signature) Edwin J. Benton	Date Time 10-30-98 1530	Received by (Signature) [Signature]	☐ Fax to (phone) Results needed PO#	Send Results to: _____ _____ _____
Relinquished by (Signature)	Date Time	Received by (Signature)		
Relinquished by (Signature)	Date Time	Received by (Signature)	AMRO Project No. <u>20753</u>	Remarks
Relinquished by (Signature) [Signature]	Date Time 10-30-98	Received for Laboratory by: (Signature) [Signature]	Seal Intact? Yes No N/A	

The Commonwealth of Massachusetts



Department of Environmental Protection

*Division of Environmental Analysis
Senator William K. Wall Experiment Station*

certifies

**M- NH012 Amro Environmental Lab
111 Herrick St.
Merrimack, NH 03054**

Laboratory Director: Nancy Stewart

for the Chemical Analysis of Potable and Non-Potable Water

pursuant to 310 CMR 42.00

This certificate supersedes all previous Massachusetts certificates issued to this laboratory. The laboratory is regulated by and shall be responsible for being in compliance with Massachusetts regulations at 310 CMR 42.00.

This certificate is valid only when accompanied by the latest dated Certified Parameter List as issued by the Massachusetts D.E.P.

Certification is no guarantee of the validity of the data. This certification is subject to unannounced laboratory inspections.

A handwritten signature in dark ink, appearing to read "Peter C. Pansullo".

Director, Division of Environmental Analysis

Issued: 07/01/98

Expires: 06/30/99

Laboratory Report Extractable Petroleum Hydrocarbons (EPH)

EPH ANALYTICAL RESULTS

Action Method: EPA 3541	Client ID	AOC-32-08		AOC-32-09		AOC-32-EXC-W-01	
Method for Ranges: MADEP EPH 98-1							
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	20797-01		20797-02		20797-03	
EPH Surrogate Standards - Extraction	Date Collected	11/3/98		11/3/98		11/3/98	
Aliphatic: 1-Chlorooctadecane	Date Received	11/4/98		11/4/98		11/4/98	
Aromatic: o-Terphenyl	Date Extracted	11/6/98		11/6/98		11/6/98	
EPH Surrogate Standards - Analysis	Date Analyzed	11/11/98		11/11/98		11/11/98	
2-Fluorobiphenyl	Dilution Factor	1		1		1	
2-Bromonaphthalene	% Solids	88.2		93.0		91.1	
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₉ -C ₁₈ Aliphatic Hydrocarbons ¹	mg/Kg	ND	55	ND	52	ND	54
C ₁₉ -C ₃₆ Aliphatic Hydrocarbons ¹	mg/Kg	ND	55	63	52	ND	54
C ₁₁ -C ₂₂ Aromatic Hydrocarbons ^{1,2}	mg/Kg	ND	55	ND	52	ND	54
Naphthalene	mg/Kg	ND	0.27	ND	0.26	ND	0.27
2-Methylnaphthalene	mg/Kg	ND	0.27	ND	0.26	ND	0.27
Acenaphthylene	mg/Kg	ND	0.27	ND	0.26	ND	0.27
Acenaphthene	mg/Kg	ND	0.27	ND	0.26	ND	0.27
Fluorene	mg/Kg	ND	0.27	ND	0.26	ND	0.27
Phenanthrene	mg/Kg	ND	0.27	ND	0.26	ND	0.27
Anthracene	mg/Kg	ND	0.27	ND	0.26	ND	0.27
Fluoranthene	mg/Kg	0.30	0.27	ND	0.26	ND	0.27
Pyrene	mg/Kg	0.25	0.27	ND	0.26	ND	0.27
Benzo(a)Anthracene	mg/Kg	ND	0.27	ND	0.26	ND	0.27
Chrysene	mg/Kg	0.27	0.27	ND	0.26	ND	0.27
Benzo(b)fluoranthene	mg/Kg	0.36	0.27	ND	0.26	ND	0.27
Benzo(k)fluoranthene	mg/Kg	ND	0.27	ND	0.26	ND	0.27
Benzo(a)pyrene	mg/Kg	ND	0.27	ND	0.26	ND	0.27
Dibenzo(a,h)anthracene	mg/Kg	ND	0.27	ND	0.26	ND	0.27
Indeno(1,2,3-cd)pyrene	mg/Kg	ND	0.27	ND	0.26	ND	0.27
Benzo(g,h,i)perylene	mg/Kg	ND	0.27	ND	0.26	ND	0.27
2-Fluorobiphenyl % Recovery	%	69.4	N/A	83.9	N/A	69.2	N/A
2-Bromonaphthalene % Recovery	%	66.7	N/A	78.5	N/A	69.8	N/A
o-Terphenyl % Recovery	%	58.4	N/A	64.3	N/A	66.6	N/A
1-Chlorooctadecane % Recovery	%	60.9	N/A	67.6	N/A	58.4	N/A
Surrogate Acceptance Range	%	40-140%	40-140%	40-140%	40-140%	40-140%	40-140%

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₁₁-C₂₂ Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

N/A = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS:

CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed?	☒ Yes	☐ No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	☒ Yes	☐ No - See Comments
Were any significant modifications made to the EPH method, as specified in Sect 11.3?	☐ No	☒ Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: Richard Ravenelle

POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle

DATE: 11/16/98

Laboratory Report Extractable Petroleum Hydrocarbons (EPH)

EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID	AOC-32-EXC-W-02		AOC-32-EXC-W-03		AOC-32-EXC-W-04	
Method for Ranges: MADEP EPH 98-1							
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	20797-04		20797-05		20797-06	
EPH Surrogate Standards - Extraction Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl	Date Collected	11/3/98		11/3/98		11/3/98	
	Date Received	11/4/98		11/4/98		11/4/98	
	Date Extracted	11/6/98		11/6/98		11/6/98	
EPH Surrogate Standards - Analysis 2-Fluorobiphenyl 2-Bromonaphthalene	Date Analyzed	11/11/98		11/11/98		11/11/98	
	Dilution Factor	1		1		1	
	% Solids	92.3		94.8		93.4	
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₉ -C ₁₈ Aliphatic Hydrocarbons ¹	mg/Kg	ND	53	ND	51	ND	53
C ₁₉ -C ₃₆ Aliphatic Hydrocarbons ¹	mg/Kg	ND	53	ND	51	ND	53
C ₁₁ -C ₂₂ Aromatic Hydrocarbons ^{1,2}	mg/Kg	ND	53	ND	51	ND	53
Naphthalene	mg/Kg	ND	0.27	ND	0.26	ND	0.26
2-Methylnaphthalene	mg/Kg	ND	0.27	ND	0.26	ND	0.26
Acenaphthylene	mg/Kg	ND	0.27	ND	0.26	ND	0.26
Acenaphthene	mg/Kg	ND	0.27	ND	0.26	ND	0.26
Fluorene	mg/Kg	ND	0.27	ND	0.26	ND	0.26
Phenanthrene	mg/Kg	ND	0.27	ND	0.26	ND	0.26
Anthracene	mg/Kg	ND	0.27	ND	0.26	ND	0.26
Fluoranthene	mg/Kg	ND	0.27	ND	0.26	ND	0.26
Pyrene	mg/Kg	ND	0.27	ND	0.26	ND	0.26
Benzo(a)Anthracene	mg/Kg	ND	0.27	ND	0.26	ND	0.26
Chrysene	mg/Kg	ND	0.27	ND	0.26	ND	0.26
Benzo(b)fluoranthene	mg/Kg	ND	0.27	ND	0.26	ND	0.26
Benzo(k)fluoranthene	mg/Kg	ND	0.27	ND	0.26	ND	0.26
Benzo(a)pyrene	mg/Kg	ND	0.27	ND	0.26	ND	0.26
Dibenzo(a,h)anthracene	mg/Kg	ND	0.27	ND	0.26	ND	0.26
Indeno(1,2,3-cd)pyrene	mg/Kg	ND	0.27	ND	0.26	ND	0.26
Benzo(g,h,i)perylene	mg/Kg	ND	0.27	ND	0.26	ND	0.26
2-Fluorobiphenyl % Recovery	%	73.5	N/A	69.6	N/A	77.4	N/A
2-Bromonaphthalene % Recovery	%	72.4	N/A	67.9	N/A	73.6	N/A
o-Terphenyl % Recovery	%	67.9	N/A	66.1	N/A	66.4	N/A
1-Chlorooctadecane % Recovery	%	59.8	N/A	67.5	N/A	70.1	N/A
Surrogate Acceptance Range	%	40-140%	40-140%	40-140%	40-140%	40-140%	40-140%

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₁₁-C₂₂ Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

N/A = Not Applicable

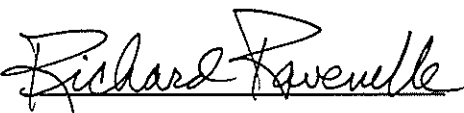
ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS:

CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed?	[X] Yes [] No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	[X] Yes [] No - See Comments
Were any significant modifications made to the EPH method, as specified in Sect 11.3?	[] No [X] Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: 

POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle

DATE: 11/16/98

Laboratory Report

Extractable Petroleum Hydrocarbons (EPH)

EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID	AOC-32-EXC-FLR-05					
Method for Ranges: MADEP EPH 98-1							
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	20797-07					
EPH Surrogate Standards - Extraction	Date Collected	11/3/98					
Aliphatic: 1-Chlorooctadecane	Date Received	11/4/98					
Aromatic: o-Terphenyl	Date Extracted	11/6/98					
EPH Surrogate Standards - Analysis	Date Analyzed	11/11/98					
2-Fluorobiphenyl	Dilution Factor	1					
2-Bromonaphthalene	% Solids	95.5					
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₉ -C ₁₈ Aliphatic Hydrocarbons ¹	mg/Kg	ND	52				
C ₁₉ -C ₃₆ Aliphatic Hydrocarbons ¹	mg/Kg	ND	52				
C ₁₁ -C ₂₂ Aromatic Hydrocarbons ^{1,2}	mg/Kg	ND	52				
Naphthalene	mg/Kg	ND	0.26				
2-Methylnaphthalene	mg/Kg	ND	0.26				
Acenaphthylene	mg/Kg	ND	0.26				
Acenaphthene	mg/Kg	ND	0.26				
Fluorene	mg/Kg	ND	0.26				
Phenanthrene	mg/Kg	ND	0.26				
Anthracene	mg/Kg	ND	0.26				
Fluoranthene	mg/Kg	ND	0.26				
Pyrene	mg/Kg	ND	0.26				
Benzo(a)Anthracene	mg/Kg	ND	0.26				
Chrysene	mg/Kg	ND	0.26				
Benzo(b)fluoranthene	mg/Kg	ND	0.26				
Benzo(k)fluoranthene	mg/Kg	ND	0.26				
Benzo(a)pyrene	mg/Kg	ND	0.26				
Dibenzo(a,h)anthracene	mg/Kg	ND	0.26				
Indeno(1,2,3-cd)pyrene	mg/Kg	ND	0.26				
Benzo(g,h,i)perylene	mg/Kg	ND	0.26				
2-Fluorobiphenyl % Recovery	%	72.8	N/A				
2-Bromonaphthalene % Recovery	%	69.9	N/A				
o-Terphenyl % Recovery	%	63.6	N/A				
1-Chlorooctadecane % Recovery	%	69.2	N/A				
Surrogate Acceptance Range	%	40-140%	40-140%	40-140%	40-140%	40-140%	40-140%

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₁₁-C₂₂ Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

N/A = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS:

CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed? ☒ Yes ☐ No - See Comments

Were all performance/acceptance standards for required QA/QC procedures achieved? ☒ Yes ☐ No - See Comments

Were any significant modifications made to the EPH method, as specified in Sect 11.3? ☐ No ☒ Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: Richard Ravenelle POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle DATE: 11/16/98

Laboratory Report Volatile Petroleum Hydrocarbons (VPH)

Method for Ranges: MADEP VPH 98-1	Client ID	AOC-32-08		AOC-32-09		AOC-32-EXC-W-01	
Method for Target Analytes: EPA 8260	AMRO Lab ID	20797-08		20797-09		20797-10	
VPH Surrogate Standards 1,2-Dichloroethane-d4 Toluene-d8 Bromofluorobenzene 2,5-Dibromotoluene	Date Collected	11/03/98		11/03/98		11/03/98	
	Date Received	11/04/98		11/04/98		11/04/98	
	Date Analyzed	11/13/98		11/13/98		11/13/98	
	mL Methanol/g soil 1:1 +/- 25%	[X] Yes [] No		[X] Yes [] No		[X] Yes [] No	
	Dilution Factor	1		1		1	
	% Solids	88.2		93.0		91.1	
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₅ -C ₈ Aliphatic Hydrocarbons ^{1,2}	mg/Kg	ND	2.4	ND	3.1	ND	3.5
C ₉ -C ₁₂ Aliphatic Hydrocarbons ^{1,3}	mg/Kg	ND	0.60	ND	0.78	ND	0.87
C ₉ -C ₁₀ Aromatic Hydrocarbons ¹	mg/Kg	ND	0.60	ND	0.78	ND	0.87
Methyl-tert-butylether	mg/Kg	ND	0.049	ND	0.063	ND	0.070
Benzene	mg/Kg	ND	0.049	ND	0.063	ND	0.070
Toluene	mg/Kg	ND	0.049	ND	0.063	ND	0.070
Ethylbenzene	mg/Kg	ND	0.049	ND	0.063	ND	0.070
m- & p-Xylenes	mg/Kg	ND	0.049	ND	0.063	ND	0.070
o-Xylene	mg/Kg	ND	0.049	ND	0.063	ND	0.070
Naphthalene	mg/Kg	ND	0.049	ND	0.063	ND	0.070
1,2-Dichloroethane-d4 Limits (70-130%)	%	117	NA	99.6	NA	114	NA
Toluene-d8 Limits (70-130%)	%	109	NA	91.3	NA	111	NA
Bromofluorobenzene Limits (70-130%)	%	104	NA	87.4	NA	97.5	NA
2,5-Dibromotoluene Limits (70-130%)	%	78.1	NA	77.8	NA	84.2	NA

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range

³ C₉-C₁₂ Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND conc of C₉-C₁₀ Aromatic Hydrocarbons

NA = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS: 2,5-Dibromotoluene recovered below acceptance limits in the batch QC method blank and LCS on 11/09/98 and 11/11/98. No impact to data.

CERTIFICATION

Were all QA/QC procedures REQUIRED by the VPH Method followed?	[X] Yes [] No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	[] Yes [X] No - See Comments
Were any significant modifications made to the VPH method, as specified in Sect 11.3?	[] No [X] Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: Richard Ravenelle POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle DATE: 11/16/98

Laboratory Report

Volatile Petroleum Hydrocarbons (VPH)

Method for Ranges: MADEP VPH 98-1	Client ID	AOC-32-EXC-W-02		AOC-32-EXC-W-03		AOC-32-EXC-W-04	
Method for Target Analytes: EPA 8260	AMRO Lab ID	20797-11		20797-12		20797-13	
VPH Surrogate Standards 1,2-Dichloroethane-d4 Toluene-d8 Bromofluorobenzene 2,5-Dibromotoluene	Date Collected	11/03/98		11/03/98		11/03/98	
	Date Received	11/04/98		11/04/98		11/04/98	
	Date Analyzed	11/13/98		11/13/98		11/13/98	
	mL Methanol/g soil 1:1 +/- 25%	[X] Yes [] No		[X] Yes [] No		[] Yes [X] No	
	Dilution Factor	1		1		1	
	% Solids	92.3		94.8		93.4	
	Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS
C ₅ -C ₈ Aliphatic Hydrocarbons ^{1,2}	mg/Kg	ND	2.5	ND	2.4	ND	2.1
C ₉ -C ₁₂ Aliphatic Hydrocarbons ^{1,3}	mg/Kg	ND	0.63	ND	0.61	ND	0.53
C ₉ -C ₁₀ Aromatic Hydrocarbons ¹	mg/Kg	ND	0.63	ND	0.61	ND	0.53
Methyl-tert-butylether	mg/Kg	ND	0.051	ND	0.049	ND	0.043
Benzene	mg/Kg	ND	0.051	ND	0.049	ND	0.043
Toluene	mg/Kg	ND	0.051	ND	0.049	ND	0.043
Ethylbenzene	mg/Kg	ND	0.051	ND	0.049	ND	0.043
m- & p-Xylenes	mg/Kg	ND	0.051	ND	0.049	ND	0.043
o-Xylene	mg/Kg	ND	0.051	ND	0.049	ND	0.043
Naphthalene	mg/Kg	ND	0.051	ND	0.049	ND	0.043
1,2-Dichloroethane-d4 Limits (70-130%)	%	111	NA	105	NA	116	NA
Toluene-d8 Limits (70-130%)	%	103	NA	97.7	NA	111	NA
Bromofluorobenzene Limits (70-130%)	%	93.5	NA	88.7	NA	105	NA
2,5-Dibromotoluene Limits (70-130%)	%	80.9	NA	84.7	NA	87.1	NA

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range

³ C₉-C₁₂ Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND conc of C₉-C₁₀ Aromatic Hydrocarbons

NA = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS: 2,5-Dibromotoluene recovered below acceptance limits in the batch QC method blank and LCS on 11/09/98 and 11/11/98. No impact to data.

CERTIFICATION

Were all QA/QC procedures REQUIRED by the VPH Method followed? [X] Yes [] No - See Comments

Were all performance/acceptance standards for required QA/QC procedures achieved? [] Yes [X] No - See Comments

Were any significant modifications made to the VPH method, as specified in Sect 11.3? [] No [X] Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

NATURE: Richard Ravenelle

POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle

DATE: 11/16/98

Laboratory Report

Volatile Petroleum Hydrocarbons (VPH)

Method for Ranges: MADEP VPH 98-1	Client ID	AOC-32-EXC-FLR-05		TRIP BLANK			
Method for Target Analytes: EPA 8260	AMRO Lab ID	20797-14		20797-15			
VPH Surrogate Standards 1,2-Dichloroethane-d4 Toluene-d8 Bromofluorobenzene 2,5-Dibromotoluene	Date Collected	11/03/98		11/03/98			
	Date Received	11/04/98		11/04/98			
	Date Analyzed	11/13/98		11/11/98			
	mL Methanol/g soil			NA			
	1:1 +/- 25%	[X] Yes [] No		[] Yes [] No		[] Yes [] No	
	Dilution Factor	1		1			
	% Solids	95.5		NA			
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₅ -C ₈ Aliphatic Hydrocarbons ^{1,2}	mg/Kg	ND	2.5	ND	2.5		
C ₉ -C ₁₂ Aliphatic Hydrocarbons ^{1,3}	mg/Kg	ND	0.63	ND	0.62		
C ₉ -C ₁₀ Aromatic Hydrocarbons ¹	mg/Kg	ND	0.63	ND	0.62		
Methyl-tert-butylether	mg/Kg	ND	0.051	ND	0.050		
Benzene	mg/Kg	ND	0.051	ND	0.050		
Toluene	mg/Kg	ND	0.051	ND	0.050		
Ethylbenzene	mg/Kg	ND	0.051	ND	0.050		
m- & p-Xylenes	mg/Kg	ND	0.051	ND	0.050		
o-Xylene	mg/Kg	ND	0.051	ND	0.050		
Naphthalene	mg/Kg	ND	0.051	ND	0.049		
1,2-Dichloroethane-d4 Limits (70-130%)	%	106	NA	105	NA		
Toluene-d8 Limits (70-130%)	%	100	NA	94.0	NA		
Bromofluorobenzene Limits (70-130%)	%	93.5	NA	85.7	NA		
2,5-Dibromotoluene Limits (70-130%)	%	85.4	NA	42.9	NA		

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range

³ C₉-C₁₂ Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND conc of C₉-C₁₀ Aromatic Hydrocarbons

NA = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS: * = Surrogate recovery is outside lower QC limits; no impact to data.

2,5-Dibromotoluene recovered below acceptance limits in the batch QC method blank and LCS on 11/09/98 and 11/11/98. No impact to data.

CERTIFICATION

Were all QA/QC procedures REQUIRED by the VPH Method followed?	[X] Yes [] No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	[] Yes [X] No - See Comments
Were any significant modifications made to the VPH method, as specified in Sect 11.3?	[] No [X] Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: Richard Ravenelle

POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle

DATE: 11/16/98

Volatile Petroleum Hydrocarbons (VPH)
Massachusetts Department of Environmental Protection (MADEP)
Method 1.0 - January 1998
AMRO Modifications

This modification is based on the use of a purge and trap gas chromatography mass spectrometer (GCMS) system to analyze samples for VPH. The hydrocarbon ranges are quantified using predominant mass fragmentation ions which are characteristic for the range being measured. This approach eliminates potential false positives for the target analytes while providing accurate hydrocarbon range data.

The chromatographic column is an HP-624 capillary column which has been validated by GCMS analysis of a gasoline standard to correctly identify the marker compounds and elution order of specific gasoline components. Batch quality control includes, at a minimum, method blank, laboratory control sample, and duplicate analysis. A matrix spike and/or matrix spike duplicate is analyzed if sufficient sample is submitted to the laboratory.

The Reporting Limit (RL) of this method for each of the collective aliphatic and aromatic ranges is approximately 0.6-2.8 mg/kg in soil and 25-110 µg/L in water. The RL of this method for the target analytes ranges from approximately 0.05-0.13 mg/kg in soil and 2.0-5.0 µg/L for water samples.

Extractable Petroleum Hydrocarbons (EPH)
Massachusetts Department of Environmental Protection (MADEP)
Method 1.0 - January 1998
AMRO Modifications

This modification is based on a solvent extraction and gas chromatography mass spectrometer (GCMS) analysis. The hydrocarbon ranges are quantified using predominant mass fragmentation ions which are characteristic for the range being measured. This approach eliminates the silica gel solid-phase fractionation step. False positives for targeted PAH analytes are eliminated by using GCMS as the primary analysis technique.

The chromatographic column is a J&W Scientific DB-5ms capillary column. Internal standard calibration is performed using 5 α -Androstane at a concentration of 40 ng/µL. o-Terphenyl and 1-Chlorooctadecane are added as surrogate compounds at 20 ng/µL in the sample extract. These two surrogates monitor the effects of the sample matrix and extraction efficiency. Two additional surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, are added to the finished extract prior to analysis to monitor instrument performance. Batch quality control includes, at a minimum, a procedure blank, laboratory control sample and duplicate sample analysis. A matrix spike is analyzed if sufficient sample is submitted to the laboratory.

The Reporting Limit (RL) of this method for each of the collective aliphatic and aromatic ranges is approximately 2-15 mg/kg in soil and 10-50 µg/L in water. The RL of this method for the Target PAH analytes ranges from approximately 0.25 to 0.5 mg/kg in soil, 1.0 µg/L for water when operating the GCMS in full scan mode, and 0.1 to 1.0 µg/L when operating the GCMS in SIM mode. For sites requiring the lowest levels cited in the Massachusetts Contingency Plan for water, GCMS in the Selected Ion Monitoring (SIM) mode is used.

AMRO Environmental Laboratories Corporation

111 Herrick Street

Merrimack, N.H. 03054

Office: 603-424-2022 Fax: 603-429-8496

23861

CHAIN OF CUSTODY RECORD

Proj. No.		Project Name				Project State		MATRIX		PAGE <u>1</u> OF <u>1</u>	
Samplers (Signature)						Type Size, & No. of Containers		Water - A Soil/Solid-S Waste-W Other-O Explain			
Sta. No.	Date	Time	Comp	Grab	Station Location						Remarks
	11-3-98	1425		X	AOC-32-08	40 ML VIAL (2)		X			
	11-3-98	1425	X		AOC-32-08	AMBER 120CC (1)			X		
	11-3-98	1440		X	AOC-32-09	40 ML VIAL (2)		X	X		
	11-3-98	1440	X		AOC-32-09	AMBER 120CC (1)		X	X	(915)	
	11-3-98	1445		X	AOC-32-EX-W-01	40 ML VIAL (2)			X		
	11-3-98	1445	X		AOC-32-EX-W-01	AMBER 120CC (1)		X			
	11-3-98	1455		X	AOC-32-EX-W-02	40 ML VIAL (2)			X		
	11-3-98	1455	X		AOC-32-EX-W-02	AMBER 120CC (1)		X			
	11-3-98	1500		X	AOC-32-EX-W-02	40 ML VIAL (2)			X		
	11-3-98	1500	X		AOC-32-EX-W-03	AMBER 120CC (1)		X			
	11-3-98	1505		X	AOC-32-EX-W-04	40 ML VIAL (2)			X		
	11-3-98	1505	X		AOC-32-EX-W-04	AMBER 120CC (1)		X			
	11-3-98	1510		X	AOC-32-EX-FLR-05	40 ML VIAL (2)			X		
	11-3-98	1510	X		AOC-32-EX-FLR-05	AMBER 120CC (1)		X			
Please print clearly, legibly and completely. Samples cannot be logged in and the turnaround time clock will not start until any ambiguities are resolved.							PRIORITY TURNAROUND TIME AUTHORIZATION Before submitting samples for expedited T.A.T., you must have requested in advance and received a coded T.A.T. AUTHORIZATION NUMBER. AUTHORIZATION NO. <u>5 DAY</u> T.A.T. authorized by: _____				
Relinquished by (Signature)		Date Time		Received by (Signature)		Fax to (phone)		Send Results to:			
Edwin J. Benton		11-3-98 11/4/98		Bob Hawke		978-772-7251		ROY E. WESTON			
Relinquished by (Signature)		Date Time		Received by (Signature)		Results needed		P.O. BOX 425			
						PO#		AYER, MA 01432			
Relinquished by (Signature)		Date Time		Received by (Signature)		AMRO Project No.		ATTN: SAM N.			
						20797					
Relinquished by (Signature)		Date Time		Received for Laboratory by (Signature)		Seal Intact?					
Bob Hawke		11-4-98		Bob Hawke		Yes No N/A					

White: Lab copy

Yellow: Accompanies report

Pink: Client copy

The Commonwealth of Massachusetts



Department of Environmental Protection

*Division of Environmental Analysis
Senator William N. Wall Experiment Station*

certifies

M- NH012 Amro Environmental Lab
111 Herrick St.
Merrimack, NH 03054

Laboratory Director: Nancy Stewart

for the Chemical Analysis of Potable and Non-Potable Water

pursuant to 310 CMR 42.00

This certificate supersedes all previous Massachusetts certificates issued to this laboratory. The laboratory is regulated by and shall be responsible for being in compliance with Massachusetts regulations at 310 CMR 42.00.

This certificate is valid only when accompanied by the latest dated Certified Parameter List as issued by the Massachusetts D.E.P.

Certification is no guarantee of the validity of the data. This certification is subject to unannounced laboratory inspections.

A handwritten signature in cursive script, reading "Peter C. Passaro".

Director, Division of Environmental Analysis

Issued: 07/01/98

Expires: 06/30/99

Laboratory Report Volatile Petroleum Hydrocarbons (VPH)

Method for Ranges: MADEP VPH 98-1	Client ID	AOC-32-ASPH-03		AOC-32-ASPH-04		AOC-32-ASPH-05	
Method for Target Analytes: EPA 8260	AMRO Lab ID	20964-01		20964-02		20964-03	
VPH Surrogate Standards 1,2-Dichloroethane-d4 Toluene-d8 Bromofluorobenzene 2,5-Dibromotoluene	Date Collected	11/16/98		11/16/98		11/16/98	
	Date Received	11/17/98		11/17/98		11/17/98	
	Date Analyzed	11/23/98		11/23/98		11/23/98	
	mL Methanol/g soil 1:1 +/- 25%	[] Yes [X] No		[] Yes [X] No		[X] Yes [] No	
	Dilution Factor	1		1		1	
	% Solids	92.3		88.1		94.2	
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₅ -C ₈ Aliphatic Hydrocarbons ^{1,2}	mg/Kg	ND	3.8	ND	4.6	ND	2.3
C ₉ -C ₁₂ Aliphatic Hydrocarbons ^{1,3}	mg/Kg	0.99	0.96	ND	1.2	1.4	0.57
C ₉ -C ₁₀ Aromatic Hydrocarbons ¹	mg/Kg	ND	0.96	ND	1.2	0.75	0.57
Methyl-tert-butylether	mg/Kg	ND	0.077	ND	0.093	ND	0.046
Benzene	mg/Kg	ND	0.077	ND	0.093	ND	0.046
Toluene	mg/Kg	ND	0.077	ND	0.093	ND	0.046
Ethylbenzene	mg/Kg	ND	0.077	ND	0.093	ND	0.046
m- & p-Xylenes	mg/Kg	ND	0.077	ND	0.093	ND	0.046
o-Xylene	mg/Kg	ND	0.077	ND	0.093	ND	0.046
Naphthalene	mg/Kg	ND	0.077	ND	0.093	ND	0.046
1,2-Dichloroethane-d4 Limits (70-130%)	%	113	NA	105	NA	104	NA
Toluene-d8 Limits (70-130%)	%	86.6	NA	80.7	NA	82.3	NA
Bromofluorobenzene Limits (70-130%)	%	92.5	NA	83.5	NA	86.2	NA
2,5-Dibromotoluene Limits (70-130%)	%	143*	NA	126	NA	123	NA

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range

³ C₉-C₁₂ Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND conc of C₉-C₁₀ Aromatic Hydrocarbons

NA = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS: * = Surrogate exceeds QC limits; no impact to data.

CERTIFICATION

Were all QA/QC procedures REQUIRED by the VPH Method followed? [X] Yes [] No - See Comments
 Were all performance/acceptance standards for required QA/QC procedures achieved? [] Yes [X] No - See Comments
 Were any significant modifications made to the VPH method, as specified in Sect 11.3? [] No [X] Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: Richard Ravenelle POSITION: Organic Division Manager
 PRINTED NAME: Richard Ravenelle DATE: 11/24/98

Laboratory Report Volatile Petroleum Hydrocarbons (VPH)

Method for Ranges: MADEP VPH 98-1	Client ID	AOC-32-ASPH-06		AOC-32-ASPH-07		AOC-32-ASPH-08	
Method for Target Analytes: EPA 8260	AMRO Lab ID	20964-04		20964-05		20964-06	
VPH Surrogate Standards 1,2-Dichloroethane-d4 Toluene-d8 Bromofluorobenzene 2,5-Dibromotoluene	Date Collected	11/16/98		11/16/98		11/16/98	
	Date Received	11/17/98		11/17/98		11/17/98	
	Date Analyzed	11/23/98		11/23/98		11/23/98	
	mL Methanol/g soil 1:1 +/- 25%	[X] Yes [] No		[] Yes [X] No		[] Yes [] No	
	Dilution Factor	1		1		1	
	% Solids	95.1		88.7		89.8	
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₅ -C ₈ Aliphatic Hydrocarbons ^{1,2}	mg/Kg	ND	2.5	ND	4.4	ND	3.8
C ₉ -C ₁₂ Aliphatic Hydrocarbons ^{1,3}	mg/Kg	ND	0.62	1.9	1.1	2.4	0.94
C ₉ -C ₁₀ Aromatic Hydrocarbons ¹	mg/Kg	ND	0.62	2.2	1.1	1.1	0.94
Methyl-tert-butylether	mg/Kg	ND	0.050	ND	0.088	ND	0.076
Benzene	mg/Kg	ND	0.050	ND	0.088	ND	0.076
Toluene	mg/Kg	ND	0.050	0.26	0.088	ND	0.076
Ethylbenzene	mg/Kg	ND	0.050	ND	0.088	ND	0.076
m- & p-Xylenes	mg/Kg	ND	0.050	0.28	0.088	ND	0.076
o-Xylene	mg/Kg	ND	0.050	0.17	0.088	ND	0.076
Naphthalene	mg/Kg	ND	0.050	0.16	0.088	100	0.076
1,2-Dichloroethane-d4 Limits (70-130%)	%	121	NA	92.3	NA	107	NA
Toluene-d8 Limits (70-130%)	%	98.0	NA	75.7	NA	86.8	NA
Bromofluorobenzene Limits (70-130%)	%	97.6	NA	75.4	NA	87.8	NA
2,5-Dibromotoluene Limits (70-130%)	%	96.0	NA	104	NA	125	NA

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range

³ C₉-C₁₂ Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND conc of C₉-C₁₀ Aromatic Hydrocarbons

NA = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS:

CERTIFICATION

Were all QA/QC procedures REQUIRED by the VPH Method followed?	[X] Yes [] No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	[X] Yes [] No - See Comments
Were any significant modifications made to the VPH method, as specified in Sect 11.3?	[] No [X] Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

NATURE: Richard Ravenelle

POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle

DATE: 11/24/98

Laboratory Report Volatile Petroleum Hydrocarbons (VPH)

Method for Ranges: MADEP VPH 98-1	Client ID	Meth Blank		
Method for Target Analytes: EPA 8260	AMRO Lab ID	20964-07		
VPH Surrogate Standards	Date Collected	11/16/98		
1,2-Dichloroethane-d4	Date Received	11/17/98		
Toluene-d8	Date Analyzed	11/22/98		
Bromofluorobenzene	mL Methanol/g soil			
2,5-Dibromotoluene	1:1 +/- 25%	NA	[] Yes [] No	[] Yes [] No
	Dilution Factor	1		
	% Solids	NA		

Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₅ -C ₈ Aliphatic Hydrocarbons ^{1,2}	mg/Kg	ND	2.5				
C ₉ -C ₁₂ Aliphatic Hydrocarbons ^{1,3}	mg/Kg	ND	0.62				
C ₉ -C ₁₀ Aromatic Hydrocarbons ¹	mg/Kg	ND	0.62				
Methyl-tert-butylether	mg/Kg	ND	0.050				
Benzene	mg/Kg	ND	0.050				
Toluene	mg/Kg	ND	0.050				
Ethylbenzene	mg/Kg	ND	0.050				
m- & p-Xylenes	mg/Kg	ND	0.050				
o-Xylene	mg/Kg	ND	0.050				
Naphthalene	mg/Kg	ND	0.050				
1,2-Dichloroethane-d4 Limits (70-130%)	%	112	NA				
Toluene-d8 Limits (70-130%)	%	95.9	NA				
Bromofluorobenzene Limits (70-130%)	%	98.1	NA				
2,5-Dibromotoluene Limits (70-130%)	%	60.2*	NA				

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range

³ C₉-C₁₂ Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND conc of C₉-C₁₀ Aromatic Hydrocarbons

NA = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS: * = Surrogate exceeds QC limits; no impact to data.

CERTIFICATION

Were all QA/QC procedures REQUIRED by the VPH Method followed?	[X] Yes [] No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	[] Yes [X] No - See Comments
Were any significant modifications made to the VPH method, as specified in Sect 11.3?	[] No [X] Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: Richard Ravenelle

POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle

DATE: 11/24/98

Laboratory Report

Extractable Petroleum Hydrocarbons (EPH)

EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID	AOC-32-ASPH-03		AOC-32-ASPH-04		AOC-32-ASPH-05	
Method for Ranges: MADEP EPH 98-1							
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	20964-01		20964-02		20964-03	
EPH Surrogate Standards - Extraction	Date Collected	11/16/98		11/16/98		11/16/98	
Aliphatic: 1-Chlorooctadecane	Date Received	11/17/98		11/17/98		11/17/98	
Aromatic: o-Terphenyl	Date Extracted	11/19/98		11/19/98		11/19/98	
EPH Surrogate Standards - Analysis	Date Analyzed	11/23/98		11/23/98		11/23/98	
2-Fluorobiphenyl	Dilution Factor	1		1		1	
2-Bromonaphthalene	% Solids	92.3		88.1		94.2	
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₉ -C ₁₈ Aliphatic Hydrocarbons ¹	mg/Kg	ND	54	ND	56	ND	53
C ₁₉ -C ₃₆ Aliphatic Hydrocarbons ¹	mg/Kg	180	54	100	56	230	53
C ₁₁ -C ₂₂ Aromatic Hydrocarbons ^{1,2}	mg/Kg	ND	54	ND	56	ND	53
Naphthalene	mg/Kg	ND	0.27	ND	0.28	ND	0.26
2-Methylnaphthalene	mg/Kg	ND	0.27	ND	0.28	ND	0.26
Acenaphthylene	mg/Kg	ND	0.27	ND	0.28	ND	0.26
Acenaphthene	mg/Kg	ND	0.27	ND	0.28	ND	0.26
Fluorene	mg/Kg	ND	0.27	ND	0.28	ND	0.26
Phenanthrene	mg/Kg	0.53	0.27	ND	0.28	ND	0.26
Anthracene	mg/Kg	ND	0.27	ND	0.28	ND	0.26
Fluoranthene	mg/Kg	1.5	0.27	0.35	0.28	ND	0.26
Pyrene	mg/Kg	1.2	0.27	0.29	0.28	ND	0.26
Benzo(a)Anthracene	mg/Kg	0.82	0.27	ND	0.28	ND	0.26
Chrysene	mg/Kg	0.74	0.27	ND	0.28	ND	0.26
Benzo(b)fluoranthene	mg/Kg	1.3	0.27	ND	0.28	ND	0.26
Benzo(k)fluoranthene	mg/Kg	0.44	0.27	ND	0.28	ND	0.26
Benzo(a)pyrene	mg/Kg	0.88	0.27	ND	0.28	ND	0.26
Dibenzo(a,h)anthracene	mg/Kg	ND	0.27	ND	0.28	ND	0.26
Indeno(1,2,3-cd)pyrene	mg/Kg	0.66	0.27	ND	0.28	ND	0.26
Benzo(g,h,i)perylene	mg/Kg	0.59	0.27	ND	0.28	ND	0.26
2-Fluorobiphenyl % Recovery	%	83.0	N/A	87.9	N/A	74.1	N/A
2-Bromonaphthalene % Recovery	%	84.9	N/A	81.1	N/A	77.5	N/A
o-Terphenyl % Recovery	%	75.9	N/A	78.5	N/A	77.9	N/A
1-Chlorooctadecane % Recovery	%	85.2	N/A	89.1	N/A	74.4	N/A
Surrogate Acceptance Range	%	40-140%	40-140%	40-140%	40-140%	40-140%	40-140%

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₁₁-C₂₂ Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

N/A = Not Applicable

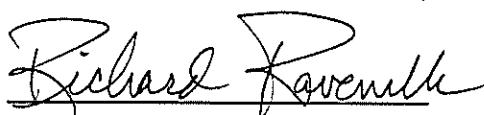
ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS:

CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed? ☒ Yes ☐ No - See Comments
 Were all performance/acceptance standards for required QA/QC procedures achieved? ☒ Yes ☐ No - See Comments
 Were any significant modifications made to the EPH method, as specified in Sect 11.3? ☐ No ☒ Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: 

POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle

DATE: 11/24/98

Laboratory Report Extractable Petroleum Hydrocarbons (EPH)

EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID	AOC-32-ASPH-06		AOC-32-ASPH-07		AOC-32-ASPH-08	
Method for Ranges: MADEP EPH 98-1							
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	20964-04		20964-05		20964-06	
EPH Surrogate Standards - Extraction	Date Collected	11/16/98		11/16/98		11/16/98	
Aliphatic: 1-Chlorooctadecane	Date Received	11/17/98		11/17/98		11/17/98	
Aromatic: o-Terphenyl	Date Extracted	11/19/98		11/19/98		11/19/98	
EPH Surrogate Standards - Analysis	Date Analyzed	11/23/98		11/23/98		11/23/98	
2-Fluorobiphenyl	Dilution Factor	1		1		1	
2-Bromonaphthalene	% Solids	95.1		88.7		89.8	
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₉ -C ₁₈ Aliphatic Hydrocarbons ¹	mg/Kg	ND	52	ND	55	ND	55
C ₁₉ -C ₃₆ Aliphatic Hydrocarbons ¹	mg/Kg	ND	52	89	55	78	55
C ₁₁ -C ₂₂ Aromatic Hydrocarbons ^{1,2}	mg/Kg	ND	52	ND	55	ND	55
Naphthalene	mg/Kg	ND	0.26	ND	0.27	ND	0.27
2-Methylnaphthalene	mg/Kg	ND	0.26	ND	0.27	ND	0.27
Acenaphthylene	mg/Kg	ND	0.26	0.52	0.27	ND	0.27
Acenaphthene	mg/Kg	ND	0.26	ND	0.27	ND	0.27
Fluorene	mg/Kg	ND	0.26	ND	0.27	ND	0.27
Phenanthrene	mg/Kg	ND	0.26	1.4	0.27	0.31	0.27
Anthracene	mg/Kg	ND	0.26	0.44	0.27	ND	0.27
Fluoranthene	mg/Kg	ND	0.26	3.3	0.27	1.0	0.27
Pyrene	mg/Kg	ND	0.26	2.6	0.27	0.95	0.27
Benzo(a)Anthracene	mg/Kg	ND	0.26	1.8	0.27	0.60	0.27
Chrysene	mg/Kg	ND	0.26	1.6	0.27	0.69	0.27
Benzo(b)fluoranthene	mg/Kg	ND	0.26	3.2	0.27	1.4	0.27
Benzo(k)fluoranthene	mg/Kg	ND	0.26	0.89	0.27	0.37	0.27
Benzo(a)pyrene	mg/Kg	ND	0.26	2.0	0.27	0.76	0.27
Dibenzo(a,h)anthracene	mg/Kg	ND	0.26	0.38	0.27	ND	0.27
Indeno(1,2,3-cd)pyrene	mg/Kg	ND	0.26	1.4	0.27	0.54	0.27
Benzo(g,h,i)perylene	mg/Kg	ND	0.26	1.2	0.27	0.46	0.27
2-Fluorobiphenyl % Recovery	%	87.1	N/A	82.1	N/A	81.2	N/A
2-Bromonaphthalene % Recovery	%	80.6	N/A	84.5	N/A	85.4	N/A
o-Terphenyl % Recovery	%	86.9	N/A	83.1	N/A	78.9	N/A
1-Chlorooctadecane % Recovery	%	86.7	N/A	85.2	N/A	84.1	N/A
Surrogate Acceptance Range	%	40-140%	40-140%	40-140%	40-140%	40-140%	40-140%

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₁₁-C₂₂ Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

N/A = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

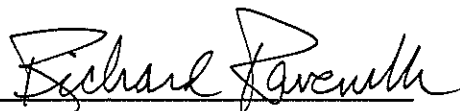
COMMENTS:

CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed?	☒ Yes ☐ No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	☒ Yes ☐ No - See Comments
Were any significant modifications made to the EPH method, as specified in Sect 11.3?	☐ No ☒ Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE:



POSITION:

Organic Division Manager

PRINTED NAME:

Richard Ravenelle

DATE:

11/24/98

Volatile Petroleum Hydrocarbons (VPH)
Massachusetts Department of Environmental Protection (MADEP)
Method 1.0 - January 1998
AMRO Modifications

This modification is based on the use of a purge and trap gas chromatography mass spectrometer (GCMS) system to analyze samples for VPH. The hydrocarbon ranges are quantified using predominant mass fragmentation ions which are characteristic for the range being measured. This approach eliminates potential false positives for the target analytes while providing accurate hydrocarbon range data.

The chromatographic column is an HP-624 capillary column which has been validated by GCMS analysis of a gasoline standard to correctly identify the marker compounds and elution order of specific gasoline components. Batch quality control includes, at a minimum, method blank, laboratory control sample, and duplicate analysis. A matrix spike and/or matrix spike duplicate is analyzed if sufficient sample is submitted to the laboratory.

The Reporting Limit (RL) of this method for each of the collective aliphatic and aromatic ranges is approximately 0.6-2.8 mg/kg in soil and 25-110 µg/L in water. The RL of this method for the target analytes ranges from approximately 0.05-0.13 mg/kg in soil and 2.0-5.0 µg/L for water samples.

Extractable Petroleum Hydrocarbons (EPH)
Massachusetts Department of Environmental Protection (MADEP)
Method 1.0 - January 1998
AMRO Modifications

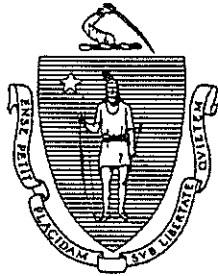
This modification is based on a solvent extraction and gas chromatography mass spectrometer (GCMS) analysis. The hydrocarbon ranges are quantified using predominant mass fragmentation ions which are characteristic for the range being measured. This approach eliminates the silica gel solid-phase fractionation step. False positives for targeted PAH analytes are eliminated by using GCMS as the primary analysis technique.

The chromatographic column is a J&W Scientific DB-5ms capillary column. Internal standard calibration is performed using 5 α -Androstane at a concentration of 40 ng/µL. o-Terphenyl and 1-Chlorooctadecane are added as surrogate compounds at 20 ng/µL in the sample extract. These two surrogates monitor the effects of the sample matrix and extraction efficiency. Two additional surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, are added to the finished extract prior to analysis to monitor instrument performance. Batch quality control includes, at a minimum, a procedure blank, laboratory control sample and duplicate sample analysis. A matrix spike is analyzed if sufficient sample is submitted to the laboratory.

The Reporting Limit (RL) of this method for each of the collective aliphatic and aromatic ranges is approximately 2-15 mg/kg in soil and 10-50 µg/L in water. The RL of this method for the Target PAH analytes ranges from approximately 0.25 to 0.5 mg/kg in soil, 1.0 µg/L for water when operating the GCMS in full scan mode, and 0.1 to 1.0 µg/L when operating the GCMS in SIM mode. For sites requiring the lowest levels cited in the Massachusetts Contingency Plan for water, GCMS in the Selected Ion Monitoring (SIM) mode is used.

Page 1 of 1

The Commonwealth of Massachusetts



Department of Environmental Protection

*Division of Environmental Analysis
Senator William X. Wall Experiment Station*

certifies

**M- NH012 Amro Environmental Lab
111 Herrick St.
Merrimack, NH 03054**

Laboratory Director: Nancy Stewart

for the Chemical Analysis of Potable and Non-Potable Water

pursuant to 310 CMR 42.00

This certificate supersedes all previous Massachusetts certificates issued to this laboratory. The laboratory is regulated by and shall be responsible for being in compliance with Massachusetts regulations at 310 CMR 42.00.

This certificate is valid only when accompanied by the latest dated Certified Parameter List as issued by the Massachusetts D.E.P.

Certification is no guarantee of the validity of the data. This certification is subject to unannounced laboratory inspections.

A handwritten signature in cursive script, reading "Peter C. Fancello".

Director, Division of Environmental Analysis

Issued: 07/01/98

Expires: 06/30/99

Laboratory Report Extractable Petroleum Hydrocarbons (EPH)

EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID	AOC-32-12		AOC-32-13		AOC-32-14	
Method for Ranges: MADEP EPH 98-1							
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	20911-01		20911-02		20911-02	
EPH Surrogate Standards - Extraction	Date Collected	11/11/98		11/11/98		11/11/98	
Aliphatic: 1-Chlorooctadecane	Date Received	11/12/98		11/12/98		11/12/98	
Aromatic: o-Terphenyl	Date Extracted	11/17/98		11/17/98		11/17/98	
EPH Surrogate Standards - Analysis	Date Analyzed	11/18/98		11/18/98		11/18/98	
2-Fluorobiphenyl	Dilution Factor	1		1		1	
2-Bromonaphthalene	% Solids	87.2		88.3		87.8	
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₉ -C ₁₈ Aliphatic Hydrocarbons ¹	mg/Kg	ND	57	ND	55	ND	56
C ₁₉ -C ₃₆ Aliphatic Hydrocarbons ¹	mg/Kg	ND	57	ND	55	ND	56
C ₁₁ -C ₂₂ Aromatic Hydrocarbons ^{1,2}	mg/Kg	ND	57	ND	55	ND	56
Naphthalene	mg/Kg	ND	0.28	ND	0.28	ND	0.28
2-Methylnaphthalene	mg/Kg	ND	0.28	ND	0.28	ND	0.28
Acenaphthylene	mg/Kg	ND	0.28	ND	0.28	ND	0.28
Acenaphthene	mg/Kg	ND	0.28	ND	0.28	ND	0.28
Fluorene	mg/Kg	ND	0.28	ND	0.28	ND	0.28
Phenanthrene	mg/Kg	ND	0.28	ND	0.28	ND	0.28
Anthracene	mg/Kg	ND	0.28	ND	0.28	ND	0.28
Fluoranthene	mg/Kg	ND	0.28	ND	0.28	ND	0.28
Pyrene	mg/Kg	ND	0.28	ND	0.28	ND	0.28
Benzo(a)Anthracene	mg/Kg	ND	0.28	ND	0.28	ND	0.28
Chrysene	mg/Kg	ND	0.28	ND	0.28	ND	0.28
Benzo(b)fluoranthene	mg/Kg	ND	0.28	ND	0.28	ND	0.28
Benzo(k)fluoranthene	mg/Kg	ND	0.28	ND	0.28	ND	0.28
Benzo(a)pyrene	mg/Kg	ND	0.28	ND	0.28	ND	0.28
Dibenzo(a,h)anthracene	mg/Kg	ND	0.28	ND	0.28	ND	0.28
Indeno(1,2,3-cd)pyrene	mg/Kg	ND	0.28	ND	0.28	ND	0.28
Benzo(g,h,i)perylene	mg/Kg	ND	0.28	ND	0.28	ND	0.28
2-Fluorobiphenyl % Recovery	%	98.1	N/A	88.0	N/A	83.8	N/A
2-Bromonaphthalene % Recovery	%	101	N/A	89.4	N/A	81.1	N/A
o-Terphenyl % Recovery	%	71.1	N/A	68.7	N/A	61.7	N/A
1-Chlorooctadecane % Recovery	%	79.5	N/A	83.0	N/A	57.8	N/A
Surrogate Acceptance Range	%	40-140%	40-140%	40-140%	40-140%	40-140%	40-140%

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₁₁-C₂₂ Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

N/A = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS: Octacosane recovered below acceptance limits in the batch QC LCS. No impact to sample data.

CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed? ☒ Yes ☐ No - See Comments
 Were all performance/acceptance standards for required QA/QC procedures achieved? ☐ Yes ☒ No - See Comments
 Were any significant modifications made to the EPH method, as specified in Sect 11.3? ☐ No ☒ Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: Richard Ravenelle

POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle

DATE: 11/23/98

Laboratory Report Extractable Petroleum Hydrocarbons (EPH)

EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID		AOC-32-15		AOC-32-16		AOC-32-17	
Method for Ranges: MADEP EPH 98-1								
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	20911-04		20911-05		20911-06		
EPH Surrogate Standards - Extraction	Date Collected	11/11/98		11/11/98		11/11/98		
Aliphatic: 1-Chlorooctadecane	Date Received	11/12/98		11/12/98		11/12/98		
Aromatic: o-Terphenyl	Date Extracted	11/17/98		11/17/98		11/17/98		
EPH Surrogate Standards - Analysis	Date Analyzed	11/19/98		11/19/98		11/19/98		
2-Fluorobiphenyl	Dilution Factor	1		1		1		
2-Bromonaphthalene	% Solids	86.2		87.7		90.8		
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL	
C ₉ -C ₁₈ Aliphatic Hydrocarbons ¹	mg/Kg	ND	57	ND	57	ND	55	
C ₁₉ -C ₃₅ Aliphatic Hydrocarbons ¹	mg/Kg	ND	57	ND	57	ND	55	
C ₁₁ -C ₂₂ Aromatic Hydrocarbons ^{1,2}	mg/Kg	ND	57	ND	57	ND	55	
Naphthalene	mg/Kg	ND	0.29	ND	0.28	ND	0.27	
2-Methylnaphthalene	mg/Kg	ND	0.29	ND	0.28	ND	0.27	
Acenaphthylene	mg/Kg	ND	0.29	ND	0.28	ND	0.27	
Acenaphthene	mg/Kg	ND	0.29	ND	0.28	ND	0.27	
Fluorene	mg/Kg	ND	0.29	ND	0.28	ND	0.27	
Phenanthrene	mg/Kg	ND	0.29	ND	0.28	ND	0.27	
Anthracene	mg/Kg	ND	0.29	ND	0.28	ND	0.27	
Fluoranthene	mg/Kg	ND	0.29	ND	0.28	ND	0.27	
Pyrene	mg/Kg	ND	0.29	ND	0.28	ND	0.27	
Benzo(a)Anthracene	mg/Kg	ND	0.29	ND	0.28	ND	0.27	
Chrysene	mg/Kg	ND	0.29	ND	0.28	ND	0.27	
Benzo(b)fluoranthene	mg/Kg	ND	0.29	ND	0.28	ND	0.27	
Benzo(k)fluoranthene	mg/Kg	ND	0.29	ND	0.28	ND	0.27	
Benzo(a)pyrene	mg/Kg	ND	0.29	ND	0.28	ND	0.27	
Dibenzo(a,h)anthracene	mg/Kg	ND	0.29	ND	0.28	ND	0.27	
Indeno(1,2,3-cd)pyrene	mg/Kg	ND	0.29	ND	0.28	ND	0.27	
Benzo(g,h,i)perylene	mg/Kg	ND	0.29	ND	0.28	ND	0.27	
2-Fluorobiphenyl % Recovery	%	90.0	N/A	92.6	N/A	103	N/A	
2-Bromonaphthalene % Recovery	%	87.3	N/A	90.2	N/A	101	N/A	
o-Terphenyl % Recovery	%	71.3	N/A	71.4	N/A	77.2	N/A	
1-Chlorooctadecane % Recovery	%	65.5	N/A	66.7	N/A	80.7	N/A	
Surrogate Acceptance Range	%	40-140%	40-140%	40-140%	40-140%	40-140%	40-140%	

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₁₁-C₂₂ Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

N/A = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS: Octacosane recovered below acceptance limits in the batch QC LCS. No impact to sample data.

CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed? ☒ Yes ☐ No - See Comments
 Were all performance/acceptance standards for required QA/QC procedures achieved? ☐ Yes ☒ No - See Comments
 Were any significant modifications made to the EPH method, as specified in Sect 11.3? ☐ No ☒ Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: 

POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle

DATE: 11/23/98

Laboratory Report Extractable Petroleum Hydrocarbons (EPH)

EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID	AOC-32-TR-16		AOC-32-TR-17		AOC-32-TR-18	
Method for Ranges: MADEP EPH 98-1							
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	20911-07		20911-08		20911-09	
EPH Surrogate Standards - Extraction Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl	Date Collected	11/12/98		11/12/98		11/12/98	
	Date Received	11/12/98		11/12/98		11/12/98	
	Date Extracted	11/17/98		11/17/98		11/17/98	
EPH Surrogate Standards - Analysis 2-Fluorobiphenyl 2-Bromonaphthalene	Date Analyzed	11/19/98		11/19/98		11/19/98	
	Dilution Factor	1		1		1	
	% Solids	87.7		93.8		91.6	
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₉ -C ₁₈ Aliphatic Hydrocarbons ¹	mg/Kg	ND	57	ND	53	ND	53
C ₁₉ -C ₃₆ Aliphatic Hydrocarbons ¹	mg/Kg	ND	57	610	53	ND	53
C ₁₁ -C ₂₂ Aromatic Hydrocarbons ^{1,2}	mg/Kg	ND	57	ND	53	ND	53
Naphthalene	mg/Kg	ND	0.028	ND	0.26	ND	0.27
2-Methylnaphthalene	mg/Kg	ND	0.028	ND	0.26	ND	0.27
Acenaphthylene	mg/Kg	ND	0.028	ND	0.26	ND	0.27
Acenaphthene	mg/Kg	ND	0.028	ND	0.26	ND	0.27
Fluorene	mg/Kg	ND	0.028	ND	0.26	ND	0.27
Phenanthrene	mg/Kg	ND	0.028	ND	0.26	ND	0.27
Anthracene	mg/Kg	ND	0.028	ND	0.26	ND	0.27
Fluoranthene	mg/Kg	ND	0.028	ND	0.26	ND	0.27
Pyrene	mg/Kg	ND	0.028	ND	0.26	ND	0.27
Benzo(a)Anthracene	mg/Kg	ND	0.028	ND	0.26	ND	0.27
Chrysene	mg/Kg	ND	0.028	ND	0.26	ND	0.27
Benzo(b)fluoranthene	mg/Kg	ND	0.028	ND	0.26	ND	0.27
Benzo(k)fluoranthene	mg/Kg	ND	0.028	ND	0.26	ND	0.27
Benzo(a)pyrene	mg/Kg	ND	0.028	ND	0.26	ND	0.27
Dibenzo(a,h)anthracene	mg/Kg	ND	0.028	ND	0.26	ND	0.27
Indeno(1,2,3-cd)pyrene	mg/Kg	ND	0.028	ND	0.26	ND	0.27
Benzo(g,h,i)perylene	mg/Kg	ND	0.028	ND	0.26	ND	0.27
2-Fluorobiphenyl % Recovery	%	82.2	N/A	85.4	N/A	90.2	N/A
2-Bromonaphthalene % Recovery	%	84.9	N/A	84.9	N/A	77.4	N/A
o-Terphenyl % Recovery	%	60.6	N/A	65.1	N/A	70.1	N/A
1-Chlorooctadecane % Recovery	%	51.4	N/A	63.7	N/A	79.6	N/A
Surrogate Acceptance Range	%	40-140%	40-140%	40-140%	40-140%	40-140%	40-140%

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₁₁-C₂₂ Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

N/A = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS: Octacosane recovered below acceptance limits in the batch QC LCS. No impact to sample data.

CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed?	[X] Yes [] No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	[] Yes [X] No - See Comments
Were any significant modifications made to the EPH method, as specified in Sect 11.3?	[] No [X] Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: Richard Ravenelle

POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle

DATE: 11/23/98

Laboratory Report

Extractable Petroleum Hydrocarbons (EPH)

EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID	AOC-32-TR-19		AOC-32-10		AOC-32-11	
Method for Ranges: MADEP EPH 98-1							
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	20911-10		20911-11		20911-12	
EPH Surrogate Standards - Extraction	Date Collected	11/12/98		11/12/98		11/12/98	
Aliphatic: 1-Chlorooctadecane	Date Received	11/12/98		11/12/98		11/12/98	
Aromatic: o-Terphenyl	Date Extracted	11/17/98		11/17/98		11/17/98	
EPH Surrogate Standards - Analysis	Date Analyzed	11/19/98		11/19/98		11/19/98	
2-Fluorobiphenyl	Dilution Factor	1		1		1	
2-Bromonaphthalene	% Solids	92.6		90.4		92.1	
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₉ -C ₁₈ Aliphatic Hydrocarbons ¹	mg/Kg	ND	54	ND	55	ND	54
C ₁₉ -C ₃₆ Aliphatic Hydrocarbons ¹	mg/Kg	ND	54	610	55	ND	54
C ₁₁ -C ₂₂ Aromatic Hydrocarbons ^{1,2}	mg/Kg	ND	54	ND	55	ND	54
Naphthalene	mg/Kg	ND	0.27	ND	0.27	ND	0.27
2-Methylnaphthalene	mg/Kg	ND	0.27	ND	0.27	ND	0.27
Acenaphthylene	mg/Kg	ND	0.27	ND	0.27	ND	0.27
Acenaphthene	mg/Kg	ND	0.27	ND	0.27	ND	0.27
Fluorene	mg/Kg	ND	0.27	ND	0.27	ND	0.27
Phenanthrene	mg/Kg	ND	0.27	ND	0.27	ND	0.27
Anthracene	mg/Kg	ND	0.27	ND	0.27	ND	0.27
Fluoranthene	mg/Kg	ND	0.27	ND	0.27	ND	0.27
Pyrene	mg/Kg	ND	0.27	ND	0.27	ND	0.27
Benzo(a)Anthracene	mg/Kg	ND	0.27	ND	0.27	ND	0.27
Chrysene	mg/Kg	ND	0.27	ND	0.27	ND	0.27
Benzo(b)fluoranthene	mg/Kg	ND	0.27	ND	0.27	ND	0.27
Benzo(k)fluoranthene	mg/Kg	ND	0.27	ND	0.27	ND	0.27
Benzo(a)pyrene	mg/Kg	ND	0.27	ND	0.27	ND	0.27
Dibenzo(a,h)anthracene	mg/Kg	ND	0.27	ND	0.27	ND	0.27
Indeno(1,2,3-cd)pyrene	mg/Kg	ND	0.27	ND	0.27	ND	0.27
Benzo(g,h,i)perylene	mg/Kg	ND	0.27	ND	0.27	ND	0.27
2-Fluorobiphenyl % Recovery	%	90.5	N/A	97.4	N/A	87.5	N/A
2-Bromonaphthalene % Recovery	%	88.7	N/A	97.4	N/A	86.9	N/A
o-Terphenyl % Recovery	%	69.9	N/A	74.4	N/A	85.7	N/A
1-Chlorooctadecane % Recovery	%	76.1	N/A	95.9	N/A	79.6	N/A
Surrogate Acceptance Range	%	40-140%	40-140%	40-140%	40-140%	40-140%	40-140%

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₁₁-C₂₂ Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

N/A = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS: Octacosane recovered below acceptance limits in the batch QC LCS. No impact to sample data.

CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed?	☒ Yes	☐ No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	☐ Yes	☒ No - See Comments
Were any significant modifications made to the EPH method, as specified in Sect 11.3?	☐ No	☒ Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: Richard Ravenelle POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle DATE: 11/23/98

Laboratory Report Extractable Petroleum Hydrocarbons (EPH)

EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID	AOC-32-18		AOC-32-19			
Method for Ranges: MADEP EPH 98-1							
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	20911-13		20911-14			
EPH Surrogate Standards - Extraction Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl	Date Collected	11/12/98		11/12/98			
	Date Received	11/12/98		11/12/98			
	Date Extracted	11/17/98		11/17/98			
EPH Surrogate Standards - Analysis 2-Fluorobiphenyl 2-Bromonaphthalene	Date Analyzed	11/19/98		11/19/98			
	Dilution Factor	1		1			
	% Solids	89.0		92.0			
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₉ -C ₁₈ Aliphatic Hydrocarbons ¹	mg/Kg	ND	56	ND	54		
C ₁₉ -C ₃₆ Aliphatic Hydrocarbons ¹	mg/Kg	170	56	140	54		
C ₁₁ -C ₂₂ Aromatic Hydrocarbons ^{1,2}	mg/Kg	ND	56	ND	54		
Naphthalene	mg/Kg	ND	0.28	ND	0.27		
2-Methylnaphthalene	mg/Kg	ND	0.28	ND	0.27		
Acenaphthylene	mg/Kg	ND	0.28	ND	0.27		
Acenaphthene	mg/Kg	ND	0.28	ND	0.27		
Fluorene	mg/Kg	ND	0.28	ND	0.27		
Phenanthrene	mg/Kg	ND	0.28	ND	0.27		
Anthracene	mg/Kg	ND	0.28	ND	0.27		
Fluoranthene	mg/Kg	ND	0.28	ND	0.27		
Pyrene	mg/Kg	ND	0.28	ND	0.27		
Benzo(a)Anthracene	mg/Kg	ND	0.28	ND	0.27		
Chrysene	mg/Kg	ND	0.28	ND	0.27		
Benzo(b)fluoranthene	mg/Kg	ND	0.28	ND	0.27		
Benzo(k)fluoranthene	mg/Kg	ND	0.28	ND	0.27		
Benzo(a)pyrene	mg/Kg	ND	0.28	ND	0.27		
Dibenzo(a,h)anthracene	mg/Kg	ND	0.28	ND	0.27		
Indeno(1,2,3-cd)pyrene	mg/Kg	ND	0.28	ND	0.27		
Benzo(g,h,i)perylene	mg/Kg	ND	0.28	ND	0.27		
2-Fluorobiphenyl % Recovery	%	99.0	N/A	99.1	N/A		N/A
2-Bromonaphthalene % Recovery	%	94.2	N/A	92.9	N/A		N/A
o-Terphenyl % Recovery	%	87.8	N/A	79.7	N/A		N/A
1-Chlorooctadecane % Recovery	%	87.8	N/A	86.0	N/A		N/A
Surrogate Acceptance Range	%	40-140%	40-140%	40-140%	40-140%	40-140%	40-140%

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₁₁-C₂₂ Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

N/A = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS: Octacosane recovered below acceptance limits in the batch QC LCS. No impact to sample data.

CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed? ☒ Yes ☐ No - See Comments
 Were all performance/acceptance standards for required QA/QC procedures achieved? ☐ Yes ☒ No - See Comments
 Were any significant modifications made to the EPH method, as specified in Sect 11.3? ☐ No ☒ Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: Richard Ravenelle POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle

DATE: 11/23/98

Laboratory Report Volatile Petroleum Hydrocarbons (VPH)

Method for Ranges: MADEP VPH 98-1	Client ID	AOC-32-12		AOC-32-13		AOC-32-14	
Method for Target Analytes: EPA 8260	AMRO Lab ID	20911-01		20911-02		20911-03	
VPH Surrogate Standards 1,2-Dichloroethane-d4 Toluene-d8 Bromofluorobenzene 2,5-Dibromotoluene	Date Collected	11/11/98		11/11/98		11/11/98	
	Date Received	11/12/98		11/12/98		11/12/98	
	Date Analyzed	11/21/98		11/20/98		11/20/98	
	mL Methanol/g soil 1:1 +/- 25%	[X] Yes [] No		[X] Yes [] No		[X] Yes [] No	
	Dilution Factor	1		1		1	
	% Solids	87.2		88.3		87.8	
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₅ -C ₈ Aliphatic Hydrocarbons ^{1,2}	mg/Kg	ND	3.4	ND	3.1	ND	2.9
C ₉ -C ₁₂ Aliphatic Hydrocarbons ^{1,3}	mg/Kg	ND	0.84	ND	0.77	ND	0.71
C ₉ -C ₁₀ Aromatic Hydrocarbons ¹	mg/Kg	ND	0.84	ND	0.77	ND	0.71
Methyl-tert-butylether	mg/Kg	ND	0.068	ND	0.062	ND	0.057
Benzene	mg/Kg	ND	0.068	ND	0.062	ND	0.057
Toluene	mg/Kg	ND	0.068	ND	0.062	ND	0.057
Ethylbenzene	mg/Kg	ND	0.068	ND	0.062	ND	0.057
m- & p-Xylenes	mg/Kg	ND	0.068	ND	0.062	ND	0.057
Xylene	mg/Kg	ND	0.068	ND	0.062	ND	0.057
Naphthalene	mg/Kg	ND	0.068	ND	0.062	ND	0.057
1,2-Dichloroethane-d4 Limits (70-130%)	%	122	NA	126	NA	115	NA
Toluene-d8 Limits (70-130%)	%	95.3	NA	105	NA	95.0	NA
Bromofluorobenzene Limits (70-130%)	%	97.2	NA	106	NA	95.2	NA
2,5-Dibromotoluene Limits (70-130%)	%	99.1	NA	132*	NA	120	NA

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range

³ C₉-C₁₂ Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND conc of C₉-C₁₀ Aromatic Hydrocarbons

NA = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS: * = Surrogate exceeds QC limits; no impact to data.

CERTIFICATION

Were all QA/QC procedures REQUIRED by the VPH Method followed? ☒ Yes ☐ No - See Comments
 Were all performance/acceptance standards for required QA/QC procedures achieved? ☐ Yes ☒ No - See Comments
 Were any significant modifications made to the VPH method, as specified in Sect 11.3? ☐ No ☒ Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE:

Richard Ravenelle

POSITION:

Organic Division Manager

PRINTED NAME:

Richard Ravenelle

DATE:

11/23/98

Laboratory Report Volatile Petroleum Hydrocarbons (VPH)

Method for Ranges: MADEP VPH 98-1	Client ID	AOC-32-15	AOC-32-16	AOC-32-17
Method for Target Analytes: EPA 8260	AMRO Lab ID	20911-04	20911-05	20911-06
VPH Surrogate Standards	Date Collected	11/11/98	11/11/98	11/11/98
1,2-Dichloroethane-d4	Date Received	11/12/98	11/12/98	11/12/98
Toluene-d8	Date Analyzed	11/20/98	11/20/98	11/20/98
Bromofluorobenzene	mL Methanol/g soil			
2,5-Dibromotoluene	1:1 +/- 25%	[X] Yes [] No	[X] Yes [] No	[X] Yes [] No
	Dilution Factor	1	1	1
	% Solids	86.2	87.7	90.8

Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₅ -C ₈ Aliphatic Hydrocarbons ^{1,2}	mg/Kg	ND	3.1	ND	2.8	ND	2.6
C ₉ -C ₁₂ Aliphatic Hydrocarbons ^{1,3}	mg/Kg	ND	0.77	ND	0.69	ND	0.65
C ₉ -C ₁₀ Aromatic Hydrocarbons ¹	mg/Kg	ND	0.77	ND	0.69	ND	0.65
Methyl-tert-butylether	mg/Kg	ND	0.062	ND	0.056	ND	0.052
Benzene	mg/Kg	ND	0.062	ND	0.056	ND	0.052
Toluene	mg/Kg	ND	0.062	ND	0.056	ND	0.052
Ethylbenzene	mg/Kg	ND	0.062	ND	0.056	ND	0.052
m- & p-Xylenes	mg/Kg	ND	0.062	ND	0.056	ND	0.052
o-Xylene	mg/Kg	ND	0.062	ND	0.056	ND	0.052
Naphthalene	mg/Kg	ND	0.062	ND	0.056	ND	0.052
1,2-Dichloroethane-d4 Limits (70-130%)	%	115	NA	134*	NA	127	NA
Toluene-d8 Limits (70-130%)	%	95.2	NA	109	NA	105	NA
Bromofluorobenzene Limits (70-130%)	%	96.0	NA	110	NA	106	NA
2,5-Dibromotoluene Limits (70-130%)	%	127	NA	123	NA	136*	NA

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range
² C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range
³ C₉-C₁₂ Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND conc of C₉-C₁₀ Aromatic Hydrocarbons
 NA = Not Applicable
 ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS: * = Surrogate exceeds QC limits; no impact to data.

CERTIFICATION

Were all QA/QC procedures REQUIRED by the VPH Method followed?	[X] Yes [] No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	[] Yes [X] No - See Comments
Were any significant modifications made to the VPH method, as specified in Sect 11.3?	[] No [X] Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: Richard Ravenelle POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle DATE: 11/23/98

Laboratory Report Volatile Petroleum Hydrocarbons (VPH)

Method for Ranges: MADEP VPH 98-1	Client ID	AOC-32-TR-16		AOC-32-TR-17		AOC-32-TR-18	
Method for Target Analytes: EPA 8260	AMRO Lab ID	20911-07		20911-08		20911-09	
VPH Surrogate Standards	Date Collected	11/12/98		11/12/98		11/12/98	
1,2-Dichloroethane-d4	Date Received	11/12/98		11/12/98		11/12/98	
Toluene-d8	Date Analyzed	11/20/98		11/20/98		11/20/98	
Bromofluorobenzene	mL Methanol/g soil	1:1 +/- 25%		[X] Yes [] No		[X] Yes [] No	
2,5-Dibromotoluene	Dilution Factor	1		1		1	
	% Solids	87.7		93.8		91.6	
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₅ -C ₈ Aliphatic Hydrocarbons ^{1,2}	mg/Kg	ND	3.1	ND	2.6	ND	3.2
C ₉ -C ₁₂ Aliphatic Hydrocarbons ^{1,3}	mg/Kg	ND	0.78	ND	0.64	ND	0.80
C ₉ -C ₁₀ Aromatic Hydrocarbons ¹	mg/Kg	ND	0.78	ND	0.64	ND	0.80
Methyl-tert-butylether	mg/Kg	ND	0.063	ND	0.051	ND	0.064
Benzene	mg/Kg	ND	0.063	ND	0.051	ND	0.064
Toluene	mg/Kg	ND	0.063	ND	0.051	ND	0.064
Ethylbenzene	mg/Kg	ND	0.063	ND	0.051	ND	0.064
m- & p-Xylenes	mg/Kg	ND	0.063	ND	0.051	ND	0.064
o-Xylene	mg/Kg	ND	0.063	ND	0.051	ND	0.064
Naphthalene	mg/Kg	ND	0.063	ND	0.051	ND	0.064
1,2-Dichloroethane-d4 Limits (70-130%)	%	122	NA	121	NA	119	NA
Toluene-d8 Limits (70-130%)	%	102	NA	100	NA	101	NA
Bromofluorobenzene Limits (70-130%)	%	102	NA	100	NA	102	NA
2,5-Dibromotoluene Limits (70-130%)	%	126	NA	118	NA	121	NA

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range
² C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range
³ C₉-C₁₂ Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND conc of C₉-C₁₀ Aromatic Hydrocarbons
NA = Not Applicable
ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS:

CERTIFICATION

Were all QA/QC procedures REQUIRED by the VPH Method followed?	[X] Yes [] No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	[X] Yes [] No - See Comments
Were any significant modifications made to the VPH method, as specified in Sect 11.3?	[] No [X] Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: Richard Ravenelle POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle DATE: 11/23/98

Laboratory Report Volatile Petroleum Hydrocarbons (VPH)

Method for Ranges: MADEP VPH 98-1	Client ID	AOC-32-TR-19	AOC-32-10	AOC-32-11
Method for Target Analytes: EPA 8260	AMRO Lab ID	20911-10	20911-11	20911-12
VPH Surrogate Standards	Date Collected	11/12/98	11/12/98	11/12/98
1,2-Dichloroethane-d4	Date Received	11/12/98	11/12/98	11/12/98
Toluene-d8	Date Analyzed	11/20/98	11/20/98	11/20/98
Bromofluorobenzene	mL Methanol/g soil			
2,5-Dibromotoluene	1:1 +/- 25%	☒ Yes ☐ No	☒ Yes ☐ No	☒ Yes ☐ No
	Dilution Factor	1	1	1
	% Solids	92.6	90.4	92.1

Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₅ -C ₈ Aliphatic Hydrocarbons ^{1,2}	mg/Kg	ND	2.4	ND	2.7	ND	2.2
C ₉ -C ₁₂ Aliphatic Hydrocarbons ^{1,3}	mg/Kg	ND	0.61	ND	0.67	ND	0.55
C ₉ -C ₁₀ Aromatic Hydrocarbons ¹	mg/Kg	ND	0.61	ND	0.67	ND	0.55
Methyl-tert-butylether	mg/Kg	ND	0.049	ND	0.054	ND	0.044
Benzene	mg/Kg	ND	0.049	ND	0.054	ND	0.044
Toluene	mg/Kg	ND	0.049	ND	0.054	ND	0.044
Ethylbenzene	mg/Kg	ND	0.049	ND	0.054	ND	0.044
m- & p-Xylenes	mg/Kg	ND	0.049	ND	0.054	ND	0.044
o-Xylene	mg/Kg	ND	0.049	ND	0.054	ND	0.044
Naphthalene	mg/Kg	ND	0.049	ND	0.054	ND	0.044
1,2-Dichloroethane-d4 Limits (70-130%)	%	127	NA	119	NA	120	NA
Toluene-d8 Limits (70-130%)	%	107	NA	99.3	NA	99.5	NA
Bromofluorobenzene Limits (70-130%)	%	108	NA	99.9	NA	100	NA
2,5-Dibromotoluene Limits (70-130%)	%	128	NA	131*	NA	119	NA

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range

³ C₉-C₁₂ Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND conc of C₉-C₁₀ Aromatic Hydrocarbons

NA = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS: * = Surrogate exceeds QC limits; no impact to data.

CERTIFICATION

Were all QA/QC procedures REQUIRED by the VPH Method followed?	[X] Yes [] No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	[] Yes [X] No - See Comments
Were any significant modifications made to the VPH method, as specified in Sect 11.3?	[] No [X] Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: Richard Ravenelle

PRINTED NAME: Richard Ravenelle

POSITION: Organic Division Manager

DATE: 11/23/98

Laboratory Report Volatile Petroleum Hydrocarbons (VPH)

Method for Ranges: MADEP VPH 98-1	Client ID	AOC-32-18	AOC-32-19	Method Blank
Method for Target Analytes: EPA 8260	AMRO Lab ID	20911-13	20911-14	NA
VPH Surrogate Standards	Date Collected	11/12/98	11/12/98	11/12/98
1,2-Dichloroethane-d4	Date Received	11/12/98	11/12/98	11/12/98
Toluene-d8	Date Analyzed	11/20/98	11/20/98	11/20/98
Bromofluorobenzene	mL Methanol/g soil			
2,5-Dibromotoluene	1:1 +/- 25%	[X] Yes [] No	[X] Yes [] No	NA
	Dilution Factor	1	1	1
	% Solids	89.0	92.0	NA

Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₅ -C ₈ Aliphatic Hydrocarbons ^{1,2}	mg/Kg	ND	3.7	ND	2.5	ND	2.5
C ₉ -C ₁₂ Aliphatic Hydrocarbons ^{1,3}	mg/Kg	ND	0.78	ND	0.63	ND	0.62
C ₉ -C ₁₀ Aromatic Hydrocarbons ¹	mg/Kg	ND	0.78	ND	0.63	ND	0.62
Methyl-tert-butylether	mg/Kg	ND	0.063	ND	0.051	ND	0.050
Benzene	mg/Kg	ND	0.063	ND	0.051	ND	0.050
Toluene	mg/Kg	ND	0.063	ND	0.051	ND	0.050
Ethylbenzene	mg/Kg	ND	0.063	ND	0.051	ND	0.050
m- & p-Xylenes	mg/Kg	ND	0.063	ND	0.051	ND	0.050
o-Xylene	mg/Kg	ND	0.063	ND	0.051	ND	0.050
1-methyl-naphthalene	mg/Kg	ND	0.063	ND	0.051	ND	0.050
1,2-Dichloroethane-d4 Limits (70-130%)	%	126	NA	120	NA	95.2	NA
Toluene-d8 Limits (70-130%)	%	102	NA	97.7	NA	79.7	NA
Bromofluorobenzene Limits (70-130%)	%	104	NA	98.8	NA	84.6	NA
2,5-Dibromotoluene Limits (70-130%)	%	127	NA	132*	NA	110	NA

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range
² C₅-C₈ Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range
³ C₉-C₁₂ Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND conc of C₉-C₁₀ Aromatic Hydrocarbons
 NA = Not Applicable
 ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS: * = Surrogate exceeds QC limits; no impact to data.

CERTIFICATION

Were all QA/QC procedures REQUIRED by the VPH Method followed?	[X] Yes [] No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	[] Yes [X] No - See Comments
Were any significant modifications made to the VPH method, as specified in Sect 11.3?	[] No [X] Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE: Richard Ravenelle POSITION: Organic Division Manager

PRINTED NAME: Richard Ravenelle DATE: 11/23/98

20911



RECRA
LabNet

Custody Transfer Record/Lab Work Request

[illegible]

Page 2 of 2

The Commonwealth of Massachusetts



Department of Environmental Protection

*Division of Environmental Analysis
Senator William X. Wall Experiment Station*

certifies

**M- NH012 Amro Environmental Lab
111 Herrick St.
Merrimack, NH 03054**

Laboratory Director: Nancy Stewart

for the Chemical Analysis of Potable and Non-Potable Water

pursuant to 310 CMR 42.00

This certificate supersedes all previous Massachusetts certificates issued to this laboratory. The laboratory is regulated by and shall be responsible for being in compliance with Massachusetts regulations at 310 CMR 42.00.

This certificate is valid only when accompanied by the latest dated Certified Parameter List as issued by the Massachusetts D.E.P.

Certification is no guarantee of the validity of the data. This certification is subject to unannounced laboratory inspections.

A handwritten signature in dark ink, appearing to read "Peter C. Passolunghi".

Director, Division of Environmental Analysis

Issued: 07/01/98

Expires: 06/30/99

Laboratory Report Extractable Petroleum Hydrocarbons (EPH)

EPH ANALYTICAL RESULTS

Extraction Method: EPA 3541	Client ID	AOC-32-01-C					
Method for Ranges: MADEP EPH 98-1							
Method for Target Analytes: MADEP EPH 98-1	AMRO Lab ID	21166-01					
EPH Surrogate Standards - Extraction	Date Collected	12/3/98					
Aliphatic: 1-Chlorooctadecane	Date Received	12/3/98					
Aromatic: o-Terphenyl	Date Extracted	12/7/98					
EPH Surrogate Standards - Analysis	Date Analyzed	12/10/98					
2-Fluorobiphenyl	Dilution Factor	1					
2-Bromonaphthalene	% Solids	95.3					
Range/Target Analyte	UNITS	RESULTS	RL	RESULTS	RL	RESULTS	RL
C ₉ -C ₁₈ Aliphatic Hydrocarbons ¹	mg/Kg	ND	51				
C ₁₉ -C ₃₆ Aliphatic Hydrocarbons ¹	mg/Kg	ND	51				
C ₁₁ -C ₂₂ Aromatic Hydrocarbons ^{1,2}	mg/Kg	ND	51				
Naphthalene	mg/Kg	ND	0.26				
2-Methylnaphthalene	mg/Kg	ND	0.26				
Acenaphthylene	mg/Kg	ND	0.26				
Acenaphthene	mg/Kg	ND	0.26				
Fluorene	mg/Kg	ND	0.26				
Phenanthrene	mg/Kg	ND	0.26				
Anthracene	mg/Kg	ND	0.26				
Fluoranthene	mg/Kg	ND	0.26				
Pyrene	mg/Kg	ND	0.26				
Benzo(a)Anthracene	mg/Kg	ND	0.26				
Chrysene	mg/Kg	ND	0.26				
Benzo(b)fluoranthene	mg/Kg	ND	0.26				
Benzo(k)fluoranthene	mg/Kg	ND	0.26				
Benzo(a)pyrene	mg/Kg	ND	0.26				
Dibenzo(a,h)anthracene	mg/Kg	ND	0.26				
Indeno(1,2,3-cd)pyrene	mg/Kg	ND	0.26				
Benzo(g,h,i)perylene	mg/Kg	ND	0.26				
2-Fluorobiphenyl % Recovery	%	52.1	N/A				
2-Bromonaphthalene % Recovery	%	52.6	N/A				
o-Terphenyl % Recovery	%	43.9	N/A				
1-Chlorooctadecane % Recovery	%	50.2	N/A				
Surrogate Acceptance Range	%	40-140%	40-140%	40-140%	40-140%	40-140%	40-140%

¹ Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range

² C₁₁-C₂₂ Aromatic Hydrocarbons exclude the concentration of Target PAH Analytes

N/A = Not Applicable

ND = Not Detected at or above the Reporting Limit (RL) indicated.

COMMENTS:

CERTIFICATION

Were all QA/QC procedures REQUIRED by the EPH Method followed?	☒ Yes	☐ No - See Comments
Were all performance/acceptance standards for required QA/QC procedures achieved?	☒ Yes	☐ No - See Comments
Were any significant modifications made to the EPH method, as specified in Sect 11.3?	☐ No	☒ Yes - Details attached

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SIGNATURE:

Richard Ravenelle

POSITION:

Organic Division Manager

PRINTED NAME:

Richard Ravenelle

DATE:

12/14/98

Volatile Petroleum Hydrocarbons (VPH)
Massachusetts Department of Environmental Protection (MADEP)
Method 1.0 - January 1998
AMRO Modifications

This modification is based on the use of a purge and trap gas chromatography mass spectrometer (GCMS) system to analyze samples for VPH. The hydrocarbon ranges are quantified using predominant mass fragmentation ions which are characteristic for the range being measured. This approach eliminates potential false positives for the target analytes while providing accurate hydrocarbon range data.

The chromatographic column is an HP-624 capillary column which has been validated by GCMS analysis of a gasoline standard to correctly identify the marker compounds and elution order of specific gasoline components. Batch quality control includes, at a minimum, method blank, laboratory control sample, and duplicate analysis. A matrix spike and/or matrix spike duplicate is analyzed if sufficient sample is submitted to the laboratory.

The Reporting Limit (RL) of this method for each of the collective aliphatic and aromatic ranges is approximately 0.6-2.8 mg/kg in soil and 25-110 µg/L in water. The RL of this method for the target analytes ranges from approximately 0.05-0.13 mg/kg in soil and 2.0-5.0 µg/L for water samples.

Extractable Petroleum Hydrocarbons (EPH)
Massachusetts Department of Environmental Protection (MADEP)
Method 1.0 - January 1998
AMRO Modifications

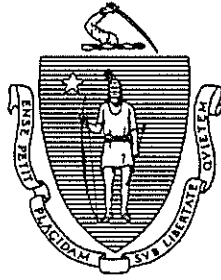
This modification is based on a solvent extraction and gas chromatography mass spectrometer (GCMS) analysis. The hydrocarbon ranges are quantified using predominant mass fragmentation ions which are characteristic for the range being measured. This approach eliminates the silica gel solid-phase fractionation step. False positives for targeted PAH analytes are eliminated by using GCMS as the primary analysis technique.

The chromatographic column is a J&W Scientific DB-5ms capillary column. Internal standard calibration is performed using 5 α -Androstane at a concentration of 40 ng/µL. o-Terphenyl and 1-Chlorooctadecane are added as surrogate compounds at 20 ng/µL in the sample extract. These two surrogates monitor the effects of the sample matrix and extraction efficiency. Two additional surrogates, 2-Fluorobiphenyl and 2-Bromonaphthalene, are added to the finished extract prior to analysis to monitor instrument performance. Batch quality control includes, at a minimum, a procedure blank, laboratory control sample and duplicate sample analysis. A matrix spike is analyzed if sufficient sample is submitted to the laboratory.

The Reporting Limit (RL) of this method for each of the collective aliphatic and aromatic ranges is approximately 2-15 mg/kg in soil and 10-50 µg/L in water. The RL of this method for the Target PAH analytes ranges from approximately 0.25 to 0.5 mg/kg in soil, 1.0 µg/L for water when operating the GCMS in full scan mode, and 0.1 to 1.0 µg/L when operating the GCMS in SIM mode. For sites requiring the lowest levels cited in the Massachusetts Contingency Plan for water, GCMS in the Selected Ion Monitoring (SIM) mode is used.

381-596a

The Commonwealth of Massachusetts



Department of Environmental Protection

Division of Environmental Analysis

Senator William X. Wall Experiment Station

certifies

M- NH012 Amro Environmental Lab
111 Herrick St.
Merrimack, NH 03054

Laboratory Director: Nancy Stewart

for the Chemical Analysis of Potable and Non-Potable Water

pursuant to 310 CMR 42.00

This certificate supersedes all previous Massachusetts certificates issued to this laboratory. The laboratory is regulated by and shall be responsible for being in compliance with Massachusetts regulations at 310 CMR 42.00.

This certificate is valid only when accompanied by the latest dated Certified Parameter List as issued by the Massachusetts D.E.P.

Certification is no guarantee of the validity of the data. This certification is subject to unannounced laboratory inspections.

A handwritten signature in cursive script, reading "Peter C. Pavesio".

Director, Division of Environmental Analysis

Issued: 07/01/98

Expires: 06/30/99

Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G073

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
AOC-32-TR-01							
% SOLIDS	001	S	98GTS669	11/07/98	11/11/98	11/12/98	11/12/98
% SOLIDS	001 REP	S	98GTS669	11/07/98	11/11/98	11/12/98	11/12/98
ARSENIC. TOTAL	001	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98
LEAD. TOTAL	001	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98
AOC-32-TR-01 Dup							
% SOLIDS	002	S	98GTS669	11/07/98	11/11/98	11/12/98	11/12/98
ARSENIC. SERIAL DILU	002 L	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98
ARSENIC. TOTAL	002	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98
ARSENIC. TOTAL	002 REP	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98
ARSENIC. TOTAL	002 MS	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98
LEAD. SERIAL DILUTIO	002 L	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98
LEAD. TOTAL	002	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98
LEAD. TOTAL	002 REP	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98
LEAD. TOTAL	002 MS	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98
AOC-32-TR-02							
% SOLIDS	003	S	98GTS669	11/07/98	11/11/98	11/12/98	11/12/98
ARSENIC. TOTAL	003	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98
LEAD. TOTAL	003	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98
AOC-32-TR-03							
% SOLIDS	004	S	98GTS669	11/07/98	11/11/98	11/12/98	11/12/98
ARSENIC. TOTAL	004	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98
LEAD. TOTAL	004	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98
AOC-32-TR-04							
% SOLIDS	005	S	98GTS669	11/07/98	11/11/98	11/12/98	11/12/98
ARSENIC. TOTAL	005	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98
LEAD. TOTAL	005	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98



Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G073

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN	DATE	REC	EXT/PREP	ANALYSIS
AOC-32-TR-05								
% SOLIDS	006	S	98GTS669	11/07/98	11/11/98	11/12/98	11/12/98	
ARSENIC. TOTAL	006	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98	
LEAD. TOTAL	006	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98	
AOC-32-TR-06								
% SOLIDS	007	S	98GTS669	11/07/98	11/11/98	11/12/98	11/12/98	
ARSENIC. TOTAL	007	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98	
LEAD. TOTAL	007	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98	
AOC-32-TR-06 Dup								
% SOLIDS	008	S	98GTS669	11/07/98	11/11/98	11/12/98	11/12/98	
ARSENIC. TOTAL	008	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98	
ARSENIC. TOTAL	008 REP	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98	
ARSENIC. TOTAL	008 MS	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98	
LEAD. TOTAL	008	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98	
LEAD. TOTAL	008 REP	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98	
LEAD. TOTAL	008 MS	S	98GI422	11/07/98	11/11/98	11/13/98	11/16/98	
AOC-32-TR-07								
% SOLIDS	009	S	98GTS669	11/09/98	11/11/98	11/12/98	11/12/98	
ARSENIC. TOTAL	009	S	98GI422	11/09/98	11/11/98	11/13/98	11/16/98	
LEAD. TOTAL	009	S	98GI422	11/09/98	11/11/98	11/13/98	11/16/98	
AOC-32-TR-08								
% SOLIDS	010	S	98GTS669	11/09/98	11/11/98	11/12/98	11/12/98	
ARSENIC. TOTAL	010	S	98GI422	11/09/98	11/11/98	11/13/98	11/16/98	
LEAD. TOTAL	010	S	98GI422	11/09/98	11/11/98	11/13/98	11/16/98	
AOC-32-TR-09								
% SOLIDS	011	S	98GTS669	11/09/98	11/11/98	11/12/98	11/12/98	
ARSENIC. TOTAL	011	S	98GI422	11/09/98	11/11/98	11/13/98	11/16/98	
LEAD. TOTAL	011	S	98GI422	11/09/98	11/11/98	11/13/98	11/16/98	



Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G073

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
AOC-32-TR-10							
% SOLIDS	012	S	98GTS669	11/09/98	11/11/98	11/12/98	11/12/98
ARSENIC. TOTAL	012	S	98GI422	11/09/98	11/11/98	11/13/98	11/16/98
LEAD. TOTAL	012	S	98GI422	11/09/98	11/11/98	11/13/98	11/16/98
AOC-32-TR-11							
% SOLIDS	013	S	98GTS669	11/09/98	11/11/98	11/12/98	11/12/98
ARSENIC. TOTAL	013	S	98GI422	11/09/98	11/11/98	11/13/98	11/16/98
LEAD. TOTAL	013	S	98GI422	11/09/98	11/11/98	11/13/98	11/16/98
AOC-32-TR-12							
% SOLIDS	014	S	98GTS669	11/09/98	11/11/98	11/12/98	11/12/98
ARSENIC. TOTAL	014	S	98GI422	11/09/98	11/11/98	11/13/98	11/16/98
LEAD. TOTAL	014	S	98GI422	11/09/98	11/11/98	11/13/98	11/16/98
AOC-32-TR-13							
% SOLIDS	015	S	98GTS669	11/09/98	11/11/98	11/12/98	11/12/98
ARSENIC. TOTAL	015	S	98GI422	11/09/98	11/11/98	11/13/98	11/16/98
LEAD. TOTAL	015	S	98GI422	11/09/98	11/11/98	11/13/98	11/16/98
AOC-32-TR-14							
% SOLIDS	016	S	98GTS669	11/09/98	11/11/98	11/12/98	11/12/98
ARSENIC. TOTAL	016	S	98GI422	11/09/98	11/11/98	11/13/98	11/16/98
LEAD. TOTAL	016	S	98GI422	11/09/98	11/11/98	11/13/98	11/16/98
AOC-32-TR-15							
% SOLIDS	017	S	98GTS669	11/09/98	11/11/98	11/12/98	11/12/98
ARSENIC. TOTAL	017	S	98GI422	11/09/98	11/11/98	11/13/98	11/16/98
LEAD. TOTAL	017	S	98GI422	11/09/98	11/11/98	11/13/98	11/16/98
AOC-32-TR-15 Dup							
% SOLIDS	018	S	98GTS669	11/09/98	11/11/98	11/12/98	11/12/98



NY CERTIFICATION # 11006

Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RfW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G073

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN DATE	REC	EXT/PREP	ANALYSIS
ARSENIC. TOTAL	018	S	98GI422	11/09/98	11/11/98	11/13/98	11/16/98
ARSENIC. TOTAL	018 REP	S	98GI422	11/09/98	11/11/98	11/13/98	11/16/98
ARSENIC. TOTAL	018 MS	S	98GI422	11/09/98	11/11/98	11/13/98	11/16/98
LEAD. TOTAL	018	S	98GI422	11/09/98	11/11/98	11/13/98	11/16/98
LEAD. TOTAL	018 REP	S	98GI422	11/09/98	11/11/98	11/13/98	11/16/98
LEAD. TOTAL	018 MS	S	98GI422	11/09/98	11/11/98	11/13/98	11/16/98

LAB QC:

ARSENIC LABORATORY	LC1 BS	S	98GI422	N/A	N/A	11/13/98	11/16/98
LEAD LABORATORY	LC1 BS	S	98GI422	N/A	N/A	11/13/98	11/16/98
ARSENIC LABORATORY	LC2 BS	S	98GI422	N/A	N/A	11/13/98	11/16/98
LEAD LABORATORY	LC2 BS	S	98GI422	N/A	N/A	11/13/98	11/16/98
ARSENIC. TOTAL	MB1	S	98GI422	N/A	N/A	11/13/98	11/16/98
LEAD. TOTAL	MB1	S	98GI422	N/A	N/A	11/13/98	11/16/98

SIGNATURE

Handwritten signature

DATE 11/19/98



NY CERTIFICATION # 11006

RECRA LabNet - Chicago
METALS CASE NARRATIVE

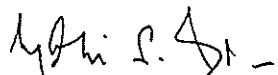
Client: RFW-Ft Devens - DRMO Yard
RFW#: 9811G073

WO#: 03886-118-204-0630
Date Rec'd: 11/11/98

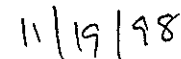
1. This narrative covers the analysis of 18 Soil samples for the following metals:

ICP As,Pb

Method Ref: USEPA,SW-846
2. All analyses were performed within the required holding times.
3. All Initial and Continuing Calibration Verification (ICV/CCV's) were within control limits.
4. All Initial and Continuing Calibration Blanks (ICB/CCB's) were within control limits.
5. All Preparation/Method Blanks were below CRDL.
6. All ICP Interference Check Samples (ICSA and ICSAB) were within control limits.
7. Two Laboratory Control Samples (LCS) were prepared with each digestion batch. Both LCS's were within the 80-120% control limits.
8. All Matrix Spike recoveries were within 80-120% control limits.
9. All Duplicate analysis were within the 20% Relative Percent Difference (RPD) control limits.



Mani S. Iyer
Metals Section Manager



Date



Recra LabNet - Chicago

METALS METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained with this RFW Lot: 98110073

SW846	☒ 6010A ☐ 6010B ☐ Ag ☐ Al ☒ As ☐ B ☐ Ba ☐ Be ☐ Ca ☐ Cd ☐ Co ☐ Cr ☐ Cu ☐ Fe ☐ K ☐ Li ☐ Mg ☐ Mn ☐ Mo ☐ Na ☐ Ni ☐ P ☒ Pb ☐ Sb ☐ Se ☐ Si ☐ Sn ☐ Sr ☐ Ti ☐ Tl ☐ V ☐ Zn ☐ Ag7761 ☐ As7060A ☐ Cd7131A ☐ Cr7191 ☐ Cu7211 ☐ Hg7470A ☐ Hg7471A ☐ Pb7421 ☐ Sb7041 ☐ Se7740 ☐ Ti7841 ☐ CN 9010A ☐ CN 9010B/9014
EPA	200.7 ☐ Ag ☐ Al ☐ As ☐ B ☐ Ba ☐ Be ☐ Ca ☐ Cd ☐ Co ☐ Cr ☐ Cu ☐ Fe ☐ K ☐ Li ☐ Mg ☐ Mn ☐ Mo ☐ Na ☐ Ni ☐ P ☐ Pb ☐ Sb ☐ Se ☐ Si ☐ Sn ☐ Sr ☐ Ti ☐ Tl ☐ V ☐ Zn ☐ Ag272.2 ☐ As206.2 ☐ Cd213.2 ☐ Cr218.2 ☐ Cu220.2 ☐ Hg245.1 ☐ Hg245.5 ☐ Pb239.2 ☐ Sb204.2 ☐ Se270.2 ☐ Ti279.2 200.9 ☐ As ☐ Cd ☐ Pb ☐ Sb ☐ Se ☐ Tl
CLP ILM04.0	200.7 CLP-M ☐ Ag ☐ Al ☐ As ☐ B ☐ Ba ☐ Be ☐ Ca ☐ Cd ☐ Co ☐ Cr ☐ Cu ☐ Fe ☐ K ☐ Li ☐ Mg ☐ Mn ☐ Mo ☐ Na ☐ Ni ☐ P ☐ Pb ☐ Sb ☐ Se ☐ Si ☐ Sn ☐ Sr ☐ Ti ☐ Tl ☐ V ☐ Zn ☐ As206.2 ☐ Cd213.2 ☐ Hg245.1 ☐ Hg245.5 ☐ Pb239.2 ☐ Sb204.2 ☐ Se270.2 ☐ Ti279.2 ☐ CN335.2
Digestion Method	SW846 ☐ 3005A ☐ 3010A ☐ 3020A ☐ 3020A(+H ₂ O ₂) ☒ 3050A ☐ 7060A/7740 ☐ 7470A ☐ 7471A ☐ 3050B EPA ☐ 200.7 ☐ 200.0(+H ₂ O ₂) ☐ 200.9(-HCL;+H ₂ O ₂) USEPA/CLP ☐ ILM04.0 Exhibit D, Section III
Extraction Method	SW846 ☐ 1311TCLP ☐ 1312SPLP ☐ 1320MEP Using TCLP ASTM ☐ D3987 Neutral Leach CAM Title 22 ☐ W.E.T.
%Solids	☐ SM 2540G ☐ ASTM D2216 ☐ Exhibit D Part F

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Tuesday November 17th, 1998

RE: AOC-32-TR-01
Project # 03886-118-204-0630
Lab ID: 9811G073-001
Sample Date: 11/07/98
Date Received: 11/11/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	92.3	%	0.10
Arsenic, Total	9.9	mg/kg	9.0
Lead, Total	12.8	mg/kg	4.5

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Tuesday November 17th, 1998

RE: AOC-32-TR-01 Dup
Project # 03886-118-204-0630
Lab ID: 9811G073-002
Sample Date: 11/07/98
Date Received: 11/11/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	92.1	%	0.10
Arsenic, Total	9.2	u mg/kg	9.2
Lead, Total	12.4	mg/kg	4.6

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Tuesday November 17th, 1998

RE: AOC-32-TR-02
Project # 03886-118-204-0630
Lab ID: 9811G073-003
Sample Date: 11/07/98
Date Received: 11/11/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	90.6	%	0.10
Arsenic, Total	9.9	u mg/kg	9.9
Lead, Total	20.1	mg/kg	4.9

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Tuesday November 17th, 1998

RE: AOC-32-TR-03

Project # 03886-118-204-0630

Lab ID: 9811G073-004

Sample Date: 11/07/98

Date Received: 11/11/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	90.3	%	0.10
Arsenic, Total	8.6	u mg/kg	8.6
Lead, Total	13.4	mg/kg	4.3

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Tuesday November 17th, 1998

RE: AOC-32-TR-04
Project # 03886-118-204-0630
Lab ID: 9811G073-005
Sample Date: 11/07/98
Date Received: 11/11/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	93.1	%	0.10
Arsenic, Total	10.3	mg/kg	8.6
Lead, Total	7.5	mg/kg	4.3

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Tuesday November 17th, 1998

RE: AOC-32-TR-05

Project # 03886-118-204-0630

Lab ID: 9811G073-006

Sample Date: 11/07/98

Date Received: 11/11/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	91.6	%	0.10
Arsenic, Total	8.8	u mg/kg	8.8
Lead, Total	13.2	mg/kg	4.4

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Tuesday November 17th, 1998

RE: AOC-32-TR-06
Project # 03886-118-204-0630
Lab ID: 9811G073-007
Sample Date: 11/07/98
Date Received: 11/11/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	93.6	%	0.10
Arsenic, Total	9.6	u mg/kg	9.6
Lead, Total	9.9	mg/kg	4.8

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Tuesday November 17th, 1998

RE: AOC-32-TR-06 Dup
Project # 03886-118-204-0630
Lab ID: 9811G073-008
Sample Date: 11/07/98
Date Received: 11/11/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	93.6	%	0.10
Arsenic, Total	8.3	u mg/kg	8.3
Lead, Total	7.1	mg/kg	4.1

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Tuesday November 17th, 1998

RE: AOC-32-TR-07
Project # 03886-118-204-0630
Lab ID: 9811G073-009
Sample Date: 11/09/98
Date Received: 11/11/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	96.4	%	0.10
Arsenic, Total	11.2	mg/kg	8.6
Lead, Total	8.0	mg/kg	4.3

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Tuesday November 17th, 1998

RE: AOC-32-TR-08

Project # 03886-118-204-0630

Lab ID: 9811G073-010

Sample Date: 11/09/98

Date Received: 11/11/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	95.6	%	0.10
Arsenic, Total	8.3	u mg/kg	8.3
Lead, Total	5.1	mg/kg	4.2

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Tuesday November 17th, 1998

RE: AOC-32-TR-09

Project # 03886-118-204-0630

Lab ID: 9811G073-011

Sample Date: 11/09/98

Date Received: 11/11/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	91.1	%	0.10
Arsenic, Total	8.9	u mg/kg	8.9
Lead, Total	22.5	mg/kg	4.5

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Tuesday November 17th, 1998

RE: AOC-32-TR-10

Project # 03886-118-204-0630

Lab ID: 9811G073-012

Sample Date: 11/09/98

Date Received: 11/11/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	94.9	%	0.10
Arsenic, Total	8.8	u mg/kg	8.8
Lead, Total	71.1	mg/kg	4.4

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Tuesday November 17th, 1998

RE: AOC-32-TR-11

Project # 03886-118-204-0630

Lab ID: 9811G073-013

Sample Date: 11/09/98

Date Received: 11/11/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	97.0	%	0.10
Arsenic, Total	10.0	mg/kg	8.6
Lead, Total	150	mg/kg	4.3

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Tuesday November 17th, 1998

RE: AOC-32-TR-12

Project # 03886-118-204-0630

Lab ID: 9811G073-014

Sample Date: 11/09/98

Date Received: 11/11/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	94.9	%	0.10
Arsenic, Total	14.3	mg/kg	9.1
Lead, Total	83.3	mg/kg	4.5

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Tuesday November 17th, 1998

RE: AOC-32-TR-13

Project # 03886-118-204-0630

Lab ID: 9811G073-015

Sample Date: 11/09/98

Date Received: 11/11/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	95.6	%	0.10
Arsenic, Total	15.7	mg/kg	8.6
Lead, Total	101	mg/kg	4.3

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Tuesday November 17th, 1998

RE: AOC-32-TR-14

Project # 03886-118-204-0630

Lab ID: 9811G073-016

Sample Date: 11/09/98

Date Received: 11/11/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	96.4	%	0.10
Arsenic, Total	13.3	mg/kg	8.2
Lead, Total	160	mg/kg	4.1

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Tuesday November 17th, 1998

RE: AOC-32-TR-15
Project # 03886-118-204-0630
Lab ID: 9811G073-017
Sample Date: 11/09/98
Date Received: 11/11/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	90.1	%	0.10
Arsenic, Total	9.3	u mg/kg	9.3
Lead, Total	95.0	mg/kg	4.7

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Tuesday November 17th, 1998

RE: AOC-32-TR-15 Dup
Project # 03886-118-204-0630
Lab ID: 9811G073-018
Sample Date: 11/09/98
Date Received: 11/11/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	89.9	%	0.10
Arsenic, Total	11.3	mg/kg	9.2
Lead, Total	102	mg/kg	4.6

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Tuesday November 17th, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G073

Attn: Sam Naik

Inorganic Method Blank Data Report

Sample	Lab ID	Parameter	Result	Units	Reporting Limit
Blank 1	98GTS669-MB1	% Solids	0.10	u %	0.10
Blank 1	98GI422-MB1	Arsenic, Total	10.0	u mg/kg	10.0
		Lead, Total	5.0	u mg/kg	5.0

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Tuesday November 17th, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G073

Attn: Sam Naik

Inorganic Precision Data Report

Sample	Site ID	Parameter	Initial Result		Replicate	RPD
-001REP	AOC-32-TR-01	% Solids	92.3		92.1	0.30
-002REP	AOC-32-TR-01 Dup	Arsenic, Total	9.2	u	10.4	NC
		Lead, Total	12.4		14.1	12.9
-008REP	AOC-32-TR-06 Dup	Arsenic, Total	8.3	u	8.8	u NC
		Lead, Total	7.1		8.2	15.2
-018REP	AOC-32-TR-15 Dup	Arsenic, Total	11.3		9.7	15.0
		Lead, Total	102		132	25.4

To: RFW-Ft Devens-DRMO Yard
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Barnum Road
Ft Devens, MA 01433

Date: Tuesday November 17th, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G073

Attn: Sam Naik

Inorganic Accuracy Data Report

Sample	Site ID	Parameter	Spiked Sample	Initial Result	Spiked Amount	% Recov
-002	AOC-32-TR-01 Dup	Arsenic, Total	192	9.2	u 172	111
		Lead, Total	56.2	12.4	43.1	102
-008	AOC-32-TR-06 Dup	Arsenic, Total	171	8.3	u 167	103
		Lead, Total	50.5	7.1	41.7	104
-018	AOC-32-TR-15 Dup	Arsenic, Total	207	11.3	195	100
		Lead, Total	438	102	48.8	689

To: RFW-Ft Devens-DRMO Yard
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Barnum Road
Ft Devens, MA 01433

Date: Tuesday November 17th, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G073

Attn: Sam Naik

Inorganic Laboratory Control Standards Report

Lab ID	Parameter	Spiked Amount	Units	Spike #1 % Recov.	Spike #2 % Recov.	RPD
98GI422-LC1	Arsenic, LCS	200	mg/kg	98.8	98.3	0.51
	Lead, LCS	50.0	mg/kg	102	98.7	3.3

Recra LabNet - Chicago
 PEST/PCB ANALYTICAL DATA PACKAGE FOR
 RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G073

CLIENT ID	Sample #	MTX	PREP #	COLLECTN	DATE	REC	EXT/PREP	ANALYSIS
AOC-32-TR-01	001	S	98GP1071	11/07/98	11/11/98	11/12/98	11/12/98	
AOC-32-TR-01 Dup	002	S	98GP1071	11/07/98	11/11/98	11/12/98	11/12/98	
AOC-32-TR-02	003	S	98GP1071	11/07/98	11/11/98	11/12/98	11/12/98	
AOC-32-TR-03	004	S	98GP1071	11/07/98	11/11/98	11/12/98	11/12/98	
AOC-32-TR-04	005	S	98GP1071	11/07/98	11/11/98	11/12/98	11/12/98	
AOC-32-TR-05	006	S	98GP1071	11/07/98	11/11/98	11/12/98	11/12/98	
AOC-32-TR-06	007	S	98GP1071	11/07/98	11/11/98	11/12/98	11/13/98	
AOC-32-TR-06 Dup	008	S	98GP1071	11/07/98	11/11/98	11/12/98	11/13/98	
AOC-32-TR-07	009	S	98GP1071	11/09/98	11/11/98	11/12/98	11/13/98	
AOC-32-TR-08	010	S	98GP1071	11/09/98	11/11/98	11/12/98	11/13/98	
AOC-32-TR-09	011	S	98GP1071	11/09/98	11/11/98	11/12/98	11/13/98	
AOC-32-TR-10	012	S	98GP1071	11/09/98	11/11/98	11/12/98	11/13/98	
AOC-32-TR-10	012	01	S	98GP1071	11/09/98	11/11/98	11/12/98	11/13/98
AOC-32-TR-11	013	S	98GP1071	11/09/98	11/11/98	11/12/98	11/13/98	
AOC-32-TR-11	013	01	S	98GP1071	11/09/98	11/11/98	11/12/98	11/14/98
AOC-32-TR-12	014	S	98GP1071	11/09/98	11/11/98	11/12/98	11/13/98	
AOC-32-TR-13	015	S	98GP1071	11/09/98	11/11/98	11/12/98	11/13/98	
AOC-32-TR-14	016	S	98GP1071	11/09/98	11/11/98	11/12/98	11/13/98	
AOC-32-TR-14	016	01	S	98GP1071	11/09/98	11/11/98	11/12/98	11/14/98
AOC-32-TR-15	017	S	98GP1071	11/09/98	11/11/98	11/12/98	11/13/98	
AOC-32-TR-15 Dup	018	S	98GP1071	11/09/98	11/11/98	11/12/98	11/13/98	
AOC-32-TR-15 Dup	018 MS	S	98GP1071	11/09/98	11/11/98	11/12/98	11/13/98	
AOC-32-TR-15 Dup	018 MSD	S	98GP1071	11/09/98	11/11/98	11/12/98	11/13/98	

LAB QC:

PBLK00	MB1	S	98GP1071	N/A	N/A	11/12/98	11/12/98
PBLK00	MB1 BS	S	98GP1071	N/A	N/A	11/12/98	11/12/98
PBLK00	MB1 BSD	S	98GP1071	N/A	N/A	11/12/98	11/12/98

SIGNATURE

Patricia Anderson

DATE

11/12/98



NY CERTIFICATION # 11006

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Recra LabNet - Chicago
Pesticide/PCB Case Narrative

RFW-Ft. Devens-DRMO Yard
RFW# 9811G073-001\018
Pesticides/PCBs

1. Recra LabNet - Chicago used the following Gas Chromatographic systems for the analysis of these pesticides and PCBs:

<u>ID#</u>	<u>INSTRUMENT</u>	<u>COLUMN TYPE</u>	<u>DETECTOR</u>
30	HP 5890 II+	Rtx-35	Electron Capture
29	HP 5890 II+	DB-5	Electron Capture

2. These soil samples were extracted based on SW846 method 3550. The extracts were analyzed for Pesticides and PCBs based on SW846 method 8081.
3. All required hold times were met for the extraction and the analysis.
4. The method blanks were below the reporting limit for all target compounds.
5. The surrogate compounds used for this analysis were Decachlorobiphenyl (DCB) and Tetrachloro-m-xylene (TCX). All surrogate recoveries were within control limits.
6. All blank spike recoveries were within statistical control limits and are summarized on the spreadsheet summary.
7. A matrix spike and matrix spike duplicate were performed on samples 9811G073-018 (AOC-32-TR-15 Dup). All recoveries are summarized on the spreadsheet summary.
8. All initial and continuing standard calibrations were within control limits.
9. Some sample concentrations are below our detection limit and are an estimated value (flagged J").

Patti Anderson for LSN
Patti Anderson
Pesticide/PCB Unit Leader

11/18/98
Date

Recra LabNet - Chicago

GC/HPLC METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained within this RFW Lot :

Pesticides/PCBs	☐	SW-846 8080A
	☒	SW-846 8081
	☐	40 CFR Part 136, Method 608
	☐	OLM03.1/3.2
Pesticides	☐	SW-846 8081A
PCBs	☐	SW-846 8082
Organophosphorus Pesticides	☐	SW-846 8141A
Herbicides	☐	SW-846 8150B
	☐	SW-846 8151A
Explosives	☐	SW-846 8330
Polynuclear Aromatics	☐	SW-846 8310
	☐	40 CFR Part 136, Method 610
Petroleum Hydrocarbons	☐	SW-846 8015A Mod
	☐	California LUFT
	☐	Other _____
EDB & DBCP	☐	EPA Method 504.1
GC VOLATILES	☐	SW-846 8010A
	☐	40 CFR Part 136, Method 601
	☐	SW-846 8020A
	☐	SW-846 8021A
	☐	40 CFR Part 136, Method 602
	☐	SW-846 8015 Mod

CHI-22-05-003/F-4/98

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-01
Project # 03886-118-204-0630
Lab ID: 9811G073-001
Sample Date: 11/07/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	2.6	U
beta-BHC	BRL	2.6	U
delta-BHC	BRL	2.6	U
gamma-BHC (Lindane)	BRL	2.6	U
Heptachlor	BRL	2.6	U
Aldrin	BRL	2.6	U
Heptachlor epoxide	BRL	2.6	U
Endosulfan I	BRL	2.6	U
Dieldrin	BRL	5.2	U
4,4'-DDE	BRL	5.2	U
Endrin	BRL	5.2	U
Endosulfan II	BRL	5.2	U
4,4'-DDD	BRL	5.2	U
Endosulfan sulfate	BRL	5.2	U
4,4'-DDT	BRL	5.2	U
Methoxychlor	BRL	26	U
alpha-Chlordane	BRL	2.6	U

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Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-01
Project # 03886-118-204-0630
Lab ID: 9811G073-001
Sample Date: 11/07/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	2.6	U
Toxaphene	BRL	52	U
Endrin aldehyde	BRL	5.2	U
Endrin ketone	BRL	5.2	U
Aroclor-1016	BRL	26	U
Aroclor-1221	BRL	26	U
Aroclor-1232	BRL	26	U
Aroclor-1242	BRL	26	U
Aroclor-1248	BRL	26	U
Aroclor-1254	BRL	26	U
Aroclor-1260	BRL	26	U

To: RFW-Ft Devens-DRMO Yard
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Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-01 Dup
Project # 03886-118-204-0630
Lab ID: 9811G073-002
Sample Date: 11/07/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	2.5	U
beta-BHC	BRL	2.5	U
delta-BHC	BRL	2.5	U
gamma-BHC (Lindane)	BRL	2.5	U
Heptachlor	BRL	2.5	U
Aldrin	BRL	2.5	U
Heptachlor epoxide	BRL	2.5	U
Endosulfan I	BRL	2.5	U
Dieldrin	BRL	5.0	U
4,4'-DDE	BRL	5.0	U
Endrin	BRL	5.0	U
Endosulfan II	BRL	5.0	U
4,4'-DDD	BRL	5.0	U
Endosulfan sulfate	BRL	5.0	U
4,4'-DDT	BRL	5.0	U
Methoxychlor	BRL	25	U
alpha-Chlordane	BRL	2.5	U

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Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-01 Dup
Project # 03886-118-204-0630
Lab ID: 9811G073-002
Sample Date: 11/07/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	2.5	U
Toxaphene	BRL	50	U
Endrin aldehyde	BRL	5.0	U
Endrin ketone	BRL	5.0	U
Aroclor-1016	BRL	25	U
Aroclor-1221	BRL	25	U
Aroclor-1232	BRL	25	U
Aroclor-1242	BRL	25	U
Aroclor-1248	BRL	25	U
Aroclor-1254	BRL	25	U
Aroclor-1260	BRL	25	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
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Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-02
Project # 03886-118-204-0630
Lab ID: 9811G073-003
Sample Date: 11/07/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	5.2	U
beta-BHC	BRL	5.2	U
delta-BHC	BRL	5.2	U
gamma-BHC (Lindane)	BRL	5.2	U
Heptachlor	BRL	5.2	U
Aldrin	BRL	5.2	U
Heptachlor epoxide	BRL	5.2	U
Endosulfan I	BRL	5.2	U
Dieldrin	BRL	10	U
4,4'-DDE	13	10	
Endrin	BRL	10	U
Endosulfan II	BRL	10	U
4,4'-DDD	BRL	10	U
Endosulfan sulfate	BRL	10	U
4,4'-DDT	21	10	
Methoxychlor	BRL	52	U
alpha-Chlordane	BRL	5.2	U

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Date: Wednesday November 18th, 1998

Attn: Sam Naik

RE: AOC-32-TR-02
Project # 03886-118-204-0630
Lab ID: 9811G073-003
Sample Date: 11/07/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	5.2	U
Toxaphene	BRL	100	U
Endrin aldehyde	BRL	10	U
Endrin ketone	BRL	10	U
Aroclor-1016	BRL	52	U
Aroclor-1221	BRL	52	U
Aroclor-1232	BRL	52	U
Aroclor-1242	BRL	52	U
Aroclor-1248	BRL	52	U
Aroclor-1254	BRL	52	U
Aroclor-1260	BRL	52	U

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Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-03
Project # 03886-118-204-0630
Lab ID: 9811G073-004
Sample Date: 11/07/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	5.3	U
beta-BHC	BRL	5.3	U
delta-BHC	BRL	5.3	U
gamma-BHC (Lindane)	BRL	5.3	U
Heptachlor	BRL	5.3	U
Aldrin	BRL	5.3	U
Heptachlor epoxide	BRL	5.3	U
Endosulfan I	BRL	5.3	U
Dieldrin	BRL	10	U
4,4'-DDE	13	10	
Endrin	BRL	10	U
Endosulfan II	BRL	10	U
4,4'-DDD	BRL	10	U
Endosulfan sulfate	BRL	10	U
4,4'-DDT	6.3	10	J
Methoxychlor	BRL	53	U
alpha-Chlordane	BRL	5.3	U

To: RFW-Ft Devens-DRMO Yard
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Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-03
Project # 03886-118-204-0630
Lab ID: 9811G073-004
Sample Date: 11/07/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	5.3	U
Toxaphene	BRL	100	U
Endrin aldehyde	BRL	10	U
Endrin ketone	BRL	10	U
Aroclor-1016	BRL	53	U
Aroclor-1221	BRL	53	U
Aroclor-1232	BRL	53	U
Aroclor-1242	BRL	53	U
Aroclor-1248	BRL	53	U
Aroclor-1254	BRL	53	U
Aroclor-1260	BRL	53	U

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Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-04
Project # 03886-118-204-0630
Lab ID: 9811G073-005
Sample Date: 11/07/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	2.6	U
beta-BHC	BRL	2.6	U
delta-BHC	BRL	2.6	U
gamma-BHC (Lindane)	BRL	2.6	U
Heptachlor	BRL	2.6	U
Aldrin	BRL	2.6	U
Heptachlor epoxide	BRL	2.6	U
Endosulfan I	BRL	2.6	U
Dieldrin	BRL	5.3	U
4,4'-DDE	BRL	5.3	U
Endrin	BRL	5.3	U
Endosulfan II	BRL	5.3	U
4,4'-DDD	BRL	5.3	U
Endosulfan sulfate	BRL	5.3	U
4,4'-DDT	BRL	5.3	U
Methoxychlor	BRL	26	U
alpha-Chlordane	BRL	2.6	U

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Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-04
Project # 03886-118-204-0630
Lab ID: 9811G073-005
Sample Date: 11/07/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	2.6	U
Toxaphene	BRL	53	U
Endrin aldehyde	BRL	5.3	U
Endrin ketone	BRL	5.3	U
Aroclor-1016	BRL	26	U
Aroclor-1221	BRL	26	U
Aroclor-1232	BRL	26	U
Aroclor-1242	BRL	26	U
Aroclor-1248	BRL	26	U
Aroclor-1254	BRL	26	U
Aroclor-1260	BRL	26	U

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Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-05
Project # 03886-118-204-0630
Lab ID: 9811G073-006
Sample Date: 11/07/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	2.7	U
beta-BHC	BRL	2.7	U
delta-BHC	BRL	2.7	U
gamma-BHC (Lindane)	BRL	2.7	U
Heptachlor	BRL	2.7	U
Aldrin	BRL	2.7	U
Heptachlor epoxide	BRL	2.7	U
Endosulfan I	BRL	2.7	U
Dieldrin	BRL	5.4	U
4,4'-DDE	5.4	5.4	
Endrin	BRL	5.4	U
Endosulfan II	BRL	5.4	U
4,4'-DDD	BRL	5.4	U
Endosulfan sulfate	BRL	5.4	U
4,4'-DDT	4.3	5.4	J
Methoxychlor	BRL	27	U
alpha-Chlordane	BRL	2.7	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-05
Project # 03886-118-204-0630
Lab ID: 9811G073-006
Sample Date: 11/07/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	2.7	U
Toxaphene	BRL	54	U
Endrin aldehyde	BRL	5.4	U
Endrin ketone	BRL	5.4	U
Aroclor-1016	BRL	27	U
Aroclor-1221	BRL	27	U
Aroclor-1232	BRL	27	U
Aroclor-1242	BRL	27	U
Aroclor-1248	BRL	27	U
Aroclor-1254	BRL	27	U
Aroclor-1260	BRL	27	U

To: RFW-Ft Devens-DRMO Yard
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Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-06
Project # 03886-118-204-0630
Lab ID: 9811G073-007
Sample Date: 11/07/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	2.6	U
beta-BHC	BRL	2.6	U
delta-BHC	BRL	2.6	U
gamma-BHC (Lindane)	BRL	2.6	U
Heptachlor	BRL	2.6	U
Aldrin	BRL	2.6	U
Heptachlor epoxide	BRL	2.6	U
Endosulfan I	BRL	2.6	U
Dieldrin	BRL	5.3	U
4,4'-DDE	BRL	5.3	U
Endrin	BRL	5.3	U
Endosulfan II	BRL	5.3	U
4,4'-DDD	BRL	5.3	U
Endosulfan sulfate	BRL	5.3	U
4,4'-DDT	BRL	5.3	U
Methoxychlor	BRL	26	U
alpha-Chlordane	BRL	2.6	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-06
Project # 03886-118-204-0630
Lab ID: 9811G073-007
Sample Date: 11/07/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	2.6	U
Toxaphene	BRL	53	U
Endrin aldehyde	BRL	5.3	U
Endrin ketone	BRL	5.3	U
Aroclor-1016	BRL	26	U
Aroclor-1221	BRL	26	U
Aroclor-1232	BRL	26	U
Aroclor-1242	BRL	26	U
Aroclor-1248	BRL	26	U
Aroclor-1254	BRL	26	U
Aroclor-1260	BRL	26	U

To: RFW-Ft Devens-DRMO Yard
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Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-06 Dup
Project # 03886-118-204-0630
Lab ID: 9811G073-008
Sample Date: 11/07/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	2.5	U
beta-BHC	BRL	2.5	U
delta-BHC	BRL	2.5	U
gamma-BHC (Lindane)	BRL	2.5	U
Heptachlor	BRL	2.5	U
Aldrin	BRL	2.5	U
Heptachlor epoxide	BRL	2.5	U
Endosulfan I	BRL	2.5	U
Dieldrin	BRL	4.9	U
4,4'-DDE	BRL	4.9	U
Endrin	BRL	4.9	U
Endosulfan II	BRL	4.9	U
4,4'-DDD	BRL	4.9	U
Endosulfan sulfate	BRL	4.9	U
4,4'-DDT	BRL	4.9	U
Methoxychlor	BRL	25	U
alpha-Chlordane	BRL	2.5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-06 Dup
Project # 03886-118-204-0630
Lab ID: 9811G073-008
Sample Date: 11/07/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	2.5	U
Toxaphene	BRL	49	U
Endrin aldehyde	BRL	4.9	U
Endrin ketone	BRL	4.9	U
Aroclor-1016	BRL	25	U
Aroclor-1221	BRL	25	U
Aroclor-1232	BRL	25	U
Aroclor-1242	BRL	25	U
Aroclor-1248	BRL	25	U
Aroclor-1254	BRL	25	U
Aroclor-1260	BRL	25	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-07
Project # 03886-118-204-0630
Lab ID: 9811G073-009
Sample Date: 11/09/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	2.4	U
beta-BHC	BRL	2.4	U
delta-BHC	BRL	2.4	U
gamma-BHC (Lindane)	BRL	2.4	U
Heptachlor	BRL	2.4	U
Aldrin	BRL	2.4	U
Heptachlor epoxide	BRL	2.4	U
Endosulfan I	BRL	2.4	U
Dieldrin	BRL	4.8	U
4,4'-DDE	BRL	4.8	U
Endrin	BRL	4.8	U
Endosulfan II	BRL	4.8	U
4,4'-DDD	BRL	4.8	U
Endosulfan sulfate	BRL	4.8	U
4,4'-DDT	4.8	4.8	
Methoxychlor	BRL	24	U
alpha-Chlordane	BRL	2.4	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-07
Project # 03886-118-204-0630
Lab ID: 9811G073-009
Sample Date: 11/09/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	2.4	U
Toxaphene	BRL	48	U
Endrin aldehyde	BRL	4.8	U
Endrin ketone	BRL	4.8	U
Aroclor-1016	BRL	24	U
Aroclor-1221	BRL	24	U
Aroclor-1232	BRL	24	U
Aroclor-1242	BRL	24	U
Aroclor-1248	BRL	24	U
Aroclor-1254	BRL	24	U
Aroclor-1260	BRL	24	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-08
Project # 03886-118-204-0630
Lab ID: 9811G073-010
Sample Date: 11/09/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	2.6	U
beta-BHC	BRL	2.6	U
delta-BHC	BRL	2.6	U
gamma-BHC (Lindane)	BRL	2.6	U
Heptachlor	BRL	2.6	U
Aldrin	BRL	2.6	U
Heptachlor epoxide	BRL	2.6	U
Endosulfan I	BRL	2.6	U
Dieldrin	BRL	5.1	U
4,4'-DDE	BRL	5.1	U
Endrin	BRL	5.1	U
Endosulfan II	BRL	5.1	U
4,4'-DDD	BRL	5.1	U
Endosulfan sulfate	BRL	5.1	U
4,4'-DDT	BRL	5.1	U
Methoxychlor	BRL	26	U
alpha-Chlordane	BRL	2.6	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-08
Project # 03886-118-204-0630
Lab ID: 9811G073-010
Sample Date: 11/09/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	2.6	U
Toxaphene	BRL	51	U
Endrin aldehyde	BRL	5.1	U
Endrin ketone	BRL	5.1	U
Aroclor-1016	BRL	26	U
Aroclor-1221	BRL	26	U
Aroclor-1232	BRL	26	U
Aroclor-1242	BRL	26	U
Aroclor-1248	BRL	26	U
Aroclor-1254	BRL	26	U
Aroclor-1260	BRL	26	U

To: RFW-Ft Devens-DRMO Yard
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Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-09
Project # 03886-118-204-0630
Lab ID: 9811G073-011
Sample Date: 11/09/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	2.6	U
beta-BHC	BRL	2.6	U
delta-BHC	BRL	2.6	U
gamma-BHC (Lindane)	BRL	2.6	U
Heptachlor	BRL	2.6	U
Aldrin	BRL	2.6	U
Heptachlor epoxide	BRL	2.6	U
Endosulfan I	BRL	2.6	U
Dieldrin	BRL	5.2	U
4,4'-DDE	4.1	5.2	J
Endrin	BRL	5.2	U
Endosulfan II	BRL	5.2	U
4,4'-DDD	BRL	5.2	U
Endosulfan sulfate	BRL	5.2	U
4,4'-DDT	9.3	5.2	
Methoxychlor	BRL	26	U
alpha-Chlordane	BRL	2.6	U

To: RFW-Ft Devens-DRMO Yard
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Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-09
Project # 03886-118-204-0630
Lab ID: 9811G073-011
Sample Date: 11/09/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	2.6	U
Toxaphene	BRL	52	U
Endrin aldehyde	BRL	5.2	U
Endrin ketone	BRL	5.2	U
Aroclor-1016	BRL	26	U
Aroclor-1221	BRL	26	U
Aroclor-1232	BRL	26	U
Aroclor-1242	BRL	26	U
Aroclor-1248	BRL	26	U
Aroclor-1254	BRL	26	U
Aroclor-1260	BRL	26	U

To: RFW-Ft Devens-DRMO Yard
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Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-10
Project # 03886-118-204-0630
Lab ID: 9811G073-012
Sample Date: 11/09/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	2.4	U
beta-BHC	BRL	2.4	U
delta-BHC	BRL	2.4	U
gamma-BHC (Lindane)	BRL	2.4	U
Heptachlor	BRL	2.4	U
Aldrin	BRL	2.4	U
Heptachlor epoxide	BRL	2.4	U
Endosulfan I	BRL	2.4	U
Dieldrin	BRL	4.8	U
4,4'-DDE	32	4.8	
Endrin	BRL	4.8	U
Endosulfan II	BRL	4.8	U
4,4'-DDD	72	4.8	
Endosulfan sulfate	BRL	4.8	U
4,4'-DDT	E	4.8	
Methoxychlor	BRL	24	U
alpha-Chlordane	BRL	2.4	U

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Project # 03886-118-204-0630
Lab ID: 9811G073-012
Sample Date: 11/09/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	2.4	U
Toxaphene	BRL	48	U
Endrin aldehyde	BRL	4.8	U
Endrin ketone	BRL	4.8	U
Aroclor-1016	BRL	24	U
Aroclor-1221	BRL	24	U
Aroclor-1232	BRL	24	U
Aroclor-1242	BRL	24	U
Aroclor-1248	BRL	24	U
Aroclor-1254	BRL	24	U
Aroclor-1260	BRL	24	U

To: RFW-Ft Devens-DRMO Yard
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Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-10
Project # 03886-118-204-0630
Lab ID: 9811G073-012 DL
Sample Date: 11/09/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
4,4'-DDE	32	48	
4,4'-DDD	72	48	
4,4'-DDT	E	48	D

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-11
Project # 03886-118-204-0630
Lab ID: 9811G073-013
Sample Date: 11/09/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	4.9	U
beta-BHC	BRL	4.9	U
delta-BHC	BRL	4.9	U
gamma-BHC (Lindane)	BRL	4.9	U
Heptachlor	BRL	4.9	U
Aldrin	BRL	4.9	U
Heptachlor epoxide	BRL	4.9	U
Endosulfan I	BRL	4.9	U
Dieldrin	BRL	9.8	U
4,4'-DDE	110	9.8	
Endrin	BRL	9.8	U
Endosulfan II	BRL	9.8	U
4,4'-DDD	E	9.8	
Endosulfan sulfate	BRL	9.8	U
4,4'-DDT	E	9.8	
Methoxychlor	BRL	49	U
alpha-Chlordane	BRL	4.9	U

To: RFW-Ft Devens-DRMO Yard
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Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-11
Project # 03886-118-204-0630
Lab ID: 9811G073-013
Sample Date: 11/09/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	4.9	U
Toxaphene	BRL	98	U
Endrin aldehyde	BRL	9.8	U
Endrin ketone	BRL	9.8	U
Aroclor-1016	BRL	49	U
Aroclor-1221	BRL	49	U
Aroclor-1232	BRL	49	U
Aroclor-1242	BRL	49	U
Aroclor-1248	BRL	49	U
Aroclor-1254	BRL	49	U
Aroclor-1260	BRL	49	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-11
Project # 03886-118-204-0630
Lab ID: 9811G073-013 DL
Sample Date: 11/09/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
4,4'-DDE	110	98	
4,4'-DDD	E	98	D
4,4'-DDT	E	98	D

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-12
Project # 03886-118-204-0630
Lab ID: 9811G073-014
Sample Date: 11/09/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	4.9	U
beta-BHC	BRL	4.9	U
delta-BHC	BRL	4.9	U
gamma-BHC (Lindane)	BRL	4.9	U
Heptachlor	BRL	4.9	U
Aldrin	BRL	4.9	U
Heptachlor epoxide	BRL	4.9	U
Endosulfan I	BRL	4.9	U
Dieldrin	BRL	9.8	U
4,4'-DDE	9.8	9.8	
Endrin	BRL	9.8	U
Endosulfan II	BRL	9.8	U
4,4'-DDD	8.9	9.8	J
Endosulfan sulfate	BRL	9.8	U
4,4'-DDT	52	9.8	
Methoxychlor	BRL	49	U
alpha-Chlordane	BRL	4.9	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-12
Project # 03886-118-204-0630
Lab ID: 9811G073-014
Sample Date: 11/09/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	4.9	U
Toxaphene	BRL	98	U
Endrin aldehyde	BRL	9.8	U
Endrin ketone	BRL	9.8	U
Aroclor-1016	BRL	49	U
Aroclor-1221	BRL	49	U
Aroclor-1232	BRL	49	U
Aroclor-1242	BRL	49	U
Aroclor-1248	BRL	49	U
Aroclor-1254	BRL	49	U
Aroclor-1260	BRL	49	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-13
Project # 03886-118-204-0630
Lab ID: 9811G073-015
Sample Date: 11/09/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	25	U
beta-BHC	BRL	25	U
delta-BHC	BRL	25	U
gamma-BHC (Lindane)	BRL	25	U
Heptachlor	BRL	25	U
Aldrin	BRL	25	U
Heptachlor epoxide	BRL	25	U
Endosulfan I	BRL	25	U
Dieldrin	BRL	50	U
4,4'-DDE	76	50	
Endrin	BRL	50	U
Endosulfan II	BRL	50	U
4,4'-DDD	92	50	
Endosulfan sulfate	BRL	50	U
4,4'-DDT	450	50	
Methoxychlor	BRL	250	U
alpha-Chlordane	BRL	25	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-13
Project # 03886-118-204-0630
Lab ID: 9811G073-015
Sample Date: 11/09/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	25	U
Toxaphene	BRL	500	U
Endrin aldehyde	BRL	50	U
Endrin ketone	BRL	50	U
Aroclor-1016	BRL	250	U
Aroclor-1221	BRL	250	U
Aroclor-1232	BRL	250	U
Aroclor-1242	BRL	250	U
Aroclor-1248	BRL	250	U
Aroclor-1254	BRL	250	U
Aroclor-1260	BRL	250	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-14
Project # 03886-118-204-0630
Lab ID: 9811G073-016
Sample Date: 11/09/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	4.9	U
beta-BHC	BRL	4.9	U
delta-BHC	BRL	4.9	U
gamma-BHC (Lindane)	BRL	4.9	U
Heptachlor	BRL	4.9	U
Aldrin	BRL	4.9	U
Heptachlor epoxide	BRL	4.9	U
Endosulfan I	BRL	4.9	U
Dieldrin	BRL	9.8	U
4,4'-DDE	100	9.8	
Endrin	BRL	9.8	U
Endosulfan II	BRL	9.8	U
4,4'-DDD	150	9.8	
Endosulfan sulfate	BRL	9.8	U
4,4'-DDT	E	9.8	
Methoxychlor	BRL	49	U
alpha-Chlordane	BRL	4.9	U

To: RFW-Ft Devens-DRMO Yard
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Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-14
Project # 03886-118-204-0630
Lab ID: 9811G073-016
Sample Date: 11/09/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	4.9	U
Toxaphene	BRL	98	U
Endrin aldehyde	BRL	9.8	U
Endrin ketone	BRL	9.8	U
Aroclor-1016	BRL	49	U
Aroclor-1221	BRL	49	U
Aroclor-1232	BRL	49	U
Aroclor-1242	BRL	49	U
Aroclor-1248	BRL	49	U
Aroclor-1254	BRL	49	U
Aroclor-1260	BRL	49	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-14
Project # 03886-118-204-0630
Lab ID: 9811G073-016 DL
Sample Date: 11/09/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
4,4'-DDE	100	98	
4,4'-DDD	150	98	
4,4'-DDT	E	98	D

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-15
Project # 03886-118-204-0630
Lab ID: 9811G073-017
Sample Date: 11/09/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	5.1	U
beta-BHC	BRL	5.1	U
delta-BHC	BRL	5.1	U
gamma-BHC (Lindane)	BRL	5.1	U
Heptachlor	BRL	5.1	U
Aldrin	BRL	5.1	U
Heptachlor epoxide	BRL	5.1	U
Endosulfan I	16	5.1	
Dieldrin	BRL	10	U
4,4'-DDE	45	10	
Endrin	BRL	10	U
Endosulfan II	BRL	10	U
4,4'-DDD	16	10	
Endosulfan sulfate	BRL	10	U
4,4'-DDT	110	10	
Methoxychlor	BRL	51	U
alpha-Chlordane	BRL	5.1	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
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Ft Devens, MA 01433

Date: Wednesday November 18th, 1998

Attn: Sam Naik

RE: AOC-32-TR-15
Project # 03886-118-204-0630
Lab ID: 9811G073-017
Sample Date: 11/09/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	5.1	U
Toxaphene	BRL	100	U
Endrin aldehyde	BRL	10	U
Endrin ketone	BRL	10	U
Aroclor-1016	BRL	51	U
Aroclor-1221	BRL	51	U
Aroclor-1232	BRL	51	U
Aroclor-1242	BRL	51	U
Aroclor-1248	BRL	51	U
Aroclor-1254	BRL	51	U
Aroclor-1260	BRL	51	U

To: RFW-Ft Devens-DRMO Yard
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Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-15 Dup
Project # 03886-118-204-0630
Lab ID: 9811G073-018
Sample Date: 11/09/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	5.4	U
beta-BHC	BRL	5.4	U
delta-BHC	BRL	5.4	U
gamma-BHC (Lindane)	BRL	5.4	U
Heptachlor	BRL	5.4	U
Aldrin	BRL	5.4	U
Heptachlor epoxide	BRL	5.4	U
Endosulfan I	BRL	5.4	U
Dieldrin	BRL	11	U
4,4'-DDE	43	11	
Endrin	BRL	11	U
Endosulfan II	BRL	11	U
4,4'-DDD	18	11	
Endosulfan sulfate	BRL	11	U
4,4'-DDT	140	11	
Methoxychlor	BRL	54	U
alpha-Chlordane	BRL	5.4	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 18th, 1998

RE: AOC-32-TR-15 Dup
Project # 03886-118-204-0630
Lab ID: 9811G073-018
Sample Date: 11/09/98
Date Received: 11/11/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	5.4	U
Toxaphene	BRL	110	U
Endrin aldehyde	BRL	11	U
Endrin ketone	BRL	11	U
Aroclor-1016	BRL	54	U
Aroclor-1221	BRL	54	U
Aroclor-1232	BRL	54	U
Aroclor-1242	BRL	54	U
Aroclor-1248	BRL	54	U
Aroclor-1254	BRL	54	U
Aroclor-1260	BRL	54	U

Recra LabNet - Chicago
PESTICIDE/PCBs BY GC, CLP LIST

Report Date: 11/17/98 16:55

RFW Batch Number: 9811G073

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

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		Cust ID: AOC-32-TR-01		AOC-32-TR-01		AOC-32-TR-02		AOC-32-TR-03		AOC-32-TR-04		AOC-32-TR-05	
				Dup									
Sample Information	RFW#:	001		002		003		004		005		006	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	0.50		0.50		1.0		1.0		0.50		0.50	
	Units:	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Surrogate:	Tetrachloro-m-xylene	95	%	92	%	105	%	105	%	92	%	85	%
	Decachlorobiphenyl	102	%	100	%	108	%	100	%	92	%	90	%
		f]		f]		f]		f]		f]		f]	
alpha-BHC		2.6	U	2.5	U	5.2	U	5.3	U	2.6	U	2.7	U
beta-BHC		2.6	U	2.5	U	5.2	U	5.3	U	2.6	U	2.7	U
delta-BHC		2.6	U	2.5	U	5.2	U	5.3	U	2.6	U	2.7	U
gamma-BHC (Lindane)		2.6	U	2.5	U	5.2	U	5.3	U	2.6	U	2.7	U
Heptachlor		2.6	U	2.5	U	5.2	U	5.3	U	2.6	U	2.7	U
Aldrin		2.6	U	2.5	U	5.2	U	5.3	U	2.6	U	2.7	U
Heptachlor epoxide		2.6	U	2.5	U	5.2	U	5.3	U	2.6	U	2.7	U
Endosulfan I		2.6	U	2.5	U	5.2	U	5.3	U	2.6	U	2.7	U
Dieldrin		5.2	U	5.0	U	10	U	10	U	5.3	U	5.4	U
4,4'-DDE		5.2	U	5.0	U	13		13		5.3	U	5.4	
Endrin		5.2	U	5.0	U	10	U	10	U	5.3	U	5.4	U
Endosulfan II		5.2	U	5.0	U	10	U	10	U	5.3	U	5.4	U
4,4'-DDD		5.2	U	5.0	U	10	U	10	U	5.3	U	5.4	U
Endosulfan sulfate		5.2	U	5.0	U	10	U	10	U	5.3	U	5.4	U
4,4'-DDT		5.2	U	5.0	U	21		6.3	J	5.3	U	4.3	J
Methoxychlor		26	U	25	U	52	U	53	U	26	U	27	U
alpha-Chlordane		2.6	U	2.5	U	5.2	U	5.3	U	2.6	U	2.7	U
gamma-Chlordane		2.6	U	2.5	U	5.2	U	5.3	U	2.6	U	2.7	U
Toxaphene		52	U	50	U	100	U	100	U	53	U	54	U
Endrin aldehyde		5.2	U	5.0	U	10	U	10	U	5.3	U	5.4	U
Endrin ketone		5.2	U	5.0	U	10	U	10	U	5.3	U	5.4	U
Aroclor-1016		26	U	25	U	52	U	53	U	26	U	27	U
Aroclor-1221		26	U	25	U	52	U	53	U	26	U	27	U
Aroclor-1232		26	U	25	U	52	U	53	U	26	U	27	U
Aroclor-1242		26	U	25	U	52	U	53	U	26	U	27	U
Aroclor-1248		26	U	25	U	52	U	53	U	26	U	27	U
Aroclor-1254		26	U	25	U	52	U	53	U	26	U	27	U

*= Outside of EPA CLP QC Limits.

RFW Batch Number: 9811G073

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

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Cust ID: AOC-32-TR-01 AOC-32-TR-01 AOC-32-TR-02 AOC-32-TR-03 AOC-32-TR-04 AOC-32-TR-05

RFW#:

001

Dup

002

003

004

005

006

Aroclor-1260

26 U

25 U

52 U

53 U

26 U

27 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
 %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

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PESTICIDE/PCBs BY GC, CLP LIST

Report Date: 11/17/98 16:55

RFW Batch Number: 9811G073

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

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		Cust ID: AOC-32-TR-06		AOC-32-TR-06		AOC-32-TR-07		AOC-32-TR-08		AOC-32-TR-09		AOC-32-TR-10	
		Dup											
Sample Information	RFW#:	007		008		009		010		011		012	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	0.50		0.50		0.50		0.50		0.50		0.50	
	Units:	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Surrogate: Tetrachloro-m-xylene		75	%	98	%	88	%	88	%	98	%	95	%
Decachlorobiphenyl		75	%	98	%	88	%	95	%	95	%	95	%
alpha-BHC		2.6	U	2.5	U	2.4	U	2.6	U	2.6	U	2.4	U
beta-BHC		2.6	U	2.5	U	2.4	U	2.6	U	2.6	U	2.4	U
delta-BHC		2.6	U	2.5	U	2.4	U	2.6	U	2.6	U	2.4	U
gamma-BHC (Lindane)		2.6	U	2.5	U	2.4	U	2.6	U	2.6	U	2.4	U
Heptachlor		2.6	U	2.5	U	2.4	U	2.6	U	2.6	U	2.4	U
Aldrin		2.6	U	2.5	U	2.4	U	2.6	U	2.6	U	2.4	U
Heptachlor epoxide		2.6	U	2.5	U	2.4	U	2.6	U	2.6	U	2.4	U
Endosulfan I		2.6	U	2.5	U	2.4	U	2.6	U	2.6	U	2.4	U
Dieldrin		5.3	U	4.9	U	4.8	U	5.1	U	5.2	U	4.8	U
4,4'-DDE		5.3	U	4.9	U	4.8	U	5.1	U	4.1	J	32	
Endrin		5.3	U	4.9	U	4.8	U	5.1	U	5.2	U	4.8	U
Endosulfan II		5.3	U	4.9	U	4.8	U	5.1	U	5.2	U	4.8	U
4,4'-DDD		5.3	U	4.9	U	4.8	U	5.1	U	5.2	U	72	
Endosulfan sulfate		5.3	U	4.9	U	4.8	U	5.1	U	5.2	U	4.8	U
4,4'-DDT		5.3	U	4.9	U	4.8	U	5.1	U	9.3			E
Methoxychlor		26	U	25	U	24	U	26	U	26	U	24	U
alpha-Chlordane		2.6	U	2.5	U	2.4	U	2.6	U	2.6	U	2.4	U
gamma-Chlordane		2.6	U	2.5	U	2.4	U	2.6	U	2.6	U	2.4	U
Toxaphene		53	U	49	U	48	U	51	U	52	U	48	U
Endrin aldehyde		5.3	U	4.9	U	4.8	U	5.1	U	5.2	U	4.8	U
Endrin ketone		5.3	U	4.9	U	4.8	U	5.1	U	5.2	U	4.8	U
Aroclor-1016		26	U	25	U	24	U	26	U	26	U	24	U
Aroclor-1221		26	U	25	U	24	U	26	U	26	U	24	U
Aroclor-1232		26	U	25	U	24	U	26	U	26	U	24	U
Aroclor-1242		26	U	25	U	24	U	26	U	26	U	24	U
Aroclor-1248		26	U	25	U	24	U	26	U	26	U	24	U
Aroclor-1254		26	U	25	U	24	U	26	U	26	U	24	U

* = Outside of EPA CLP QC Limits.

RFW Batch Number: 9811G073

Client: RFW-Ft Devens-DRMO Yard

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Cust ID: AOC-32-TR-06 AOC-32-TR-06 AOC-32-TR-07 AOC-32-TR-08 AOC-32-TR-09 AOC-32-TR-10

RFW#:

007

Dup

008

009

010

011

012

Aroclor-1260

26 U

25 U

24 U

26 U

26 U

24 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Recra LabNet - Chicago
PESTICIDE/PCBs BY GC, CLP LIST

RFW Batch Number: 9811G073

Client: RFW-Ft Devens-DRMO Yard

Report Date: 11/17/98 16:55
Work Order: 03886-118-204-0

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Cust ID: AOC-32-TR-10 AOC-32-TR-11 AOC-32-TR-11 AOC-32-TR-12 AOC-32-TR-13 AOC-32-TR-14

Sample Information	RFW#: Matrix: D.F.: Units:	012 DL SOIL 5.0 ug/Kg	013 SOIL 1.0 ug/Kg	013 DL SOIL 10 ug/Kg	014 SOIL 1.0 ug/Kg	015 SOIL 5.0 ug/Kg	016 SOIL 1.0 ug/Kg
Surrogate: Tetrachloro-m-xylene		110 %	102 %	122 %	102 %	112 %	100 %
Decachlorobiphenyl		118 %	102 %	128 %	102 %	120 %	102 %
=====f=====f=====f=====f=====f=====							
alpha-BHC		NA	4.9 U	NA	4.9 U	25 U	4.9 U
beta-BHC		NA	4.9 U	NA	4.9 U	25 U	4.9 U
delta-BHC		NA	4.9 U	NA	4.9 U	25 U	4.9 U
gamma-BHC (Lindane)		NA	4.9 U	NA	4.9 U	25 U	4.9 U
Heptachlor		NA	4.9 U	NA	4.9 U	25 U	4.9 U
Aldrin		NA	4.9 U	NA	4.9 U	25 U	4.9 U
Heptachlor epoxide		NA	4.9 U	NA	4.9 U	25 U	4.9 U
Endosulfan I		NA	4.9 U	NA	4.9 U	25 U	4.9 U
Dieldrin		NA	9.8 U	NA	9.8 U	50 U	9.8 U
4,4'-DDE		NA	110	NA	9.8	76	100
Endrin		NA	9.8 U	NA	9.8 U	50 U	9.8 U
Endosulfan II		NA	9.8 U	NA	9.8 U	50 U	9.8 U
4,4'-DDD		NA	E	360	8.9 J	92	150
Endosulfan sulfate		NA	9.8 U	NA	9.8 U	50 U	9.8 U
4,4'-DDT		300	E	1700	52	450	E
Methoxychlor		NA	49 U	NA	49 U	250 U	49 U
alpha-Chlordane		NA	4.9 U	NA	4.9 U	25 U	4.9 U
gamma-Chlordane		NA	4.9 U	NA	4.9 U	25 U	4.9 U
Toxaphene		NA	98 U	NA	98 U	500 U	98 U
Endrin aldehyde		NA	9.8 U	NA	9.8 U	50 U	9.8 U
Endrin ketone		NA	9.8 U	NA	9.8 U	50 U	9.8 U
Aroclor-1016		NA	49 U	NA	49 U	250 U	49 U
Aroclor-1221		NA	49 U	NA	49 U	250 U	49 U
Aroclor-1232		NA	49 U	NA	49 U	250 U	49 U
Aroclor-1242		NA	49 U	NA	49 U	250 U	49 U
Aroclor-1248		NA	49 U	NA	49 U	250 U	49 U
Aroclor-1254		NA	49 U	NA	49 U	250 U	49 U

*= Outside of EPA CLP QC Limits.

RFW Batch Number: 9811G073

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

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Cust ID: AOC-32-TR-10 AOC-32-TR-11 AOC-32-TR-11 AOC-32-TR-12 AOC-32-TR-13 AOC-32-TR-14

RFW#:	012 DL	013	013 DL	014	015	016
Aroclor-1260	NA	49 U	NA	49 U	250 U	49 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Recra LabNet - Chicago
PESTICIDE/PCBs BY GC, CLP LIST

Report Date: 11/17/98 16:55

RFW Batch Number: 9811G073

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

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		Cust ID: AOC-32-TR-14		AOC-32-TR-15		AOC-32-TR-15		AOC-32-TR-15		AOC-32-TR-15		PBLK00	
Sample Information	RFW#:	016 DL		017		Dup 018		Dup 018 MS		Dup 018 MSD		98GP1071-MB1	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	10		1.0		1.0		1.0		1.0		0.50	
	Units:	ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Surrogate:	Tetrachloro-m-xylene	120	%	100	%	105	%	105	%	102	%	78	%
	Decachlorobiphenyl	128	%	112	%	108	%	105	%	100	%	98	%
=====f]=====f]=====f]=====f]=====f]=====f]=====f]													
alpha-BHC		NA		5.1	U	5.4	U	98	%	102	%	2.5	U
beta-BHC		NA		5.1	U	5.4	U	88	%	92	%	2.5	U
delta-BHC		NA		5.1	U	5.4	U	95	%	100	%	2.5	U
gamma-BHC (Lindane)		NA		5.1	U	5.4	U	95	%	98	%	2.5	U
Heptachlor		NA		5.1	U	5.4	U	102	%	105	%	2.5	U
Aldrin		NA		5.1	U	5.4	U	92	%	95	%	2.5	U
Heptachlor epoxide		NA		5.1	U	5.4	U	98	%	102	%	2.5	U
Endosulfan I		NA		16		5.4	U	102	%	105	%	2.5	U
Dieldrin		NA		10	U	11	U	80	%	85	%	5.0	U
4,4'-DDE		NA		45		43		96	%	109	%	5.0	U
Endrin		NA		10	U	11	U	102	%	102	%	5.0	U
Endosulfan II		NA		10	U	11	U	92	%	95	%	5.0	U
4,4'-DDD		NA		16		18		60	%	64	%	5.0	U
Endosulfan sulfate		NA		10	U	11	U	92	%	98	%	5.0	U
4,4'-DDT		870		110		140		66	%	89	%	5.0	U
Methoxychlor		NA		51	U	54	U	110	%	110	%	25	U
alpha-Chlordane		NA		5.1	U	5.4	U	110	%	115	%	2.5	U
gamma-Chlordane		NA		5.1	U	5.4	U	85	%	85	%	2.5	U
Toxaphene		NA		100	U	110	U	100	U	110	U	50	U
Endrin aldehyde		NA		10	U	11	U	100	%	95	%	5.0	U
Endrin ketone		NA		10	U	11	U	95	%	98	%	5.0	U
Aroclor-1016		NA		51	U	54	U	50	U	53	U	25	U
Aroclor-1221		NA		51	U	54	U	50	U	53	U	25	U
Aroclor-1232		NA		51	U	54	U	50	U	53	U	25	U
Aroclor-1242		NA		51	U	54	U	50	U	53	U	25	U
Aroclor-1248		NA		51	U	54	U	50	U	53	U	25	U
Aroclor-1254		NA		51	U	54	U	50	U	53	U	25	U

*= Outside of EPA CLP QC Limits.

RFW Batch Number: 9811G073

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

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Cust ID: AOC-32-TR-14 AOC-32-TR-15 AOC-32-TR-15 AOC-32-TR-15 AOC-32-TR-15 PBLK00

RFW#: 016 DL

017

Dup
018Dup
018 MSDup
018 MSD

98GP1071-MB1

Aroclor-1260

NA

51 U

54 U

50 U

53 U

25 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

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PESTICIDE/PCBs BY GC, CLP LIST

Report Date: 11/17/98 16:55

RFW Batch Number: 9811G073

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

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Cust ID: PBLK00 BS PBLK00 BSD

Sample	RFW#:	98GP1071-MB1	98GP1071-MB1
Information	Matrix:	SOIL	SOIL
	D.F.:	0.50	0.50
	Units:	ug/Kg	ug/Kg

Surrogate:	Tetrachloro-m-xylene	90	%	92	%
	Decachlorobiphenyl	100	%	95	%
=====f]=====f]=====f]=====f]=====f]=====f]=====f]					
alpha-BHC		100	%	102	%
beta-BHC		88	%	90	%
delta-BHC		105	%	105	%
gamma-BHC (Lindane)		100	%	102	%
Heptachlor		100	%	102	%
Aldrin		98	%	98	%
Heptachlor epoxide		95	%	98	%
Endosulfan I		95	%	98	%
Dieldrin		98	%	100	%
4,4'-DDE		102	%	102	%
Endrin		108	%	110	%
Endosulfan II		98	%	98	%
4,4'-DDD		102	%	102	%
Endosulfan sulfate		100	%	98	%
4,4'-DDT		108	%	102	%
Methoxychlor		110	%	108	%
alpha-Chlordane		100	%	100	%
gamma-Chlordane		90	%	90	%
Toxaphene		50	U	50	U
Endrin aldehyde		105	%	115	%
Endrin ketone		102	%	98	%
Aroclor-1016		25	U	25	U
Aroclor-1221		25	U	25	U
Aroclor-1232		25	U	25	U
Aroclor-1242		25	U	25	U
Aroclor-1248		25	U	25	U
Aroclor-1254		25	U	25	U

*= Outside of EPA CLP QC Limits.

RFW Batch Number: 9811G073

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

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Cust ID: PBLK00 BS

PBLK00 BSD

RFW#: 98GP1071-MB1 98GP1071-MB1

Aroclor-1260

25 U

25 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

LABORATORY CHRONICLE

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN DATE	REC	EXT/PREP	ANALYSIS
---------------------	----------	-----	--------	---------------	-----	----------	----------

REACTIVE CYANIDE	008	SO 98GCN170	10/30/98	10/31/98	11/06/98	11/06/98
CORROSIVITY	008	SO 98GPH363	10/30/98	10/31/98	11/05/98	11/05/98
FLASH POINT CLOSED C	008	SO 98GMB079	10/30/98	10/31/98	11/04/98	11/04/98
REACTIVE SULFIDE	008	SO 98GSF140	10/30/98	10/31/98	11/04/98	11/04/98

REACTIVE CYANIDE	009	SO 98GCN170	10/30/98	10/31/98	11/06/98	11/06/98
CORROSIVITY	009	SO 98GPH363	10/30/98	10/31/98	11/05/98	11/05/98
FLASH POINT CLOSED C	009	SO 98GMB079	10/30/98	10/31/98	11/04/98	11/04/98
REACTIVE SULFIDE	009	SO 98GSF140	10/30/98	10/31/98	11/04/98	11/04/98

REACTIVE	CYANIDE		LCS	BS	W	98GCN170	N/A	N/A	11/06/98	11/06/98
REACTIVE	CYANIDE		MB1		W	98GCN170	N/A	N/A	11/06/98	11/06/98
Reactive	Sulfide	Spi	LCS	BS	W	98GSF140	N/A	N/A	11/04/98	11/04/98
REACTIVE	SULFIDE		MB1		W	98GSF140	N/A	N/A	11/04/98	11/04/98

SIGNATURE

DATE _____



NY CERTIFICATION # 11006

Recra LabNet - Chicago
WET CHEMISTRY METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained with RFW Lot: 98106-956

PARAMETER	EPA 600	STANDARD METHODS	SW-846	OTHER
%Water Karl Fisher				__ASTM D4377
%Water Dean Stark				__ASTM D95
Acidity	__ 305.1	__ 2310B		
Alkalinity, Total, Carbonate, Bicarbonate	__ 310.1	__ 2320B		
Ammonia (Dist/Nessler's)	__ 350.2	__ 4500NH ₃ C		
Biochemical Oxygen Demand	__ 405.1	__ 5210B		
Bottom Sediment & Water				__ASTM D4007
BTU				__ASTM D240
Bromide	__ 300.0	__ 4110B	__ 9056	
Bromine	__ 300.0 Detection		__ 5050 Prep	
Chemical Oxygen Demand				__HACH 8000
Chloride	__ 325.2	__ 4500ClE	__ 9251	
	__ 300.0	__ 4110B	__ 9056	
Chlorine (O ₂ Bomb)	__ 300.0 Detection		__ 5050 Prep	__ISE Detection
Chlorine, Residual	__ 330.4	__ 4500ClF		
Chromium VI		__ 3500CrD	__ 3060 Digestion	
			__ 7196A	
Color	__ 110.2	__ 2120B		
Corrosivity, pH	__ 150.1		✓ 9045C - Waste pH in Water	
			__ 9040A	
Corrosivity, Langlier		__ 2330A+B		
Cyanide, Amenable	__ 335.1	__ 4500CNG	__ 9010B / 9014	
Cyanide, Weak, Dissociable		__ 4500CNI		
Cyanide, Reactive			✓ 7.3.3.2	
Cyanide, Total	__ 335.2	__ 4500CNC	__ 9010B / 9014	__ILM03.0/4.0
Density/Specific Gravity		__ 2710F		__ASTM D1298
				__ASTM D5057
Ext. Organic Halogens				__Dohrmann
Flashpoint			✓ 1010	__ASTM D93
				__ASTM D92
Fluoride __ Distilled	__ 340.2	__ 4500 FC		
__ Undistilled	__ 300.0		__ 9056	
Fluorine	__ 340.2 Detection		__ 5050 Prep	
	__ 300.0 Detection			
Hardness	__ 130.2	__ 2340C		
		__ 2340B		
Heavy Metals				__USP 231
Ignitability			__ Sec. 7	__ASTM D-4982A
MBAS (Surfactants)	__ 425.1	__ 5540 C		
Nitrate/Nitrite	__ 353.2	__ 4500NO ₃ F		
Nitrate	__ 353.2 -354.1	__ 4110B		
	__ 300.0		__ 9056	
Nitrite	__ 354.1	__ 4500NO ₂ B	__ 9056	
	__ 300.0	__ 4110B		
Odor	__ 140.1	__ 2150B		
Oil & Grease	__ 413.1	__ 5520B	__ 9070	
Oil & Grease, IR	__ 413.2	__ 5520C		

Recra LabNet - Chicago
WET CHEMISTRY METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained with RFW Lot: 98106-956

PARAMETER	EPA 600	STANDARD METHODS	SW-846	OTHER
Oil & Grease, Soxhlet		___ 5520D ___ 5520E	___ 9071A	
Oxygen, Dissolved	___ 360.1 Electrode ___ 360.2 Winkler	___ 4500OG ___ 4500OC		
Paint Filters (Free Liquid)			___ 9095A	
Petroleum Hydrocarbons	___ 418.1	___ 5520F	___ 9071A Extract.	
pH, Water	___ 150.1	___ 4500H ⁺ B	___ 9040B	
pH, Soil			___ 9045C - Waste pH in Water ___ 9041A Paper	
Phenolics	___ 420.2		___ 9066	
Orthophosphate as P	___ 365.2 ___ 300.0	___ 4500PE ___ 4110B	___ 9056	
Phosphorus as P	___ 365.2	___ 4500PE		
Residue on Evaporation 180C	___ 160.1 Modified	___ 2540C Modified		
Solids, Settleable	___ 160.5	___ 2540F		
Solids, Total	___ 160.3	___ 2540B		
Solids, Total Dissolved	___ 160.1	___ 2540C		
Solids, Total Suspended	___ 160.2	___ 2540D		
Solids, Total Volatile	___ 160.4	___ 2540E		
Solids, Dissolved Volatile	___ 160.4	___ 2540E		
Solids, Suspended Volatile	___ 160.4	___ 2540E		
Soluble Organic Carbon	___ 415.1	___ 5310C		
Specific Conductance	___ 120.1	___ 2510B	___ 9050A	
Sulfate	___ 375.4 Mod. ___ 300.0	___ 4500SO ₄ ²⁻ E ___ 4110B	___ 9038 Mod. ___ 9056	
Sulfide	___ 376.1	___ 4500S ²⁻ E	___ 9030A Mod ___ 9030B / 9034 ___ 7.3.4.2	
Sulfide, Reactive			___ 5050Prep	
Sulfur	___ 375.4 Detection ___ 300.0 Detection			
Total Kjeldahl Nitrogen	___ 351.3	___ 4500N _{ORG} C		
Total Inorganic Carbon	___ 415.1	___ 5310C		
Total Organic Carbon	___ 415.1	___ 5310C	___ 9060 Quads	___ Walkley-Black
Total Organic Halogens		___ 5320B	___ 9020B	
Total Org Halogens on Waste	___ 325.2 Detection ___ 300.0 Detection		___ 5050prep	___ ISE Detection
Turbidity	___ 180.1	___ 2130B		
Viscosity, Brookfield				___ ASTM D2196
Viscosity, Kinematic				___ ASTM D445

Comments:

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-01
Project # 03886-118-204-0630
Lab ID: 9810G956-008
Sample Date: 10/30/98
Date Received: 10/31/98

Inorganic Data Report

Parameters	Result	Units	Reporting Limit
Cyanide, Reactive	0.22	u mg/kg	0.22
Corrosivity by pH	8.3	pH@17.1	0.20
Flash Point, Closed Cup	>200	DEG F	
Sulfide Reactive	22.3	u mg/kg	22.3

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-02
Project # 03886-118-204-0630
Lab ID: 9810G956-009
Sample Date: 10/30/98
Date Received: 10/31/98

Inorganic Data Report

Parameters	Result	Units	Reporting Limit
Cyanide, Reactive	0.17	u mg/kg	0.17
Corrosivity by pH	8.1	pH@16.9	0.20
Flash Point, Closed Cup	>200	DEG F	
Sulfide Reactive	24.8	u mg/kg	24.8

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Friday November 6th, 1998

Project # 03886-118-204-0630
Lab Batch: 9810G956

Attn: Sam Naik

Inorganic Method Blank Data Report

Sample	Lab ID	Parameter	Result	Units	Reporting Limit
Blank 1	98GCN170-MB1	Cyanide, Reactive	0.010	u mg/L	0.010
Blank 1	98GSF140-MB1	Sulfide Reactive	1.0	u mg/L	1.0

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Friday November 6th, 1998

Project # 03886-118-204-0630
Lab Batch: 9810G956

Attn: Sam Naik

Inorganic Laboratory Control Standards Report

Lab ID	Parameter	Spiked Amount	Units	Spike #1 % Recov.	Spike #2 % Recov.	RPD
98GCN170-LCS	Cyanide, Reactive	0.20	mg/L	10.7	NA	NA
98GSF140-LCS	Sulfide Reactive	4.0	mg/L	117	NA	NA

Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RfW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9810G956

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN	DATE	REC	EXT/PREP	ANALYSIS
AOC-32-01								
% SOLIDS	001	S	98GTS648	10/30/98	10/31/98	11/03/98	11/03/98	
% SOLIDS	001 REP	S	98GTS648	10/30/98	10/31/98	11/03/98	11/03/98	
ARSENIC. TOTAL	001	S	98GI394	10/30/98	10/31/98	11/04/98	11/05/98	
LEAD. TOTAL	001	S	98GI394	10/30/98	10/31/98	11/04/98	11/05/98	
AOC-32-02								
% SOLIDS	002	S	98GTS648	10/30/98	10/31/98	11/03/98	11/03/98	
ARSENIC. TOTAL	002	S	98GI394	10/30/98	10/31/98	11/04/98	11/05/98	
LEAD. TOTAL	002	S	98GI394	10/30/98	10/31/98	11/04/98	11/05/98	
AOC-32-03								
% SOLIDS	003	S	98GTS648	10/30/98	10/31/98	11/03/98	11/03/98	
ARSENIC. TOTAL	003	S	98GI394	10/30/98	10/31/98	11/04/98	11/05/98	
LEAD. TOTAL	003	S	98GI394	10/30/98	10/31/98	11/04/98	11/05/98	
AOC-32-04								
% SOLIDS	004	S	98GTS648	10/30/98	10/31/98	11/03/98	11/03/98	
ARSENIC. TOTAL	004	S	98GI394	10/30/98	10/31/98	11/04/98	11/05/98	
LEAD. TOTAL	004	S	98GI394	10/30/98	10/31/98	11/04/98	11/05/98	
AOC-32-05								
% SOLIDS	005	S	98GTS648	10/30/98	10/31/98	11/03/98	11/03/98	
ARSENIC. TOTAL	005	S	98GI394	10/30/98	10/31/98	11/04/98	11/05/98	
LEAD. TOTAL	005	S	98GI394	10/30/98	10/31/98	11/04/98	11/05/98	
AOC-32-06								
% SOLIDS	006	S	98GTS648	10/30/98	10/31/98	11/03/98	11/03/98	
ARSENIC. TOTAL	006	S	98GI394	10/30/98	10/31/98	11/04/98	11/05/98	
LEAD. TOTAL	006	S	98GI394	10/30/98	10/31/98	11/04/98	11/05/98	



NY CERTIFICATION # 11006

Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9810G956

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
AOC-32-07							
% SOLIDS	007	S	98GTS648	10/30/98	10/31/98	11/03/98	11/03/98
ARSENIC, TOTAL	007	S	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
LEAD, TOTAL	007	S	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
AOC-32-ASPH-01							
SILVER, SERIAL DILUT	008 L	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
SILVER, TOTAL	008	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
SILVER, TOTAL	008 REP	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
SILVER, TOTAL	008 MS	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
ARSENIC, SERIAL DILU	008 L	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
ARSENIC, TOTAL	008	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
ARSENIC, TOTAL	008 REP	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
ARSENIC, TOTAL	008 MS	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
BARIUM, SERIAL DILUT	008 L	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
BARIUM, TOTAL	008	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
BARIUM, TOTAL	008 REP	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
BARIUM, TOTAL	008 MS	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
CADMIUM, SERIAL DILU	008 L	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
CADMIUM, TOTAL	008	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
CADMIUM, TOTAL	008 REP	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
CADMIUM, TOTAL	008 MS	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
CHROMIUM, SERIAL DIL	008 L	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
CHROMIUM, TOTAL	008	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
CHROMIUM, TOTAL	008 REP	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
CHROMIUM, TOTAL	008 MS	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
MERCURY, TOTAL	008	SO	98HG645	10/30/98	10/31/98	11/02/98	11/03/98
LEAD, SERIAL DILUTIO	008 L	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
LEAD, TOTAL	008	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
LEAD, TOTAL	008 REP	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
LEAD, TOTAL	008 MS	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
SELENIUM, SERIAL DIL	008 L	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
SELENIUM, TOTAL	008	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
SELENIUM, TOTAL	008 REP	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
SELENIUM, TOTAL	008 MS	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98



NY CERTIFICATION # 11006

Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9810G956

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
AOC-32-ASPH-02							
SILVER. TOTAL	009	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
ARSENIC. TOTAL	009	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
BARIUM. TOTAL	009	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
CADMIUM. TOTAL	009	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
CHROMIUM. TOTAL	009	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
MERCURY. TOTAL	009	SO	98HG645	10/30/98	10/31/98	11/02/98	11/03/98
LEAD. TOTAL	009	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98
SELENIUM. TOTAL	009	SO	98GI394	10/30/98	10/31/98	11/04/98	11/05/98

LAB QC:

SILVER LABORATORY	LC1 BS	S	98GI394	N/A	N/A	11/04/98	11/05/98
ARSENIC LABORATORY	LC1 BS	S	98GI394	N/A	N/A	11/04/98	11/05/98
BARIUM LABORATORY	LC1 BS	S	98GI394	N/A	N/A	11/04/98	11/05/98
CADMIUM LABORATORY	LC1 BS	S	98GI394	N/A	N/A	11/04/98	11/05/98
CHROMIUM LABORATORY	LC1 BS	S	98GI394	N/A	N/A	11/04/98	11/05/98
LEAD LABORATORY	LC1 BS	S	98GI394	N/A	N/A	11/04/98	11/05/98
SELENIUM LABORATORY	LC1 BS	S	98GI394	N/A	N/A	11/04/98	11/05/98
SILVER LABORATORY	LC2 BS	S	98GI394	N/A	N/A	11/04/98	11/05/98
ARSENIC LABORATORY	LC2 BS	S	98GI394	N/A	N/A	11/04/98	11/05/98
BARIUM LABORATORY	LC2 BS	S	98GI394	N/A	N/A	11/04/98	11/05/98
CADMIUM LABORATORY	LC2 BS	S	98GI394	N/A	N/A	11/04/98	11/05/98
CHROMIUM LABORATORY	LC2 BS	S	98GI394	N/A	N/A	11/04/98	11/05/98
LEAD LABORATORY	LC2 BS	S	98GI394	N/A	N/A	11/04/98	11/05/98
SELENIUM LABORATORY	LC2 BS	S	98GI394	N/A	N/A	11/04/98	11/05/98
SILVER. TOTAL	MB1	S	98GI394	N/A	N/A	11/04/98	11/05/98
ARSENIC. TOTAL	MB1	S	98GI394	N/A	N/A	11/04/98	11/05/98
BARIUM. TOTAL	MB1	S	98GI394	N/A	N/A	11/04/98	11/05/98
CADMIUM. TOTAL	MB1	S	98GI394	N/A	N/A	11/04/98	11/05/98
CHROMIUM. TOTAL	MB1	S	98GI394	N/A	N/A	11/04/98	11/05/98
LEAD. TOTAL	MB1	S	98GI394	N/A	N/A	11/04/98	11/05/98
SELENIUM. TOTAL	MB1	S	98GI394	N/A	N/A	11/04/98	11/05/98
MERCURY LABORATORY	LC1 BS	S	98HG645	N/A	N/A	11/02/98	11/03/98
MERCURY LABORATORY	LC2 BS	S	98HG645	N/A	N/A	11/02/98	11/03/98



Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9810G956

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN DATE	REC	EXT/PREP	ANALYSIS
MERCURY. TOTAL	MB1	S	98HG645	N/A	N/A	11/02/98	11/03/98

SIGNATURE

Ygw S. 42

DATE

11/9/98



NY CERTIFICATION # 11006

Recra LabNet - Chicago

METALS METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained with this RFW Lot: 9810C956

SW846	☒ 6010A ☐ 6010B ☒ Ag ☐ Al ☒ As ☐ B ☒ Ba ☐ Be ☐ Ca ☒ Cd ☐ Co ☒ Cr ☐ Cu ☐ Fe ☐ K ☐ Li ☐ Mg ☐ Mn ☐ Mo ☐ Na ☐ Ni ☐ P ☒ Pb ☐ Sb ☒ Se ☐ Si ☐ Sn ☐ Sr ☐ Ti ☐ Tl ☐ V ☐ Zn ☐ Ag7761 ☐ As7060A ☐ Cd7131A ☐ Cr7191 ☐ Cu7211 ☐ Hg7470A ☒ Hg7471A ☐ Pb7421 ☐ Sb7041 ☐ Se7740 ☐ Tl7841 ☐ CN 9010A ☐ CN 9010B/9014
EPA	200.7 ☐ Ag ☐ Al ☐ As ☐ B ☐ Ba ☐ Be ☐ Ca ☐ Cd ☐ Co ☐ Cr ☐ Cu ☐ Fe ☐ K ☐ Li ☐ Mg ☐ Mn ☐ Mo ☐ Na ☐ Ni ☐ P ☐ Pb ☐ Sb ☐ Se ☐ Si ☐ Sn ☐ Sr ☐ Ti ☐ Tl ☐ V ☐ Zn ☐ Ag272.2 ☐ As206.2 ☐ Cd213.2 ☐ Cr218.2 ☐ Cu220.2 ☐ Hg245.1 ☐ Hg245.5 ☐ Pb239.2 ☐ Sb204.2 ☐ Se270.2 ☐ Tl279.2 200.9 ☐ As ☐ Cd ☐ Pb ☐ Sb ☐ Se ☐ Tl
CLP ILM04.0	200.7 CLP-M ☐ Ag ☐ Al ☐ As ☐ B ☐ Ba ☐ Be ☐ Ca ☐ Cd ☐ Co ☐ Cr ☐ Cu ☐ Fe ☐ K ☐ Li ☐ Mg ☐ Mn ☐ Mo ☐ Na ☐ Ni ☐ P ☐ Pb ☐ Sb ☐ Se ☐ Si ☐ Sn ☐ Sr ☐ Ti ☐ Tl ☐ V ☐ Zn ☐ As206.2 ☐ Cd213.2 ☐ Hg245.1 ☐ Hg245.5 ☐ Pb239.2 ☐ Sb204.2 ☐ Se270.2 ☐ Tl279.2 ☐ CN335.2
Digestion Method	SW846 ☐ 3005A ☐ 3010A ☐ 3020A ☐ 3020A(+H ₂ O ₂) ☒ 3050A ☐ 7060A/7740 ☐ 7470A ☐ 7471A ☐ 3050B EPA ☐ 200.7 ☐ 200.0(+H ₂ O ₂) ☐ 200.9(-HCL;+H ₂ O ₂) USEPA/CLP ☐ ILM04.0 Exhibit D, Section III
Extraction Method	SW846 ☐ 1311TCLP ☐ 1312SPLP ☐ 1320MEP Using TCLP ASTM ☐ D3987 Neutral Leach CAM Title 22 ☐ W.E.T.
%Solids	☐ SM 2540G ☐ ASTM D2216 ☐ Exhibit D Part F

CHI-22-05-002/J-4/98

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-01

Project # 03886-118-204-0630

Lab ID: 9810G956-001

Sample Date: 10/30/98

Date Received: 10/31/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	91.6	%	0.10
Arsenic, Total	20.5	mg/kg	8.7
Lead, Total	84.8	mg/kg	4.3

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-02

Project # 03886-118-204-0630

Lab ID: 9810G956-002

Sample Date: 10/30/98

Date Received: 10/31/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	90.9	%	0.10
Arsenic, Total	17.3	mg/kg	9.0
Lead, Total	96.3	mg/kg	4.5

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-03

Project # 03886-118-204-0630

Lab ID: 9810G956-003

Sample Date: 10/30/98

Date Received: 10/31/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	85.7	%	0.10
Arsenic, Total	14.9	mg/kg	9.6
Lead, Total	63.2	mg/kg	4.8

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-04

Project # 03886-118-204-0630

Lab ID: 9810G956-004

Sample Date: 10/30/98

Date Received: 10/31/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	88.3	%	0.10
Arsenic, Total	9.4	u mg/kg	9.4
Lead, Total	24.5	mg/kg	4.7

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-05

Project # 03886-118-204-0630

Lab ID: 9810G956-005

Sample Date: 10/30/98

Date Received: 10/31/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	84.7	%	0.10
Arsenic, Total	9.8	u mg/kg	9.8
Lead, Total	4.9	u mg/kg	4.9

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Friday November 6th, 1998

RE: AOC-32-06
Project # 03886-118-204-0630
Lab ID: 9810G956-006
Sample Date: 10/30/98
Date Received: 10/31/98

Attn: Sam Naik

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	88.2	%	0.10
Arsenic, Total	14.3	mg/kg	9.1
Lead, Total	130	mg/kg	4.6

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-07

Project # 03886-118-204-0630

Lab ID: 9810G956-007

Sample Date: 10/30/98

Date Received: 10/31/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	88.1	%	0.10
Arsenic, Total	9.0	u mg/kg	9.0
Lead, Total	261	mg/kg	4.5

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-01
Project # 03886-118-204-0630
Lab ID: 9810G956-008
Sample Date: 10/30/98
Date Received: 10/31/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
Silver, Total	1.9	mg/kg	0.85
Arsenic, Total	22.9	mg/kg	8.5
Barium, Total	43.6	mg/kg	4.3
Cadmium, Total	1.2	mg/kg	0.85
Chromium, Total	18.0	mg/kg	1.7
Mercury, Total	0.03	u mg/kg	0.03
Lead, Total	332	mg/kg	4.3
Selenium, Total	8.5	u mg/kg	8.5

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-02
Project # 03886-118-204-0630
Lab ID: 9810G956-009
Sample Date: 10/30/98
Date Received: 10/31/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
Silver, Total	0.83	u mg/kg	0.83
Arsenic, Total	29.9	mg/kg	8.3
Barium, Total	53.1	mg/kg	4.1
Cadmium, Total	0.83	u mg/kg	0.83
Chromium, Total	29.0	mg/kg	1.7
Mercury, Total	0.09	mg/kg	0.04
Lead, Total	188	mg/kg	4.1
Selenium, Total	8.3	u mg/kg	8.3

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Friday November 6th, 1998

Project # 03886-118-204-0630
Lab Batch: 9810G956

Attn: Sam Naik

Inorganic Method Blank Data Report

Sample	Lab ID	Parameter	Result	Units	Reporting Limit
Blank 1	98GTS648-MB1	% Solids	0.10	u %	0.10
Blank 1	98GI394-MB1	Silver, Total	1.0	u mg/kg	1.0
		Arsenic, Total	10.0	u mg/kg	10.0
		Barium, Total	5.0	u mg/kg	5.0
		Cadmium, Total	1.0	u mg/kg	1.0
		Chromium, Total	2.0	u mg/kg	2.0
		Lead, Total	5.0	u mg/kg	5.0
		Selenium, Total	10.0	u mg/kg	10.0
Blank 1	98HG645-MB1	Mercury, Total	0.03	u mg/kg	0.03

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Date: Friday November 6th, 1998

Project # 03886-118-204-0630
Lab Batch: 9810G956

Attn: Sam Naik

Inorganic Precision Data Report

Sample	Site ID	Parameter	Initial Result	Replicate	RPD
-001REP	AOC-32-01	% Solids	91.6	91.6	0.00
-008REP	AOC-32-ASPH-01	Silver, Total	1.9	0.79 u	NC
		Arsenic, Total	22.9	36.6	46.0
		Barium, Total	43.6	58.8	29.7
		Cadmium, Total	1.2	0.95	23.0
		Chromium, Total	18.0	31.6	55.0
		Lead, Total	332	28.8	168
		Selenium, Total	8.5 u	7.9 u	NC

To: RFW-Ft Devens-DRMO Yard
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Date: Friday November 6th, 1998

Project # 03886-118-204-0630
Lab Batch: 9810G956

Attn: Sam Naik

Inorganic Accuracy Data Report

Sample	Site ID	Parameter	Spiked Sample	Initial Result	Spiked Amount	% Recov
-008	AOC-32-ASPH-01	Silver, Total	4.3	1.9	4.1	58.3
		Arsenic, Total	180	22.9	163	96.4
		Barium, Total	180	43.6	163	83.9
		Cadmium, Total	3.9	1.2	4.1	65.3
		Chromium, Total	33.1	18.0	16.3	9.0
		Lead, Total	123	332	40.6	NA
		Selenium, Total	156	8.5	u 163	96.2

To: RFW-Ft Devens-DRMO Yard
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Date: Friday November 6th, 1998

Project # 03886-118-204-0630
Lab Batch: 9810G956

Attn: Sam Naik

Inorganic Laboratory Control Standards Report

Lab ID	Parameter	Spiked Amount	Units	Spike #1 % Recov.	Spike #2 % Recov.	RPD
98GI394-LC1	Silver, LCS	5.0	mg/kg	92.0	90.7	1.4
	Arsenic, LCS	200	mg/kg	96.1	96.0	0.11
	Barium, LCS	200	mg/kg	99.7	98.0	1.8
	Cadmium, LCS	5.0	mg/kg	91.3	91.6	0.31
	Chromium, LCS	20.0	mg/kg	98.9	98.7	0.18
	Lead, LCS	50.0	mg/kg	100	100	0.26
	Selenium, LCS	200	mg/kg	101	100	0.89
98HG645-LC1	Mercury, LCS	0.30	mg/kg	125	126	0.48

Recra LabNet - Chicago
8260 ANALYTICAL DATA PACKAGE FOR
RfW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9810G956

CLIENT ID	Sample #	MTX	PREP #	COLLECTN DATE	REC	EXT/PREP	ANALYSIS
AOC-32-ASPH-01	008	SO	98GVJ331	10/30/98	10/31/98	N/A	11/04/98
AOC-32-ASPH-02	009	SO	98GVJ331	10/30/98	10/31/98	N/A	11/04/98
Trip Blank-01	010	W	98GVF414	10/30/98	10/31/98	N/A	11/03/98
Trip Blank-01	010	D1 W	98GVF415	10/30/98	10/31/98	N/A	11/03/98

LAB QC:

VBLKPB	MB1	S	98GVJ331	N/A	N/A	N/A	11/04/98
VBLKPB	MB1 BS	S	98GVJ331	N/A	N/A	N/A	11/04/98
VBLKOX	MB1	W	98GVF414	N/A	N/A	N/A	11/03/98
VBLKOX	MB1 BS	W	98GVF414	N/A	N/A	N/A	11/03/98
VBLKNF	MB1	W	98GVF415	N/A	N/A	N/A	11/03/98
VBLKNF	MB1 BS	W	98GVF415	N/A	N/A	N/A	11/03/98

SIGNATURE

Gregory L. Loerd

DATE

11/6/98



NY CERTIFICATION # 11006

Recra LabNet-Chicago
GC/MS Case Narrative

RFW - FT. Devens-DRMO Yard

RFW # 9810G956

VOA DATA:

1. All volatile analyses were performed within the Method hold times.
2. All Method Blanks had target compounds below reporting limits.
3. All LCS (Laboratory Control Sample) controlled compound spike recoveries were within the in-house generated QC limits.
4. Matrix Spike/Matrix Spike Duplicate analyses were not performed on this RFW batch.
5. All of the volatile samples had surrogate recoveries within the in-house generated QC limits.
6. All samples were analyzed following SW846 Method 8000 and 8260B. All calibration criteria are met or according to the SOP for minimum R criteria. Samples are quantitated using the initial calibration.
7. All water samples were initially analyzed low level using a 25ml purge volume. A secondary dilution to accurately quantitate target compounds was performed on the sample 9810G956-010 (1/25). The results and reporting limits were adjusted to account for the dilution. The solid samples were analyzed low level without dilution. The solid samples 9810G956-008 and 009 were not split off prior to organic extraction. The presence of the target compounds methylene chloride and acetone in the samples could be suspected contamination from the extraction laboratory. The solid samples were regarded as having 100% solids.
8. All internal standard areas and retention times were within SOP limits as compared to the corresponding continuing calibration standard.


Gregory L. Goodwin
GC/MS Section Manager

11/6/98
Date



Recra LabNet - Chicago

GC/MS METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained within this RFW Lot :

GC/MS VOLATILES

☐ SW-846 8260A
☒ SW-846 8260B
☐ EPA 524.2
☐ 40 CFR Part 136, Method 624
☐ CLP OLM03.1/3.2
☐ OLC02.0/2.1

GC/MS SEMIVOLATILES

☐ SW-846 8270A
☐ SW-846 8270B
☐ SW-846 8270C
☐ 40 CFR Part 136, Method 625
☐ CLP OLM03.1/3.2
☐ OLC02.0/2.1

CHI-22-05-001/D-4/98

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-01
Project # 03886-118-204-0630
Lab ID: 9810G956-008
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
Dichlorodifluoromethane	BRL	5	U
Chloromethane	BRL	5	U
Vinyl chloride	BRL	5	U
Bromomethane	BRL	5	U
Chloroethane	BRL	5	U
Trichlorofluoromethane	BRL	5	U
1,1-Dichloroethene	BRL	5	U
Acetone	5	5	
Carbon Disulfide	BRL	5	U
Methylene Chloride	14	5	
Methyl-tert-butyl ether	BRL	5	U
trans-1,2-Dichloroethene	BRL	5	U
1,1-Dichloroethane	BRL	5	U
cis-1,2-Dichloroethene	BRL	5	U
2,2-Dichloropropane	BRL	5	U
2-Butanone	BRL	5	U
Bromochloromethane	BRL	5	U

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Date: Friday November 6th, 1998

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Project # 03886-118-204-0630
Lab ID: 9810G956-008
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
Chloroform	BRL	5	U
1,1,1-Trichloroethane	BRL	5	U
1,1-Dichloropropene	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Benzene	1	5	J
1,2-Dichloroethane	BRL	5	U
Trichloroethene	BRL	5	U
1,2-Dichloropropane	BRL	5	U
Dibromomethane	BRL	5	U
Bromodichloromethane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
4-Methyl-2-pentanone	BRL	5	U
Toluene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
1,3-Dichloropropane	BRL	5	U
Tetrachloroethene	BRL	5	U

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Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-01
Project # 03886-118-204-0630
Lab ID: 9810G956-008
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
2-Hexanone	BRL	5	U
Dibromochloromethane	BRL	5	U
1,2-Dibromoethane	BRL	5	U
Chlorobenzene	BRL	5	U
1,1,1,2-Tetrachloroethane	BRL	5	U
Ethylbenzene	BRL	5	U
m/p-Xylene	BRL	5	U
o-Xylene	BRL	5	U
Styrene	BRL	5	U
Bromoform	BRL	5	U
Isopropylbenzene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Bromobenzene	BRL	5	U
1,2,3-Trichloropropane	BRL	5	U
n-Propylbenzene	BRL	5	U
2-Chlorotoluene	BRL	5	U
1,3,5-Trimethylbenzene	BRL	5	U

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Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-01
Project # 03886-118-204-0630
Lab ID: 9810G956-008
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
4-Chlorotoluene	BRL	5	U
tert-Butylbenzene	BRL	5	U
1,2,4-Trimethylbenzene	BRL	5	U
sec-Butylbenzene	BRL	5	U
1,3-Dichlorobenzene	BRL	5	U
p-Isopropyltoluene	BRL	5	U
1,4-Dichlorobenzene	BRL	5	U
n-Butylbenzene	BRL	5	U
1,2-Dichlorobenzene	BRL	5	U
1,2-Dibromo-3-chloropropane	BRL	5	U
1,2,4-Trichlorobenzene	BRL	5	U
Hexachlorobutadiene	BRL	5	U
Naphthalene	BRL	5	U
1,2,3-Trichlorobenzene	BRL	5	U

To: RFW-Ft Devens-DRMO Yard
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Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-01
Project # 03886-118-204-0630
Lab ID: 9810G956-008
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/Kg

Tentatively Identified Compounds

1 Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Volatile Compound	Retention Time	Estimated Concentration
UNKNOWN CYCLOALKANE	29.738	6 J

To: RFW-Ft Devens-DRMO Yard
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Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-02
Project # 03886-118-204-0630
Lab ID: 9810G956-009
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
Dichlorodifluoromethane	BRL	5	U
Chloromethane	BRL	5	U
Vinyl chloride	BRL	5	U
Bromomethane	BRL	5	U
Chloroethane	BRL	5	U
Trichlorofluoromethane	BRL	5	U
1,1-Dichloroethene	BRL	5	U
Acetone	7	5	
Carbon Disulfide	BRL	5	U
Methylene Chloride	25	5	
Methyl-tert-butyl ether	BRL	5	U
trans-1,2-Dichloroethene	BRL	5	U
1,1-Dichloroethane	BRL	5	U
cis-1,2-Dichloroethene	BRL	5	U
2,2-Dichloropropane	BRL	5	U
2-Butanone	BRL	5	U
Bromochloromethane	BRL	5	U

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-02
Project # 03886-118-204-0630
Lab ID: 9810G956-009
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
Chloroform	BRL	5	U
1,1,1-Trichloroethane	BRL	5	U
1,1-Dichloropropene	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Benzene	BRL	5	U
1,2-Dichloroethane	BRL	5	U
Trichloroethene	2	5	J
1,2-Dichloropropane	BRL	5	U
Dibromomethane	BRL	5	U
Bromodichloromethane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
4-Methyl-2-pentanone	BRL	5	U
Toluene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
1,3-Dichloropropane	BRL	5	U
Tetrachloroethene	BRL	5	U

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-02
Project # 03886-118-204-0630
Lab ID: 9810G956-009
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
2-Hexanone	BRL	5	U
Dibromochloromethane	BRL	5	U
1,2-Dibromoethane	BRL	5	U
Chlorobenzene	BRL	5	U
1,1,1,2-Tetrachloroethane	BRL	5	U
Ethylbenzene	BRL	5	U
m/p-Xylene	BRL	5	U
o-Xylene	BRL	5	U
Styrene	BRL	5	U
Bromoform	BRL	5	U
Isopropylbenzene	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U
Bromobenzene	BRL	5	U
1,2,3-Trichloropropane	BRL	5	U
n-Propylbenzene	BRL	5	U
2-Chlorotoluene	BRL	5	U
1,3,5-Trimethylbenzene	BRL	5	U

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-02
Project # 03886-118-204-0630
Lab ID: 9810G956-009
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
4-Chlorotoluene	BRL	5	U
tert-Butylbenzene	BRL	5	U
1,2,4-Trimethylbenzene	BRL	5	U
sec-Butylbenzene	BRL	5	U
1,3-Dichlorobenzene	BRL	5	U
p-Isopropyltoluene	BRL	5	U
1,4-Dichlorobenzene	BRL	5	U
n-Butylbenzene	BRL	5	U
1,2-Dichlorobenzene	BRL	5	U
1,2-Dibromo-3-chloropropane	BRL	5	U
1,2,4-Trichlorobenzene	BRL	5	U
Hexachlorobutadiene	BRL	5	U
Naphthalene	BRL	5	U
1,2,3-Trichlorobenzene	BRL	5	U

To: RFW-Ft Devens-DRMO Yard
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Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-02
Project # 03886-118-204-0630
Lab ID: 9810G956-009
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/Kg

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
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Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: Trip Blank-01
Project # 03886-118-204-0630
Lab ID: 9810G956-010
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/L

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
Dichlorodifluoromethane	BRL	0.5	U
Chloromethane	BRL	0.5	U
Vinyl chloride	BRL	0.5	U
Bromomethane	BRL	0.5	U
Chloroethane	BRL	0.5	U
Trichlorofluoromethane	BRL	0.5	U
1,1-Dichloroethene	BRL	0.5	U
Acetone	E	2	
Carbon Disulfide	BRL	2	U
Methylene Chloride	BRL	0.5	U
Methyl-tert-butyl ether	BRL	0.5	U
trans-1,2-Dichloroethene	BRL	0.5	U
1,1-Dichloroethane	BRL	0.5	U
cis-1,2-Dichloroethene	BRL	0.5	U
2,2-Dichloropropane	BRL	0.5	U
2-Butanone	E	2	
Bromochloromethane	BRL	0.5	U

To: RFW-Ft Devens-DRMO Yard
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Attn: Sam Naik

Date: Friday November 6th, 1998

RE: Trip Blank-01
Project # 03886-118-204-0630
Lab ID: 9810G956-010
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/L

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
Chloroform	BRL	0.5	U
1,1,1-Trichloroethane	BRL	0.5	U
1,1-Dichloropropene	BRL	0.5	U
Carbon Tetrachloride	BRL	0.5	U
Benzene	BRL	0.5	U
1,2-Dichloroethane	BRL	0.5	U
Trichloroethene	BRL	0.5	U
1,2-Dichloropropane	BRL	0.5	U
Dibromomethane	BRL	0.5	U
Bromodichloromethane	BRL	0.5	U
cis-1,3-Dichloropropene	BRL	0.5	U
4-Methyl-2-pentanone	BRL	2	U
Toluene	BRL	0.5	U
trans-1,3-Dichloropropene	BRL	0.5	U
1,1,2-Trichloroethane	BRL	0.5	U
1,3-Dichloropropane	BRL	0.5	U
Tetrachloroethene	BRL	0.5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: Trip Blank-01
Project # 03886-118-204-0630
Lab ID: 9810G956-010
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/L

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
2-Hexanone	BRL	2	U
Dibromochloromethane	BRL	0.5	U
1,2-Dibromoethane	BRL	0.5	U
Chlorobenzene	BRL	0.5	U
1,1,1,2-Tetrachloroethane	BRL	0.5	U
Ethylbenzene	BRL	0.5	U
m/p-Xylene	BRL	0.5	U
o-Xylene	BRL	0.5	U
Styrene	BRL	0.5	U
Bromoform	BRL	0.5	U
Isopropylbenzene	BRL	0.5	U
1,1,2,2-Tetrachloroethane	BRL	0.5	U
Bromobenzene	BRL	0.5	U
1,2,3-Trichloropropane	BRL	0.5	U
n-Propylbenzene	BRL	0.5	U
2-Chlorotoluene	BRL	0.5	U
1,3,5-Trimethylbenzene	BRL	0.5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
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Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: Trip Blank-01
Project # 03886-118-204-0630
Lab ID: 9810G956-010
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/L

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
4-Chlorotoluene	BRL	0.5	U
tert-Butylbenzene	BRL	0.5	U
1,2,4-Trimethylbenzene	BRL	0.5	U
sec-Butylbenzene	BRL	0.5	U
1,3-Dichlorobenzene	BRL	0.5	U
p-Isopropyltoluene	BRL	0.5	U
1,4-Dichlorobenzene	BRL	0.5	U
n-Butylbenzene	BRL	0.5	U
1,2-Dichlorobenzene	BRL	0.5	U
1,2-Dibromo-3-chloropropane	BRL	0.5	U
1,2,4-Trichlorobenzene	BRL	0.5	U
Hexachlorobutadiene	BRL	0.5	U
Naphthalene	BRL	0.5	U
1,2,3-Trichlorobenzene	BRL	0.5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: Trip Blank-01
Project # 03886-118-204-0630
Lab ID: 9810G956-010
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: Trip Blank-01
Project # 03886-118-204-0630
Lab ID: 9810G956-010 DL
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/L

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
Acetone	180	50	D
2-Butanone	370	50	D

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: Trip Blank-01
Project # 03886-118-204-0630
Lab ID: 9810G956-010 DL
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/L

Tentatively Identified Compounds

No Volatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Recra LabNet - Chicago
METHOD 8260 VOLATILES

RFW Batch Number: 9810G956

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Report Date: 11/06/98 10:53

Page: 1a

Sample Information	Cust ID:	AOC-32-ASPH-01	AOC-32-ASPH-02	Trip Blank-01	Trip Blank-01	VBLKPB	VBLKPB BS
	RFW#:	008	009	010	010 DL	98GVJ331-MB1	98GVJ331-MB1
	Matrix:	SOLID	SOLID	WATER	WATER	SOIL	SOIL
	D.F.:	1	1	1	25	1	1
	Units:	UG/KG	UG/KG	UG/L	UG/L	UG/KG	UG/KG
1,2-Dichloroethane-d4		82 %	85 %	104 %	105 %	77 %	86 %
Surrogate Toluene-d8		90 %	89 %	110 %	109 %	92 %	92 %
Recovery 4-Bromofluorobenzene		83 %	85 %	104 %	101 %	85 %	87 %
Dichlorodifluoromethane		5 U	5 U	0.5 U	NA	5 U	62 %
Chloromethane		5 U	5 U	0.5 U	NA	5 U	98 %
Vinyl chloride		5 U	5 U	0.5 U	NA	5 U	101 %
Bromomethane		5 U	5 U	0.5 U	NA	5 U	90 %
Chloroethane		5 U	5 U	0.5 U	NA	5 U	92 %
Trichlorofluoromethane		5 U	5 U	0.5 U	NA	5 U	85 %
1,1-Dichloroethene		5 U	5 U	0.5 U	NA	5 U	84 %
Acetone		5	7	E	180	5 U	85 %
Carbon Disulfide		5 U	5 U	2 U	NA	5 U	65 %
Methylene Chloride	14		25	0.5 U	NA	5 U	81 %
Methyl-tert-butyl ether	5 U		5 U	0.5 U	NA	5 U	96 %
trans-1,2-Dichloroethene	5 U		5 U	0.5 U	NA	5 U	91 %
1,1-Dichloroethane	5 U		5 U	0.5 U	NA	5 U	96 %
cis-1,2-Dichloroethene	5 U		5 U	0.5 U	NA	5 U	94 %
2,2-Dichloropropane	5 U		5 U	0.5 U	NA	5 U	110 %
2-Butanone	5 U		5 U	E	370	5 U	70 %
Bromochloromethane	5 U		5 U	0.5 U	NA	5 U	87 %
Chloroform	5 U		5 U	0.5 U	NA	5 U	95 %
1,1,1-Trichloroethane	5 U		5 U	0.5 U	NA	5 U	93 %
1,1-Dichloropropene	5 U		5 U	0.5 U	NA	5 U	99 %
Carbon Tetrachloride	5 U		5 U	0.5 U	NA	5 U	92 %
Benzene	1 J		5 U	0.5 U	NA	5 U	95 %
1,2-Dichloroethane	5 U		5 U	0.5 U	NA	5 U	84 %
Trichloroethene	5 U		2 J	0.5 U	NA	5 U	97 %
1,2-Dichloropropane	5 U		5 U	0.5 U	NA	5 U	101 %
Dibromomethane	5 U		5 U	0.5 U	NA	5 U	84 %

*= Outside of EPA CLP QC Limits:

RFW Batch Number: 9810G956

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 1b

Cust ID: AOC-32-ASPH-

AOC-32-ASPH-

Trip Blank-0

Trip Blank-0

VBLKPB

VBLKPB BS

RFW#:

008

009

010

010 DL

98GVJ331-MB1

98GVJ331-MB1

Bromodichloromethane	5 U	5 U	0.5 U	NA	5 U	89 %
cis-1,3-Dichloropropene	5 U	5 U	0.5 U	NA	5 U	85 %
4-Methyl-2-pentanone	5 U	5 U	2 U	NA	5 U	82 %
Toluene	5 U	5 U	0.5 U	NA	5 U	102 %
trans-1,3-Dichloropropene	5 U	5 U	0.5 U	NA	5 U	93 %
1,1,2-Trichloroethane	5 U	5 U	0.5 U	NA	5 U	89 %
1,3-Dichloropropane	5 U	5 U	0.5 U	NA	5 U	91 %
Tetrachloroethene	5 U	5 U	0.5 U	NA	5 U	100 %
2-Hexanone	5 U	5 U	2 U	NA	5 U	84 %
Dibromochloromethane	5 U	5 U	0.5 U	NA	5 U	82 %
1,2-Dibromoethane	5 U	5 U	0.5 U	NA	5 U	85 %
Chlorobenzene	5 U	5 U	0.5 U	NA	5 U	98 %
1,1,1,2-Tetrachloroethane	5 U	5 U	0.5 U	NA	5 U	95 %
Ethylbenzene	5 U	5 U	0.5 U	NA	5 U	102 %
m/p-Xylene	5 U	5 U	0.5 U	NA	5 U	102 %
o-Xylene	5 U	5 U	0.5 U	NA	5 U	103 %
Styrene	5 U	5 U	0.5 U	NA	5 U	101 %
Bromoform	5 U	5 U	0.5 U	NA	5 U	78 %
Isopropylbenzene	5 U	5 U	0.5 U	NA	5 U	126 %
1,1,2,2-Tetrachloroethane	5 U	5 U	0.5 U	NA	5 U	99 %
Bromobenzene	5 U	5 U	0.5 U	NA	5 U	109 %
1,2,3-Trichloropropane	5 U	5 U	0.5 U	NA	5 U	94 %
n-Propylbenzene	5 U	5 U	0.5 U	NA	5 U	114 %
2-Chlorotoluene	5 U	5 U	0.5 U	NA	5 U	123 % *
1,3,5-Trimethylbenzene	5 U	5 U	0.5 U	NA	5 U	118 %
4-Chlorotoluene	5 U	5 U	0.5 U	NA	5 U	121 %
tert-Butylbenzene	5 U	5 U	0.5 U	NA	5 U	123 %
1,2,4-Trimethylbenzene	5 U	5 U	0.5 U	NA	5 U	117 %
sec-Butylbenzene	5 U	5 U	0.5 U	NA	5 U	128 %
1,3-Dichlorobenzene	5 U	5 U	0.5 U	NA	5 U	112 %
p-Isopropyltoluene	5 U	5 U	0.5 U	NA	5 U	116 %
1,4-Dichlorobenzene	5 U	5 U	0.5 U	NA	5 U	109 %
n-Butylbenzene	5 U	5 U	0.5 U	NA	5 U	120 %
1,2-Dichlorobenzene	5 U	5 U	0.5 U	NA	5 U	102 %
1,2-Dibromo-3-chloropropane	5 U	5 U	0.5 U	NA	5 U	67 %
1,2,4-Trichlorobenzene	5 U	5 U	0.5 U	NA	5 U	60 % *

* = Outside of EPA CLP QC Limits.

RFW Batch Number: 9810G956

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 1c

Cust ID: AOC-32-ASPH- AOC-32-ASPH- Trip Blank-0 Trip Blank-0 VBLKPB VBLKPB BS

RFW#: 01 008 02 009 1 010 1 010 DL 98GVJ331-MB1 98GVJ331-MB1

Hexachlorobutadiene	5	U	5	U	0.5	U	NA	5	U	89	%
Naphthalene	5	U	5	U	0.5	U	NA	5	U	50	* %
1,2,3-Trichlorobenzene	5	U	5	U	0.5	U	NA	5	U	46	* %

*= Outside of EPA CLP QC Limits.

Recra LabNet - Chicago
METHOD 8260 VOLATILES

Report Date: 11/06/98 10:53

RFW Batch Number: 9810G956

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 2a

		Cust ID: VBLK0X		VBLK0X BS		VBLKNF		VBLKNF BS	
Sample Information		RFW#: 98GVF414-MB1		98GVF414-MB1		98GVF415-MB1		98GVF415-MB1	
		Matrix: WATER		WATER		WATER		WATER	
		D.F.: 1		1		1		1	
		Units: UG/L		UG/L		UG/L		UG/L	
Surrogate	1,2-Dichloroethane-d4	98	%	108	%	99	%	112	%
Recovery	Toluene-d8	106	%	104	%	111	%	114	%
	4-Bromofluorobenzene	102	%	104	%	99	%	111	%
=====f]=====f]=====f]=====f]=====f]=====f]									
	Dichlorodifluoromethane	0.5	U	57	%	0.5	U	61	%
	Chloromethane	0.5	U	90	%	0.5	U	103	%
	Vinyl chloride	0.5	U	83	%	0.5	U	87	%
	Bromomethane	0.5	U	102	%	0.5	U	112	%
	Chloroethane	0.5	U	95	%	0.5	U	102	%
	Trichlorofluoromethane	0.5	U	92	%	0.5	U	98	%
	1,1-Dichloroethene	0.5	U	79	%	0.5	U	78	%
	Acetone	2	U	57	%	2	U	66	%
	Carbon Disulfide	2	U	72	%	2	U	70	%
	Methylene Chloride	0.5	U	80	%	0.5	U	81	%
	Methyl-tert-butyl ether	0.5	U	98	%	0.5	U	102	%
	trans-1,2-Dichloroethene	0.5	U	81	%	0.5	U	83	%
	1,1-Dichloroethane	0.5	U	84	%	0.5	U	86	%
	cis-1,2-Dichloroethene	0.5	U	82	%	0.5	U	83	%
	2,2-Dichloropropane	0.5	U	88	%	0.5	U	86	%
	2-Butanone	2	U	98	%	2	U	90	%
	Bromochloromethane	0.5	U	89	%	0.5	U	88	%
	Chloroform	0.5	U	88	%	0.5	U	92	%
	1,1,1-Trichloroethane	0.5	U	87	%	0.5	U	90	%
	1,1-Dichloropropene	0.5	U	92	%	0.5	U	94	%
	Carbon Tetrachloride	0.5	U	90	%	0.5	U	89	%
	Benzene	0.5	U	91	%	0.5	U	90	%
	1,2-Dichloroethane	0.5	U	91	%	0.5	U	88	%
	Trichloroethene	0.5	U	93	%	0.5	U	94	%
	1,2-Dichloropropane	0.5	U	96	%	0.5	U	96	%
	Dibromomethane	0.5	U	96	%	0.5	U	96	%

*= Outside of EPA CLP QC Limits.

Cust ID: VBLKOX

VBLKOX BS

VBLKNF

VBLKNF BS

RWF#: 98GVF414-MB1

98GVF414-MB1

98GVF415-MB1

98GVF415-MB1

Bromodichloromethane	0.5	U	92	%	0.5	U	93	%
cis-1,3-Dichloropropene	0.5	U	85	%	0.5	U	86	%
4-Methyl-2-pentanone	2	U	106	%	2	U	108	%
Toluene	0.5	U	87	%	0.5	U	90	%
trans-1,3-Dichloropropene	0.5	U	97	%	0.5	U	101	%
1,1,2-Trichloroethane	0.5	U	91	%	0.5	U	96	%
1,3-Dichloropropane	0.5	U	103	%	0.5	U	104	%
Tetrachloroethene	0.5	U	95	%	0.5	U	96	%
2-Hexanone	2	U	106	%	2	U	116	%
Dibromochloromethane	0.5	U	93	%	0.5	U	94	%
1,2-Dibromoethane	0.5	U	99	%	0.5	U	99	%
Chlorobenzene	0.5	U	97	%	0.5	U	101	%
1,1,1,2-Tetrachloroethane	0.5	U	96	%	0.5	U	99	%
Ethylbenzene	0.5	U	94	%	0.5	U	94	%
m/p-Xylene	0.5	U	97	%	0.5	U	100	%
o-Xylene	0.5	U	99	%	0.5	U	99	%
Styrene	0.5	U	101	%	0.5	U	100	%
Bromoform	0.5	U	104	%	0.5	U	105	%
Isopropylbenzene	0.5	U	96	%	0.5	U	94	%
1,1,2,2-Tetrachloroethane	0.5	U	95	%	0.5	U	94	%
Bromobenzene	0.5	U	101	%	0.5	U	98	%
1,2,3-Trichloropropane	0.5	U	105	%	0.5	U	96	%
n-Propylbenzene	0.5	U	97	%	0.5	U	98	%
2-Chlorotoluene	0.5	U	88	%	0.5	U	85	%
1,3,5-Trimethylbenzene	0.5	U	93	%	0.5	U	94	%
4-Chlorotoluene	0.5	U	99	%	0.5	U	98	%
tert-Butylbenzene	0.5	U	94	%	0.5	U	96	%
1,2,4-Trimethylbenzene	0.5	U	95	%	0.5	U	96	%
sec-Butylbenzene	0.5	U	91	%	0.5	U	97	%
1,3-Dichlorobenzene	0.5	U	97	%	0.5	U	98	%
p-Isopropyltoluene	0.5	U	89	%	0.5	U	96	%
1,4-Dichlorobenzene	0.5	U	101	%	0.5	U	101	%
n-Butylbenzene	0.5	U	88	%	0.5	U	107	%
1,2-Dichlorobenzene	0.5	U	93	%	0.5	U	98	%
1,2-Dibromo-3-chloropropane	0.5	U	104	%	0.5	U	102	%
1,2,4-Trichlorobenzene	0.5	U	70	*	0.5	U	102	%

*= Outside of EPA CLP QC Limits.

RfW Batch Number: 9810G956

Client: RfW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

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62
50

Cust ID: VBLK0X

VBLK0X BS

VBLKNF

VBLKNF BS

RfW#: 98GVF414-MB1 98GVF414-MB1 98GVF415-MB1 98GVF415-MB1

Hexachlorobutadiene	0.5	U	48 *	%	0.5	U	98	%
Naphthalene	0.5	U	100	%	0.5	U	119	%
1,2,3-Trichlorobenzene	0.5	U	67 *	%	0.5	U	104	%

*= Outside of EPA CLP QC limits.

Recra LabNet - Chicago
BNA ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9810G956

CLIENT ID	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
AOC-32-ASPH-01	008	SO	98GB0586	10/30/98	10/31/98	11/03/98	11/05/98
AOC-32-ASPH-01	008 MS	SO	98GB0586	10/30/98	10/31/98	11/03/98	11/05/98
AOC-32-ASPH-01	008 MSD	SO	98GB0586	10/30/98	10/31/98	11/03/98	11/05/98
AOC-32-ASPH-02	009	SO	98GB0586	10/30/98	10/31/98	11/03/98	11/05/98

LAB QC:

SBLKDQ	MB1	S	98GB0586	N/A	N/A	11/03/98	11/04/98
SBLKDQ	MB1 BS	S	98GB0586	N/A	N/A	11/03/98	11/04/98

SIGNATURE

Gregory L. Good

DATE

11/6/98

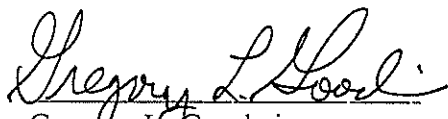


NY CERTIFICATION # 11006

Recra Lab Net - Chicago
GC/MS Case Narrative

RFW - Ft. Devens-DRMO Yard
RFW# 9810G956
BNA DATA:

1. All extraction and analyses were performed within recommended hold times.
2. The Method Blank had all target compounds below the reporting limits.
3. The LCS (Laboratory Control Sample) sample was 98GB0586-MB1 BS. The BNA LCS spike solution (100 µg/mL) was used and 1.0 mL was spiked in each of the samples. In-house generated QC limits were used and the eleven compounds specified in the method were evaluated for QC acceptance. All of the spike recoveries were within QC limits for the eleven specified compounds in the LCS sample.
4. Matrix Spike/Matrix Spike Duplicate analyses were performed on the sample 9810G956-008. The BNA LCS spike solution (100 µg/mL) was used and 1.0 mL was spiked in each of the samples. In-house generated QC limits were used and the eleven compounds specified in the method were evaluated for QC acceptance. The spike recoveries were above the QC limits for Pyrene in both of the samples 9810G956-008 MS/MSD. Since the LCS sample had acceptable spike recoveries, corrective action was not required. All of the other spike recoveries and the RPD values were within the QC limits for the eleven specified compounds in the samples 9810G956-008 MS/MSD.
5. The BNA surrogate spike solution (Acids at 150 µg/mL, Base-Neutral at 100 µg/mL) was used and 0.5 mL was spiked in all samples. The samples 9810G956-008 and 008 MS and had one surrogate recovery above the QC limits. According to the SOP, one surrogate recovery above the QC limits is acceptable. All of the other samples had surrogate recoveries within the in-house generated QC limits.
6. All analyses were performed following USEPA SW846 8270C protocol. All of the internal standard and surrogate peaks have been labeled by name. The sample 9810G956-008, 008 MS, 008 MSD and 009 had internal standard areas below the 50% acceptance limits. According to the SOP, reanalyses on these samples were not required. All of the other samples had internal standard areas and retention times within SOP acceptance limits as compared to the corresponding continuing calibration standard.
7. The samples were extracted as low level soils. The samples 9810G956-008, 008 MS, 008 MSD and 009 had 2.0 mL final extract volumes and were analyzed without further dilution. The results and reporting limits were adjusted to account for the final extract volumes and the samples were considered to have 100% solids.


Gregory L. Goodwin
GC/MS Section Manager

11/6/28
Date



Recra LabNet - Chicago

GC/MS METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained within this RFW Lot :

GC/MS VOLATILES

_____ SW-846 8260A
_____ SW-846 8260B
_____ EPA 524.2
_____ 40 CFR Part 136, Method 624
_____ CLP OLM03.1/3.2
_____ OLC02.0/2.1

GC/MS SEMIVOLATILES

_____ SW-846 8270A
_____ SW-846 8270B
✓ _____ SW-846 8270C
_____ 40 CFR Part 136, Method 625
_____ CLP OLM03.1/3.2
_____ OLC02.0/2.1

CHI-22-05-001/D-4/98

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-01
Project # 03886-118-204-0630
Lab ID: 9810G956-008
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Phenol	BRL	660	U
bis(2-Chloroethyl)ether	BRL	660	U
2-Chlorophenol	BRL	660	U
1,3-Dichlorobenzene	BRL	660	U
1,4-Dichlorobenzene	BRL	660	U
1,2-Dichlorobenzene	BRL	660	U
2-Methylphenol	BRL	660	U
2,2'-oxybis(1-Chloropropane)	BRL	660	U
N-Nitroso-di-n-propylamine	BRL	660	U
4-Methylphenol	BRL	660	U
Hexachloroethane	BRL	660	U
Nitrobenzene	BRL	660	U
Isophorone	BRL	660	U
2-Nitrophenol	BRL	660	U
2,4-Dimethylphenol	BRL	660	U
bis(2-Chloroethoxy)methane	BRL	660	U
2,4-Dichlorophenol	BRL	660	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-01
Project # 03886-118-204-0630
Lab ID: 9810G956-008
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
1,2,4-Trichlorobenzene	BRL	660	U
Naphthalene	BRL	660	U
4-Chloroaniline	BRL	660	U
Hexachlorobutadiene	BRL	660	U
4-Chloro-3-methylphenol	BRL	660	U
2-Methylnaphthalene	BRL	660	U
Hexachlorocyclopentadiene	BRL	660	U
2,4,6-Trichlorophenol	BRL	660	U
2,4,5-Trichlorophenol	BRL	3300	U
2-Chloronaphthalene	BRL	660	U
2-Nitroaniline	BRL	3300	U
Acenaphthylene	BRL	660	U
2,6-Dinitrotoluene	BRL	660	U
3-Nitroaniline	BRL	3300	U
Acenaphthene	BRL	660	U
2,4-Dinitrophenol	BRL	3300	U
Dibenzofuran	BRL	660	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-01
Project # 03886-118-204-0630
Lab ID: 9810G956-008
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
4-Nitrophenol	BRL	3300	U
2,4-Dinitrotoluene	BRL	660	U
Fluorene	BRL	660	U
Dimethylphthalate	BRL	660	U
Diethylphthalate	BRL	660	U
4-Chlorophenyl-phenylether	BRL	660	U
4-Nitroaniline	BRL	3300	U
4,6-Dinitro-2-methylphenol	BRL	3300	U
4-Bromophenyl-phenylether	BRL	660	U
Hexachlorobenzene	BRL	660	U
Pentachlorophenol	BRL	3300	U
Phenanthrene	BRL	660	U
Anthracene	BRL	660	U
Di-n-butylphthalate	BRL	660	U
Fluoranthene	BRL	660	U
Pyrene	BRL	660	U
Butylbenzylphthalate	BRL	660	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Friday November 6th, 1998

Attn: Sam Naik

RE: AOC-32-ASPH-01
Project # 03886-118-204-0630
Lab ID: 9810G956-008
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Benzo(a)anthracene	BRL	660	U
3,3'-Dichlorobenzidine	BRL	1300	U
Chrysene	BRL	660	U
bis(2-Ethylhexyl)phthalate	BRL	660	U
Di-n-octylphthalate	BRL	660	U
Benzo(b)fluoranthene	BRL	660	U
Benzo(k)fluoranthene	BRL	660	U
Benzo(a)pyrene	BRL	660	U
Indeno(1,2,3-cd)pyrene	BRL	660	U
Dibenzo(a,h)anthracene	BRL	660	U
Benzo(g,h,i)perylene	BRL	660	U
Carbazole	BRL	660	U
N-Nitrosodiphenylamine (1)	BRL	660	U
Benzyl alcohol	BRL	660	U
Benzoic acid	BRL	3300	U
Benzidine	BRL	6600	U

(1) - Cannot be separated from Diphenylamine.

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-01
Project # 03886-118-204-0630
Lab ID: 9810G956-008
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/Kg

Tentatively Identified Compounds

5 Semivolatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Semivolatile Compound	Retention Time	Estimated Concentration
UNKNOWN KETONE	5.807	7800 JAB
UNKNOWN ALKANE C15H32	15.463	2600 J
UNKNOWN ALKANE	15.793	2900 J
UNKNOWN ALKANE C16H34	16.581	4000 J
UNKNOWN ALKANE C17H36	19.449	7200 J

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-02
Project # 03886-118-204-0630
Lab ID: 9810G956-009
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Phenol	BRL	660	U
bis(2-Chloroethyl)ether	BRL	660	U
2-Chlorophenol	BRL	660	U
1,3-Dichlorobenzene	BRL	660	U
1,4-Dichlorobenzene	BRL	660	U
1,2-Dichlorobenzene	BRL	660	U
2-Methylphenol	BRL	660	U
2,2'-oxybis(1-Chloropropane)	BRL	660	U
N-Nitroso-di-n-propylamine	BRL	660	U
4-Methylphenol	BRL	660	U
Hexachloroethane	BRL	660	U
Nitrobenzene	BRL	660	U
Isophorone	BRL	660	U
2-Nitrophenol	BRL	660	U
2,4-Dimethylphenol	BRL	660	U
bis(2-Chloroethoxy)methane	BRL	660	U
2,4-Dichlorophenol	BRL	660	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-02
Project # 03886-118-204-0630
Lab ID: 9810G956-009
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
1,2,4-Trichlorobenzene	BRL	660	U
Naphthalene	BRL	660	U
4-Chloroaniline	BRL	660	U
Hexachlorobutadiene	BRL	660	U
4-Chloro-3-methylphenol	BRL	660	U
2-Methylnaphthalene	BRL	660	U
Hexachlorocyclopentadiene	BRL	660	U
2,4,6-Trichlorophenol	BRL	660	U
2,4,5-Trichlorophenol	BRL	3300	U
2-Chloronaphthalene	BRL	660	U
2-Nitroaniline	BRL	3300	U
Acenaphthylene	BRL	660	U
2,6-Dinitrotoluene	BRL	660	U
3-Nitroaniline	BRL	3300	U
Acenaphthene	BRL	660	U
2,4-Dinitrophenol	BRL	3300	U
Dibenzofuran	BRL	660	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-02
Project # 03886-118-204-0630
Lab ID: 9810G956-009
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
4-Nitrophenol	BRL	3300	U
2,4-Dinitrotoluene	BRL	660	U
Fluorene	BRL	660	U
Dimethylphthalate	BRL	660	U
Diethylphthalate	BRL	660	U
4-Chlorophenyl-phenylether	BRL	660	U
4-Nitroaniline	BRL	3300	U
4,6-Dinitro-2-methylphenol	BRL	3300	U
4-Bromophenyl-phenylether	BRL	660	U
Hexachlorobenzene	BRL	660	U
Pentachlorophenol	BRL	3300	U
Phenanthrene	BRL	660	U
Anthracene	BRL	660	U
Di-n-butylphthalate	BRL	660	U
Fluoranthene	BRL	660	U
Pyrene	BRL	660	U
Butylbenzylphthalate	BRL	660	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-02
Project # 03886-118-204-0630
Lab ID: 9810G956-009
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Benzo(a)anthracene	BRL	660	U
3,3'-Dichlorobenzidine	BRL	1300	U
Chrysene	BRL	660	U
bis(2-Ethylhexyl)phthalate	BRL	660	U
Di-n-octylphthalate	BRL	660	U
Benzo(b)fluoranthene	BRL	660	U
Benzo(k)fluoranthene	BRL	660	U
Benzo(a)pyrene	BRL	660	U
Indeno(1,2,3-cd)pyrene	BRL	660	U
Dibenzo(a,h)anthracene	BRL	660	U
Benzo(g,h,i)perylene	BRL	660	U
Carbazole	BRL	660	U
N-Nitrosodiphenylamine (1)	BRL	660	U
Benzyl alcohol	BRL	660	U
Benzoic acid	BRL	3300	U
Benzidine	BRL	6600	U

(1) - Cannot be separated from Diphenylamine.

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-02
Project # 03886-118-204-0630
Lab ID: 9810G956-009
Sample Date: 10/30/98
Date Received: 10/31/98
Units: ug/Kg

Tentatively Identified Compounds

5 Semivolatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Semivolatile Compound	Retention Time	Estimated Concentration
UNKNOWN KETONE	6.297	5100 JAB
UNKNOWN ALKANE	16.964	520 J
UNKNOWN PAH	17.178	1200 J
UNKNOWN ALKANE	19.869	2800 J
UNKNOWN ALKANE C20H42	20.984	1800 J

Recra LabNet - Chicago

SEMIVOLATILES BY GC/MS, HSL LIST

Report Date: 11/06/98 12:17

RFW Batch Number: 9810G956

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 1a

Sample Information	Cust ID: AOC-32-ASPH-01		AOC-32-ASPH-01		AOC-32-ASPH-01		AOC-32-ASPH-02		SBLKDQ		SBLKDQ BS	
	RFW#: 008		008 MS		008 MSD		009		98GB0586-MB1		98GB0586-MB1	
	Matrix: SOLID		SOLID		SOLID		SOLID		SOIL		SOIL	
	D.F.: 2		2		2		2		1		1	
	Units: UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
2-Fluorophenol	96	%	83	%	75	%	66	%	81	%	82	%
Surrogate .Phenol-d5	99	%	94	%	88	%	77	%	93	%	92	%
Recovery Nitrobenzene-d5	95	%	92	%	83	%	78	%	92	%	86	%
2-Fluorobiphenyl	123 *	%	102	%	94	%	83	%	87	%	92	%
2,4,6-Tribromophenol	101	%	50	%	50	%	47	%	77	%	85	%
p-Terphenyl-d14	107	%	138 *	%	130	%	88	%	101	%	108	%
=====f=====f=====f=====f=====f=====f=====f=====												
Phenol	660	U	86	%	83	%	660	U	330	U	86	%
bis(2-Chloroethyl)ether	660	U	90	%	80	%	660	U	330	U	80	%
2-Chlorophenol	660	U	85	%	80	%	660	U	330	U	79	%
1,3-Dichlorobenzene	660	U	71	%	64	%	660	U	330	U	67	%
1,4-Dichlorobenzene	660	U	70	%	63	%	660	U	330	U	66	%
1,2-Dichlorobenzene	660	U	75	%	69	%	660	U	330	U	70	%
2-Methylphenol	660	U	92	%	87	%	660	U	330	U	83	%
2,2'-oxybis(1-Chloropropane)	660	U	92	%	85	%	660	U	330	U	86	%
N-Nitroso-di-n-propylamine	660	U	99	%	90	%	660	U	330	U	88	%
4-Methylphenol	660	U	99	%	95	%	660	U	330	U	92	%
Hexachloroethane	660	U	71	%	65	%	660	U	330	U	70	%
Nitrobenzene	660	U	88	%	81	%	660	U	330	U	78	%
Isophorone	660	U	94	%	89	%	660	U	330	U	86	%
2-Nitrophenol	660	U	84	%	78	%	660	U	330	U	78	%
2,4-Dimethylphenol	660	U	96	%	92	%	660	U	330	U	87	%
bis(2-Chloroethoxy)methane	660	U	94	%	89	%	660	U	330	U	84	%
2,4-Dichlorophenol	660	U	87	%	86	%	660	U	330	U	85	%
1,2,4-Trichlorobenzene	660	U	84	%	79	%	660	U	330	U	74	%
Naphthalene	660	U	85	%	80	%	660	U	330	U	77	%
4-Chloroaniline	660	U	23 *	%	26	%	660	U	330	U	63	%
Hexachlorobutadiene	660	U	78	%	74	%	660	U	330	U	69	%
4-Chloro-3-methylphenol	660	U	86	%	85	%	660	U	330	U	96	%
2-Methylnaphthalene	660	U	83	%	80	%	660	U	330	U	82	%

* = Outside of EPA CLP QC Limits.

Cust ID: AOC-32-ASPH-01 AOC-32-ASPH-01 AOC-32-ASPH-01 AOC-32-ASPH-02 SBLKDQ SBLKDQ BS

RFW#: 008 008 MS 008 MSD 009 98GB0586-MB1 98GB0586-MB1

Hexachlorocyclopentadiene	660	U	26	%	19	%	660	U	330	U	64	%
2,4,6-Trichlorophenol	660	U	83	%	80	%	660	U	330	U	83	%
2,4,5-Trichlorophenol	3300	U	81	%	81	%	3300	U	1700	U	94	%
2-Chloronaphthalene	660	U	88	%	83	%	660	U	330	U	82	%
2-Nitroaniline	3300	U	91	%	91	%	3300	U	1700	U	97	%
Acenaphthylene	660	U	84	%	82	%	660	U	330	U	90	%
2,6-Dinitrotoluene	660	U	81	%	83	%	660	U	330	U	92	%
3-Nitroaniline	3300	U	38	%	45	%	3300	U	1700	U	74	%
Acenaphthene	660	U	85	%	82	%	660	U	330	U	88	%
2,4-Dinitrophenol	3300	U	9	%	8	%	3300	U	1700	U	93	%
Dibenzofuran	660	U	78	%	76	%	660	U	330	U	90	%
4-Nitrophenol	3300	U	63	%	64	%	3300	U	1700	U	91	%
2,4-Dinitrotoluene	660	U	73	%	72	%	660	U	330	U	96	%
Fluorene	660	U	72	%	71	%	660	U	330	U	93	%
Dimethylphthalate	660	U	101	%	97	%	660	U	330	U	95	%
Diethylphthalate	660	U	88	%	84	%	660	U	330	U	92	%
4-Chlorophenyl-phenylether	660	U	72	%	71	%	660	U	330	U	87	%
4-Nitroaniline	3300	U	42	%	47	%	3300	U	1700	U	87	%
4,6-Dinitro-2-methylphenol	3300	U	19	%	20	%	3300	U	1700	U	100	%
4-Bromophenyl-phenylether	660	U	94	%	88	%	660	U	330	U	85	%
Hexachlorobenzene	660	U	79	%	74	%	660	U	330	U	85	%
Pentachlorophenol	3300	U	68	%	66	%	3300	U	1700	U	90	%
Phenanthrene	660	U	88	%	86	%	660	U	330	U	99	%
Anthracene	660	U	90	%	85	%	660	U	330	U	99	%
Di-n-butylphthalate	660	U	85	%	81	%	660	U	330	U	98	%
Fluoranthene	660	U	69	%	68	%	660	U	330	U	93	%
Pyrene	660	U	146	%	136	%	660	U	330	U	103	%
Butylbenzylphthalate	660	U	124	%	118	%	660	U	330	U	105	%
Benzo(a)anthracene	660	U	84	%	78	%	660	U	330	U	92	%
3,3'-Dichlorobenzidine	1300	U	25	%	35	%	1300	U	670	U	80	%
Chrysene	660	U	83	%	80	%	660	U	330	U	92	%
bis(2-Ethylhexyl)phthalate	660	U	96	%	90	%	660	U	330	U	104	%
Di-n-octylphthalate	660	U	128	%	132	%	660	U	330	U	106	%
Benzo(b)fluoranthene	660	U	90	%	84	%	660	U	330	U	88	%
Benzo(k)fluoranthene	660	U	90	%	92	%	660	U	330	U	94	%
Benzo(a)pyrene	660	U	80	%	76	%	660	U	330	U	91	%

* = Outside of EPA CLP QC Limits.

RFW Batch Number: 9810G956

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 1c

Cust ID:	AOC-32-ASPH-01	AOC-32-ASPH-01	AOC-32-ASPH-01	AOC-32-ASPH-02	SBLKDQ	SBLKDQ BS
RFW#:	008	008 MS	008 MSD	009	98GB0586-MB1	98GB0586-MB1

Indeno(1,2,3-cd)pyrene	660 U	57 * %	49 * %	660 U	330 U	87 %
Dibenzo(a,h)anthracene	660 U	51 * %	48 * %	660 U	330 U	83 %
Benzo(g,h,i)perylene	660 U	47 * %	43 * %	660 U	330 U	83 %
Carbazole	660 U	92 %	89 %	660 U	330 U	107 %
N-Nitrosodiphenylamine (1)	660 U	124 * %	119 * %	660 U	330 U	99 %
Benzyl alcohol	660 U	92 %	88 %	660 U	330 U	81 %
Benzoic acid	3300 U	84 %	84 %	3300 U	1700 U	101 %
Benzidine	6600 U	0 U	0 U	6600 U	3300 U	53 * %

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

Recra LabNet - Chicago
 PEST/PCB ANALYTICAL DATA PACKAGE FOR
 RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9810G956

CLIENT ID	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
AOC-32-01	001	S	98GP1035	10/30/98	10/31/98	11/03/98	11/04/98
AOC-32-01	001 MS	S	98GP1035	10/30/98	10/31/98	11/03/98	11/04/98
AOC-32-01	001 MSD	S	98GP1035	10/30/98	10/31/98	11/03/98	11/04/98
AOC-32-02	002	S	98GP1035	10/30/98	10/31/98	11/03/98	11/04/98
AOC-32-03	003	S	98GP1035	10/30/98	10/31/98	11/03/98	11/04/98
AOC-32-04	004	S	98GP1035	10/30/98	10/31/98	11/03/98	11/04/98
AOC-32-05	005	S	98GP1035	10/30/98	10/31/98	11/03/98	11/04/98
AOC-32-06	006	S	98GP1035	10/30/98	10/31/98	11/03/98	11/04/98
AOC-32-07	007	S	98GP1035	10/30/98	10/31/98	11/03/98	11/04/98
AOC-32-ASPH-01	008	SO	98GP1035	10/30/98	10/31/98	11/03/98	11/04/98
AOC-32-ASPH-02	009	SO	98GP1035	10/30/98	10/31/98	11/03/98	11/04/98

LAB QC:

PBLKMY	MB1	S	98GP1035	N/A	N/A	11/03/98	11/04/98
PBLKMY	MB1 BS	S	98GP1035	N/A	N/A	11/03/98	11/04/98

SIGNATURE

Frank S. Macchella

DATE

11-6-98



NY CERTIFICATION # 11006

Recra LabNet - Chicago

GC/HPLC METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained within this RFW Lot :

Pesticides/PCBs	☒ SW-846 8080A
	☒ SW-846 8081
	☐ 40 CFR Part 136, Method 608
	☐ OLM03.1/3.2
Pesticides	☐ SW-846 8081A
PCBs	☐ SW-846 8082
Organophosphorus Pesticides	☐ SW-846 8141A
Herbicides	☐ SW-846 8150B
	☐ SW-846 8151A
Explosives	☐ SW-846 8330
Polynuclear Aromatics	☐ SW-846 8310
	☐ 40 CFR Part 136, Method 610
Petroleum Hydrocarbons	☐ SW-846 8015A Mod
	☐ California LUFT
	☐ Other _____
EDB & DBCP	☐ EPA Method 504.1
GC VOLATILES	☐ SW-846 8010A
	☐ 40 CFR Part 136, Method 601
	☐ SW-846 8020A
	☐ SW-846 8021A
	☐ 40 CFR Part 136, Method 602
	☐ SW-846 8015 Mod

CHI-22-05-003/F-4/98

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-01
Project # 03886-118-204-0630
Lab ID: 9810G956-001
Sample Date: 10/30/98
Date Received: 10/31/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	26	U
beta-BHC	BRL	26	U
delta-BHC	BRL	26	U
gamma-BHC (Lindane)	BRL	26	U
Heptachlor	BRL	26	U
Aldrin	BRL	26	U
Heptachlor epoxide	66	26	
Endosulfan I	BRL	26	U
Dieldrin	BRL	51	U
4,4'-DDE	120	51	
Endrin	BRL	51	U
Endosulfan II	BRL	51	U
4,4'-DDD	BRL	51	U
Endosulfan sulfate	BRL	51	U
4,4'-DDT	580	51	
Methoxychlor	BRL	260	U
alpha-Chlordane	94	26	

To: RFW-Ft Devens-DRMO Yard
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Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-01
Project # 03886-118-204-0630
Lab ID: 9810G956-001
Sample Date: 10/30/98
Date Received: 10/31/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	26	U
Toxaphene	BRL	510	U
Endrin aldehyde	BRL	51	U
Endrin ketone	BRL	51	U
Aroclor-1016	BRL	260	U
Aroclor-1221	BRL	260	U
Aroclor-1232	BRL	260	U
Aroclor-1242	BRL	260	U
Aroclor-1248	BRL	260	U
Aroclor-1254	BRL	260	U
Aroclor-1260	BRL	260	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-02
Project # 03886-118-204-0630
Lab ID: 9810G956-002
Sample Date: 10/30/98
Date Received: 10/31/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	12	U
beta-BHC	BRL	12	U
delta-BHC	BRL	12	U
gamma-BHC (Lindane)	BRL	12	U
Heptachlor	BRL	12	U
Aldrin	BRL	12	U
Heptachlor epoxide	20	12	
Endosulfan I	BRL	12	U
Dieldrin	BRL	25	U
4,4'-DDE	52	25	
Endrin	BRL	25	U
Endosulfan II	BRL	25	U
4,4'-DDD	BRL	25	U
Endosulfan sulfate	BRL	25	U
4,4'-DDT	280	25	
Methoxychlor	BRL	120	U
alpha-Chlordane	30	12	

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-02
Project # 03886-118-204-0630
Lab ID: 9810G956-002
Sample Date: 10/30/98
Date Received: 10/31/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	12	U
Toxaphene	BRL	250	U
Endrin aldehyde	BRL	25	U
Endrin ketone	BRL	25	U
Aroclor-1016	BRL	120	U
Aroclor-1221	BRL	120	U
Aroclor-1232	BRL	120	U
Aroclor-1242	BRL	120	U
Aroclor-1248	BRL	120	U
Aroclor-1254	BRL	120	U
Aroclor-1260	BRL	120	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-03
Project # 03886-118-204-0630
Lab ID: 9810G956-003
Sample Date: 10/30/98
Date Received: 10/31/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	14	U
beta-BHC	BRL	14	U
delta-BHC	BRL	14	U
gamma-BHC (Lindane)	BRL	14	U
Heptachlor	BRL	14	U
Aldrin	BRL	14	U
Heptachlor epoxide	BRL	14	U
Endosulfan I	BRL	14	U
Dieldrin	BRL	29	U
4,4'-DDE	BRL	29	U
Endrin	BRL	29	U
Endosulfan II	BRL	29	U
4,4'-DDD	BRL	29	U
Endosulfan sulfate	BRL	29	U
4,4'-DDT	BRL	29	U
Methoxychlor	BRL	140	U
alpha-Chlordane	BRL	14	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-03
Project # 03886-118-204-0630
Lab ID: 9810G956-003
Sample Date: 10/30/98
Date Received: 10/31/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	14	U
Toxaphene	BRL	290	U
Endrin aldehyde	BRL	29	U
Endrin ketone	BRL	29	U
Aroclor-1016	BRL	140	U
Aroclor-1221	BRL	140	U
Aroclor-1232	BRL	140	U
Aroclor-1242	BRL	140	U
Aroclor-1248	BRL	140	U
Aroclor-1254	BRL	140	U
Aroclor-1260	BRL	140	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-04
Project # 03886-118-204-0630
Lab ID: 9810G956-004
Sample Date: 10/30/98
Date Received: 10/31/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	13	U
beta-BHC	BRL	13	U
delta-BHC	BRL	13	U
gamma-BHC (Lindane)	BRL	13	U
Heptachlor	BRL	13	U
Aldrin	BRL	13	U
Heptachlor epoxide	BRL	13	U
Endosulfan I	BRL	13	U
Dieldrin	BRL	26	U
4,4'-DDE	BRL	26	U
Endrin	BRL	26	U
Endosulfan II	BRL	26	U
4,4'-DDD	BRL	26	U
Endosulfan sulfate	BRL	26	U
4,4'-DDT	BRL	26	U
Methoxychlor	BRL	130	U
alpha-Chlordane	BRL	13	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-04
Project # 03886-118-204-0630
Lab ID: 9810G956-004
Sample Date: 10/30/98
Date Received: 10/31/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	13	U
Toxaphene	BRL	260	U
Endrin aldehyde	BRL	26	U
Endrin ketone	BRL	26	U
Aroclor-1016	BRL	130	U
Aroclor-1221	BRL	130	U
Aroclor-1232	BRL	130	U
Aroclor-1242	BRL	130	U
Aroclor-1248	BRL	130	U
Aroclor-1254	BRL	130	U
Aroclor-1260	BRL	130	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Friday November 6th, 1998

Attn: Sam Naik

RE: AOC-32-05
Project # 03886-118-204-0630
Lab ID: 9810G956-005
Sample Date: 10/30/98
Date Received: 10/31/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	14	U
beta-BHC	BRL	14	U
delta-BHC	BRL	14	U
gamma-BHC (Lindane)	BRL	14	U
Heptachlor	BRL	14	U
Aldrin	BRL	14	U
Heptachlor epoxide	BRL	14	U
Endosulfan I	BRL	14	U
Dieldrin	BRL	28	U
4,4'-DDE	BRL	28	U
Endrin	BRL	28	U
Endosulfan II	BRL	28	U
4,4'-DDD	BRL	28	U
Endosulfan sulfate	BRL	28	U
4,4'-DDT	BRL	28	U
Methoxychlor	BRL	140	U
alpha-Chlordane	BRL	14	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-05
Project # 03886-118-204-0630
Lab ID: 9810G956-005
Sample Date: 10/30/98
Date Received: 10/31/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	14	U
Toxaphene	BRL	280	U
Endrin aldehyde	BRL	28	U
Endrin ketone	BRL	28	U
Aroclor-1016	BRL	140	U
Aroclor-1221	BRL	140	U
Aroclor-1232	BRL	140	U
Aroclor-1242	BRL	140	U
Aroclor-1248	BRL	140	U
Aroclor-1254	BRL	140	U
Aroclor-1260	BRL	140	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Friday November 6th, 1998

Attn: Sam Naik

RE: AOC-32-06
Project # 03886-118-204-0630
Lab ID: 9810G956-006
Sample Date: 10/30/98
Date Received: 10/31/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	27	U
beta-BHC	BRL	27	U
delta-BHC	BRL	27	U
gamma-BHC (Lindane)	BRL	27	U
Heptachlor	BRL	27	U
Aldrin	BRL	27	U
Heptachlor epoxide	BRL	27	U
Endosulfan I	BRL	27	U
Dieldrin	BRL	54	U
4,4'-DDE	BRL	54	U
Endrin	BRL	54	U
Endosulfan II	130	54	
4,4'-DDD	BRL	54	U
Endosulfan sulfate	BRL	54	U
4,4'-DDT	190	54	
Methoxychlor	BRL	270	U
alpha-Chlordane	62	27	

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-06
Project # 03886-118-204-0630
Lab ID: 9810G956-006
Sample Date: 10/30/98
Date Received: 10/31/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	43	27	
Toxaphene	BRL	540	U
Endrin aldehyde	BRL	54	U
Endrin ketone	BRL	54	U
Aroclor-1016	BRL	270	U
Aroclor-1221	BRL	270	U
Aroclor-1232	BRL	270	U
Aroclor-1242	BRL	270	U
Aroclor-1248	BRL	270	U
Aroclor-1254	BRL	270	U
Aroclor-1260	BRL	270	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-07
Project # 03886-118-204-0630
Lab ID: 9810G956-007
Sample Date: 10/30/98
Date Received: 10/31/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	27	U
beta-BHC	BRL	27	U
delta-BHC	BRL	27	U
gamma-BHC (Lindane)	BRL	27	U
Heptachlor	BRL	27	U
Aldrin	BRL	27	U
Heptachlor epoxide	BRL	27	U
Endosulfan I	BRL	27	U
Dieldrin	BRL	54	U
4,4'-DDE	BRL	54	U
Endrin	BRL	54	U
Endosulfan II	BRL	54	U
4,4'-DDD	BRL	54	U
Endosulfan sulfate	BRL	54	U
4,4'-DDT	BRL	54	U
Methoxychlor	BRL	270	U
alpha-Chlordane	BRL	27	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Friday November 6th, 1998

Attn: Sam Naik

RE: AOC-32-07
Project # 03886-118-204-0630
Lab ID: 9810G956-007
Sample Date: 10/30/98
Date Received: 10/31/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	27	U
Toxaphene	BRL	540	U
Endrin aldehyde	BRL	54	U
Endrin ketone	BRL	54	U
Aroclor-1016	BRL	270	U
Aroclor-1221	BRL	270	U
Aroclor-1232	BRL	270	U
Aroclor-1242	BRL	270	U
Aroclor-1248	BRL	270	U
Aroclor-1254	BRL	270	U
Aroclor-1260	BRL	270	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-01
Project # 03886-118-204-0630
Lab ID: 9810G956-008
Sample Date: 10/30/98
Date Received: 10/31/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	240	U
beta-BHC	BRL	240	U
delta-BHC	BRL	240	U
gamma-BHC (Lindane)	BRL	240	U
Heptachlor	BRL	240	U
Aldrin	BRL	240	U
Heptachlor epoxide	BRL	240	U
Endosulfan I	BRL	240	U
Dieldrin	BRL	480	U
4,4'-DDE	BRL	480	U
Endrin	BRL	480	U
Endosulfan II	BRL	480	U
4,4'-DDD	BRL	480	U
Endosulfan sulfate	BRL	480	U
4,4'-DDT	BRL	480	U
Methoxychlor	BRL	2400	U
alpha-Chlordane	BRL	240	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-01
Project # 03886-118-204-0630
Lab ID: 9810G956-008
Sample Date: 10/30/98
Date Received: 10/31/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	240	U
Toxaphene	BRL	4800	U
Endrin aldehyde	BRL	480	U
Endrin ketone	BRL	480	U
Aroclor-1016	BRL	2400	U
Aroclor-1221	BRL	2400	U
Aroclor-1232	BRL	2400	U
Aroclor-1242	BRL	2400	U
Aroclor-1248	BRL	2400	U
Aroclor-1254	BRL	2400	U
Aroclor-1260	BRL	2400	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-02
Project # 03886-118-204-0630
Lab ID: 9810G956-009
Sample Date: 10/30/98
Date Received: 10/31/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	250	U
beta-BHC	BRL	250	U
delta-BHC	BRL	250	U
gamma-BHC (Lindane)	BRL	250	U
Heptachlor	BRL	250	U
Aldrin	BRL	250	U
Heptachlor epoxide	BRL	250	U
Endosulfan I	BRL	250	U
Dieldrin	BRL	500	U
4,4'-DDE	BRL	500	U
Endrin	BRL	500	U
Endosulfan II	BRL	500	U
4,4'-DDD	2100	500	
Endosulfan sulfate	BRL	500	U
4,4'-DDT	2400	500	
Methoxychlor	BRL	2500	U
alpha-Chlordane	BRL	250	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-02
Project # 03886-118-204-0630
Lab ID: 9810G956-009
Sample Date: 10/30/98
Date Received: 10/31/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	250	U
Toxaphene	BRL	5000	U
Endrin aldehyde	BRL	500	U
Endrin ketone	BRL	500	U
Aroclor-1016	BRL	2500	U
Aroclor-1221	BRL	2500	U
Aroclor-1232	BRL	2500	U
Aroclor-1242	BRL	2500	U
Aroclor-1248	BRL	2500	U
Aroclor-1254	BRL	2500	U
Aroclor-1260	BRL	2500	U

Cust ID:		AOC-32-01	AOC-32-01	AOC-32-01	AOC-32-02	AOC-32-03	AOC-32-04
Sample Information	RFW#:	001	001 MS	001 MSD	002	003	004
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	5.0	5.0	5.0	2.5	2.5	2.5
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate:	Tetrachloro-m-xylene	88 %	65 %	110 %	55 %	108 %	95 %
	Decachlorobiphenyl	I %	I %	I %	80 %	92 %	112 %
=====f =====f =====f =====f =====f =====f =====f							
alpha-BHC		26 U	70 %	100 %	12 U	14 U	13 U
beta-BHC		26 U	108 %	112 %	12 U	14 U	13 U
delta-BHC		26 U	85 %	90 %	12 U	14 U	13 U
gamma-BHC (Lindane)		26 U	55 %	70 %	12 U	14 U	13 U
Heptachlor		26 U	102 %	132 %	12 U	14 U	13 U
Aldrin		26 U	98 %	120 * %	12 U	14 U	13 U
Heptachlor epoxide		66	68 %	84 %	20	14 U	13 U
Endosulfan I		26 U	138 * %	142 * %	12 U	14 U	13 U
Dieldrin		51 U	90 %	95 %	25 U	29 U	26 U
4,4'-DDE		120	106 %	150 * %	52	29 U	26 U
Endrin		51 U	65 %	72 %	25 U	29 U	26 U
Endosulfan II		51 U	140 * %	142 * %	25 U	29 U	26 U
4,4'-DDD		51 U	160 * %	162 * %	25 U	29 U	26 U
Endosulfan sulfate		51 U	135 * %	130 * %	25 U	29 U	26 U
4,4'-DDT		580	177 * %	332 * %	280	29 U	26 U
Methoxychlor		260 U	118 %	120 %	120 U	140 U	130 U
alpha-Chlordane		94	0 * %	0 * %	30	14 U	13 U
gamma-Chlordane		26 U	105 %	105 %	12 U	14 U	13 U
Toxaphene		510 U	540 U	520 U	250 U	290 U	260 U
Endrin aldehyde		51 U	128 %	148 * %	25 U	29 U	26 U
Endrin ketone		51 U	125 %	125 %	25 U	29 U	26 U
Aroclor-1016		260 U	270 U	260 U	120 U	140 U	130 U
Aroclor-1221		260 U	270 U	260 U	120 U	140 U	130 U
Aroclor-1232		260 U	270 U	260 U	120 U	140 U	130 U
Aroclor-1242		260 U	270 U	260 U	120 U	140 U	130 U
Aroclor-1248		260 U	270 U	260 U	120 U	140 U	130 U
Aroclor-1254		260 U	270 U	260 U	120 U	140 U	130 U

*= Outside of EPA CLP QC Limits.

RFW Batch Number: 9810G956 Client: RFW-Ft Devens-DRMO Yard Work Order: 03886-118-204-0 Page: 1b

Cust ID: AOC-32-01 AOC-32-01 AOC-32-01 AOC-32-02 AOC-32-03 AOC-32-04

RFW#: 001 001 MS 001 MSD 002 003 004

Aroclor-1260 260 U 270 U 260 U 120 U 140 U 130 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Recra LabNet - Chicago

PESTICIDE/PCBs BY GC, CLP LIST

Report Date: 11/05/98 08:30

RfW Batch Number: 9810G956

Client: RfW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 2

Sample Information	Cust ID:	AOC-32-05	AOC-32-06	AOC-32-07	AOC-32-ASPH- 01	AOC-32-ASPH- 02	PBLKMY
	RfW#:	005	006	007	008	009	98GP1035-MB1
	Matrix:	SOIL	SOIL	SOIL	SOLID	SOLID	SOIL
	D.F.:	2.5	5.0	5.0	50	50	0.50
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate: Tetrachloro-m-xylene		80 %	82 %	92 %	D %	D %	90 %
Decachlorobiphenyl		100 %	125 %	135 %	D %	D %	102 %
alpha-BHC		14 U	27 U	27 U	240 U	250 U	2.5 U
beta-BHC		14 U	27 U	27 U	240 U	250 U	2.5 U
delta-BHC		14 U	27 U	27 U	240 U	250 U	2.5 U
gamma-BHC (Lindane)		14 U	27 U	27 U	240 U	250 U	2.5 U
Heptachlor		14 U	27 U	27 U	240 U	250 U	2.5 U
Aldrin		14 U	27 U	27 U	240 U	250 U	2.5 U
Heptachlor epoxide		14 U	27 U	27 U	240 U	250 U	2.5 U
Endosulfan I		14 U	27 U	27 U	240 U	250 U	2.5 U
Dieldrin		28 U	54 U	54 U	480 U	500 U	5.0 U
4,4'-DDE		28 U	54 U	54 U	480 U	500 U	5.0 U
Endrin		28 U	54 U	54 U	480 U	500 U	5.0 U
Endosulfan II		28 U	130	54 U	480 U	500 U	5.0 U
4,4'-DDD		28 U	54 U	54 U	480 U	2100	5.0 U
Endosulfan sulfate		28 U	54 U	54 U	480 U	500 U	5.0 U
4,4'-DDT		28 U	190	54 U	480 U	2400	5.0 U
Methoxychlor		140 U	270 U	270 U	2400 U	2500 U	25 U
alpha-Chlordane		14 U	62	27 U	240 U	250 U	2.5 U
gamma-Chlordane		14 U	43	27 U	240 U	250 U	2.5 U
Toxaphene		280 U	540 U	540 U	4800 U	5000 U	50 U
Endrin aldehyde		28 U	54 U	54 U	480 U	500 U	5.0 U
Endrin ketone		28 U	54 U	54 U	480 U	500 U	5.0 U
Aroclor-1016		140 U	270 U	270 U	2400 U	2500 U	25 U
Aroclor-1221		140 U	270 U	270 U	2400 U	2500 U	25 U
Aroclor-1232		140 U	270 U	270 U	2400 U	2500 U	25 U
Aroclor-1242		140 U	270 U	270 U	2400 U	2500 U	25 U
Aroclor-1248		140 U	270 U	270 U	2400 U	2500 U	25 U
Aroclor-1254		140 U	270 U	270 U	2400 U	2500 U	25 U

*= Outside of EPA CLP QC Limits.

RFW Batch Number: 9810G956

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 2b

Cust ID: AOC-32-05 AOC-32-06 AOC-32-07 AOC-32-ASPH-01 AOC-32-ASPH-02 PBLKMY

RFW#: 005 006 007 008 009 98GP1035-MB1

Aroclor-1260	140	U	270	U	270	U	2400	U	2500	U	25	U
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U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

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PESTICIDE/PCBs BY GC, CLP LIST

Report Date: 11/05/98 08:30

RFW Batch Number: 9810G956

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

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Cust ID: PBLKMY BS

Sample RFW#: 98GP1035-MB1
 Information Matrix: SOIL
 D.F.: 0.50
 Units: ug/Kg

Surrogate:	Tetrachloro-m-xylene	90	%
	Decachlorobiphenyl	102	%
=====f]=====f]=====f]=====f]=====f]=====f]=====f]			
alpha-BHC		118	%
beta-BHC		108	%
delta-BHC		125	%
gamma-BHC (Lindane)		118	%
Heptachlor		120	%
Aldrin		110	%
Heptachlor epoxide		112	%
Endosulfan I		122	* %
Dieldrin		115	* %
4,4'-DDE		118	%
Endrin		135	%
Endosulfan II		115	%
4,4'-DDD		118	%
Endosulfan sulfate		115	%
4,4'-DDT		122	%
Methoxychlor		135	%
alpha-Chlordane		125	%
gamma-Chlordane		105	%
Toxaphene		50	U
Endrin aldehyde		128	%
Endrin ketone		122	%
Aroclor-1016		25	U
Aroclor-1221		25	U
Aroclor-1232		25	U
Aroclor-1242		25	U
Aroclor-1248		25	U
Aroclor-1254		25	U

*= Outside of EPA CLP QC Limits.

RFW Batch Number: 9810G956

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 3b

Cust ID: PBLKMY BS

RFW#: 98GP1035-MB1

Aroclor-1260

25 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Recra LabNet - Chicago
DRO ANALYTICAL DATA PACKAGE FOR
RfW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9810G956

CLIENT ID	Sample #	MTX	PREP #	COLLECTN DATE	REC	EXT/PREP	ANALYSIS
AOC-32-ASPH-01	008	SO	98GP1033	10/30/98	10/31/98	11/02/98	11/04/98
AOC-32-ASPH-02	009	SO	98GP1033	10/30/98	10/31/98	11/02/98	11/04/98

LAB QC:

PBLKNA	MB1	S	98GP1033	N/A	N/A	11/02/98	11/04/98
PBLKNA	MB1 BS	S	98GP1033	N/A	N/A	11/02/98	11/04/98
PBLKNA	MB1 BSD	S	98GP1033	N/A	N/A	11/02/98	11/04/98

SIGNATURE

Linda S. Mackley

DATE

11-6-98



NY CERTIFICATION # 11006

Recra LabNet - Chicago

GC/HPLC METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained within this RFW Lot :

Pesticides/PCBs	_____ SW-846 8080A
	_____ SW-846 8081
	_____ 40 CFR Part 136, Method 608
	_____ OLM03.1/3.2
Pesticides	_____ SW-846 8081A
PCBs	_____ SW-846 8082
Organophosphorus Pesticides	_____ SW-846 8141A
Herbicides	_____ SW-846 8150B
	_____ SW-846 8151A
Explosives	_____ SW-846 8330
Polynuclear Aromatics	_____ SW-846 8310
	_____ 40 CFR Part 136, Method 610
Petroleum Hydrocarbons	_____/ SW-846 8015A Mod
	_____/ California LUFT
	_____ Other _____
EDB & DBCP	_____ EPA Method 504.1
GC VOLATILES	_____ SW-846 8010A
	_____ 40 CFR Part 136, Method 601
	_____ SW-846 8020A
	_____ SW-846 8021A
	_____ 40 CFR Part 136, Method 602
	_____ SW-846 8015 Mod

CHI-22-05-003/F-4/98

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-01
Project # 03886-118-204-0630
Lab ID: 9810G956-008
Sample Date: 10/30/98
Date Received: 10/31/98
Units: MG/KG

DIESEL RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Diesel Range Organics	580	60	Y

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 6th, 1998

RE: AOC-32-ASPH-02
Project # 03886-118-204-0630
Lab ID: 9810G956-009
Sample Date: 10/30/98
Date Received: 10/31/98
Units: MG/KG

DIESEL RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Diesel Range Organics	3000	620	Y

Recra LabNet - Chicago
DIESEL RANGE ORGANICS

Report Date: 11/06/98 11:02

RFW Batch Number: 9810G956

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 1

	Cust ID: AOC-32-ASPH-01		AOC-32-ASPH-02		PBLKNA	PBLKNA BS		PBLKNA BSD	
Sample Information	RFW#:	008		009	98GP1033-MB1	98GP1033-MB1		98GP1033-MB1	
	Matrix:	SOLID		SOLID	SOIL	SOIL		SOIL	
	D.F.:	2.5		25	0.25	0.25		0.25	
	Units:	MG/KG		MG/KG	MG/KG	MG/KG		MG/KG	
Surrogate:	2-Fluorobiphenyl	95 %		D %	78 %	103 %		106 %	
	o-Terphenyl	I %		D %	85 %	101 %		104 %	
		=====f =====f =====f =====f =====f =====f =====							
Diesel Range Organics		580 Y		3000 Y	6.2 U	109 %		110 %	

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

WESTON
MANAGERS DESIGNERS ENGINEERS

Page 1 of 1

RFW 21-21-P0001791

L372

L373

L375

L377

L378

Ref# Cooler#

Cooler#

381-596a

RECRA LabNet Use Only
98116073

Custody Transfer Record/Lab Work Request



Client CENAF	Refrigerator #	
Est. Final Proj. Sampling Date	#/Type Container	Liquid ☒ Solid ☒
Project # 03886-118-204-0630	Volume	Liquid ☒ Solid ☒
Project Contact/Phone # SAM MIAK / ED BENTON	Preservatives	NY
RECRA Project Manager FRYK LANG	ANALYSES REQUESTED	ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN
QC Del TAT 5 DAY		
Date Rec'd Date Due		
Account #		

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 (✓)		Matrix	Date Collected	Time Collected	RECRA LabNet Use Only													
			MS	MSD				(AS Pb)													
	001	AOC-32-TR-01			S	11-7-98	1345														
	002	AOC-32-TR-01 DUP	✓	✓	S	11-7-98	1345														
	003	AOC-32-TR-02			S	11-7-98	1400														
	004	AOC-32-TR-03			S	11-7-98	1405														
	005	AOC-32-TR-04			S	11-7-98	1410														
	006	AOC-32-TR-05			S	11-7-98	1420														
	007	AOC-32-TR-06			S	11-7-98	1430														
	008	AOC-32-TR-06 DUP	✓	✓	S	11-7-98	1430														
	009																				
	010																				

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS				DATE/REVISIONS:				RECRA LabNet Use Only			
Special Instructions: * TEMP BLANK INCLUDED				1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ <i>(0.5 - 0.5, 3.2) did not locate temp blank when making parties</i>				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	Relinquished by	Received by	Date	Time	Discrepancies Between Samples Labels and COC Record? ☒ Y or N NOTES: <i>11/11</i>			
<i>Edmund B...</i>	<i>KEizer</i>	11-10-98	0900								
		11/11	1445								

98116073

Custody Transfer Record/Lab Work Request

[illegible]

Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G128

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
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AOC-32-STOCK-05

REACTIVE CYANIDE	007	S	98GCN176	11/11/98	11/13/98	11/19/98	11/19/98
CORROSIVITY	007	S	98GPH376	11/11/98	11/13/98	11/20/98	11/20/98
FLASH POINT CLOSED C	007	S	98GMB080	11/11/98	11/13/98	11/16/98	11/16/98
FLASH POINT	007 REP	S	98GMB080	11/11/98	11/13/98	11/16/98	11/16/98
REACTIVE SULFIDE	007	S	98GSF147	11/11/98	11/13/98	11/18/98	11/18/98

AOC-32-STOCK-06

REACTIVE CYANIDE	008	S	98GCN176	11/11/98	11/13/98	11/19/98	11/19/98
CORROSIVITY	008	S	98GPH376	11/11/98	11/13/98	11/20/98	11/20/98
FLASH POINT CLOSED C	008	S	98GMB080	11/11/98	11/13/98	11/16/98	11/16/98
REACTIVE SULFIDE	008	S	98GSF147	11/11/98	11/13/98	11/18/98	11/18/98
Reactive Sulfide Rep	008 REP	S	98GSF147	11/11/98	11/13/98	11/18/98	11/18/98
Reactive Sulfide Spi	008 MS	S	98GSF147	11/11/98	11/13/98	11/18/98	11/18/98

3 QC:

REACTIVE CYANIDE	LCS BS	W	98GCN176	N/A	N/A	11/19/98	11/19/98
REACTIVE CYANIDE	MB1	W	98GCN176	N/A	N/A	11/19/98	11/19/98
Reactive Sulfide Spi	LCS BS	W	98GSF147	N/A	N/A	11/18/98	11/18/98
REACTIVE SULFIDE	MB1	W	98GSF147	N/A	N/A	11/18/98	11/18/98

SIGNATURE

Danielle A. Thompson

DATE

11/23/98



NY CERTIFICATION # 11006

22 2

Recra LabNet - Chicago
WET CHEMISTRY METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained with RFW Lot: 98116128

PARAMETER	EPA 600	STANDARD METHODS	SW-846	OTHER
%Water Karl Fisher				___ ASTM D4377
%Water Dean Stark				___ ASTM D95
Acidity	___ 305.1	___ 2310B		
Alkalinity, Total, Carbonate, Bicarbonate	___ 310.1	___ 2320B		
Ammonia (Dist/Nessler's)	___ 350.2	___ 4500NH ₃ C		
Biochemical Oxygen Demand	___ 405.1	___ 5210B		
Bottom Sediment & Water BTU				___ ASTM D4007 ___ ASTM D240
Bromide	___ 300.0	___ 4110B	___ 9056	
Bromine	___ 300.0 Detection		___ 5050 Prep	
Chemical Oxygen Demand				___ HACH 8000
Chloride	___ 325.2	___ 4500C1E	___ 9251	
	___ 300.0	___ 4110B	___ 9056	
Chlorine (O ₂ Bomb)	___ 300.0 Detection		___ 5050 Prep	___ ISE Detection
Chlorine, Residual	___ 330.4	___ 4500C1F		
Chromium VI		___ 3500CrD	___ 3060 Digestion ___ 7196A	
Color	___ 110.2	___ 2120B		
Corrosivity, pH	___ 150.1		✓ 9045C - Waste pH in Water ___ 9040A	
Corrosivity, Langlier		___ 2330A+B		
Cyanide, Amenable	___ 335.1	___ 4500CNG	___ 9010B / 9014	
Cyanide, Weak, Dissociable		___ 4500CNI		
Cyanide, Reactive			✓ 7.3.3.2	
Cyanide, Total	___ 335.2	___ 4500CNC	___ 9010B / 9014	___ ILM03.0/4.0
Density/Specific Gravity		___ 2710F		___ ASTM D1298 ___ ASTM D5057
Ext. Organic Halogens				___ Dohrmann
Flashpoint			✓ 1010	___ ASTM D93 ___ ASTM D92
Fluoride ___ Distilled	___ 340.2	___ 4500 FC		
___ Undistilled	___ 300.0		___ 9056	
Fluorine	___ 340.2 Detection		___ 5050 Prep	
	___ 300.0 Detection			
Hardness	___ 130.2	___ 2340C ___ 2340B		
Heavy Metals				___ USP 231
Ignitability			___ Sec. 7	___ ASTM D-4982A
MBAS (Surfactants)	___ 425.1	___ 5540 C		
Nitrate/Nitrite	___ 353.2	___ 4500NO ₃ F		
Nitrate	___ 353.2 -354.1	___ 4110B		
	___ 300.0		___ 9056	
Nitrite	___ 354.1	___ 4500NO ₂ B	___ 9056	
	___ 300.0	___ 4110B		
Odor	___ 140.1	___ 2150B		
Oil & Grease	___ 413.1	___ 5520B	___ 9070	
Oil & Grease, IR	___ 413.2	___ 5520C		

Recra LabNet - Chicago
WET CHEMISTRY METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained with RFW Lot: 9F116/128

PARAMETER	EPA 600	STANDARD METHODS	SW-846	OTHER
Oil & Grease, Soxhlet		5520D 5520E	9071A	
Oxygen, Dissolved	360.1 Electrode 360.2 Winkler	4500OG 4500OC		
Paint Filters (Free Liquid)			9095A	
Petroleum Hydrocarbons	418.1	5520F	9071A Extract.	
pH, Water	150.1	4500H ⁺ B	9040B	
pH, Soil			9045C - Waste pH in Water 9041A Paper	
Phenolics	420.2		9066	
Orthophosphate as P	365.2 300.0	4500PE 4110B	9056	
Phosphorus as P	365.2	4500PE		
Residue on Evaporation 180C	160.1 Modified	2540C Modified		
Solids, Settleable	160.5	2540F		
Solids, Total	160.3	2540B		
Solids, Total Dissolved	160.1	2540C		
Solids, Total Suspended	160.2	2540D		
Solids, Total Volatile	160.4	2540E		
Solids, Dissolved Volatile	160.4	2540E		
Solids, Suspended Volatile	160.4	2540E		
Soluble Organic Carbon	415.1	5310C		
Specific Conductance	120.1	2510B	9050A	
Sulfate	375.4 Mod. 300.0	4500SO ₄ ²⁻ E 4110B	9038 Mod. 9056	
Sulfide	376.1	4500S ²⁻ E	9030A Mod 9030B / 9034	
Sulfide, Reactive			7.3.4.2	
Sulfur	375.4 Detection 300.0 Detection		5050Prep	
Total Kjeldahl Nitrogen	351.3	4500N _{ORG} C		
Total Inorganic Carbon	415.1	5310C		
Total Organic Carbon	415.1	5310C	9060 Quads	Walkley-Black
Total Organic Halogens		5320B	9020B	
Total Org Halogens on Waste	325.2 Detection 300.0 Detection		5050prep	ISE Detection
Turbidity	180.1	2130B		
Viscosity, Brookfield				ASTM D2196
Viscosity, Kinematic				ASTM D445

Comments:

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Niak

Date: Monday November 23rd, 1998

RE: AOC-32-STOCK-05
Project # 03886-118-204-0630
Lab ID: 9811G128-007
Sample Date: 11/11/98
Date Received: 11/13/98

Inorganic Data Report

Parameters	Result	Units	Reporting Limit
Cyanide, Reactive	0.25	u mg/kg	0.25
Corrosivity by pH	5.6	PH@17.7	0.20
Flash Point, Closed Cup	>200	DEG F	
Sulfide Reactive	25.6	u mg/kg	25.6

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Niak

Date: Monday November 23rd, 1998

RE: AOC-32-STOCK-06
Project # 03886-118-204-0630
Lab ID: 9811G128-008
Sample Date: 11/11/98
Date Received: 11/13/98

Inorganic Data Report

Parameters	Result	Units	Reporting Limit
Cyanide, Reactive	0.26	u mg/kg	0.26
Corrosivity by pH	5.6	PH@18.0	0.20
Flash Point, Closed Cup	>200	DEG F	
Sulfide Reactive	26.3	u mg/kg	26.3

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Monday November 23rd, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G128

Attn: Mr. Sam Niak

Inorganic Method Blank Data Report

Sample	Lab ID	Parameter	Result	Units	Reporting Limit
Blank 1	98GCN176-MB1	Cyanide, Reactive	0.010	u mg/L	0.010
Blank 1	98GSF147-MB1	Sulfide Reactive	1.0	u mg/L	1.0

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Monday November 23rd, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G128

Attn: Mr. Sam Niak

Inorganic Precision Data Report

Sample	Site ID	Parameter	Initial Result	Replicate	RPD
-007REP	AOC-32-STOCK-05	Flash Point (REP)	>200	>200	NC
-008REP	AOC-32-STOCK-06	Sulfide Reactive	26.3 u	27.0 u	NC

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Monday November 23rd, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G128

Attn: Mr. Sam Niak

Inorganic Accuracy Data Report

Sample	Site ID	Parameter	Spiked Sample	Initial Result	Spiked Amount	% Recov
-008	AOC-32-STOCK-06	Sulfide Reactive	18.0	26.3	u 106	17.0

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Monday November 23rd, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G128

Attn: Mr. Sam Niak

Inorganic Laboratory Control Standards Report

Lab ID	Parameter	Spiked Amount	Units	Spike #1 % Recov.	Spike #2 % Recov.	RPD
98GCN176-LCS	Cyanide, Reactive	0.20	mg/L	14.9	NA	NA
98GSF147-LCS	Sulfide Reactive	4.0	mg/L	39.2	NA	NA

Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G128

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
AOC-32-12							
% SOLIDS	001	S	98GTS674	11/11/98	11/13/98	11/16/98	11/16/98
% SOLIDS	001 REP	S	98GTS674	11/11/98	11/13/98	11/16/98	11/16/98
ARSENIC. TOTAL	001	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98
LEAD. TOTAL	001	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98
AOC-32-13							
% SOLIDS	002	S	98GTS674	11/11/98	11/13/98	11/16/98	11/16/98
ARSENIC. TOTAL	002	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98
LEAD. TOTAL	002	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98
AOC-32-14							
% SOLIDS	003	S	98GTS674	11/11/98	11/13/98	11/16/98	11/16/98
ARSENIC. TOTAL	003	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98
LEAD. TOTAL	003	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98
AOC-32-15							
% SOLIDS	004	S	98GTS674	11/11/98	11/13/98	11/16/98	11/16/98
ARSENIC. TOTAL	004	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98
LEAD. TOTAL	004	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98
AOC-32-16							
% SOLIDS	005	S	98GTS674	11/11/98	11/13/98	11/16/98	11/16/98
ARSENIC. TOTAL	005	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98
LEAD. TOTAL	005	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98
AOC-32-17							
% SOLIDS	006	S	98GTS674	11/11/98	11/13/98	11/16/98	11/16/98
ARSENIC. TOTAL	006	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98
LEAD. TOTAL	006	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98



Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G128

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN	DATE	REC	EXT/PREP	ANALYSIS
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AOC-32-STOCK-05

% SOLIDS	007	S	98GTS674	11/11/98	11/13/98	11/16/98	11/16/98	
SILVER. TOTAL	007	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98	
ARSENIC. TOTAL	007	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98	
BARIUM. TOTAL	007	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98	
CADMIUM. TOTAL	007	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98	
CHROMIUM. TOTAL	007	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98	
MERCURY. TOTAL	007	S	98HG1116	11/11/98	11/13/98	11/22/98	11/22/98	
LEAD. TOTAL	007	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98	
SELENIUM. TOTAL	007	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98	

AOC-32-STOCK-06

% SOLIDS	008	S	98GTS674	11/11/98	11/13/98	11/16/98	11/16/98	
SILVER. TOTAL	008	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98	
ARSENIC. TOTAL	008	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98	
BARIUM. TOTAL	008	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98	
CADMIUM. TOTAL	008	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98	
CHROMIUM. TOTAL	008	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98	
MERCURY. TOTAL	008	S	98HG1116	11/11/98	11/13/98	11/22/98	11/22/98	
MERCURY. TOTAL	008 REP	S	98HG1116	11/11/98	11/13/98	11/22/98	11/22/98	
MERCURY. TOTAL	008 MS	S	98HG1116	11/11/98	11/13/98	11/22/98	11/22/98	
LEAD. TOTAL	008	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98	
SELENIUM. TOTAL	008	S	98GI437	11/11/98	11/13/98	11/17/98	11/19/98	

AOC-32-TR-16

% SOLIDS	010	S	98GTS674	11/12/98	11/13/98	11/16/98	11/16/98	
ARSENIC. TOTAL	010	S	98GI437	11/12/98	11/13/98	11/17/98	11/19/98	
LEAD. TOTAL	010	S	98GI437	11/12/98	11/13/98	11/17/98	11/19/98	

AOC-32-TR-17

% SOLIDS	011	S	98GTS674	11/12/98	11/13/98	11/16/98	11/16/98	
ARSENIC. TOTAL	011	S	98GI437	11/12/98	11/13/98	11/17/98	11/19/98	
LEAD. TOTAL	011	S	98GI437	11/12/98	11/13/98	11/17/98	11/19/98	



NY CERTIFICATION # 11006

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Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G128

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
AOC-32-TR-18							
% SOLIDS	012	S	98GTS674	11/12/98	11/13/98	11/16/98	11/16/98
ARSENIC, TOTAL	012	S	98GI437	11/12/98	11/13/98	11/17/98	11/19/98
LEAD, TOTAL	012	S	98GI437	11/12/98	11/13/98	11/17/98	11/19/98
AOC-32-TR-19							
% SOLIDS	013	S	98GTS674	11/12/98	11/13/98	11/16/98	11/16/98
ARSENIC, TOTAL	013	S	98GI437	11/12/98	11/13/98	11/17/98	11/19/98
LEAD, TOTAL	013	S	98GI437	11/12/98	11/13/98	11/17/98	11/19/98
AOC-32-10							
% SOLIDS	014	S	98GTS674	11/12/98	11/13/98	11/16/98	11/16/98
ARSENIC, TOTAL	014	S	98GI437	11/12/98	11/13/98	11/17/98	11/19/98
LEAD, TOTAL	014	S	98GI437	11/12/98	11/13/98	11/17/98	11/19/98
AOC-32-11							
% SOLIDS	015	S	98GTS674	11/12/98	11/13/98	11/16/98	11/16/98
ARSENIC, SERIAL DILU	015 L	S	98GI437	11/12/98	11/13/98	11/17/98	11/19/98
ARSENIC, TOTAL	015	S	98GI437	11/12/98	11/13/98	11/17/98	11/19/98
ARSENIC, TOTAL	015 REP	S	98GI437	11/12/98	11/13/98	11/17/98	11/19/98
ARSENIC, TOTAL	015 MS	S	98GI437	11/12/98	11/13/98	11/17/98	11/19/98
LEAD, SERIAL DILUTIO	015 L	S	98GI437	11/12/98	11/13/98	11/17/98	11/19/98
LEAD, TOTAL	015	S	98GI437	11/12/98	11/13/98	11/17/98	11/19/98
LEAD, TOTAL	015 REP	S	98GI437	11/12/98	11/13/98	11/17/98	11/19/98
LEAD, TOTAL	015 MS	S	98GI437	11/12/98	11/13/98	11/17/98	11/19/98
AOC-32-18							
% SOLIDS	016	S	98GTS674	11/12/98	11/13/98	11/16/98	11/16/98
ARSENIC, TOTAL	016	S	98GI469	11/12/98	11/13/98	11/23/98	11/24/98
LEAD, TOTAL	016	S	98GI469	11/12/98	11/13/98	11/23/98	11/24/98
AOC-32-19							
% SOLIDS	017	S	98GTS674	11/12/98	11/13/98	11/16/98	11/16/98



NY CERTIFICATION # 11006

Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G128

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
ARSENIC. TOTAL	017	S	98GI469	11/12/98	11/13/98	11/23/98	11/24/98
LEAD. TOTAL	017	S	98GI469	11/12/98	11/13/98	11/23/98	11/24/98
AOC-32-19 DUP							
% SOLIDS	018	S	98GTS674	11/12/98	11/13/98	11/16/98	11/16/98
ARSENIC. TOTAL	018	S	98GI469	11/12/98	11/13/98	11/23/98	11/24/98
LEAD. TOTAL	018	S	98GI469	11/12/98	11/13/98	11/23/98	11/24/98

LAB QC:

SILVER LABORATORY	LC1 BS	S	98GI437	N/A	N/A	11/17/98	11/19/98
ARSENIC LABORATORY	LC1 BS	S	98GI437	N/A	N/A	11/17/98	11/19/98
BARIUM LABORATORY	LC1 BS	S	98GI437	N/A	N/A	11/17/98	11/19/98
CADMIUM LABORATORY	LC1 BS	S	98GI437	N/A	N/A	11/17/98	11/19/98
CHROMIUM LABORATORY	LC1 BS	S	98GI437	N/A	N/A	11/17/98	11/19/98
LEAD LABORATORY	LC1 BS	S	98GI437	N/A	N/A	11/17/98	11/19/98
SELENIUM LABORATORY	LC1 BS	S	98GI437	N/A	N/A	11/17/98	11/19/98
SILVER LABORATORY	LC2 BS	S	98GI437	N/A	N/A	11/17/98	11/19/98
ARSENIC LABORATORY	LC2 BS	S	98GI437	N/A	N/A	11/17/98	11/19/98
BARIUM LABORATORY	LC2 BS	S	98GI437	N/A	N/A	11/17/98	11/19/98
CADMIUM LABORATORY	LC2 BS	S	98GI437	N/A	N/A	11/17/98	11/19/98
CHROMIUM LABORATORY	LC2 BS	S	98GI437	N/A	N/A	11/17/98	11/19/98
LEAD LABORATORY	LC2 BS	S	98GI437	N/A	N/A	11/17/98	11/19/98
SELENIUM LABORATORY	LC2 BS	S	98GI437	N/A	N/A	11/17/98	11/19/98
SILVER. TOTAL	MB1	S	98GI437	N/A	N/A	11/17/98	11/19/98
ARSENIC. TOTAL	MB1	S	98GI437	N/A	N/A	11/17/98	11/19/98
BARIUM. TOTAL	MB1	S	98GI437	N/A	N/A	11/17/98	11/19/98
CADMIUM. TOTAL	MB1	S	98GI437	N/A	N/A	11/17/98	11/19/98
CHROMIUM. TOTAL	MB1	S	98GI437	N/A	N/A	11/17/98	11/19/98
LEAD. TOTAL	MB1	S	98GI437	N/A	N/A	11/17/98	11/19/98
SELENIUM. TOTAL	MB1	S	98GI437	N/A	N/A	11/17/98	11/19/98
MERCURY LABORATORY	LC1 BS	S	98HG1116	N/A	N/A	11/22/98	11/22/98
MERCURY LABORATORY	LC2 BS	S	98HG1116	N/A	N/A	11/22/98	11/22/98
MERCURY. TOTAL	MB1	S	98HG1116	N/A	N/A	11/22/98	11/22/98
ARSENIC LABORATORY	LC1 BS	S	98GI469	N/A	N/A	11/23/98	11/24/98
LEAD LABORATORY	LC1 BS	S	98GI469	N/A	N/A	11/23/98	11/24/98



NY CERTIFICATION # 11006

Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G128

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
ARSENIC LABORATORY	LC2 BS	S	98GI469	N/A	N/A	11/23/98	11/24/98
LEAD LABORATORY	LC2 BS	S	98GI469	N/A	N/A	11/23/98	11/24/98
ARSENIC, TOTAL	MB1	S	98GI469	N/A	N/A	11/23/98	11/24/98
LEAD, TOTAL	MB1	S	98GI469	N/A	N/A	11/23/98	11/24/98

SIGNATURE

Y. H. S. S. S.

DATE

11/25/98



NY CERTIFICATION # 11006

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METALS METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained with this RFW Lot: 9811G128

	☒ 6010A ☐ 6010B ☒Ag ☐Al ☒As ☐B ☒Ba ☐Be ☐Ca ☒Cd ☐Co ☒Cr ☐Cu ☐Fe ☐K ☐Li ☐Mg ☐Mn ☐Mo ☐Na ☐Ni ☐P ☒Pb ☐Sb ☒Se ☐Si ☐Sn ☐Sr ☐Ti ☐Tl ☐V ☐Zn ☐Ag7761 ☐As7060A ☐Cd7131A ☐Cr7191 ☐Cu7211 ☐Hg7470A ☒Hg7471A ☐Pb7421 ☐Sb7041 ☐Se7740 ☐Ti7841 ☐CN 9010A ☐CN 9010B/9014
EPA	200.7 ☐Ag ☐Al ☐As ☐B ☐Ba ☐Be ☐Ca ☐Cd ☐Co ☐Cr ☐Cu ☐Fe ☐K ☐Li ☐Mg ☐Mn ☐Mo ☐Na ☐Ni ☐P ☐Pb ☐Sb ☐Se ☐Si ☐Sn ☐Sr ☐Ti ☐Tl ☐V ☐Zn ☐Ag272.2 ☐As206.2 ☐Cd213.2 ☐Cr218.2 ☐Cu220.2 ☐Hg245.1 ☐Hg245.5 ☐Pb239.2 ☐Sb204.2 ☐Se270.2 ☐Ti279.2 200.9 ☐As ☐Cd ☐Pb ☐Sb ☐Se ☐Tl
CLP ILM04.0	200.7 CLP-M ☐Ag ☐Al ☐As ☐B ☐Ba ☐Be ☐Ca ☐Cd ☐Co ☐Cr ☐Cu ☐Fe ☐K ☐Li ☐Mg ☐Mn ☐Mo ☐Na ☐Ni ☐P ☐Pb ☐Sb ☐Se ☐Si ☐Sn ☐Sr ☐Ti ☐Tl ☐V ☐Zn ☐As206.2 ☐Cd213.2 ☐Hg245.1 ☐Hg245.5 ☐Pb239.2 ☐Sb204.2 ☐Se270.2 ☐Ti279.2 ☐CN335.2
Digestion Method	SW846 ☐3005A ☐3010A ☐3020A ☐3020A(+H₂O₂) ☒3050A ☐7060A/7740 ☐7470A ☒7471A ☐3050B EPA ☐200.7 ☐200.0(+H₂O₂) ☐200.9(-HCl;+H₂O₂) USEPA/CLP ☐ ILM04.0 Exhibit D, Section III
Extraction Method	SW846 ☐1311TCLP ☐1312SPLP ☐1320MEP Using TCLP ASTM CAM Title 22 ☐D3987 Neutral Leach ☐W.E.T.
%Solids	☐SM 2540G ☐ASTM D2216 ☐Exhibit D Part F

CHI-22-05-002/J-4/98

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-12

Project # 03886-118-204-0630

Lab ID: 9811G128-001

Sample Date: 11/11/98

Date Received: 11/13/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	87.9	%	0.10
Arsenic, Total	9.7	u mg/kg	9.7
Lead, Total	25.3	mg/kg	4.9

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-13
Project # 03886-118-204-0630
Lab ID: 9811G128-002
Sample Date: 11/11/98
Date Received: 11/13/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	89.4	%	0.10
Arsenic, Total	8.6	u mg/kg	8.6
Lead, Total	25.8	mg/kg	4.3

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-14

Project # 03886-118-204-0630

Lab ID: 9811G128-003

Sample Date: 11/11/98

Date Received: 11/13/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	87.5	%	0.10
Arsenic, Total	9.9	u mg/kg	9.9
Lead, Total	5.5	mg/kg	5.0

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-15
Project # 03886-118-204-0630
Lab ID: 9811G128-004
Sample Date: 11/11/98
Date Received: 11/13/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	86.6	%	0.10
Arsenic, Total	10	u mg/kg	10
Lead, Total	59.1	mg/kg	5.0

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-16

Project # 03886-118-204-0630

Lab ID: 9811G128-005

Sample Date: 11/11/98

Date Received: 11/13/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	88.7	%	0.10
Arsenic, Total	9.4	u mg/kg	9.4
Lead, Total	16.5	mg/kg	4.7

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-17
Project # 03886-118-204-0630
Lab ID: 9811G128-006
Sample Date: 11/11/98
Date Received: 11/13/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	90.8	%	0.10
Arsenic, Total	8.5	u mg/kg	8.5
Lead, Total	77.8	mg/kg	4.2

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-05
Project # 03886-118-204-0630
Lab ID: 9811G128-007
Sample Date: 11/11/98
Date Received: 11/13/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	92.3	%	0.10
Silver, Total	0.91	u mg/kg	0.91
Arsenic, Total	10.6	mg/kg	9.1
Barium, Total	19.8	mg/kg	4.6
Cadmium, Total	2.0	mg/kg	0.91
Chromium, Total	10.3	mg/kg	1.8
Mercury, Total	0.04	u mg/kg	0.04
Lead, Total	12.2	mg/kg	4.6
Selenium, Total	10.8	mg/kg	9.1

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-06
Project # 03886-118-204-0630
Lab ID: 9811G128-008
Sample Date: 11/11/98
Date Received: 11/13/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	90.7	%	0.10
Silver, Total	0.90	u mg/kg	0.90
Arsenic, Total	12.6	mg/kg	9.0
Barium, Total	20.1	mg/kg	4.5
Cadmium, Total	1.1	mg/kg	0.90
Chromium, Total	13.1	mg/kg	1.8
Mercury, Total	0.04	u mg/kg	0.04
Lead, Total	9.4	mg/kg	4.5
Selenium, Total	13.1	mg/kg	9.0

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-TR-16

Project # 03886-118-204-0630

Lab ID: 9811G128-010

Sample Date: 11/12/98

Date Received: 11/13/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	87.2	%	0.10
Arsenic, Total	12.1	mg/kg	9.3
Lead, Total	7.9	mg/kg	4.7

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-TR-17
Project # 03886-118-204-0630
Lab ID: 9811G128-011
Sample Date: 11/12/98
Date Received: 11/13/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	94.5	%	0.10
Arsenic, Total	9.4	u mg/kg	9.4
Lead, Total	5.5	mg/kg	4.7

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-TR-18
Project # 03886-118-204-0630
Lab ID: 9811G128-012
Sample Date: 11/12/98
Date Received: 11/13/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	91.8	%	0.10
Arsenic, Total	15.7	mg/kg	9.4
Lead, Total	54.3	mg/kg	4.7

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-TR-19
Project # 03886-118-204-0630
Lab ID: 9811G128-013
Sample Date: 11/12/98
Date Received: 11/13/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	92.2	%	0.10
Arsenic, Total	12.7	mg/kg	8.8
Lead, Total	30.9	mg/kg	4.4

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-10

Project # 03886-118-204-0630

Lab ID: 9811G128-014

Sample Date: 11/12/98

Date Received: 11/13/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	90.8	%	0.10
Arsenic, Total	10	mg/kg	8.9
Lead, Total	11.1	mg/kg	4.4

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-11
Project # 03886-118-204-0630
Lab ID: 9811G128-015
Sample Date: 11/12/98
Date Received: 11/13/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	91.4	%	0.10
Arsenic, Total	9.9	mg/kg	8.5
Lead, Total	6.1	mg/kg	4.3

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-18

Project # 03886-118-204-0630

Lab ID: 9811G128-016

Sample Date: 11/12/98

Date Received: 11/13/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	89.2	%	0.10
Arsenic, Total	9.0	u mg/kg	9.0
Lead, Total	9.7	mg/kg	4.5

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-19
Project # 03886-118-204-0630
Lab ID: 9811G128-017
Sample Date: 11/12/98
Date Received: 11/13/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	92.3	%	0.10
Arsenic, Total	8.7	u mg/kg	8.7
Lead, Total	15.6	mg/kg	4.4

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-19 DUP

Project # 03886-118-204-0630

Lab ID: 9811G128-018

Sample Date: 11/12/98

Date Received: 11/13/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	91.4	%	0.10
Arsenic, Total	8.6	u mg/kg	8.6
Lead, Total	17.5	mg/kg	4.3

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Wednesday November 25th, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G128

Attn: Mr. Sam Naik

Inorganic Method Blank Data Report

Sample	Lab ID	Parameter	Result	Units	Reporting Limit
Blank 1	98GTS674-MB1	% Solids	0.10	u %	0.10
Blank 1	98GI437-MB1	Silver, Total	1.0	u mg/kg	1.0
		Arsenic, Total	10.0	u mg/kg	10.0
		Barium, Total	5.0	u mg/kg	5.0
		Cadmium, Total	1.0	u mg/kg	1.0
		Chromium, Total	2.0	u mg/kg	2.0
		Lead, Total	5.0	u mg/kg	5.0
		Selenium, Total	10.0	u mg/kg	10.0
Blank 1	98HG1116-MB1	Mercury, Total	0.03	u mg/kg	0.03
Blank 1	98GI469-MB1	Arsenic, Total	10.0	u mg/kg	10.0
		Lead, Total	5.0	u mg/kg	5.0

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Wednesday November 25th, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G128

Attn: Mr. Sam Naik

Inorganic Precision Data Report

Sample	Site ID	Parameter	Initial Result		Replicate	RPD
-001REP	AOC-32-12	% Solids	87.9		88.0	0.10
-008REP	AOC-32-STOCK-06	Mercury, Total	0.04	u	0.04	u NC
-015REP	AOC-32-11	Arsenic, Total	9.9		9.9	0.45
		Lead, Total	6.1		5.9	2.3

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Wednesday November 25th, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G128

Attn: Mr. Sam Naik

Inorganic Accuracy Data Report

Sample	Site ID	Parameter	Spiked Sample	Initial Result	Spiked Amount	% Recov
-008	AOC-32-STOCK-06	Mercury, Total	0.25	0.04	u 0.19	130
-015	AOC-32-11	Arsenic, Total	166	9.9	171	91.1
		Lead, Total	45.7	6.1	42.7	92.6

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Wednesday November 25th, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G128

Attn: Mr. Sam Naik

Inorganic Laboratory Control Standards Report

Lab ID	Parameter	Spiked Amount	Units	Spike #1 % Recov.	Spike #2 % Recov.	RPD
98GI437-LC1	Silver, LCS	5.0	mg/kg	98.6	96.0	2.7
	Arsenic, LCS	200	mg/kg	90.1	89.6	0.58
	Barium, LCS	200	mg/kg	96.2	96.2	0.034
	Cadmium, LCS	5.0	mg/kg	106	103	2.5
	Chromium, LCS	20.0	mg/kg	96.9	96.9	0.015
	Lead, LCS	50.0	mg/kg	93.0	95.6	2.8
	Selenium, LCS	200	mg/kg	91.6	92.3	0.83
98HG1116-LC1	Mercury, LCS	0.30	mg/kg	115	113	1.3
98GI469-LC1	Arsenic, LCS	200	mg/kg	95.2	95.4	0.19
	Lead, LCS	50.0	mg/kg	98.5	99.5	0.96

Recra LabNet - Chicago
8260 ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G128

CLIENT ID	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
AOC-32-STOCK-05	007	S	98GVB437	11/11/98	11/13/98	N/A	11/20/98
AOC-32-STOCK-05	007 MS	S	98GVB437	11/11/98	11/13/98	N/A	11/20/98
AOC-32-STOCK-05	007 MSD	S	98GVB443	11/11/98	11/13/98	N/A	11/24/98
AOC-32-STOCK-06	008	S	98GVB437	11/11/98	11/13/98	N/A	11/20/98
Trip Blank	009	W	98GVF453	11/12/98	11/13/98	N/A	11/22/98

LAB QC:

VBLKEW	MB1	S	98GVB437	N/A	N/A	N/A	11/20/98
VBLKEW	MB1 BS	S	98GVB437	N/A	N/A	N/A	11/20/98
VBLKFM	MB1	S	98GVB443	N/A	N/A	N/A	11/24/98
VBLKFM	MB1 BS	S	98GVB443	N/A	N/A	N/A	11/24/98
VBLKEU	MB1	W	98GVF453	N/A	N/A	N/A	11/22/98
VBLKEU	MB1 BS	W	98GVF453	N/A	N/A	N/A	11/22/98

SIGNATURE

Gregory L. Loerd

DATE

12/1/98



NY CERTIFICATION # 11006

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Recra LabNet - Chicago

GC/MS METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained within this RFW Lot :

GC/MS VOLATILES

☒	SW-846 8260A
☒	SW-846 8260B
☐	EPA 524.2
☐	40 CFR Part 136, Method 624
☐	CLP OLM03.1/3.2
☐	OLC02.0/2.1

GC/MS SEMIVOLATILES

☐	SW-846 8270A
☐	SW-846 8270B
☐	SW-846 8270C
☐	40 CFR Part 136, Method 625
☐	CLP OLM03.1/3.2
☐	OLC02.0/2.1

CHI-22-05-001/D-4/98

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Tuesday December 1st, 1998

RE: AOC-32-STOCK-05
Project # 03886-118-204-0630
Lab ID: 9811G128-007
Sample Date: 11/11/98
Date Received: 11/13/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	5	U
Vinyl chloride	BRL	5	U
Bromomethane	BRL	5	U
Chloroethane	BRL	5	U
1,1-Dichloroethene	BRL	5	U
Acetone	BRL	5	U
Carbon Disulfide	BRL	5	U
Methylene Chloride	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
1,1-Dichloroethane	BRL	5	U
2-Butanone	BRL	5	U
Chloroform	BRL	5	U
1,1,1-Trichloroethane	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Benzene	BRL	5	U
1,2-Dichloroethane	BRL	5	U
Trichloroethene	BRL	5	U

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Date: Tuesday December 1st, 1998

RE: AOC-32-STOCK-05
Project # 03886-118-204-0630
Lab ID: 9811G128-007
Sample Date: 11/11/98
Date Received: 11/13/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
Bromodichloromethane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
4-Methyl-2-pentanone	BRL	5	U
Toluene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Tetrachloroethene	BRL	5	U
2-Hexanone	BRL	5	U
Dibromochloromethane	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Xylene (total)	BRL	5	U
Styrene	BRL	5	U
Bromoform	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Tuesday December 1st, 1998

RE: AOC-32-STOCK-06
Project # 03886-118-204-0630
Lab ID: 9811G128-008
Sample Date: 11/11/98
Date Received: 11/13/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	6	U
Vinyl chloride	BRL	6	U
Bromomethane	BRL	6	U
Chloroethane	BRL	6	U
1,1-Dichloroethene	BRL	6	U
Acetone	BRL	6	U
Carbon Disulfide	BRL	6	U
Methylene Chloride	6	6	
1,2-Dichloroethene (total)	BRL	6	U
1,1-Dichloroethane	BRL	6	U
2-Butanone	BRL	6	U
Chloroform	BRL	6	U
1,1,1-Trichloroethane	BRL	6	U
Carbon Tetrachloride	BRL	6	U
Benzene	BRL	6	U
1,2-Dichloroethane	BRL	6	U
Trichloroethene	BRL	6	U

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Tuesday December 1st, 1998

RE: AOC-32-STOCK-06
Project # 03886-118-204-0630
Lab ID: 9811G128-008
Sample Date: 11/11/98
Date Received: 11/13/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	6	U
Bromodichloromethane	BRL	6	U
cis-1,3-Dichloropropene	BRL	6	U
4-Methyl-2-pentanone	BRL	6	U
Toluene	BRL	6	U
trans-1,3-Dichloropropene	BRL	6	U
1,1,2-Trichloroethane	BRL	6	U
Tetrachloroethene	BRL	6	U
2-Hexanone	BRL	6	U
Dibromochloromethane	BRL	6	U
Chlorobenzene	BRL	6	U
Ethylbenzene	BRL	6	U
Xylene (total)	BRL	6	U
Styrene	BRL	6	U
Bromoform	BRL	6	U
1,1,2,2-Tetrachloroethane	BRL	6	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Tuesday December 1st, 1998

RE: Trip Blank
Project # 03886-118-204-0630
Lab ID: 9811G128-009
Sample Date: 11/12/98
Date Received: 11/13/98
Units: ug/L

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	0.5	U
Vinyl chloride	BRL	0.5	U
Bromomethane	BRL	0.5	U
Chloroethane	BRL	0.5	U
1,1-Dichloroethene	BRL	0.5	U
Acetone	19	2	
Carbon Disulfide	BRL	2	U
Methylene Chloride	BRL	0.5	U
1,2-Dichloroethene (total)	BRL	0.5	U
1,1-Dichloroethane	BRL	0.5	U
2-Butanone	BRL	2	U
Chloroform	BRL	0.5	U
1,1,1-Trichloroethane	BRL	0.5	U
Carbon Tetrachloride	BRL	0.5	U
Benzene	BRL	0.5	U
1,2-Dichloroethane	BRL	0.5	U
Trichloroethene	BRL	0.5	U

To: RFW-Ft Devens-DRMO Yard
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Date: Tuesday December 1st, 1998

RE: Trip Blank
Project # 03886-118-204-0630
Lab ID: 9811G128-009
Sample Date: 11/12/98
Date Received: 11/13/98
Units: ug/L

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	0.5	U
Bromodichloromethane	BRL	0.5	U
cis-1,3-Dichloropropene	BRL	0.5	U
4-Methyl-2-pentanone	BRL	2	U
Toluene	BRL	0.5	U
trans-1,3-Dichloropropene	BRL	0.5	U
1,1,2-Trichloroethane	BRL	0.5	U
Tetrachloroethene	BRL	0.5	U
2-Hexanone	BRL	2	U
Dibromochloromethane	BRL	0.5	U
Chlorobenzene	BRL	0.5	U
Ethylbenzene	BRL	0.5	U
Xylene (total)	BRL	0.5	U
Styrene	BRL	0.5	U
Bromoform	BRL	0.5	U
1,1,2,2-Tetrachloroethane	BRL	0.5	U

Recra LabNet - Chicago
METHOD 8260 VOLATILES

Report Date: 11/30/98 13:01

RFW Batch Number: 9811G128

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 1a

Sample Information	RFW#: Matrix: D.F.: Units:	Cust ID: AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		Trip Blank		VBLKEW	
		-05		-05		-05		-06		009		98GVB437-MB1	
		007		007 MS		007 MSD		008		009		98GVB437-MB1	
		SOIL		SOIL		SOIL		SOIL		WATER		SOIL	
		1		1		1		1		1		1	
		UG/KG		UG/KG		UG/KG		UG/KG		UG/L		UG/KG	
1,2-Dichloroethane-d4		103	%	111	%	109	%	109	%	90	%	108	%
Surrogate Toluene-d8		100	%	98	%	94	%	99	%	98	%	97	%
Recovery 4-Bromofluorobenzene		96	%	96	%	93	%	97	%	90	%	95	%
=====f=====f=====f=====f=====f=====f=====													
Chloromethane		5	U	94	%	104	%	6	U	0.5	U	5	U
Vinyl chloride		5	U	99	%	113	%	6	U	0.5	U	5	U
Bromomethane		5	U	95	%	108	%	6	U	0.5	U	5	U
Chloroethane		5	U	99	%	107	%	6	U	0.5	U	5	U
1,1-Dichloroethene		5	U	96	%	86	%	6	U	0.5	U	5	U
Acetone		5	U	72	%	69	%	6	U	19		5	U
Carbon Disulfide		5	U	96	%	80	%	6	U	2	U	5	U
Methylene Chloride		5	U	106	%	97	%	6		0.5	U	5	U
1,2-Dichloroethene (total)		5	U	96	%	97	%	6	U	0.5	U	5	U
1,1-Dichloroethane		5	U	101	%	100	%	6	U	0.5	U	5	U
2-Butanone		5	U	72	%	75	%	6	U	2	U	5	U
Chloroform		5	U	105	%	111	%	6	U	0.5	U	5	U
1,1,1-Trichloroethane		5	U	105	%	103	%	6	U	0.5	U	5	U
Carbon Tetrachloride		5	U	99	%	92	%	6	U	0.5	U	5	U
Benzene		5	U	110	%	107	%	6	U	0.5	U	5	U
1,2-Dichloroethane		5	U	110	%	110	%	6	U	0.5	U	5	U
Trichloroethene		5	U	92	%	89	%	6	U	0.5	U	5	U
1,2-Dichloropropane		5	U	101	%	101	%	6	U	0.5	U	5	U
Bromodichloromethane		5	U	94	%	96	%	6	U	0.5	U	5	U
cis-1,3-Dichloropropene		5	U	89	%	89	%	6	U	0.5	U	5	U
4-Methyl-2-pentanone		5	U	83	%	85	%	6	U	2	U	5	U
Toluene		5	U	97	%	97	%	6	U	0.5	U	5	U
trans-1,3-Dichloropropene		5	U	99	%	100	%	6	U	0.5	U	5	U
1,1,2-Trichloroethane		5	U	90	%	96	%	6	U	0.5	U	5	U
Tetrachloroethene		5	U	97	%	90	%	6	U	0.5	U	5	U
2-Hexanone		5	U	94	%	98	%	6	U	2	U	5	U

*= Outside of EPA CLP QC Limits.

Cust ID: AOC-32-STOCK AOC-32-STOCK AOC-32-STOCK AOC-32-STOCK Trip Blank VBLKEW
 -05 -05 -05 -06
 RFW#: 007 007 MS 007 MSD 008 009 98GVB437-MB1

Dibromochloromethane	5 U	94 %	98 %	6 U	0.5 U	5 U
Chlorobenzene	5 U	101 %	103 %	6 U	0.5 U	5 U
Ethylbenzene	5 U	102 %	101 %	6 U	0.5 U	5 U
Xylene (total)	5 U	104 %	101 %	6 U	0.5 U	5 U
Styrene	5 U	110 %	110 %	6 U	0.5 U	5 U
Bromoform	5 U	94 %	95 %	6 U	0.5 U	5 U
1,1,2,2-Tetrachloroethane	5 U	118 %	128 %	6 U	0.5 U	5 U

*= Outside of EPA CLP QC Limits.

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Recra LabNet - Chicago
METHOD 8260 VOLATILES

Report Date: 11/30/98 13:08

RFW Batch Number: 9811G128

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 2a

Cust ID: VBLKEW BS		VBLKFM		VBLKFM BS		VBLKEU		VBLKEU BS	
Sample RFW#: 98GVB437-MB1		98GVB443-MB1		98GVB443-MB1		98GVF453-MB1		98GVF453-MB1	
Information Matrix: SOIL		SOIL		SOIL		WATER		WATER	
D.F.: 1		1		1		1		1	
Units: UG/KG		UG/KG		UG/KG		UG/L		UG/L	
Surrogate	1,2-Dichloroethane-d4	112	%	102	%	102	%	98	%
Recovery	Toluene-d8	98	%	96	%	92	%	106	%
	4-Bromofluorobenzene	95	%	94	%	90	%	96	%
=====f]=====f]=====f]=====f]=====f]=====f]									
	Chloromethane	91	%	5	U	99	%	0.5	U
	Vinyl chloride	100	%	5	U	106	%	0.5	U
	Bromomethane	98	%	5	U	102	%	0.5	U
	Chloroethane	98	%	5	U	102	%	0.5	U
	1,1-Dichloroethene	98	%	5	U	82	%	0.5	U
	Acetone	62	%	5	U	63	%	2	U
	Carbon Disulfide	97	%	5	U	76	%	2	U
	Methylene Chloride	97	%	5	U	87	%	0.5	U
	1,2-Dichloroethene (total)	97	%	5	U	89	%	0.5	U
	1,1-Dichloroethane	101	%	5	U	92	%	0.5	U
	2-Butanone	70	%	5	U	72	%	2	U
	Chloroform	105	%	5	U	98	%	0.5	U
	1,1,1-Trichloroethane	107	%	5	U	97	%	0.5	U
	Carbon Tetrachloride	101	%	5	U	90	%	0.5	U
	Benzene	109	%	5	U	99	%	0.5	U
	1,2-Dichloroethane	114	%	5	U	103	%	0.5	U
	Trichloroethene	95	%	5	U	86	%	0.5	U
	1,2-Dichloropropane	101	%	5	U	93	%	0.5	U
	Bromodichloromethane	96	%	5	U	90	%	0.5	U
	cis-1,3-Dichloropropene	90	%	5	U	84	%	0.5	U
	4-Methyl-2-pentanone	79	%	5	U	82	%	2	U
	Toluene	99	%	5	U	92	%	0.5	U
	trans-1,3-Dichloropropene	101	%	5	U	95	%	0.5	U
	1,1,2-Trichloroethane	90	%	5	U	89	%	0.5	U
	Tetrachloroethene	98	%	5	U	92	%	0.5	U
	2-Hexanone	83	%	5	U	87	%	2	U

*= Outside of EPA CLP QC Limits.

Cust ID: VBLKEW BS

VBLKFM

VBLKFM BS

VBLKEU

VBLKEU BS

RFW#: 98GVB437-MB1

98GVB443-MB1

98GVB443-MB1

98GVF453-MB1

98GVF453-MB1

Dibromochloromethane	91	%	5	U	87	%	0.5	U	96	%
Chlorobenzene	100	%	5	U	96	%	0.5	U	105	%
Ethylbenzene	104	%	5	U	99	%	0.5	U	100	%
Xylene (total)	106	%	5	U	101	%	0.5	U	108	%
Styrene	110	%	5	U	105	%	0.5	U	107	%
Bromoform	92	%	5	U	88	%	0.5	U	105	%
1,1,2,2-Tetrachloroethane	100	%	5	U	102	%	0.5	U	100	%

* = Outside of EPA CLP QC Limits.

Recra LabNet - Chicago
BNA ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G128

CLIENT ID	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
AOC-32-STOCK-05	007	S	98GB0619	11/11/98	11/13/98	11/19/98	11/20/98
AOC-32-STOCK-05	007 MS	S	98GB0619	11/11/98	11/13/98	11/19/98	11/20/98
AOC-32-STOCK-05	007 MSD	S	98GB0619	11/11/98	11/13/98	11/19/98	11/20/98
AOC-32-STOCK-06	008	S	98GB0619	11/11/98	11/13/98	11/19/98	11/20/98

LAB QC:

SBLKES	MB1	S	98GB0619	N/A	N/A	11/19/98	11/20/98
SBLKES	MB1 BS	S	98GB0619	N/A	N/A	11/19/98	11/20/98

SIGNATURE

Gregory L. Lord

DATE

11/23/98



NY CERTIFICATION # 11006

Recra LabNet - Chicago

GC/MS METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained within this RFW Lot :

GC/MS VOLATILES

_____ SW-846 8260A
_____ SW-846 8260B
_____ EPA 524.2
_____ 40 CFR Part 136, Method 624
_____ CLP OLM03.1/3.2
_____ OLC02.0/2.1

GC/MS SEMIVOLATILES

_____ SW-846 8270A
_____ SW-846 8270B
✓ _____ SW-846 8270C
_____ 40 CFR Part 136, Method 625
_____ CLP OLM03.1/3.2
_____ OLC02.0/2.1

CHI-22-05-001/D-4/98

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Niak

Date: Monday November 23rd, 1998

RE: AOC-32-STOCK-05
Project # 03886-118-204-0630
Lab ID: 9811G128-007
Sample Date: 11/11/98
Date Received: 11/13/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Phenol	BRL	360	U
bis(2-Chloroethyl)ether	BRL	360	U
2-Chlorophenol	BRL	360	U
1,3-Dichlorobenzene	BRL	360	U
1,4-Dichlorobenzene	BRL	360	U
1,2-Dichlorobenzene	BRL	360	U
2-Methylphenol	BRL	360	U
2,2'-oxybis(1-Chloropropane)	BRL	360	U
N-Nitroso-di-n-propylamine	BRL	360	U
4-Methylphenol	BRL	360	U
Hexachloroethane	BRL	360	U
Nitrobenzene	BRL	360	U
Isophorone	BRL	360	U
2-Nitrophenol	BRL	360	U
2,4-Dimethylphenol	BRL	360	U
bis(2-Chloroethoxy)methane	BRL	360	U
2,4-Dichlorophenol	BRL	360	U

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Attn: Mr. Sam Niak

Date: Monday November 23rd, 1998

RE: AOC-32-STOCK-05
Project # 03886-118-204-0630
Lab ID: 9811G128-007
Sample Date: 11/11/98
Date Received: 11/13/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
1,2,4-Trichlorobenzene	BRL	360	U
Naphthalene	BRL	360	U
4-Chloroaniline	BRL	360	U
Hexachlorobutadiene	BRL	360	U
4-Chloro-3-methylphenol	BRL	360	U
2-Methylnaphthalene	BRL	360	U
Hexachlorocyclopentadiene	BRL	360	U
2,4,6-Trichlorophenol	BRL	360	U
2,4,5-Trichlorophenol	BRL	1800	U
2-Chloronaphthalene	BRL	360	U
2-Nitroaniline	BRL	1800	U
Acenaphthylene	BRL	360	U
2,6-Dinitrotoluene	BRL	360	U
3-Nitroaniline	BRL	1800	U
Acenaphthene	BRL	360	U
2,4-Dinitrophenol	BRL	1800	U
Dibenzofuran	BRL	360	U

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Date: Monday November 23rd, 1998

RE: AOC-32-STOCK-05
Project # 03886-118-204-0630
Lab ID: 9811G128-007
Sample Date: 11/11/98
Date Received: 11/13/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
4-Nitrophenol	BRL	1800	U
2,4-Dinitrotoluene	BRL	360	U
Fluorene	BRL	360	U
Dimethylphthalate	BRL	360	U
Diethylphthalate	BRL	360	U
4-Chlorophenyl-phenylether	BRL	360	U
4-Nitroaniline	BRL	1800	U
4,6-Dinitro-2-methylphenol	BRL	1800	U
4-Bromophenyl-phenylether	BRL	360	U
Hexachlorobenzene	BRL	360	U
Pentachlorophenol	BRL	1800	U
Phenanthrene	BRL	360	U
Anthracene	BRL	360	U
Di-n-butylphthalate	BRL	360	U
Fluoranthene	BRL	360	U
Pyrene	44	360	J
Butylbenzylphthalate	BRL	360	U

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Project # 03886-118-204-0630
Lab ID: 9811G128-007
Sample Date: 11/11/98
Date Received: 11/13/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Benzo(a)anthracene	BRL	360	U
3,3'-Dichlorobenzidine	BRL	720	U
Chrysene	BRL	360	U
bis(2-Ethylhexyl)phthalate	140	360	J
Di-n-octylphthalate	BRL	360	U
Benzo(b)fluoranthene	BRL	360	U
Benzo(k)fluoranthene	BRL	360	U
Benzo(a)pyrene	BRL	360	U
Indeno(1,2,3-cd)pyrene	43	360	J
Dibenzo(a,h)anthracene	BRL	360	U
Benzo(g,h,i)perylene	BRL	360	U
Carbazole	BRL	360	U
N-Nitrosodiphenylamine (1)	BRL	360	U
Benzyl alcohol	BRL	360	U
Benzoic acid	BRL	1800	U
Benzidine	BRL	3600	U

(1) - Cannot be separated from Diphenylamine.

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Niak

Date: Monday November 23rd, 1998

RE: AOC-32-STOCK-05
Project # 03886-118-204-0630
Lab ID: 9811G128-007
Sample Date: 11/11/98
Date Received: 11/13/98
Units: ug/Kg

Tentatively Identified Compounds

5 Semivolatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Semivolatile Compound	Retention Time	Estimated Concentration
UNKNOWN KETONE	5.087	7500 JBA
UNKNOWN ALKANE	15.955	1200 J
UNKNOWN ALKANE	18.203	940 J
UNKNOWN ALKANE	18.846	2000 J
UNKNOWN ALKANE	19.970	1000 J

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Monday November 23rd, 1998

Attn: Mr. Sam Niak

RE: AOC-32-STOCK-06
Project # 03886-118-204-0630
Lab ID: 9811G128-008
Sample Date: 11/11/98
Date Received: 11/13/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Phenol	BRL	360	U
bis(2-Chloroethyl)ether	BRL	360	U
2-Chlorophenol	BRL	360	U
1,3-Dichlorobenzene	BRL	360	U
1,4-Dichlorobenzene	BRL	360	U
1,2-Dichlorobenzene	BRL	360	U
2-Methylphenol	BRL	360	U
2,2'-oxybis(1-Chloropropane)	BRL	360	U
N-Nitroso-di-n-propylamine	BRL	360	U
4-Methylphenol	BRL	360	U
Hexachloroethane	BRL	360	U
Nitrobenzene	BRL	360	U
Isophorone	BRL	360	U
2-Nitrophenol	BRL	360	U
2,4-Dimethylphenol	BRL	360	U
bis(2-Chloroethoxy)methane	BRL	360	U
2,4-Dichlorophenol	BRL	360	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Niak

Date: Monday November 23rd, 1998

RE: AOC-32-STOCK-06
Project # 03886-118-204-0630
Lab ID: 9811G128-008
Sample Date: 11/11/98
Date Received: 11/13/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
1,2,4-Trichlorobenzene	BRL	360	U
Naphthalene	BRL	360	U
4-Chloroaniline	BRL	360	U
Hexachlorobutadiene	BRL	360	U
4-Chloro-3-methylphenol	BRL	360	U
2-Methylnaphthalene	BRL	360	U
Hexachlorocyclopentadiene	BRL	360	U
2,4,6-Trichlorophenol	BRL	360	U
2,4,5-Trichlorophenol	BRL	1800	U
2-Chloronaphthalene	BRL	360	U
2-Nitroaniline	BRL	1800	U
Acenaphthylene	BRL	360	U
2,6-Dinitrotoluene	BRL	360	U
3-Nitroaniline	BRL	1800	U
Acenaphthene	BRL	360	U
2,4-Dinitrophenol	BRL	1800	U
Dibenzofuran	BRL	360	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Monday November 23rd, 1998

Attn: Mr. Sam Niak

RE: AOC-32-STOCK-06
Project # 03886-118-204-0630
Lab ID: 9811G128-008
Sample Date: 11/11/98
Date Received: 11/13/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
4-Nitrophenol	BRL	1800	U
2,4-Dinitrotoluene	BRL	360	U
Fluorene	BRL	360	U
Dimethylphthalate	BRL	360	U
Diethylphthalate	BRL	360	U
4-Chlorophenyl-phenylether	BRL	360	U
4-Nitroaniline	BRL	1800	U
4,6-Dinitro-2-methylphenol	BRL	1800	U
4-Bromophenyl-phenylether	BRL	360	U
Hexachlorobenzene	BRL	360	U
Pentachlorophenol	BRL	1800	U
Phenanthrene	BRL	360	U
Anthracene	BRL	360	U
Di-n-butylphthalate	BRL	360	U
Fluoranthene	49	360	J
Pyrene	42	360	J
Butylbenzylphthalate	BRL	360	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Niak

Date: Monday November 23rd, 1998

RE: AOC-32-STOCK-06
Project # 03886-118-204-0630
Lab ID: 9811G128-008
Sample Date: 11/11/98
Date Received: 11/13/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Benzo(a)anthracene	47	360	J
3,3'-Dichlorobenzidine	BRL	730	U
Chrysene	68	360	J
bis(2-Ethylhexyl)phthalate	BRL	360	U
Di-n-octylphthalate	BRL	360	U
Benzo(b)fluoranthene	140	360	J
Benzo(k)fluoranthene	BRL	360	U
Benzo(a)pyrene	87	360	J
Indeno(1,2,3-cd)pyrene	90	360	J
Dibenzo(a,h)anthracene	BRL	360	U
Benzo(g,h,i)perylene	82	360	J
Carbazole	BRL	360	U
N-Nitrosodiphenylamine (1)	BRL	360	U
Benzyl alcohol	BRL	360	U
Benzoic acid	BRL	1800	U
Benzidine	BRL	3600	U

(1) - Cannot be separated from Diphenylamine.

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Niak

Date: Monday November 23rd, 1998

RE: AOC-32-STOCK-06
Project # 03886-118-204-0630
Lab ID: 9811G128-008
Sample Date: 11/11/98
Date Received: 11/13/98
Units: ug/Kg

Tentatively Identified Compounds

5 Semivolatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Semivolatile Compound	Retention Time	Estimated Concentration
UNKNOWN KETONE	5.074	8900 JBA
UNKNOWN ALKANE	5.904	560 JB
Unknown	7.715	440 J
Unknown	9.865	850 J
UNKNOWN ALKANE	18.823	190 J

Recra LabNet - Chicago

SEMIVOLATILES BY GC/MS, HSL LIST

Report Date: 11/23/98 09:44

RFW Batch Number: 9811G128

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

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Cust ID:		AOC-32-STOCK	AOC-32-STOCK	AOC-32-STOCK	AOC-32-STOCK	SBLKES	SBLKES BS
		-05	-05	-05	-06		
Sample		007	007 MS	007 MSD	008	98GB0619-MB1	98GB0619-MB1
Information		Matrix:	Matrix:	Matrix:	Matrix:	Matrix:	Matrix:
		D.F.:	D.F.:	D.F.:	D.F.:	D.F.:	D.F.:
		Units:	Units:	Units:	Units:	Units:	Units:
		UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG
Surrogate Recovery	2-Fluorophenol	74 %	77 %	63 %	60 %	71 %	77 %
	Phenol-d5	86 %	90 %	70 %	68 %	78 %	84 %
	Nitrobenzene-d5	77 %	78 %	66 %	62 %	74 %	79 %
	2-Fluorobiphenyl	84 %	85 %	64 %	69 %	77 %	82 %
	2,4,6-Tribromophenol	104 %	94 %	90 %	77 %	77 %	91 %
	p-Terphenyl-d14	89 %	107 %	72 %	62 %	85 %	80 %
=====f=====f=====f=====f=====f=====f=====							
Phenol		360 U	82 %	64 %	360 U	330 U	78 %
bis(2-Chloroethyl)ether		360 U	77 %	58 %	360 U	330 U	76 %
2-Chlorophenol		360 U	82 %	63 %	360 U	330 U	76 %
1,3-Dichlorobenzene		360 U	70 %	51 *	360 U	330 U	71 %
1,4-Dichlorobenzene		360 U	71 %	51 %	360 U	330 U	70 %
1,2-Dichlorobenzene		360 U	74 %	55 *	360 U	330 U	73 %
2-Methylphenol		360 U	90 %	67 %	360 U	330 U	79 %
2,2'-oxybis(1-Chloropropane)		360 U	79 %	59 %	360 U	330 U	75 %
N-Nitroso-di-n-propylamine		360 U	93 %	70 %	360 U	330 U	84 %
4-Methylphenol		360 U	101 %	75 %	360 U	330 U	85 %
Hexachloroethane		360 U	75 %	54 %	360 U	330 U	74 %
Nitrobenzene		360 U	76 %	60 %	360 U	330 U	75 %
Isophorone		360 U	88 %	66 %	360 U	330 U	82 %
2-Nitrophenol		360 U	78 %	61 *	360 U	330 U	74 %
2,4-Dimethylphenol		360 U	90 %	67 %	360 U	330 U	77 %
bis(2-Chloroethoxy)methane		360 U	83 %	64 *	360 U	330 U	78 %
2,4-Dichlorophenol		360 U	88 %	65 *	360 U	330 U	78 %
1,2,4-Trichlorobenzene		360 U	85 %	62 %	360 U	330 U	78 %
Naphthalene		360 U	81 %	61 *	360 U	330 U	76 %
4-Chloroaniline		360 U	60 %	39 %	360 U	330 U	39 %
Hexachlorobutadiene		360 U	85 %	61 %	360 U	330 U	80 %
4-Chloro-3-methylphenol		360 U	101 %	72 %	360 U	330 U	83 %
2-Methylnaphthalene		360 U	92 %	66 *	360 U	330 U	82 %

*= Outside of EPA CLP QC Limits.

Cust ID: AOC-32-STOCK	AOC-32-STOCK	AOC-32-STOCK	AOC-32-STOCK	SBLKES	SBLKES BS
-05	-05	-05	-06		
RFW#: 007	007 MS	007 MSD	008	98GB0619-MB1	98GB0619-MB1

Hexachlorocyclopentadiene	360	U	64	%	46	%	360	U	330	U	73	%
2,4,6-Trichlorophenol	360	U	92	%	64	* %	360	U	330	U	81	%
2,4,5-Trichlorophenol	1800	U	88	%	65	* %	1800	U	1700	U	81	%
2-Chloronaphthalene	360	U	80	%	58	* %	360	U	330	U	75	%
2-Nitroaniline	1800	U	86	%	64	%	1800	U	1700	U	82	%
Acenaphthylene	360	U	84	%	62	* %	360	U	330	U	79	%
2,6-Dinitrotoluene	360	U	94	%	70	* %	360	U	330	U	80	%
3-Nitroaniline	1800	U	97	%	89	%	1800	U	1700	U	76	%
Acenaphthene	360	U	85	%	62	%	360	U	330	U	79	%
2,4-Dinitrophenol	1800	U	84	%	52	%	1800	U	1700	U	79	%
Dibenzofuran	360	U	88	%	66	* %	360	U	330	U	78	%
4-Nitrophenol	1800	U	90	%	68	%	1800	U	1700	U	73	%
2,4-Dinitrotoluene	360	U	96	%	70	%	360	U	330	U	82	%
Fluorene	360	U	88	%	67	* %	360	U	330	U	78	%
Dimethylphthalate	360	U	88	%	65	* %	360	U	330	U	82	%
Diethylphthalate	360	U	85	%	66	%	360	U	330	U	81	%
4-Chlorophenyl-phenylether	360	U	92	%	69	* %	360	U	330	U	81	%
4-Nitroaniline	1800	U	85	%	64	%	1800	U	1700	U	79	%
4,6-Dinitro-2-methylphenol	1800	U	91	%	57	%	1800	U	1700	U	88	%
4-Bromophenyl-phenylether	360	U	84	%	57	* %	360	U	330	U	81	%
Hexachlorobenzene	360	U	86	%	58	* %	360	U	330	U	84	%
Pentachlorophenol	1800	U	85	%	56	* %	1800	U	1700	U	84	%
Phenanthrene	360	U	86	%	63	* %	360	U	330	U	81	%
Anthracene	360	U	80	%	59	* %	360	U	330	U	78	%
Di-n-butylphthalate	360	U	80	%	59	* %	360	U	330	U	79	%
Fluoranthene	360	U	84	%	70	%	49	J	330	U	81	%
Pyrene	44	J	105	%	71	%	42	J	330	U	76	%
Butylbenzylphthalate	360	U	85	%	63	* %	360	U	330	U	74	%
Benzo(a)anthracene	360	U	88	%	64	* %	47	J	330	U	79	%
3,3'-Dichlorobenzidine	720	U	57	%	49	%	730	U	670	U	75	%
Chrysene	360	U	83	%	58	* %	68	J	330	U	78	%
bis(2-Ethylhexyl)phthalate	140	J	68	%	49	* %	360	U	330	U	71	%
Di-n-octylphthalate	360	U	69	%	46	* %	360	U	330	U	71	%
Benzo(b)fluoranthene	360	U	99	%	65	* %	140	J	330	U	79	%
Benzo(k)fluoranthene	360	U	81	%	58	%	360	U	330	U	76	%
Benzo(a)pyrene	360	U	81	%	58	* %	87	J	330	U	82	%

*= Outside of EPA CLP QC Limits.

RFW Batch Number: 9811G128

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

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Cust ID: AOC-32-STOCK

AOC-32-STOCK

AOC-32-STOCK

AOC-32-STOCK

SBLKES

SBLKES BS

RFW#:

-05

007

-05

007 MS

-05

007 MSD

-06

008

98GB0619-MB1

98GB0619-MB1

Indeno(1,2,3-cd)pyrene	43	J	62	%	57	* %	90	J	330	U	88	%
Dibenzo(a,h)anthracene	360	U	60	%	55	%	360	U	330	U	84	%
Benzo(g,h,i)perylene	360	U	56	* %	52	* %	82	J	330	U	86	%
Carbazole	360	U	104	%	82	%	360	U	330	U	96	%
N-Nitrosodiphenylamine (1)	360	U	84	%	58	* %	360	U	330	U	86	%
Benzyl alcohol	360	U	93	%	73	%	360	U	330	U	80	%
Benzoic acid	1800	U	53	%	40	%	1800	U	1700	U	80	%
Benzidine	3600	U	0	* 100	0	* 100	3600	U	3300	U	53	* %

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.


 11/23/98

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Recra LabNet - Chicago
 PEST/PCB ANALYTICAL DATA PACKAGE FOR
 RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G128

CLIENT ID	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
AOC-32-12	001	S	98GP1078	11/11/98	11/13/98	11/16/98	11/18/98
AOC-32-13	002	S	98GP1078	11/11/98	11/13/98	11/16/98	11/18/98
AOC-32-14	003	S	98GP1078	11/11/98	11/13/98	11/16/98	11/18/98
AOC-32-15	004	S	98GP1078	11/11/98	11/13/98	11/16/98	11/18/98
AOC-32-16	005	S	98GP1078	11/11/98	11/13/98	11/16/98	11/18/98
AOC-32-17	006	S	98GP1078	11/11/98	11/13/98	11/16/98	11/18/98
AOC-32-STOCK-05	007	S	98GP1078	11/11/98	11/13/98	11/16/98	11/18/98
AOC-32-STOCK-06	008	S	98GP1078	11/11/98	11/13/98	11/16/98	11/19/98
AOC-32-TR-16	010	S	98GP1078	11/12/98	11/13/98	11/16/98	11/18/98
AOC-32-TR-17	011	S	98GP1078	11/12/98	11/13/98	11/16/98	11/18/98
AOC-32-TR-18	012	S	98GP1078	11/12/98	11/13/98	11/16/98	11/18/98
AOC-32-TR-19	013	S	98GP1078	11/12/98	11/13/98	11/16/98	11/18/98
AOC-32-10	014	S	98GP1078	11/12/98	11/13/98	11/16/98	11/18/98
AOC-32-11	015	S	98GP1078	11/12/98	11/13/98	11/16/98	11/18/98
AOC-32-18	016	S	98GP1078	11/12/98	11/13/98	11/16/98	11/24/98
AOC-32-19	017	S	98GP1078	11/12/98	11/13/98	11/16/98	11/18/98
AOC-32-19 DUP	018	S	98GP1078	11/12/98	11/13/98	11/16/98	11/19/98
AOC-32-19 DUP	018 MS	S	98GP1078	11/12/98	11/13/98	11/16/98	11/19/98
AOC-32-19 DUP	018 MSD	S	98GP1078	11/12/98	11/13/98	11/16/98	11/19/98

LAB QC:

PBLKPA	MB1	S	98GP1078	N/A	N/A	11/16/98	11/18/98
PBLKPA	MB1 BS	S	98GP1078	N/A	N/A	11/16/98	11/18/98
PBLKPA	MB1 BSD	S	98GP1078	N/A	N/A	11/16/98	11/18/98

SIGNATURE Tride S Machely

DATE 11-30-98

Recra LabNet - Chicago

GC/HPLC METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained within this RFW Lot :

Pesticides/PCBs	_____	SW-846 8080A
	____/____	SW-846 8081
	_____	40 CFR Part 136, Method 608
	_____	OLM03.1/3.2
Pesticides	_____	SW-846 8081A
PCBs	_____	SW-846 8082
Organophosphorus Pesticides	_____	SW-846 8141A
Herbicides	_____	SW-846 8150B
	_____	SW-846 8151A
Explosives	_____	SW-846 8330
Polynuclear Aromatics	_____	SW-846 8310
	_____	40 CFR Part 136, Method 610
Petroleum Hydrocarbons	_____	SW-846 8015A Mod
	_____	California LUFT
	_____	Other _____
EDB & DBCP	_____	EPA Method 504.1
GC VOLATILES	_____	SW-846 8010A
	_____	40 CFR Part 136, Method 601
	_____	SW-846 8020A
	_____	SW-846 8021A
	_____	40 CFR Part 136, Method 602
	_____	SW-846 8015 Mod

CHI-22-05-003/F-4/98

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-12

Project # 03886-118-204-0630

Lab ID: 9811G128-001

Sample Date: 11/11/98

Date Received: 11/13/98

Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	2.8	U
beta-BHC	BRL	2.8	U
delta-BHC	BRL	2.8	U
gamma-BHC (Lindane)	BRL	2.8	U
Heptachlor	BRL	2.8	U
Aldrin	BRL	2.8	U
Heptachlor epoxide	BRL	2.8	U
Endosulfan I	BRL	2.8	U
Dieldrin	BRL	5.5	U
4,4'-DDE	BRL	5.5	U
Endrin	BRL	5.5	U
Endosulfan II	BRL	5.5	U
4,4'-DDD	BRL	5.5	U
Endosulfan sulfate	BRL	5.5	U
4,4'-DDT	BRL	5.5	U
Methoxychlor	BRL	28	U
alpha-Chlordane	BRL	2.8	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Monday November 30th, 1998

Attn: Mr. Sam Naik

RE: AOC-32-12
Project # 03886-118-204-0630
Lab ID: 9811G128-001
Sample Date: 11/11/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	2.8	U
Toxaphene	BRL	55	U
Endrin aldehyde	BRL	5.5	U
Endrin ketone	BRL	5.5	U
Aroclor-1016	BRL	28	U
Aroclor-1221	BRL	28	U
Aroclor-1232	BRL	28	U
Aroclor-1242	BRL	28	U
Aroclor-1248	BRL	28	U
Aroclor-1254	BRL	28	U
Aroclor-1260	BRL	28	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-13

Project # 03886-118-204-0630

Lab ID: 9811G128-002

Sample Date: 11/11/98

Date Received: 11/13/98

Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	2.8	U
beta-BHC	BRL	2.8	U
delta-BHC	BRL	2.8	U
gamma-BHC (Lindane)	BRL	2.8	U
Heptachlor	BRL	2.8	U
Aldrin	BRL	2.8	U
Heptachlor epoxide	BRL	2.8	U
Endosulfan I	BRL	2.8	U
Dieldrin	BRL	5.5	U
4,4'-DDE	10	5.5	
Endrin	BRL	5.5	U
Endosulfan II	BRL	5.5	U
4,4'-DDD	4.4	5.5	J
Endosulfan sulfate	BRL	5.5	U
4,4'-DDT	26	5.5	
Methoxychlor	BRL	28	U
alpha-Chlordane	BRL	2.8	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Monday November 30th, 1998

Attn: Mr. Sam Naik

RE: AOC-32-13
Project # 03886-118-204-0630
Lab ID: 9811G128-002
Sample Date: 11/11/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	2.8	U
Toxaphene	BRL	55	U
Endrin aldehyde	BRL	5.5	U
Endrin ketone	BRL	5.5	U
Aroclor-1016	BRL	28	U
Aroclor-1221	BRL	28	U
Aroclor-1232	BRL	28	U
Aroclor-1242	BRL	28	U
Aroclor-1248	BRL	28	U
Aroclor-1254	BRL	28	U
Aroclor-1260	BRL	28	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-14
Project # 03886-118-204-0630
Lab ID: 9811G128-003
Sample Date: 11/11/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	2.8	U
beta-BHC	BRL	2.8	U
delta-BHC	BRL	2.8	U
gamma-BHC (Lindane)	BRL	2.8	U
Heptachlor	BRL	2.8	U
Aldrin	BRL	2.8	U
Heptachlor epoxide	BRL	2.8	U
Endosulfan I	BRL	2.8	U
Dieldrin	BRL	5.5	U
4,4'-DDE	BRL	5.5	U
Endrin	BRL	5.5	U
Endosulfan II	BRL	5.5	U
4,4'-DDD	BRL	5.5	U
Endosulfan sulfate	BRL	5.5	U
4,4'-DDT	BRL	5.5	U
Methoxychlor	BRL	28	U
alpha-Chlordane	BRL	2.8	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-14
Project # 03886-118-204-0630
Lab ID: 9811G128-003
Sample Date: 11/11/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	2.8	U
Toxaphene	BRL	55	U
Endrin aldehyde	BRL	5.5	U
Endrin ketone	BRL	5.5	U
Aroclor-1016	BRL	28	U
Aroclor-1221	BRL	28	U
Aroclor-1232	BRL	28	U
Aroclor-1242	BRL	28	U
Aroclor-1248	BRL	28	U
Aroclor-1254	BRL	28	U
Aroclor-1260	BRL	28	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-15

Project # 03886-118-204-0630

Lab ID: 9811G128-004

Sample Date: 11/11/98

Date Received: 11/13/98

Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	2.8	U
beta-BHC	BRL	2.8	U
delta-BHC	BRL	2.8	U
gamma-BHC (Lindane)	BRL	2.8	U
Heptachlor	BRL	2.8	U
Aldrin	BRL	2.8	U
Heptachlor epoxide	BRL	2.8	U
Endosulfan I	BRL	2.8	U
Dieldrin	BRL	5.7	U
4,4'-DDE	3.4	5.7	J
Endrin	BRL	5.7	U
Endosulfan II	BRL	5.7	U
4,4'-DDD	BRL	5.7	U
Endosulfan sulfate	BRL	5.7	U
4,4'-DDT	22	5.7	
Methoxychlor	BRL	28	U
alpha-Chlordane	BRL	2.8	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-15
Project # 03886-118-204-0630
Lab ID: 9811G128-004
Sample Date: 11/11/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	2.8	U
Toxaphene	BRL	57	U
Endrin aldehyde	BRL	5.7	U
Endrin ketone	BRL	5.7	U
Aroclor-1016	BRL	28	U
Aroclor-1221	BRL	28	U
Aroclor-1232	BRL	28	U
Aroclor-1242	BRL	28	U
Aroclor-1248	BRL	28	U
Aroclor-1254	BRL	28	U
Aroclor-1260	BRL	28	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-16

Project # 03886-118-204-0630

Lab ID: 9811G128-005

Sample Date: 11/11/98

Date Received: 11/13/98

Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	2.8	U
beta-BHC	BRL	2.8	U
delta-BHC	BRL	2.8	U
gamma-BHC (Lindane)	BRL	2.8	U
Heptachlor	BRL	2.8	U
Aldrin	BRL	2.8	U
Heptachlor epoxide	BRL	2.8	U
Endosulfan I	BRL	2.8	U
Dieldrin	BRL	5.6	U
4,4'-DDE	BRL	5.6	U
Endrin	BRL	5.6	U
Endosulfan II	BRL	5.6	U
4,4'-DDD	BRL	5.6	U
Endosulfan sulfate	BRL	5.6	U
4,4'-DDT	16	5.6	
Methoxychlor	BRL	28	U
alpha-Chlordane	BRL	2.8	U

To: RFW-Ft Devens-DRMO Yard
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Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-16
Project # 03886-118-204-0630
Lab ID: 9811G128-005
Sample Date: 11/11/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	2.8	U
Toxaphene	BRL	56	U
Endrin aldehyde	BRL	5.6	U
Endrin ketone	BRL	5.6	U
Aroclor-1016	BRL	28	U
Aroclor-1221	BRL	28	U
Aroclor-1232	BRL	28	U
Aroclor-1242	BRL	28	U
Aroclor-1248	BRL	28	U
Aroclor-1254	BRL	28	U
Aroclor-1260	BRL	28	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-17
Project # 03886-118-204-0630
Lab ID: 9811G128-006
Sample Date: 11/11/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	5.3	U
beta-BHC	BRL	5.3	U
delta-BHC	BRL	5.3	U
gamma-BHC (Lindane)	BRL	5.3	U
Heptachlor	BRL	5.3	U
Aldrin	BRL	5.3	U
Heptachlor epoxide	BRL	5.3	U
Endosulfan I	BRL	5.3	U
Dieldrin	BRL	10	U
4,4'-DDE	BRL	10	U
Endrin	BRL	10	U
Endosulfan II	BRL	10	U
4,4'-DDD	BRL	10	U
Endosulfan sulfate	BRL	10	U
4,4'-DDT	48	10	
Methoxychlor	BRL	53	U
alpha-Chlordane	BRL	5.3	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Monday November 30th, 1998

Attn: Mr. Sam Naik

RE: AOC-32-17
Project # 03886-118-204-0630
Lab ID: 9811G128-006
Sample Date: 11/11/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	5.3	U
Toxaphene	BRL	100	U
Endrin aldehyde	BRL	10	U
Endrin ketone	BRL	10	U
Aroclor-1016	BRL	53	U
Aroclor-1221	BRL	53	U
Aroclor-1232	BRL	53	U
Aroclor-1242	BRL	53	U
Aroclor-1248	BRL	53	U
Aroclor-1254	BRL	53	U
Aroclor-1260	BRL	53	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-STOCK-05
Project # 03886-118-204-0630
Lab ID: 9811G128-007
Sample Date: 11/11/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	5.4	U
beta-BHC	6.5	5.4	
delta-BHC	18	5.4	
gamma-BHC (Lindane)	BRL	5.4	U
Heptachlor	BRL	5.4	U
Aldrin	BRL	5.4	U
Heptachlor epoxide	BRL	5.4	U
Endosulfan I	BRL	5.4	U
Dieldrin	BRL	11	U
4,4'-DDE	BRL	11	U
Endrin	BRL	11	U
Endosulfan II	BRL	11	U
4,4'-DDD	6.5	11	J
Endosulfan sulfate	BRL	11	U
4,4'-DDT	12	11	
Methoxychlor	BRL	54	U
alpha-Chlordane	BRL	5.4	U

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-STOCK-05
Project # 03886-118-204-0630
Lab ID: 9811G128-007
Sample Date: 11/11/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	5.4	U
Toxaphene	BRL	110	U
Endrin aldehyde	BRL	11	U
Endrin ketone	BRL	11	U
Aroclor-1016	BRL	54	U
Aroclor-1221	BRL	54	U
Aroclor-1232	BRL	54	U
Aroclor-1242	BRL	54	U
Aroclor-1248	BRL	54	U
Aroclor-1254	BRL	54	U
Aroclor-1260	BRL	54	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
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Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-STOCK-06
Project # 03886-118-204-0630
Lab ID: 9811G128-008
Sample Date: 11/11/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	28	U
beta-BHC	BRL	28	U
delta-BHC	BRL	28	U
gamma-BHC (Lindane)	BRL	28	U
Heptachlor	BRL	28	U
Aldrin	BRL	28	U
Heptachlor epoxide	BRL	28	U
Endosulfan I	BRL	28	U
Dieldrin	BRL	55	U
4,4'-DDE	BRL	55	U
Endrin	BRL	55	U
Endosulfan II	BRL	55	U
4,4'-DDD	BRL	55	U
Endosulfan sulfate	BRL	55	U
4,4'-DDT	BRL	55	U
Methoxychlor	BRL	280	U
alpha-Chlordane	BRL	28	U

To: RFW-Ft Devens-DRMO Yard
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Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-STOCK-06
Project # 03886-118-204-0630
Lab ID: 9811G128-008
Sample Date: 11/11/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	28	U
Toxaphene	BRL	550	U
Endrin aldehyde	BRL	55	U
Endrin ketone	BRL	55	U
Aroclor-1016	BRL	280	U
Aroclor-1221	BRL	280	U
Aroclor-1232	BRL	280	U
Aroclor-1242	BRL	280	U
Aroclor-1248	BRL	280	U
Aroclor-1254	BRL	280	U
Aroclor-1260	BRL	280	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-TR-16
Project # 03886-118-204-0630
Lab ID: 9811G128-010
Sample Date: 11/12/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	2.8	U
beta-BHC	BRL	2.8	U
delta-BHC	BRL	2.8	U
gamma-BHC (Lindane)	BRL	2.8	U
Heptachlor	BRL	2.8	U
Aldrin	BRL	2.8	U
Heptachlor epoxide	BRL	2.8	U
Endosulfan I	BRL	2.8	U
Dieldrin	BRL	5.6	U
4,4'-DDE	13	5.6	
Endrin	BRL	5.6	U
Endosulfan II	BRL	5.6	U
4,4'-DDD	5.6	5.6	
Endosulfan sulfate	BRL	5.6	U
4,4'-DDT	30	5.6	
Methoxychlor	BRL	28	U
alpha-Chlordane	BRL	2.8	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Monday November 30th, 1998

Attn: Mr. Sam Naik

RE: AOC-32-TR-16
Project # 03886-118-204-0630
Lab ID: 9811G128-010
Sample Date: 11/12/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	2.8	U
Toxaphene	BRL	56	U
Endrin aldehyde	BRL	5.6	U
Endrin ketone	BRL	5.6	U
Aroclor-1016	BRL	28	U
Aroclor-1221	BRL	28	U
Aroclor-1232	BRL	28	U
Aroclor-1242	BRL	28	U
Aroclor-1248	BRL	28	U
Aroclor-1254	BRL	28	U
Aroclor-1260	BRL	28	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-TR-17
Project # 03886-118-204-0630
Lab ID: 9811G128-011
Sample Date: 11/12/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	2.5	U
beta-BHC	BRL	2.5	U
delta-BHC	BRL	2.5	U
gamma-BHC (Lindane)	BRL	2.5	U
Heptachlor	BRL	2.5	U
Aldrin	BRL	2.5	U
Heptachlor epoxide	BRL	2.5	U
Endosulfan I	BRL	2.5	U
Dieldrin	BRL	5.0	U
4,4'-DDE	BRL	5.0	U
Endrin	BRL	5.0	U
Endosulfan II	BRL	5.0	U
4,4'-DDD	BRL	5.0	U
Endosulfan sulfate	BRL	5.0	U
4,4'-DDT	BRL	5.0	U
Methoxychlor	BRL	25	U
alpha-Chlordane	BRL	2.5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Monday November 30th, 1998

Attn: Mr. Sam Naik

RE: AOC-32-TR-17
Project # 03886-118-204-0630
Lab ID: 9811G128-011
Sample Date: 11/12/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	2.5	U
Toxaphene	BRL	50	U
Endrin aldehyde	BRL	5.0	U
Endrin ketone	BRL	5.0	U
Aroclor-1016	BRL	25	U
Aroclor-1221	BRL	25	U
Aroclor-1232	BRL	25	U
Aroclor-1242	BRL	25	U
Aroclor-1248	BRL	25	U
Aroclor-1254	BRL	25	U
Aroclor-1260	BRL	25	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-TR-18
Project # 03886-118-204-0630
Lab ID: 9811G128-012
Sample Date: 11/12/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	2.7	U
beta-BHC	BRL	2.7	U
delta-BHC	BRL	2.7	U
gamma-BHC (Lindane)	BRL	2.7	U
Heptachlor	BRL	2.7	U
Aldrin	BRL	2.7	U
Heptachlor epoxide	BRL	2.7	U
Endosulfan I	BRL	2.7	U
Dieldrin	BRL	5.3	U
4,4'-DDE	18	5.3	
Endrin	BRL	5.3	U
Endosulfan II	BRL	5.3	U
4,4'-DDD	BRL	5.3	U
Endosulfan sulfate	BRL	5.3	U
4,4'-DDT	78	5.3	
Methoxychlor	BRL	27	U
alpha-Chlordane	BRL	2.7	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Monday November 30th, 1998

Attn: Mr. Sam Naik

RE: AOC-32-TR-18
Project # 03886-118-204-0630
Lab ID: 9811G128-012
Sample Date: 11/12/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	2.7	U
Toxaphene	BRL	53	U
Endrin aldehyde	BRL	5.3	U
Endrin ketone	BRL	5.3	U
Aroclor-1016	BRL	27	U
Aroclor-1221	BRL	27	U
Aroclor-1232	BRL	27	U
Aroclor-1242	BRL	27	U
Aroclor-1248	BRL	27	U
Aroclor-1254	BRL	27	U
Aroclor-1260	BRL	27	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-TR-19
Project # 03886-118-204-0630
Lab ID: 9811G128-013
Sample Date: 11/12/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	25	U
beta-BHC	BRL	25	U
delta-BHC	BRL	25	U
gamma-BHC (Lindane)	BRL	25	U
Heptachlor	BRL	25	U
Aldrin	BRL	25	U
Heptachlor epoxide	BRL	25	U
Endosulfan I	BRL	25	U
Dieldrin	BRL	50	U
4,4'-DDE	BRL	50	U
Endrin	BRL	50	U
Endosulfan II	BRL	50	U
4,4'-DDD	BRL	50	U
Endosulfan sulfate	BRL	50	U
4,4'-DDT	55	50	
Methoxychlor	BRL	250	U
alpha-Chlordane	BRL	25	U

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-TR-19
Project # 03886-118-204-0630
Lab ID: 9811G128-013
Sample Date: 11/12/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	25	U
Toxaphene	BRL	500	U
Endrin aldehyde	BRL	50	U
Endrin ketone	BRL	50	U
Aroclor-1016	BRL	250	U
Aroclor-1221	BRL	250	U
Aroclor-1232	BRL	250	U
Aroclor-1242	BRL	250	U
Aroclor-1248	BRL	250	U
Aroclor-1254	BRL	250	U
Aroclor-1260	BRL	250	U

To: RFW-Ft Devens-DRMO Yard
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Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-10
Project # 03886-118-204-0630
Lab ID: 9811G128-014
Sample Date: 11/12/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	25	U
beta-BHC	BRL	25	U
delta-BHC	BRL	25	U
gamma-BHC (Lindane)	BRL	25	U
Heptachlor	BRL	25	U
Aldrin	BRL	25	U
Heptachlor epoxide	BRL	25	U
Endosulfan I	BRL	25	U
Dieldrin	BRL	51	U
4,4'-DDE	BRL	51	U
Endrin	BRL	51	U
Endosulfan II	BRL	51	U
4,4'-DDD	BRL	51	U
Endosulfan sulfate	BRL	51	U
4,4'-DDT	46	51	J
Methoxychlor	BRL	250	U
alpha-Chlordane	BRL	25	U

To: RFW-Ft Devens-DRMO Yard
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Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-10
Project # 03886-118-204-0630
Lab ID: 9811G128-014
Sample Date: 11/12/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	25	U
Toxaphene	BRL	510	U
Endrin aldehyde	BRL	51	U
Endrin ketone	BRL	51	U
Aroclor-1016	BRL	250	U
Aroclor-1221	BRL	250	U
Aroclor-1232	BRL	250	U
Aroclor-1242	BRL	250	U
Aroclor-1248	BRL	250	U
Aroclor-1254	BRL	250	U
Aroclor-1260	BRL	250	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-11

Project # 03886-118-204-0630

Lab ID: 9811G128-015

Sample Date: 11/12/98

Date Received: 11/13/98

Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	25	U
beta-BHC	BRL	25	U
delta-BHC	BRL	25	U
gamma-BHC (Lindane)	BRL	25	U
Heptachlor	BRL	25	U
Aldrin	BRL	25	U
Heptachlor epoxide	BRL	25	U
Endosulfan I	BRL	25	U
Dieldrin	BRL	51	U
4,4'-DDE	BRL	51	U
Endrin	BRL	51	U
Endosulfan II	BRL	51	U
4,4'-DDD	BRL	51	U
Endosulfan sulfate	BRL	51	U
4,4'-DDT	BRL	51	U
Methoxychlor	BRL	250	U
alpha-Chlordane	BRL	25	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-11
Project # 03886-118-204-0630
Lab ID: 9811G128-015
Sample Date: 11/12/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	25	U
Toxaphene	BRL	510	U
Endrin aldehyde	BRL	51	U
Endrin ketone	BRL	51	U
Aroclor-1016	BRL	250	U
Aroclor-1221	BRL	250	U
Aroclor-1232	BRL	250	U
Aroclor-1242	BRL	250	U
Aroclor-1248	BRL	250	U
Aroclor-1254	BRL	250	U
Aroclor-1260	BRL	250	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-18

Project # 03886-118-204-0630

Lab ID: 9811G128-016

Sample Date: 11/12/98

Date Received: 11/13/98

Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	270	U
beta-BHC	BRL	270	U
delta-BHC	BRL	270	U
gamma-BHC (Lindane)	BRL	270	U
Heptachlor	BRL	270	U
Aldrin	BRL	270	U
Heptachlor epoxide	BRL	270	U
Endosulfan I	BRL	270	U
Dieldrin	BRL	530	U
4,4'-DDE	1100	530	
Endrin	BRL	530	U
Endosulfan II	BRL	530	U
4,4'-DDD	16000	530	
Endosulfan sulfate	BRL	530	U
4,4'-DDT	14000	530	
Methoxychlor	BRL	2700	U
alpha-Chlordane	BRL	270	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-18
Project # 03886-118-204-0630
Lab ID: 9811G128-016
Sample Date: 11/12/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	270	U
Toxaphene	BRL	5300	U
Endrin aldehyde	BRL	530	U
Endrin ketone	BRL	530	U
Aroclor-1016	BRL	2700	U
Aroclor-1221	BRL	2700	U
Aroclor-1232	BRL	2700	U
Aroclor-1242	BRL	2700	U
Aroclor-1248	BRL	2700	U
Aroclor-1254	BRL	2700	U
Aroclor-1260	BRL	2700	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-19

Project # 03886-118-204-0630

Lab ID: 9811G128-017

Sample Date: 11/12/98

Date Received: 11/13/98

Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	26	U
beta-BHC	BRL	26	U
delta-BHC	BRL	26	U
gamma-BHC (Lindane)	BRL	26	U
Heptachlor	BRL	26	U
Aldrin	BRL	26	U
Heptachlor epoxide	BRL	26	U
Endosulfan I	BRL	26	U
Dieldrin	BRL	53	U
4,4'-DDE	BRL	53	U
Endrin	BRL	53	U
Endosulfan II	BRL	53	U
4,4'-DDD	BRL	53	U
Endosulfan sulfate	BRL	53	U
4,4'-DDT	53	53	
Methoxychlor	BRL	260	U
alpha-Chlordane	BRL	26	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-19

Project # 03886-118-204-0630

Lab ID: 9811G128-017

Sample Date: 11/12/98

Date Received: 11/13/98

Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	26	U
Toxaphene	BRL	530	U
Endrin aldehyde	BRL	53	U
Endrin ketone	BRL	53	U
Aroclor-1016	BRL	260	U
Aroclor-1221	BRL	260	U
Aroclor-1232	BRL	260	U
Aroclor-1242	BRL	260	U
Aroclor-1248	BRL	260	U
Aroclor-1254	BRL	260	U
Aroclor-1260	BRL	260	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-19 DUP
Project # 03886-118-204-0630
Lab ID: 9811G128-018
Sample Date: 11/12/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	26	U
beta-BHC	BRL	26	U
delta-BHC	BRL	26	U
gamma-BHC (Lindane)	BRL	26	U
Heptachlor	BRL	26	U
Aldrin	BRL	26	U
Heptachlor epoxide	BRL	26	U
Endosulfan I	BRL	26	U
Dieldrin	BRL	53	U
4,4'-DDE	BRL	53	U
Endrin	BRL	53	U
Endosulfan II	BRL	53	U
4,4'-DDD	BRL	53	U
Endosulfan sulfate	BRL	53	U
4,4'-DDT	54	53	
Methoxychlor	BRL	260	U
alpha-Chlordane	BRL	26	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-19 DUP
Project # 03886-118-204-0630
Lab ID: 9811G128-018
Sample Date: 11/12/98
Date Received: 11/13/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	26	U
Toxaphene	BRL	530	U
Endrin aldehyde	BRL	53	U
Endrin ketone	BRL	53	U
Aroclor-1016	BRL	260	U
Aroclor-1221	BRL	260	U
Aroclor-1232	BRL	260	U
Aroclor-1242	BRL	260	U
Aroclor-1248	BRL	260	U
Aroclor-1254	BRL	260	U
Aroclor-1260	BRL	260	U

Recra LabNet - Chicago
PESTICIDE/PCBs BY GC, CLP LIST

RFW Batch Number: 9811G128

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Report Date: 11/30/98 10:10
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	Cust ID:	AOC-32-12	AOC-32-13	AOC-32-14	AOC-32-15	AOC-32-16	AOC-32-17
Sample Information	RFW#:	001	002	003	004	005	006
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	0.50	0.50	0.50	0.50	0.50	1.0
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate: Tetrachloro-m-xylene		85 %	85 %	80 %	85 %	85 %	92 %
Decachlorobiphenyl		80 %	80 %	60 %	88 %	85 %	95 %
alpha-BHC		2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	5.3 U
beta-BHC		2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	5.3 U
delta-BHC		2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	5.3 U
gamma-BHC (Lindane)		2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	5.3 U
Heptachlor		2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	5.3 U
Aldrin		2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	5.3 U
Heptachlor epoxide		2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	5.3 U
Endosulfan I		2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	5.3 U
Dieldrin		5.5 U	5.5 U	5.5 U	5.7 U	5.6 U	10 U
4,4'-DDE		5.5 U	10	5.5 U	3.4 J	5.6 U	10 U
Endrin		5.5 U	5.5 U	5.5 U	5.7 U	5.6 U	10 U
Endosulfan II		5.5 U	5.5 U	5.5 U	5.7 U	5.6 U	10 U
4,4'-DDD		5.5 U	4.4 J	5.5 U	5.7 U	5.6 U	10 U
Endosulfan sulfate		5.5 U	5.5 U	5.5 U	5.7 U	5.6 U	10 U
4,4'-DDT		5.5 U	26	5.5 U	22	16	48
Methoxychlor		28 U	28 U	28 U	28 U	28 U	53 U
alpha-Chlordane		2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	5.3 U
gamma-Chlordane		2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	5.3 U
Toxaphene		55 U	55 U	55 U	57 U	56 U	100 U
Endrin aldehyde		5.5 U	5.5 U	5.5 U	5.7 U	5.6 U	10 U
Endrin ketone		5.5 U	5.5 U	5.5 U	5.7 U	5.6 U	10 U
Aroclor-1016		28 U	28 U	28 U	28 U	28 U	53 U
Aroclor-1221		28 U	28 U	28 U	28 U	28 U	53 U
Aroclor-1232		28 U	28 U	28 U	28 U	28 U	53 U
Aroclor-1242		28 U	28 U	28 U	28 U	28 U	53 U
Aroclor-1248		28 U	28 U	28 U	28 U	28 U	53 U
Aroclor-1254		28 U	28 U	28 U	28 U	28 U	53 U

*= Outside of EPA CLP QC Limits.

RFW Batch Number: 9811G128 Client: RFW-Ft Devens-DRMO Yard Work Order: 03886-118-204-0 Page: 1b

Cust ID: AOC-32-12 AOC-32-13 AOC-32-14 AOC-32-15 AOC-32-16 AOC-32-17

RFW#: 001 002 003 004 005 006

Aroclor-1260 28 U 28 U 28 U 28 U 28 U 53

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Recra LabNet - Chicago
PESTICIDE/PCBs BY GC, CLP LIST

RFW Batch Number: 9811G128

Client: RFW-Ft Devens-DRMO Yard

Report Date: 11/30/98 10:25
Work Order: 03886-118-204-0 Page: 32

Sample Information	RFW#: Matrix: D.F.: Units:	Cust ID: AOC-32-STOCK		AOC-32-STOCK		AOC-32-TR-16		AOC-32-TR-17		AOC-32-TR-18		AOC-32-TR-19	
		-05		-06									
		007		008		010		011		012		013	
		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
		1.0		5.0		0.50		0.50		0.50		5.0	
		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Surrogate: Tetrachloro-m-xylene		85	%	110	%	92	%	85	%	50	%	110	%
Decachlorobiphenyl		92	%	108	%	88	%	88	%	90	%	135	%
alpha-BHC		5.4	U	28	U	2.8	U	2.5	U	2.7	U	25	U
beta-BHC		6.5		28	U	2.8	U	2.5	U	2.7	U	25	U
delta-BHC		18		28	U	2.8	U	2.5	U	2.7	U	25	U
gamma-BHC (Lindane)		5.4	U	28	U	2.8	U	2.5	U	2.7	U	25	U
Heptachlor		5.4	U	28	U	2.8	U	2.5	U	2.7	U	25	U
Aldrin		5.4	U	28	U	2.8	U	2.5	U	2.7	U	25	U
Heptachlor epoxide		5.4	U	28	U	2.8	U	2.5	U	2.7	U	25	U
Endosulfan I		5.4	U	28	U	2.8	U	2.5	U	2.7	U	25	U
Dieldrin		11	U	55	U	5.6	U	5.0	U	5.3	U	50	U
4,4'-DDE		11	U	55	U	13		5.0	U	18		50	U
Endrin		11	U	55	U	5.6	U	5.0	U	5.3	U	50	U
Endosulfan II		11	U	55	U	5.6	U	5.0	U	5.3	U	50	U
4,4'-DDD		6.5	J	55	U	5.6		5.0	U	5.3	U	50	U
Endosulfan sulfate		11	U	55	U	5.6	U	5.0	U	5.3	U	50	U
4,4'-DDT		12		55	U	30		5.0	U	78		55	
Methoxychlor		54	U	280	U	28	U	25	U	27	U	250	U
alpha-Chlordane		5.4	U	28	U	2.8	U	2.5	U	2.7	U	25	U
gamma-Chlordane		5.4	U	28	U	2.8	U	2.5	U	2.7	U	25	U
Toxaphene		110	U	550	U	56	U	50	U	53	U	500	U
Endrin aldehyde		11	U	55	U	5.6	U	5.0	U	5.3	U	50	U
Endrin ketone		11	U	55	U	5.6	U	5.0	U	5.3	U	50	U
Aroclor-1016		54	U	280	U	28	U	25	U	27	U	250	U
Aroclor-1221		54	U	280	U	28	U	25	U	27	U	250	U
Aroclor-1232		54	U	280	U	28	U	25	U	27	U	250	U
Aroclor-1242		54	U	280	U	28	U	25	U	27	U	250	U
Aroclor-1248		54	U	280	U	28	U	25	U	27	U	250	U
Aroclor-1254		54	U	280	U	28	U	25	U	27	U	250	U

*= Outside of EPA CLP QC Limits.

RFW Batch Number: 9811G128

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

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Cust ID: AOC-32-STOCK AOC-32-STOCK AOC-32-TR-16 AOC-32-TR-17 AOC-32-TR-18 AOC-32-TR-19

RFW#: -05 007 -06 008 010 011 012 013

Aroclor-1260 54 U 280 U 28 U 25 U 27 U 250 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
 %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

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Recra LabNet - Chicago
PESTICIDE/PCBs BY GC, CLP LIST

RFW Batch Number: 9811G128

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Report Date: 11/30/98 10:25

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Sample Information	Cust ID:	AOC-32-10	AOC-32-11	AOC-32-18	AOC-32-19	AOC-32-19 DUP	AOC-32-19 DUP
	RFW#:	014	015	016	017	018	018 MS
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	5.0	5.0	50	5.0	5.0	5.0
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate: Tetrachloro-m-xylene		108 %	108 %	D %	115 %	110 %	115 %
Decachlorobiphenyl		108 %	115 %	D %	112 %	98 %	102 %
alpha-BHC		25 U	25 U	270 U	26 U	26 U	98 %
beta-BHC		25 U	25 U	270 U	26 U	26 U	110 %
delta-BHC		25 U	25 U	270 U	26 U	26 U	98 %
gamma-BHC (Lindane)		25 U	25 U	270 U	26 U	26 U	100 %
Heptachlor		25 U	25 U	270 U	26 U	26 U	110 %
Aldrin		25 U	25 U	270 U	26 U	26 U	95 %
Heptachlor epoxide		25 U	25 U	270 U	26 U	26 U	105 %
Endosulfan I		25 U	25 U	270 U	26 U	26 U	105 %
Dieldrin		51 U	51 U	530 U	53 U	53 U	105 %
4,4'-DDE		51 U	51 U	1100	53 U	53 U	115 %
Endrin		51 U	51 U	530 U	53 U	53 U	115 %
Endosulfan II		51 U	51 U	530 U	53 U	53 U	120 %
4,4'-DDD		51 U	51 U	16000	53 U	53 U	108 %
Endosulfan sulfate		51 U	51 U	530 U	53 U	53 U	105 %
4,4'-DDT		46 J	51 U	14000	53	54	99 %
Methoxychlor		250 U	250 U	2700 U	260 U	260 U	128 %
alpha-Chlordane		25 U	25 U	270 U	26 U	26 U	120 %
gamma-Chlordane		25 U	25 U	270 U	26 U	26 U	105 %
Toxaphene		510 U	510 U	5300 U	530 U	530 U	510 U
Endrin aldehyde		51 U	51 U	530 U	53 U	53 U	138 %
Endrin ketone		51 U	51 U	530 U	53 U	53 U	100 %
Aroclor-1016		250 U	250 U	2700 U	260 U	260 U	260 U
Aroclor-1221		250 U	250 U	2700 U	260 U	260 U	260 U
Aroclor-1232		250 U	250 U	2700 U	260 U	260 U	260 U
Aroclor-1242		250 U	250 U	2700 U	260 U	260 U	260 U
Aroclor-1248		250 U	250 U	2700 U	260 U	260 U	260 U
Aroclor-1254		250 U	250 U	2700 U	260 U	260 U	260 U

*= Outside of EPA CLP QC Limits.

RfW Batch Number: 9811G128

Client: RfW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

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Cust ID: AOC-32-10 AOC-32-11 AOC-32-18 AOC-32-19 AOC-32-19 AOC-32-19

RfW#: 014 015 016 017 018 018 MS

Aroclor-1260 250 U 250 U 2700 U 260 U 260 U 260 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Recra LabNet - Chicago
PESTICIDE/PCBs BY GC, CLP LIST

Report Date: 11/30/98 10:25

RFW Batch Number: 9811G128

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

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Sample Information	Cust ID: AOC-32-19		PBLKPA		PBLKPA BS		PBLKPA BSD	
	DUP							
	RFW#:	018 MSD	98GP1078-MB1	98GP1078-MB1	98GP1078-MB1	98GP1078-MB1	98GP1078-MB1	98GP1078-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	5.0	0.50	0.50	0.50	0.50	0.50	0.50
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate: Tetrachloro-m-xylene		115 %	85 %	68 %	80 %			
Decachlorobiphenyl		102 %	92 %	92 %	92 %			
=====f]=====f]=====f]=====f]=====f]=====f]								
alpha-BHC		102 %	2.5 U	90 %	95 %			
beta-BHC		110 %	2.5 U	88 %	90 %			
delta-BHC		100 %	2.5 U	105 %	105 %			
gamma-BHC (Lindane)		102 %	2.5 U	90 %	92 %			
Heptachlor		110 %	2.5 U	88 %	92 %			
Aldrin		92 %	2.5 U	88 %	90 %			
Heptachlor epoxide		105 %	2.5 U	90 %	92 %			
Endosulfan I		100 %	2.5 U	90 %	92 %			
Dieldrin		102 %	5.0 U	105 %	108 %			
4,4'-DDE		110 %	5.0 U	108 %	108 %			
Endrin		112 %	5.0 U	98 %	98 %			
Endosulfan II		115 %	5.0 U	100 %	98 %			
4,4'-DDD		115 %	5.0 U	102 %	102 %			
Endosulfan sulfate		105 %	5.0 U	102 %	100 %			
4,4'-DDT		86 %	5.0 U	102 %	102 %			
Methoxychlor		125 %	25 U	115 %	112 %			
alpha-Chlordane		115 %	2.5 U	100 %	100 %			
gamma-Chlordane		105 %	2.5 U	90 %	90 %			
Toxaphene		540 U	50 U	50 U	50 U			
Endrin aldehyde		132 %	5.0 U	108 %	115 %			
Endrin ketone		95 %	5.0 U	105 %	102 %			
Aroclor-1016		270 U	25 U	25 U	25 U			
Aroclor-1221		270 U	25 U	25 U	25 U			
Aroclor-1232		270 U	25 U	25 U	25 U			
Aroclor-1242		270 U	25 U	25 U	25 U			
Aroclor-1248		270 U	25 U	25 U	25 U			
Aroclor-1254		270 U	25 U	25 U	25 U			

*= Outside of EPA CLP QC Limits.

RFW Batch Number: 9811G128

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

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Cust ID: AOC-32-19

PBLKPA

PBLKPA BS

PBLKPA BSD

DUP

RFW#:

018 MSD

98GP1078-MB1

98GP1078-MB1

98GP1078-MB1

Aroclor-1260

270 U

25 U

25 U

25 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

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Recra LabNet - Chicago
DRO ANALYTICAL DATA PACKAGE FOR
RfW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G128

CLIENT ID	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
AOC-32-STOCK-05	007	S	98GP1085	11/11/98	11/13/98	11/17/98	11/20/98
AOC-32-STOCK-06	008	S	98GP1085	11/11/98	11/13/98	11/17/98	11/20/98

LAB QC:

PBLKRH	MB1	S	98GP1085	N/A	N/A	11/17/98	11/20/98
PBLKRH	MB1 BS	S	98GP1085	N/A	N/A	11/17/98	11/20/98
PBLKRH	MB1 BSD	S	98GP1085	N/A	N/A	11/17/98	11/20/98

SIGNATURE

Finde S. Machley

DATE

11-20-98

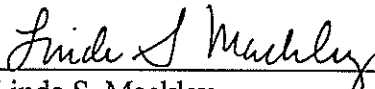
NY CERTIFICATION # 11006



Recra LabNet - Chicago
Extractable Hydrocarbon Case Narrative

RFW-Ft. Devens-DRMO Yard
RFW# 9811G128-007 and 008
Diesel Range Organics (DRO)

1. These samples were extracted based on the California LUFT Manual. A 20 gram sample size was used and the extracts were brought up to a 5mL final volume. The extracts were analyzed for DRO based on SW846 method 8015A. An HP5890 gas chromatograph equipped with a flame ionization detector and an Xti-5 column was used for the analysis.
2. All required holding times were met for the extraction and the analysis.
3. The method blank was below the reporting limit for DRO.
4. The surrogate compounds used for this analysis were o-Terphenyl and 2-Fluorobiphenyl. All surrogate recoveries were within control limits, with the exception of the o-Terphenyl associated with sample 9811G128-007 (AOC-32-STOCK-05), which was interfered with due to the level of DRO present in the sample. Also, the 2-Fluorobiphenyl associated with the blank spike had 120% recovery.
5. The blank spike and blank spike duplicate recovery and RPD were within control limits. A solution of Diesel Fuel was used for spiking.
6. A matrix spike and a matrix spike duplicate were not performed on this SDG.
7. A Diesel Fuel #2 standard was used for quantitating DRO results, using a hydrocarbon range from C10 through C28. A hydrocarbon standard ranging from C8 through C40 was analyzed for qualitative purposes of interfering hydrocarbons.
8. All initial and continuing standard calibrations were within control limits.
9. The DRO results for these samples have been flagged with a "Y" indicating that the pattern of peaks appear to match a typical fuel pattern. However, the fuel finger print continues beyond the range of C28 indicating the fuel present is something "heavier" than Diesel Fuel.


Linda S. Mackley
Organics Section Manager

11-20-98
Date

Recra LabNet - Chicago

GC/HPLC METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained within this RFW Lot :

Pesticides/PCBs	_____ SW-846 8080A
	_____ SW-846 8081
	_____ 40 CFR Part 136, Method 608
	_____ OLM03.1/3.2
Pesticides	_____ SW-846 8081A
PCBs	_____ SW-846 8082
Organophosphorus Pesticides	_____ SW-846 8141A
Herbicides	_____ SW-846 8150B
	_____ SW-846 8151A
Explosives	_____ SW-846 8330
Polynuclear Aromatics	_____ SW-846 8310
	_____ 40 CFR Part 136, Method 610
Petroleum Hydrocarbons	_____ SW-846 8015A Mod
	_____ California LUFT
	_____ Other _____
EDB & DBCP	_____ EPA Method 504.1
GC VOLATILES	_____ SW-846 8010A
	_____ 40 CFR Part 136, Method 601
	_____ SW-846 8020A
	_____ SW-846 8021A
	_____ 40 CFR Part 136, Method 602
	_____ SW-846 8015 Mod

CHI-22-05-003/F-4/98

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Friday November 20th, 1998

Attn: Sam Naik

RE: AOC-32-STOCK-05
Project # 03886-118-204-0630
Lab ID: 9811G128-007
Sample Date: 11/11/98
Date Received: 11/13/98
Units: MG/KG

DIESEL RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Diesel Range Organics	780	33	Y

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Friday November 20th, 1998

RE: AOC-32-STOCK-06
Project # 03886-118-204-0630
Lab ID: 9811G128-008
Sample Date: 11/11/98
Date Received: 11/13/98
Units: MG/KG

DIESEL RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Diesel Range Organics	180	6.8	Y

Recre LabNet - Chicago
DIESEL RANGE ORGANICS

RFW Batch Number: 9811G128

Client: RFW-Ft Devens-DRMO Yard

Report Date: 11/20/98 11:09
Work Order: 03886-118-204-0

Page: 11

Sample Information	Cust ID: AOC-32-STOCK		AOC-32-STOCK		PBLKRH		PBLKRH BS		PBLKRH BSD	
	RFW#:	007	008	98GP1085-MB1	98GP1085-MB1	98GP1085-MB1	98GP1085-MB1	98GP1085-MB1	98GP1085-MB1	98GP1085-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.2	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
	Units:	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
Surrogate:	2-Fluorobiphenyl	117 %	98 %	89 %	120 * %	105 %				
	o-Terphenyl	I %	131 %	97 %	117 %	102 %				
=====f]=====f]=====f]=====f]=====f]=====f]										
Diesel Range Organics		780 Y	180 Y	6.2 U	103 %	91 %				

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Recra LabNet - Chicago
GRO ANALYTICAL DATA PACKAGE FOR
RfW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G128

CLIENT ID	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
AOC-32-STOCK-05	007	S	98GVD458	11/11/98	11/13/98	N/A	11/22/98
AOC-32-STOCK-06	008	S	98GVD458	11/11/98	11/13/98	N/A	11/22/98

LAB QC:

BLK	MB1	S	98GVD458	N/A	N/A	N/A	11/22/98
BLK	MB1 BS	S	98GVD458	N/A	N/A	N/A	11/22/98

SIGNATURE

Linda A. Macchley

DATE

11-23-98



NY CERTIFICATION # 11006

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Recra LabNet - Chicago

GC/HPLC METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained within this RFW Lot :

Pesticides/PCBs	_____ SW-846 8080A
	_____ SW-846 8081
	_____ 40 CFR Part 136, Method 608
	_____ OLM03.1/3.2
Pesticides	_____ SW-846 8081A
PCBs	_____ SW-846 8082
Organophosphorus Pesticides	_____ SW-846 8141A
Herbicides	_____ SW-846 8150B
	_____ SW-846 8151A
Explosives	_____ SW-846 8330
Polynuclear Aromatics	_____ SW-846 8310
	_____ 40 CFR Part 136, Method 610
Petroleum Hydrocarbons	_____ SW-846 8015A Mod
	_____ California LUFT
	_____ Other _____
EDB & DBCP	_____ EPA Method 504.1
GC VOLATILES	_____ SW-846 8010A
	_____ 40 CFR Part 136, Method 601
	_____ SW-846 8020A
	_____ SW-846 8021A
	_____ 40 CFR Part 136, Method 602
	_____ SW-846 8015 Mod

CHI-22-05-003/F-4/98

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Niak

Date: Monday November 23rd, 1998

RE: AOC-32-STOCK-05
Project # 03886-118-204-0630
Lab ID: 9811G128-007
Sample Date: 11/11/98
Date Received: 11/13/98
Units: UG/KG

GASOLINE RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Gasoline Range Organics	120	54	Y

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Niak

Date: Monday November 23rd, 1998

RE: AOC-32-STOCK-06
Project # 03886-118-204-0630
Lab ID: 9811G128-008
Sample Date: 11/11/98
Date Received: 11/13/98
Units: UG/KG

GASOLINE RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Gasoline Range Organics	29	55	JY

Recra LabNet - Chicago
GASOLINE RANGE ORGANICS

RFW Batch Number: 9811G128

Client: RFW-Ft Devens-DRMO Yard

Report Date: 11/23/98 15:13
Work Order: 03886-118-204-0 Page: 1

Sample Information	Cust ID:	AOC-32-STOCK -05	AOC-32-STOCK -06	BLK	BLK BS
	RFW#:	007	008	98GVD458-MB1	98GVD458-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.0	1.0	1.0	1.0
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg
a,a,a-Trifluorotoluene		88 %	89 %	101 %	110 %
Surrogate 4-Bromofluorobenzene		82 %	83 %	101 %	114 %
=====f]=====f]=====f]=====f]=====f]=====f]					
Gasoline Range Organics		120 Y	29 JY	50 U	87 %

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

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98116128

Custody Transfer Record/Lab Work Request

Client CENAE				Refrigerator #																	
Est. Final Proj. Sampling Date				#/Type Container		Liquid															
Work Order # 03886-118-204-0630-00				Volume		Solid															
Project Contact/Phone # E. BENJON/SAM NIAK				Preservatives		Liquid															
AD Project Manager						Solid															
QC _____ Del _____ TAT 5 DAY				ANALYSES REQUESTED		ORGANIC		INORG													
Date Rec'd _____ Date Due _____						VOA		BNA		Pest/PCB		HAB		SVOC		TPH		Metal		CN	
Account #																					

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 (✓)		Matrix	Date Collected	Time Collected	WESTON Analytics Use Only													
			MS	MSD																	
	001	AOC-32-12			S	11-11-98	1330														
	002	AOC-32-13			S	11-11-98	1335														
	003	AOC-32-14			S	11-11-98	1345														
	004	AOC-32-15			S	11-11-98	1350														
	005	AOC-32-16			S	11-11-98	1400														
	006	AOC-32-17			S	11-11-98	1410														
	007	AOC-32-STOCK-05			S	11-11-98	1430														
	008	AOC-32-STOCK-06			S	11-11-98	1500														
	009	TRIP BLANK			W	11-12-98	1500														

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS				DATE/REVISIONS:				WESTON Analytics Use Only							
Special Instructions: *TEMP BLANK INCLUDED FUR I.D.#S AOC-32-STOCK-05 AOC-32-STOCK-06 PLEASE RUN TOTAL METALS(8) METHOD 6010 ALL OTHERS (As Pb) AS USUAL				1. _____ 2. _____ 3. _____ 4. 7.5 5. _____ 6. _____				Samples were: 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 data 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	Relinquished by	Received by	Date	Time
Chin	Kleizer	11-12-98	1600				
		11/13	1850				

WATSON
MANAGERS DESIGNERS CONSULTANTS
Page 2 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS				DATE/REVISIONS:				WESTON Analytics Use Only			
Special Instructions:				_____ 1. _____				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 ☒ dated _____ 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			
				_____ 2. _____							
				_____ 3. _____							
				_____ 4. _____							
				_____ 5. _____							
				_____ 6. _____							
Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time	Discrepancies Between Samples Labels and COC Record? Y or N NOTES:			
<i>[Signature]</i>	<i>[Signature]</i>	11-12-98	1600								
	Kleizer	11/13	1850								

Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RfW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G251

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN DATE	REC	EXT/PREP	ANALYSIS
---------------------	----------	-----	--------	---------------	-----	----------	----------

AOC-32-STOCK-04B

% SOLIDS	001	S	98GTS689	11/23/98	11/24/98	11/30/98	11/30/98
ARSENIC, SERIAL DILU	001 L	S	98GI490	11/23/98	11/24/98	11/27/98	11/30/98
ARSENIC, TOTAL	001	S	98GI490	11/23/98	11/24/98	11/27/98	11/30/98
ARSENIC, TOTAL	001 REP	S	98GI490	11/23/98	11/24/98	11/27/98	11/30/98
ARSENIC, TOTAL	001 MS	S	98GI490	11/23/98	11/24/98	11/27/98	11/30/98

LAB QC:

ARSENIC LABORATORY	LC1 BS	S	98GI490	N/A	N/A	11/27/98	11/30/98
ARSENIC LABORATORY	LC2 BS	S	98GI490	N/A	N/A	11/27/98	11/30/98
ARSENIC, TOTAL	MB1	S	98GI490	N/A	N/A	11/27/98	11/30/98

SIGNATURE

Hydro S. G.

DATE

12/1/98



NY CERTIFICATION # 11006

Recra LabNet - Chicago
METALS METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained with this RFW Lot: 98110251

SW846	☒ 6010A ☐ 6010B Ag Al As B Ba Be Ca Cd Co Cr Cu Fe K Li Mg Mn Mo Na Ni P ☒ Pb Sb Se Si Sn Sr Ti Tl V Zn Ag7761 As7060A Cd7131A Cr7191 Cu7211 Hg7470A Hg7471A Pb7421 Sb7041 Se7740 Ti7841 CN 9010A CN 9010B/9014
EPA	200.7 Ag Al As B Ba Be Ca Cd Co Cr Cu Fe K Li Mg Mn Mo Na Ni P Pb Sb Se Si Sn Sr Ti Tl V Zn Ag272.2 As206.2 Cd213.2 Cr218.2 Cu220.2 Hg245.1 Hg245.5 Pb239.2 Sb204.2 Se270.2 Ti279.2 200.9 As Cd Pb Sb Se Tl
CLP ILM04.0	200.7 CLP-M Ag Al As B Ba Be Ca Cd Co Cr Cu Fe K Li Mg Mn Mo Na Ni P Pb Sb Se Si Sn Sr Ti Tl V Zn As206.2 Cd213.2 Hg245.1 Hg245.5 Pb239.2 Sb204.2 Se270.2 Ti279.2 CN335.2
Digestion Method	SW846 3005A 3010A 3020A 3020A(+H ₂ O ₂) ☒ 3050A 7060A/7740 7470A 7471A 3050B EPA 200.7 200.0(+H ₂ O ₂) 200.9(-HCL;+H ₂ O ₂) USEPA/CLP ILM04.0 Exhibit D, Section III
Extraction Method	SW846 1311TCLP 1312SPLP 1320MEP Using TCLP ASTM CAM Title 22 D3987 Neutral Leach W.E.T.
%Solids	SM 2540G ASTM D2216 Exhibit D Part F

CHI-22-05-002/J-4/98

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Tuesday December 1st, 1998

RE: AOC-32-STOCK-04B
Project # 03886-118-204-0630
Lab ID: 9811G251-001
Sample Date: 11/23/98
Date Received: 11/24/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	92.0	%	0.10
Arsenic, Total	16.6	mg/kg	8.4

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Tuesday December 1st, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G251

Attn: Mr. Sam Naik

Inorganic Method Blank Data Report

Sample	Lab ID	Parameter	Result	Units	Reporting Limit
Blank 1	98GTS689-MB1	% Solids	0.10	u %	0.10
Blank 1	98GI490-MB1	Arsenic, Total	10.0	u mg/kg	10.0

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Tuesday December 1st, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G251

Attn: Mr. Sam Naik

Inorganic Precision Data Report

Sample	Site ID	Parameter	Initial Result	Replicate	RPD
-001REP	AOC-32-STOCK-04B	Arsenic, Total	16.6	10.1	48.6

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Tuesday December 1st, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G251

Attn: Mr. Sam Naik

Inorganic Accuracy Data Report

Sample	Site ID	Parameter	Spiked Sample	Initial Result	Spiked Amount	% Recov
-001	AOC-32-STOCK-04B	Arsenic, Total	173	16.6	170	92.3

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Tuesday December 1st, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G251

Attn: Mr. Sam Naik

Inorganic Laboratory Control Standards Report

Lab ID	Parameter	Spiked Amount	Units	Spike #1 % Recov.	Spike #2 % Recov.	RPD
98GI490-LC1	Arsenic, LCS	200	mg/kg	94.2	95.8	1.6

78116251

Page 1 of 1

Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G155

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN	DATE	REC	EXT/PREP	ANALYSIS
AOC-32-STOCK-07								
REACTIVE CYANIDE	001	S	98GCN176	11/13/98	11/17/98	11/19/98	11/19/98	
CORROSIVITY	001	S	98GPH376	11/13/98	11/17/98	11/20/98	11/20/98	
FLASH POINT CLOSED C	001	S	98GMB084	11/13/98	11/17/98	11/30/98	11/30/98	
REACTIVE SULFIDE	001	S	98GSF147	11/13/98	11/17/98	11/18/98	11/18/98	
AOC-32-STOCK-08								
REACTIVE CYANIDE	002	S	98GCN176	11/13/98	11/17/98	11/19/98	11/19/98	
CORROSIVITY	002	S	98GPH376	11/13/98	11/17/98	11/20/98	11/20/98	
CORROSIVITY PH	002 REP	S	98GPH376	11/13/98	11/17/98	11/20/98	11/20/98	
FLASH POINT CLOSED C	002	S	98GMB084	11/13/98	11/17/98	11/30/98	11/30/98	
REACTIVE SULFIDE	002	S	98GSF147	11/13/98	11/17/98	11/18/98	11/18/98	
AOC-32-STOCK-09								
REACTIVE CYANIDE	003	S	98GCN176	11/13/98	11/17/98	11/19/98	11/19/98	
CORROSIVITY	003	S	98GPH376	11/13/98	11/17/98	11/20/98	11/20/98	
FLASH POINT CLOSED C	003	S	98GMB084	11/13/98	11/17/98	11/30/98	11/30/98	
REACTIVE SULFIDE	003	S	98GSF147	11/13/98	11/17/98	11/18/98	11/18/98	
AOC-32-STOCK-10								
REACTIVE CYANIDE	004	S	98GCN176	11/16/98	11/17/98	11/19/98	11/19/98	
CORROSIVITY	004	S	98GPH376	11/16/98	11/17/98	11/20/98	11/20/98	
FLASH POINT CLOSED C	004	S	98GMB084	11/16/98	11/17/98	11/30/98	11/30/98	
REACTIVE SULFIDE	004	S	98GSF147	11/16/98	11/17/98	11/18/98	11/18/98	
AOC-32-STOCK-11								
REACTIVE CYANIDE	005	S	98GCN176	11/16/98	11/17/98	11/19/98	11/19/98	
CORROSIVITY	005	S	98GPH376	11/16/98	11/17/98	11/20/98	11/20/98	
FLASH POINT CLOSED C	005	S	98GMB084	11/16/98	11/17/98	11/30/98	11/30/98	
REACTIVE SULFIDE	005	S	98GSF147	11/16/98	11/17/98	11/18/98	11/18/98	
AOC-32-STOCK-12								
REACTIVE CYANIDE	006	S	98GCN176	11/16/98	11/17/98	11/19/98	11/19/98	



NY CERTIFICATION # 11006

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Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G155

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
REACTIVE CYANIDE	006 REP	S	98GCN176	11/16/98	11/17/98	11/19/98	11/19/98
REACTIVE CYANIDE	006 MS	S	98GCN176	11/16/98	11/17/98	11/19/98	11/19/98
CORROSIVITY	006	S	98GPH376	11/16/98	11/17/98	11/20/98	11/20/98
FLASH POINT CLOSED C	006	S	98GMB084	11/16/98	11/17/98	11/30/98	11/30/98
FLASH POINT	006 REP	S	98GMB084	11/16/98	11/17/98	11/30/98	11/30/98
REACTIVE SULFIDE	006	S	98GSF147	11/16/98	11/17/98	11/18/98	11/18/98

LAB QC:

REACTIVE CYANIDE	LCS BS	W	98GCN176	N/A	N/A	11/19/98	11/19/98
REACTIVE CYANIDE	MB1	W	98GCN176	N/A	N/A	11/19/98	11/19/98
Reactive Sulfide Spi	LCS BS	W	98GSF147	N/A	N/A	11/18/98	11/18/98
REACTIVE SULFIDE	MB1	W	98GSF147	N/A	N/A	11/18/98	11/18/98

SIGNATURE

Daniel L. Hays

DATE

12/1/98



NY CERTIFICATION # 11006

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3

Recra LabNet - Chicago
WET CHEMISTRY METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained with RFW Lot: 98116-155

PARAMETER	EPA 600	STANDARD METHODS	SW-846	OTHER
%Water Karl Fisher				ASTM D4377
%Water Dean Stark				ASTM D95
Acidity	305.1	2310B		
Alkalinity, Total, Carbonate, Bicarbonate	310.1	2320B		
Ammonia (Dist/Nessler's)	350.2	4500NH ₃ C		
Biochemical Oxygen Demand	405.1	5210B		
Bottom Sediment & Water				ASTM D4007
BTU				ASTM D240
Bromide	300.0	4110B	9056	
Bromine	300.0 Detection		5050 Prep	
Chemical Oxygen Demand				HACH 8000
Chloride	325.2	4500C1E	9251	
	300.0	4110B	9056	
Chlorine (O ₂ Bomb)	300.0 Detection		5050 Prep	ISE Detection
Chlorine, Residual	330.4	4500C1F		
Chromium VI		3500CrD	3060 Digestion 7196A	
Color	110.2	2120B		
Corrosivity, pH	150.1		9045C - Waste pH in Water 9040A	
Corrosivity, Langlier		2330A+B		
Cyanide, Amenable	335.1	4500CNG	9010B / 9014	
Cyanide, Weak, Dissociable		4500CNI		
Cyanide, Reactive			7.3.3.2	
Cyanide, Total	335.2	4500CNC	9010B / 9014	ILM03.0/4.0
Density/Specific Gravity		2710F		ASTM D1298 ASTM D5057
Ext. Organic Halogens				Dohrmann
Flashpoint			1010	ASTM D93 ASTM D92
Fluoride	Distilled 340.2 Undistilled 300.0	4500 FC	9056	
Fluorine	340.2 Detection 300.0 Detection		5050 Prep	
Hardness	130.2	2340C 2340B		
Heavy Metals				USP 231
Ignitability			Sec. 7	ASTM D-4982A
MBAS (Surfactants)	425.1	5540 C		
Nitrate/Nitrite	353.2	4500NO ₃ F		
Nitrate	353.2 - 354.1 300.0	4110B	9056	
Nitrite	354.1 300.0	4500NO ₂ B 4110B	9056	
Odor	140.1	2150B		
Oil & Grease	413.1	5520B	9070	
Oil & Grease, IR	413.2	5520C		

Recra LabNet - Chicago
WET CHEMISTRY METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained with RFW Lot: 98116-155

PARAMETER	EPA 600	STANDARD METHODS	SW-846	OTHER
Oil & Grease, Soxhlet		— 5520D — 5520E	— 9071A	
Oxygen, Dissolved	— 360.1 Electrode — 360.2 Winkler	— 4500OG — 4500OC		
Paint Filters (Free Liquid)			— 9095A	
Petroleum Hydrocarbons	— 418.1	— 5520F	— 9071A Extract.	
pH, Water	— 150.1	— 4500H ⁺ B	— 9040B	
pH, Soil			— 9045C - Waste pH in Water — 9041A Paper	
Phenolics	— 420.2		— 9066	
Orthophosphate as P	— 365.2 — 300.0	— 4500PE — 4110B	— 9056	
Phosphorus as P	— 365.2	— 4500PE		
Residue on Evaporation 180C	— 160.1 Modified	— 2540C Modified		
Solids, Settleable	— 160.5	— 2540F		
Solids, Total	— 160.3	— 2540B		
Solids, Total Dissolved	— 160.1	— 2540C		
Solids, Total Suspended	— 160.2	— 2540D		
Solids, Total Volatile	— 160.4	— 2540E		
Solids, Dissolved Volatile	— 160.4	— 2540E		
Solids, Suspended Volatile	— 160.4	— 2540E		
Soluble Organic Carbon	— 415.1	— 5310C		
Specific Conductance	— 120.1	— 2510B	— 9050A	
Sulfate	— 375.4 Mod. — 300.0	— 4500SO ₄ ²⁻ E — 4110B	— 9038 Mod. — 9056	
Sulfide	— 376.1	— 4500S ²⁻ E	— 9030A Mod — 9030B / 9034	
Sulfide, Reactive			✓ 7.3.4.2	
Sulfur	— 375.4 Detection — 300.0 Detection		— 5050Prep	
Total Kjeldahl Nitrogen	— 351.3	— 4500N _{ORG} C		
Total Inorganic Carbon	— 415.1	— 5310C		
Total Organic Carbon	— 415.1	— 5310C	— 9060 Quads	— Walkley-Black
Total Organic Halogens		— 5320B	— 9020B	
Total Org Halogens on Waste	— 325.2 Detection — 300.0 Detection		— 5050prep	— ISE Detection
Turbidity	— 180.1	— 2130B		
Viscosity, Brookfield				— ASTM D2196
Viscosity, Kinematic				— ASTM D445

Comments:

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-STOCK-07
Project # 03886-118-204-0630
Lab ID: 9811G155-001
Sample Date: 11/13/98
Date Received: 11/17/98

Inorganic Data Report

Parameters	Result	Units	Reporting Limit
Cyanide, Reactive	0.24	u mg/kg	0.24
Corrosivity by pH	6.4	PH@17.9	0.20
Flash Point, Closed Cup	>200	DEG F	
Sulfide Reactive	26.1	u mg/kg	26.1

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-STOCK-08

Project # 03886-118-204-0630

Lab ID: 9811G155-002

Sample Date: 11/13/98

Date Received: 11/17/98

Inorganic Data Report

Parameters	Result	Units	Reporting Limit
Cyanide, Reactive	0.25	u mg/kg	0.25
Corrosivity by pH	6.3	PH@17.3	0.20
Flash Point, Closed Cup	>200	DEG F	
Sulfide Reactive	26.2	u mg/kg	26.2

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-STOCK-09
Project # 03886-118-204-0630
Lab ID: 9811G155-003
Sample Date: 11/13/98
Date Received: 11/17/98

Inorganic Data Report

Parameters	Result	Units	Reporting Limit
Cyanide, Reactive	0.23	u mg/kg	0.23
Corrosivity by pH	5.9	PH@17.3	0.20
Flash Point, Closed Cup	>200	DEG F	
Sulfide Reactive	26.6	u mg/kg	26.6

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-STOCK-10
Project # 03886-118-204-0630
Lab ID: 9811G155-004
Sample Date: 11/16/98
Date Received: 11/17/98

Inorganic Data Report

Parameters	Result	Units	Reporting Limit
Cyanide, Reactive	0.27	u mg/kg	0.27
Corrosivity by pH	5.8	PH@17.5	0.20
Flash Point, Closed Cup	>200	DEG F	
Sulfide Reactive	25.0	u mg/kg	25.0

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-STOCK-11

Project # 03886-118-204-0630

Lab ID: 9811G155-005

Sample Date: 11/16/98

Date Received: 11/17/98

Inorganic Data Report

Parameters	Result	Units	Reporting Limit
Cyanide, Reactive	0.24	u mg/kg	0.24
Corrosivity by pH	6.0	PH@17.7	0.20
Flash Point, Closed Cup	>200	DEG F	
Sulfide Reactive	25.9	u mg/kg	25.9

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Monday November 30th, 1998

RE: AOC-32-STOCK-12
Project # 03886-118-204-0630
Lab ID: 9811G155-006
Sample Date: 11/16/98
Date Received: 11/17/98

Inorganic Data Report

Parameters	Result	Units	Reporting Limit
Cyanide, Reactive	0.27	u mg/kg	0.27
Corrosivity by pH	5.9	PH@17.6	0.20
Flash Point, Closed Cup	>200	DEG F	
Sulfide Reactive	26.6	u mg/kg	26.6

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Monday November 30th, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G155

Attn: Mr. Sam Naik

Inorganic Method Blank Data Report

Sample	Lab ID	Parameter	Result	Units	Reporting Limit
Blank 1	98GCN176-MB1	Cyanide, Reactive	0.010	u mg/L	0.010
Blank 1	98GSF147-MB1	Sulfide Reactive	1.0	u mg/L	1.0

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Monday November 30th, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G155

Attn: Mr. Sam Naik

Inorganic Precision Data Report

Sample	Site ID	Parameter	Initial Result	Replicate	RPD
-002REP	AOC-32-STOCK-08	Corrosivity by pH	6.3	6.3	0.020
-006REP	AOC-32-STOCK-12	Cyanide, Reactive	0.27 u	0.28 u	NC
		Flash Point (REP)	>200	>200	NC

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Monday November 30th, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G155

Attn: Mr. Sam Naik

Inorganic Accuracy Data Report

Sample	Site ID	Parameter	Spiked Sample	Initial Result	Spiked Amount	% Recov
-006	AOC-32-STOCK-12	Cyanide, Reactive	0.24	0.27	u 4.6	5.2

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Monday November 30th, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G155

Attn: Mr. Sam Naik

Inorganic Laboratory Control Standards Report

Lab ID	Parameter	Spiked Amount	Units	Spike #1 % Recov.	Spike #2 % Recov.	RPD
98GCN176-LCS	Cyanide, Reactive	0.20	mg/L	14.9	NA	NA
98GSF147-LCS	Sulfide Reactive	4.0	mg/L	39.2	NA	NA

Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G155

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
AOC-32-STOCK-07							
% SOLIDS	001	S	98GTS679	11/13/98	11/17/98	11/18/98	11/18/98
% SOLIDS	001 REP	S	98GTS679	11/13/98	11/17/98	11/18/98	11/18/98
SILVER. SERIAL DILUT	001 L	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
SILVER. TOTAL	001	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
SILVER. TOTAL	001 REP	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
SILVER. TOTAL	001 MS	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
ARSENIC. SERIAL DILU	001 L	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
ARSENIC. TOTAL	001	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
ARSENIC. TOTAL	001 REP	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
ARSENIC. TOTAL	001 MS	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
BARIUM. SERIAL DILUT	001 L	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
BARIUM. TOTAL	001	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
BARIUM. TOTAL	001 REP	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
BARIUM. TOTAL	001 MS	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
CADMIUM. SERIAL DILU	001 L	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
CADMIUM. TOTAL	001	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
CADMIUM. TOTAL	001 REP	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
CADMIUM. TOTAL	001 MS	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
CHROMIUM. SERIAL DIL	001 L	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
CHROMIUM. TOTAL	001	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
CHROMIUM. TOTAL	001 REP	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
CHROMIUM. TOTAL	001 MS	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
MERCURY. TOTAL	001	S	98HG1116	11/13/98	11/17/98	11/22/98	11/22/98
LEAD. SERIAL DILUTIO	001 L	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
LEAD. TOTAL	001	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
LEAD. TOTAL	001 REP	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
LEAD. TOTAL	001 MS	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
SELENIUM. SERIAL DIL	001 L	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
SELENIUM. TOTAL	001	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
SELENIUM. TOTAL	001 REP	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
SELENIUM. TOTAL	001 MS	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98

AOC-32-STOCK-08

% SOLIDS	002	S	98GTS679	11/13/98	11/17/98	11/18/98	11/18/98
SILVER. TOTAL	002	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
ARSENIC. TOTAL	002	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98



NY CERTIFICATION # 11006

Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G155

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
BARIUM, TOTAL	002	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
CADMIUM, TOTAL	002	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
CHROMIUM, TOTAL	002	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
MERCURY, TOTAL	002	S	98HG1116	11/13/98	11/17/98	11/22/98	11/22/98
LEAD, TOTAL	002	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
SELENIUM, TOTAL	002	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98

AOC-32-STOCK-09

% SOLIDS	003	S	98GTS679	11/13/98	11/17/98	11/18/98	11/18/98
SILVER, TOTAL	003	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
ARSENIC, TOTAL	003	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
BARIUM, TOTAL	003	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
CADMIUM, TOTAL	003	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
CHROMIUM, TOTAL	003	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
MERCURY, TOTAL	003	S	98HG1116	11/13/98	11/17/98	11/22/98	11/22/98
LEAD, TOTAL	003	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98
SELENIUM, TOTAL	003	S	98GI444	11/13/98	11/17/98	11/18/98	11/23/98

AOC-32-STOCK-10

% SOLIDS	004	S	98GTS679	11/16/98	11/17/98	11/18/98	11/18/98
SILVER, TOTAL	004	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
ARSENIC, TOTAL	004	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
BARIUM, TOTAL	004	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
CADMIUM, TOTAL	004	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
CHROMIUM, TOTAL	004	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
MERCURY, TOTAL	004	S	98HG1116	11/16/98	11/17/98	11/22/98	11/22/98
LEAD, TOTAL	004	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
SELENIUM, TOTAL	004	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98

AOC-32-STOCK-11

% SOLIDS	005	S	98GTS679	11/16/98	11/17/98	11/18/98	11/18/98
SILVER, TOTAL	005	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
ARSENIC, TOTAL	005	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
BARIUM, TOTAL	005	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
CADMIUM, TOTAL	005	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
CHROMIUM, TOTAL	005	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
MERCURY, TOTAL	005	S	98HG1116	11/16/98	11/17/98	11/22/98	11/22/98



NY CERTIFICATION # 11006

Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G155

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
LEAD, TOTAL	005	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
SELENIUM, TOTAL	005	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
AOC-32-STOCK-12							
% SOLIDS	006	S	98GTS679	11/16/98	11/17/98	11/18/98	11/18/98
SILVER, TOTAL	006	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
ARSENIC, TOTAL	006	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
BARIUM, TOTAL	006	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
CADMIUM, TOTAL	006	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
CHROMIUM, TOTAL	006	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
MERCURY, TOTAL	006	S	98HG1116	11/16/98	11/17/98	11/22/98	11/22/98
LEAD, TOTAL	006	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
SELENIUM, TOTAL	006	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
AOC-32-ASPH-03							
% SOLIDS	008	S	98GTS679	11/16/98	11/17/98	11/18/98	11/18/98
ARSENIC, TOTAL	008	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
LEAD, TOTAL	008	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
AOC-32-ASPH-04							
% SOLIDS	009	S	98GTS679	11/16/98	11/17/98	11/18/98	11/18/98
ARSENIC, TOTAL	009	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
LEAD, TOTAL	009	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
AOC-32-ASPH-05							
% SOLIDS	010	S	98GTS679	11/16/98	11/17/98	11/18/98	11/18/98
ARSENIC, TOTAL	010	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
LEAD, TOTAL	010	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
AOC-32-ASPH-06							
% SOLIDS	011	S	98GTS679	11/16/98	11/17/98	11/18/98	11/18/98
ARSENIC, TOTAL	011	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
LEAD, TOTAL	011	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98



Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G155

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
AOC-32-ASPH-07							
% SOLIDS	012	S	98GTS679	11/16/98	11/17/98	11/18/98	11/18/98
ARSENIC, TOTAL	012	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
LEAD, TOTAL	012	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
AOC-32-ASPH-08							
% SOLIDS	013	S	98GTS679	11/16/98	11/17/98	11/18/98	11/18/98
ARSENIC, TOTAL	013	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98
LEAD, TOTAL	013	S	98GI444	11/16/98	11/17/98	11/18/98	11/23/98

LAB QC:

SILVER LABORATORY	LC1 BS	S	98GI444	N/A	N/A	11/18/98	11/23/98
ARSENIC LABORATORY	LC1 BS	S	98GI444	N/A	N/A	11/18/98	11/23/98
BARIUM LABORATORY	LC1 BS	S	98GI444	N/A	N/A	11/18/98	11/23/98
CADMIUM LABORATORY	LC1 BS	S	98GI444	N/A	N/A	11/18/98	11/23/98
CHROMIUM LABORATORY	LC1 BS	S	98GI444	N/A	N/A	11/18/98	11/23/98
LEAD LABORATORY	LC1 BS	S	98GI444	N/A	N/A	11/18/98	11/23/98
SELENIUM LABORATORY	LC1 BS	S	98GI444	N/A	N/A	11/18/98	11/23/98
SILVER LABORATORY	LC2 BS	S	98GI444	N/A	N/A	11/18/98	11/23/98
ARSENIC LABORATORY	LC2 BS	S	98GI444	N/A	N/A	11/18/98	11/23/98
BARIUM LABORATORY	LC2 BS	S	98GI444	N/A	N/A	11/18/98	11/23/98
CADMIUM LABORATORY	LC2 BS	S	98GI444	N/A	N/A	11/18/98	11/23/98
CHROMIUM LABORATORY	LC2 BS	S	98GI444	N/A	N/A	11/18/98	11/23/98
LEAD LABORATORY	LC2 BS	S	98GI444	N/A	N/A	11/18/98	11/23/98
SELENIUM LABORATORY	LC2 BS	S	98GI444	N/A	N/A	11/18/98	11/23/98
SILVER, TOTAL	MB1	S	98GI444	N/A	N/A	11/18/98	11/23/98
ARSENIC, TOTAL	MB1	S	98GI444	N/A	N/A	11/18/98	11/23/98
BARIUM, TOTAL	MB1	S	98GI444	N/A	N/A	11/18/98	11/23/98
CADMIUM, TOTAL	MB1	S	98GI444	N/A	N/A	11/18/98	11/23/98
CHROMIUM, TOTAL	MB1	S	98GI444	N/A	N/A	11/18/98	11/23/98
LEAD, TOTAL	MB1	S	98GI444	N/A	N/A	11/18/98	11/23/98
SELENIUM, TOTAL	MB1	S	98GI444	N/A	N/A	11/18/98	11/23/98
MERCURY LABORATORY	LC1 BS	S	98HG1116	N/A	N/A	11/22/98	11/22/98



Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RfW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G155

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN DATE	REC	EXT/PREP	ANALYSIS
MERCURY LABORATORY	LC2 BS	S	98HG1116	N/A	N/A	11/22/98	11/22/98
MERCURY, TOTAL	MB1	S	98HG1116	N/A	N/A	11/22/98	11/22/98

SIGNATURE

Handwritten signature

DATE

11/25/98



NY CERTIFICATION # 11006

Recra LabNet - Chicago

METALS METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained with this RFW Lot: 9811C155

SW846	☒ 6010A ☐ 6010B ☒ Ag ☐ Al ☒ As ☐ B ☒ Ba ☐ Be ☐ Ca ☒ Cd ☐ Co ☒ Cr ☐ Cu ☐ Fe ☐ K ☐ Li ☐ Mg ☐ Mn ☐ Mo ☐ Na ☐ Ni ☐ P ☒ Pb ☐ Sb ☒ Se ☐ Si ☐ Sn ☐ Sr ☐ Ti ☐ Tl ☐ V ☐ Zn ☐ Ag7761 ☐ As7060A ☐ Cd7131A ☐ Cr7191 ☐ Cu7211 ☐ Hg7470A ☒ Hg7471A ☐ Pb7421 ☐ Sb7041 ☐ Se7740 ☐ Ti7841 ☐ CN 9010A ☐ CN 9010B/9014
EPA	200.7 ☐ Ag ☐ Al ☐ As ☐ B ☐ Ba ☐ Be ☐ Ca ☐ Cd ☐ Co ☐ Cr ☐ Cu ☐ Fe ☐ K ☐ Li ☐ Mg ☐ Mn ☐ Mo ☐ Na ☐ Ni ☐ P ☐ Pb ☐ Sb ☐ Se ☐ Si ☐ Sn ☐ Sr ☐ Ti ☐ Tl ☐ V ☐ Zn ☐ Ag272.2 ☐ As206.2 ☐ Cd213.2 ☐ Cr218.2 ☐ Cu220.2 ☐ Hg245.1 ☐ Hg245.5 ☐ Pb239.2 ☐ Sb204.2 ☐ Se270.2 ☐ Ti279.2 200.9 ☐ As ☐ Cd ☐ Pb ☐ Sb ☐ Se ☐ Tl
CLP ILM04.0	200.7 CLP-M ☐ Ag ☐ Al ☐ As ☐ B ☐ Ba ☐ Be ☐ Ca ☐ Cd ☐ Co ☐ Cr ☐ Cu ☐ Fe ☐ K ☐ Li ☐ Mg ☐ Mn ☐ Mo ☐ Na ☐ Ni ☐ P ☐ Pb ☐ Sb ☐ Se ☐ Si ☐ Sn ☐ Sr ☐ Ti ☐ Tl ☐ V ☐ Zn ☐ As206.2 ☐ Cd213.2 ☐ Hg245.1 ☐ Hg245.5 ☐ Pb239.2 ☐ Sb204.2 ☐ Se270.2 ☐ Ti279.2 ☐ CN335.2
Digestion Method	SW846 ☐ 3005A ☐ 3010A ☐ 3020A ☐ 3020A(+H ₂ O ₂) ☒ 3050A ☐ 7060A/7740 ☐ 7470A ☒ 7471A ☐ 3050B EPA ☐ 200.7 ☐ 200.0(+H ₂ O ₂) ☐ 200.9(-HCL;+H ₂ O ₂) USEPA/CLP ☐ ILM04.0 Exhibit D, Section III
Extraction Method	SW846 ☐ 1311TCLP ☐ 1312SPLP ☐ 1320MEP Using TCLP ASTM ☐ D3987 Neutral Leach CAM Title 22 ☐ W.E.T.
%Solids	☐ SM 2540G ☐ ASTM D2216 ☐ Exhibit D Part F

CHI-22-05-002/J-4/98

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-07

Project # 03886-118-204-0630

Lab ID: 9811G155-001

Sample Date: 11/13/98

Date Received: 11/17/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	92.0	%	0.10
Silver, Total	0.89	u mg/kg	0.89
Arsenic, Total	8.9	u mg/kg	8.9
Barium, Total	24.1	mg/kg	4.5
Cadmium, Total	0.89	mg/kg	0.89
Chromium, Total	12.9	mg/kg	1.8
Mercury, Total	0.05	mg/kg	0.04
Lead, Total	119	mg/kg	4.5
Selenium, Total	10.4	mg/kg	8.9

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-08
Project # 03886-118-204-0630
Lab ID: 9811G155-002
Sample Date: 11/13/98
Date Received: 11/17/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	93.4	%	0.10
Silver, Total	0.88	u mg/kg	0.88
Arsenic, Total	9.9	mg/kg	8.8
Barium, Total	30.7	mg/kg	4.4
Cadmium, Total	2.0	mg/kg	0.88
Chromium, Total	21.0	mg/kg	1.8
Mercury, Total	0.08	mg/kg	0.04
Lead, Total	173	mg/kg	4.4
Selenium, Total	13.6	mg/kg	8.8

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-09
Project # 03886-118-204-0630
Lab ID: 9811G155-003
Sample Date: 11/13/98
Date Received: 11/17/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	93.1	%	0.10
Silver, Total	0.87	u mg/kg	0.87
Arsenic, Total	9.7	mg/kg	8.7
Barium, Total	32.4	mg/kg	4.4
Cadmium, Total	5.5	mg/kg	0.87
Chromium, Total	21.0	mg/kg	1.7
Mercury, Total	0.13	mg/kg	0.04
Lead, Total	1250	mg/kg	4.4
Selenium, Total	14.4	mg/kg	8.7

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-10
Project # 03886-118-204-0630
Lab ID: 9811G155-004
Sample Date: 11/16/98
Date Received: 11/17/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	93.6	%	0.10
Silver, Total	0.85	u mg/kg	0.85
Arsenic, Total	8.5	u mg/kg	8.5
Barium, Total	17.4	mg/kg	4.3
Cadmium, Total	0.85	u mg/kg	0.85
Chromium, Total	13.5	mg/kg	1.7
Mercury, Total	0.05	mg/kg	0.04
Lead, Total	125	mg/kg	4.3
Selenium, Total	11.0	mg/kg	8.5

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-11
Project # 03886-118-204-0630
Lab ID: 9811G155-005
Sample Date: 11/16/98
Date Received: 11/17/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	92.7	%	0.10
Silver, Total	0.91	u mg/kg	0.91
Arsenic, Total	14.0	mg/kg	9.1
Barium, Total	22.7	mg/kg	4.6
Cadmium, Total	1.0	mg/kg	0.91
Chromium, Total	16.3	mg/kg	1.8
Mercury, Total	0.06	mg/kg	0.04
Lead, Total	154	mg/kg	4.6
Selenium, Total	13.3	mg/kg	9.1

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-12
Project # 03886-118-204-0630
Lab ID: 9811G155-006
Sample Date: 11/16/98
Date Received: 11/17/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	88.8	%	0.10
Silver, Total	0.87	u mg/kg	0.87
Arsenic, Total	10.9	mg/kg	8.7
Barium, Total	23.7	mg/kg	4.4
Cadmium, Total	0.87	u mg/kg	0.87
Chromium, Total	21.8	mg/kg	1.7
Mercury, Total	0.06	mg/kg	0.04
Lead, Total	560	mg/kg	4.4
Selenium, Total	16.7	mg/kg	8.7

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-ASPH-03

Project # 03886-118-204-0630

Lab ID: 9811G155-008

Sample Date: 11/16/98

Date Received: 11/17/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	92.9	%	0.10
Arsenic, Total	10.6	mg/kg	8.7
Lead, Total	436	mg/kg	4.3

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-ASPH-04
Project # 03886-118-204-0630
Lab ID: 9811G155-009
Sample Date: 11/16/98
Date Received: 11/17/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	88.7	%	0.10
Arsenic, Total	9.0	u mg/kg	9.0
Lead, Total	915	mg/kg	4.5

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-ASPH-05
Project # 03886-118-204-0630
Lab ID: 9811G155-010
Sample Date: 11/16/98
Date Received: 11/17/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	94.3	%	0.10
Arsenic, Total	20.8	mg/kg	9.0
Lead, Total	108	mg/kg	4.5

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-ASPH-06
Project # 03886-118-204-0630
Lab ID: 9811G155-011
Sample Date: 11/16/98
Date Received: 11/17/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	92.2	%	0.10
Arsenic, Total	23.5	mg/kg	9.1
Lead, Total	76.3	mg/kg	4.6

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-ASPH-07
Project # 03886-118-204-0630
Lab ID: 9811G155-012
Sample Date: 11/16/98
Date Received: 11/17/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	88.3	%	0.10
Arsenic, Total	13.8	mg/kg	8.7
Lead, Total	1100	mg/kg	4.4

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-ASPH-08
Project # 03886-118-204-0630
Lab ID: 9811G155-013
Sample Date: 11/16/98
Date Received: 11/17/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	89.3	%	0.10
Arsenic, Total	9.8	mg/kg	9.1
Lead, Total	1100	mg/kg	4.6

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Wednesday November 25th, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G155

Attn: Mr. Sam Naik

Inorganic Method Blank Data Report

Sample	Lab ID	Parameter	Result	Units	Reporting Limit
Blank 1	98GTS679-MB1	% Solids	0.10	u %	0.10
Blank 1	98GI444-MB1	Silver, Total	1.0	u mg/kg	1.0
		Arsenic, Total	10.0	u mg/kg	10.0
		Barium, Total	5.0	u mg/kg	5.0
		Cadmium, Total	1.0	u mg/kg	1.0
		Chromium, Total	2.0	u mg/kg	2.0
		Lead, Total	5.0	u mg/kg	5.0
		Selenium, Total	10.0	u mg/kg	10.0
Blank 1	98HG1116-MB1	Mercury, Total	0.03	u mg/kg	0.03

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Wednesday November 25th, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G155

Attn: Mr. Sam Naik

Inorganic Precision Data Report

Sample	Site ID	Parameter	Initial Result	Replicate	RPD
-001REP	AOC-32-STOCK-07	% Solids	92.0	92.0	0.00
		Silver, Total	0.89 u	0.88 u	NC
		Arsenic, Total	8.9 u	9.4	NC
		Barium, Total	24.1	23.5	2.1
		Cadmium, Total	0.89	0.88 u	NC
		Chromium, Total	12.9	13.5	4.2
		Lead, Total	119	106	11.4
		Selenium, Total	10.4	10.4	0.52

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Wednesday November 25th, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G155

Attn: Mr. Sam Naik

Inorganic Accuracy Data Report

Sample	Site ID	Parameter	Spiked Sample	Initial Result	Spiked Amount	% Recov
-001	AOC-32-STOCK-07	Silver, Total	4.4	0.89	u 4.6	95.9
		Arsenic, Total	178	8.9	u 183	97.3
		Barium, Total	203	24.1	183	98.0
		Cadmium, Total	5.5	0.89	4.6	102
		Chromium, Total	33.6	12.9	18.3	113
		Lead, Total	194	119	45.7	164
		Selenium, Total	188	10.4	183	97.3

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Wednesday November 25th, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G155

Attn: Mr. Sam Naik

Inorganic Laboratory Control Standards Report

Lab ID	Parameter	Spiked Amount	Units	Spike #1 % Recov.	Spike #2 % Recov.	RPD
98GI444-LC1	Silver, LCS	5.0	mg/kg	93.4	90.6	3.1
	Arsenic, LCS	200	mg/kg	89.3	89.6	0.29
	Barium, LCS	200	mg/kg	93.5	95.0	1.6
	Cadmium, LCS	5.0	mg/kg	104	106	2.0
	Chromium, LCS	20.0	mg/kg	93.8	93.9	0.085
	Lead, LCS	50.0	mg/kg	93.2	93.8	0.67
	Selenium, LCS	200	mg/kg	91.9	93.5	1.7
98HG1116-LC1	Mercury, LCS	0.30	mg/kg	115	113	1.3

Recra LabNet - Chicago
8260 ANALYTICAL DATA PACKAGE FOR
RfW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G155

CLIENT ID	Sample #	MTX	PREP #	COLLECTN	DATE	REC	EXT/PREP	ANALYSIS
AOC-32-STOCK-07	001	S	98GVB444	11/13/98	11/17/98	N/A		11/25/98
AOC-32-STOCK-08	002	S	98GVB444	11/13/98	11/17/98	N/A		11/25/98
AOC-32-STOCK-09	003	S	98GVB444	11/13/98	11/17/98	N/A		11/25/98
AOC-32-STOCK-10	004	S	98GVB445	11/16/98	11/17/98	N/A		11/25/98
AOC-32-STOCK-11	005	S	98GVB444	11/16/98	11/17/98	N/A		11/25/98
AOC-32-STOCK-12	006	S	98GVB444	11/16/98	11/17/98	N/A		11/25/98

LAB QC:

VBLKHO	MB1	S	98GVB444	N/A	N/A	N/A	11/24/98
VBLKHO	MB1 BS	S	98GVB444	N/A	N/A	N/A	11/24/98
VBLKHU	MB1	S	98GVB445	N/A	N/A	N/A	11/25/98
VBLKHU	MB1 BS	S	98GVB445	N/A	N/A	N/A	11/25/98

SIGNATURE

Gregory L. Lord

DATE

12/1/98



NY CERTIFICATION # 11006

95

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Recra LabNet - Chicago

GC/MS METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained within this RFW Lot :

GC/MS VOLATILES

☐	SW-846 8260A
☒	SW-846 8260B
☐	EPA 524.2
☐	40 CFR Part 136, Method 624
☐	CLP OLM03.1/3.2
☐	OLC02.0/2.1

GC/MS SEMIVOLATILES

☐	SW-846 8270A
☐	SW-846 8270B
☐	SW-846 8270C
☐	40 CFR Part 136, Method 625
☐	CLP OLM03.1/3.2
☐	OLC02.0/2.1

CHI-22-05-001/D-4/98

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Tuesday December 1st, 1998

RE: AOC-32-STOCK-07
Project # 03886-118-204-0630
Lab ID: 9811G155-001
Sample Date: 11/13/98
Date Received: 11/17/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	5	U
Vinyl chloride	BRL	5	U
Bromomethane	BRL	5	U
Chloroethane	BRL	5	U
1,1-Dichloroethene	BRL	5	U
Acetone	BRL	5	U
Carbon Disulfide	BRL	5	U
Methylene Chloride	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
1,1-Dichloroethane	BRL	5	U
2-Butanone	BRL	5	U
Chloroform	BRL	5	U
1,1,1-Trichloroethane	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Benzene	BRL	5	U
1,2-Dichloroethane	BRL	5	U
Trichloroethene	BRL	5	U

To: RFW-Ft Devens-DRMO Yard
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Attn: Mr. Sam Naik

Date: Tuesday December 1st, 1998

RE: AOC-32-STOCK-07
Project # 03886-118-204-0630
Lab ID: 9811G155-001
Sample Date: 11/13/98
Date Received: 11/17/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
Bromodichloromethane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
4-Methyl-2-pentanone	BRL	5	U
Toluene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Tetrachloroethene	BRL	5	U
2-Hexanone	BRL	5	U
Dibromochloromethane	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Xylene (total)	BRL	5	U
Styrene	BRL	5	U
Bromoform	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Tuesday December 1st, 1998

RE: AOC-32-STOCK-08
Project # 03886-118-204-0630
Lab ID: 9811G155-002
Sample Date: 11/13/98
Date Received: 11/17/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	5	U
Vinyl chloride	BRL	5	U
Bromomethane	BRL	5	U
Chloroethane	BRL	5	U
1,1-Dichloroethene	BRL	5	U
Acetone	9	5	
Carbon Disulfide	BRL	5	U
Methylene Chloride	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
1,1-Dichloroethane	BRL	5	U
2-Butanone	BRL	5	U
Chloroform	BRL	5	U
1,1,1-Trichloroethane	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Benzene	BRL	5	U
1,2-Dichloroethane	BRL	5	U
Trichloroethene	BRL	5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Tuesday December 1st, 1998

RE: AOC-32-STOCK-08
Project # 03886-118-204-0630
Lab ID: 9811G155-002
Sample Date: 11/13/98
Date Received: 11/17/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
Bromodichloromethane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
4-Methyl-2-pentanone	BRL	5	U
Toluene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Tetrachloroethene	BRL	5	U
2-Hexanone	BRL	5	U
Dibromochloromethane	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Xylene (total)	BRL	5	U
Styrene	BRL	5	U
Bromoform	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Tuesday December 1st, 1998

RE: AOC-32-STOCK-09
Project # 03886-118-204-0630
Lab ID: 9811G155-003
Sample Date: 11/13/98
Date Received: 11/17/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	5	U
Vinyl chloride	BRL	5	U
Bromomethane	BRL	5	U
Chloroethane	BRL	5	U
1,1-Dichloroethene	BRL	5	U
Acetone	BRL	5	U
Carbon Disulfide	BRL	5	U
Methylene Chloride	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
1,1-Dichloroethane	BRL	5	U
2-Butanone	BRL	5	U
Chloroform	BRL	5	U
1,1,1-Trichloroethane	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Benzene	BRL	5	U
1,2-Dichloroethane	BRL	5	U
Trichloroethene	BRL	5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Tuesday December 1st, 1998

RE: AOC-32-STOCK-09

Project # 03886-118-204-0630

Lab ID: 9811G155-003

Sample Date: 11/13/98

Date Received: 11/17/98

Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
Bromodichloromethane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
4-Methyl-2-pentanone	BRL	5	U
Toluene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Tetrachloroethene	BRL	5	U
2-Hexanone	BRL	5	U
Dibromochloromethane	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Xylene (total)	BRL	5	U
Styrene	BRL	5	U
Bromoform	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Tuesday December 1st, 1998

Attn: Mr. Sam Naik

RE: AOC-32-STOCK-10
Project # 03886-118-204-0630
Lab ID: 9811G155-004
Sample Date: 11/16/98
Date Received: 11/17/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	5	U
Vinyl chloride	BRL	5	U
Bromomethane	BRL	5	U
Chloroethane	BRL	5	U
1,1-Dichloroethene	BRL	5	U
Acetone	BRL	5	U
Carbon Disulfide	BRL	5	U
Methylene Chloride	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
1,1-Dichloroethane	BRL	5	U
2-Butanone	BRL	5	U
Chloroform	BRL	5	U
1,1,1-Trichloroethane	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Benzene	BRL	5	U
1,2-Dichloroethane	BRL	5	U
Trichloroethene	BRL	5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Tuesday December 1st, 1998

RE: AOC-32-STOCK-10
Project # 03886-118-204-0630
Lab ID: 9811G155-004
Sample Date: 11/16/98
Date Received: 11/17/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
Bromodichloromethane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
4-Methyl-2-pentanone	BRL	5	U
Toluene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Tetrachloroethene	BRL	5	U
2-Hexanone	BRL	5	U
Dibromochloromethane	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Xylene (total)	BRL	5	U
Styrene	BRL	5	U
Bromoform	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Tuesday December 1st, 1998

Attn: Mr. Sam Naik

RE: AOC-32-STOCK-11
Project # 03886-118-204-0630
Lab ID: 9811G155-005
Sample Date: 11/16/98
Date Received: 11/17/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	5	U
Vinyl chloride	BRL	5	U
Bromomethane	BRL	5	U
Chloroethane	BRL	5	U
1,1-Dichloroethene	BRL	5	U
Acetone	BRL	5	U
Carbon Disulfide	BRL	5	U
Methylene Chloride	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
1,1-Dichloroethane	BRL	5	U
2-Butanone	BRL	5	U
Chloroform	BRL	5	U
1,1,1-Trichloroethane	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Benzene	BRL	5	U
1,2-Dichloroethane	BRL	5	U
Trichloroethene	BRL	5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Tuesday December 1st, 1998

RE: AOC-32-STOCK-11
Project # 03886-118-204-0630
Lab ID: 9811G155-005
Sample Date: 11/16/98
Date Received: 11/17/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
Bromodichloromethane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
4-Methyl-2-pentanone	BRL	5	U
Toluene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Tetrachloroethene	BRL	5	U
2-Hexanone	BRL	5	U
Dibromochloromethane	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Xylene (total)	BRL	5	U
Styrene	BRL	5	U
Bromoform	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Tuesday December 1st, 1998

RE: AOC-32-STOCK-12
Project # 03886-118-204-0630
Lab ID: 9811G155-006
Sample Date: 11/16/98
Date Received: 11/17/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	6	U
Vinyl chloride	BRL	6	U
Bromomethane	BRL	6	U
Chloroethane	BRL	6	U
1,1-Dichloroethene	BRL	6	U
Acetone	BRL	6	U
Carbon Disulfide	BRL	6	U
Methylene Chloride	BRL	6	U
1,2-Dichloroethene (total)	BRL	6	U
1,1-Dichloroethane	BRL	6	U
2-Butanone	BRL	6	U
Chloroform	BRL	6	U
1,1,1-Trichloroethane	BRL	6	U
Carbon Tetrachloride	BRL	6	U
Benzene	BRL	6	U
1,2-Dichloroethane	BRL	6	U
Trichloroethene	BRL	6	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Tuesday December 1st, 1998

Attn: Mr. Sam Naik

RE: AOC-32-STOCK-12
Project # 03886-118-204-0630
Lab ID: 9811G155-006
Sample Date: 11/16/98
Date Received: 11/17/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	6	U
Bromodichloromethane	BRL	6	U
cis-1,3-Dichloropropene	BRL	6	U
4-Methyl-2-pentanone	BRL	6	U
Toluene	BRL	6	U
trans-1,3-Dichloropropene	BRL	6	U
1,1,2-Trichloroethane	BRL	6	U
Tetrachloroethene	BRL	6	U
2-Hexanone	BRL	6	U
Dibromochloromethane	BRL	6	U
Chlorobenzene	BRL	6	U
Ethylbenzene	BRL	6	U
Xylene (total)	BRL	6	U
Styrene	BRL	6	U
Bromoform	BRL	6	U
1,1,2,2-Tetrachloroethane	BRL	6	U

Recra LabNet - Chicago
METHOD 8260 VOLATILES

Report Date: 11/30/98 13:53

RFW Batch Number: 9811G155

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

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Sample Information	RFW#: Matrix: D.F.: Units:	Cust ID: AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK	
		-07		-08		-09		-10		-11		-12	
		001		002		003		004		005		006	
		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
		1		1		1		1		1		1	
		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
1,2-Dichloroethane-d4		110	%	105	%	106	%	93	%	104	%	93	%
Surrogate Toluene-d8		98	%	86	%	95	%	93	%	91	%	87	%
Recovery 4-Bromofluorobenzene		93	%	77	%	87	%	86	%	84	%	85	%
=====f]=====f]=====f]=====f]=====f]=====f]=====f]													
Chloromethane		5	U	5	U	5	U	5	U	5	U	6	U
Vinyl chloride		5	U	5	U	5	U	5	U	5	U	6	U
Bromomethane		5	U	5	U	5	U	5	U	5	U	6	U
Chloroethane		5	U	5	U	5	U	5	U	5	U	6	U
1,1-Dichloroethene		5	U	5	U	5	U	5	U	5	U	6	U
Acetone		5	U	9		5	U	5	U	5	U	6	U
Carbon Disulfide		5	U	5	U	5	U	5	U	5	U	6	U
Methylene Chloride		5	U	5	U	5	U	5	U	5	U	6	U
1,2-Dichloroethene (total)		5	U	5	U	5	U	5	U	5	U	6	U
1,1-Dichloroethane		5	U	5	U	5	U	5	U	5	U	6	U
2-Butanone		5	U	5	U	5	U	5	U	5	U	6	U
Chloroform		5	U	5	U	5	U	5	U	5	U	6	U
1,1,1-Trichloroethane		5	U	5	U	5	U	5	U	5	U	6	U
Carbon Tetrachloride		5	U	5	U	5	U	5	U	5	U	6	U
Benzene		5	U	5	U	5	U	5	U	5	U	6	U
1,2-Dichloroethane		5	U	5	U	5	U	5	U	5	U	6	U
Trichloroethene		5	U	5	U	5	U	5	U	5	U	6	U
1,2-Dichloropropane		5	U	5	U	5	U	5	U	5	U	6	U
Bromodichloromethane		5	U	5	U	5	U	5	U	5	U	6	U
cis-1,3-Dichloropropene		5	U	5	U	5	U	5	U	5	U	6	U
4-Methyl-2-pentanone		5	U	5	U	5	U	5	U	5	U	6	U
Toluene		5	U	5	U	5	U	5	U	5	U	6	U
trans-1,3-Dichloropropene		5	U	5	U	5	U	5	U	5	U	6	U
1,1,2-Trichloroethane		5	U	5	U	5	U	5	U	5	U	6	U
Tetrachloroethene		5	U	5	U	5	U	5	U	5	U	6	U
2-Hexanone		5	U	5	U	5	U	5	U	5	U	6	U

*= Outside of EPA CLP QC Limits.

RFW Batch Number: 9811G155

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

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Cust ID:	AOC-32-STOCK -07	AOC-32-STOCK -08	AOC-32-STOCK -09	AOC-32-STOCK -10	AOC-32-STOCK -11	AOC-32-STOCK -12
RFW#:	001	002	003	004	005	006

Dibromochloromethane	5 U	5 U	5 U	5 U	5 U	6 U
Chlorobenzene	5 U	5 U	5 U	5 U	5 U	6 U
Ethylbenzene	5 U	5 U	5 U	5 U	5 U	6 U
Xylene (total)	5 U	5 U	5 U	5 U	5 U	6 U
Styrene	5 U	5 U	5 U	5 U	5 U	6 U
Bromoform	5 U	5 U	5 U	5 U	5 U	6 U
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	5 U	5 U	6 U

*= Outside of EPA CLP QC Limits.

Recra LabNet - Chicago
METHOD 8260 VOLATILES

RFW Batch Number: 9811G155

Client: RFW-Ft Devens-DRMO Yard

Report Date: 11/30/98 13:53
Work Order: 03886-118-204-0

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Cust ID: VBLKHO		VBLKHO BS		VBLKHU		VBLKHU BS	
Sample RFW#: 98GVB444-MB1		98GVB444-MB1		98GVB445-MB1		98GVB445-MB1	
Information Matrix: SOIL		SOIL		SOIL		SOIL	
D.F.: 1		1		1		1	
Units: UG/KG		UG/KG		UG/KG		UG/KG	
Surrogate	1,2-Dichloroethane-d4	106	%	103	%	103	%
Recovery	Toluene-d8	102	%	95	%	98	%
	4-Bromofluorobenzene	101	%	93	%	97	%
=====f =====f =====f =====f =====f =====f =====							
	Chloromethane	5	U	106	%	5	U
	Vinyl chloride	5	U	114	%	5	U
	Bromomethane	5	U	110	%	5	U
	Chloroethane	5	U	109	%	5	U
	1,1-Dichloroethene	5	U	86	%	5	U
	Acetone	5	U	64	%	5	U
	Carbon Disulfide	5	U	77	%	5	U
	Methylene Chloride	5	U	91	%	5	U
	1,2-Dichloroethene (total)	5	U	96	%	5	U
	1,1-Dichloroethane	5	U	98	%	5	U
	2-Butanone	5	U	74	%	5	U
	Chloroform	5	U	102	%	5	U
	1,1,1-Trichloroethane	5	U	93	%	5	U
	Carbon Tetrachloride	5	U	86	%	5	U
	Benzene	5	U	95	%	5	U
	1,2-Dichloroethane	5	U	97	%	5	U
	Trichloroethene	5	U	85	%	5	U
	1,2-Dichloropropane	5	U	89	%	5	U
	Bromodichloromethane	5	U	86	%	5	U
	cis-1,3-Dichloropropene	5	U	81	%	5	U
	4-Methyl-2-pentanone	5	U	72	%	5	U
	Toluene	5	U	91	%	5	U
	trans-1,3-Dichloropropene	5	U	91	%	5	U
	1,1,2-Trichloroethane	5	U	97	%	5	U
	Tetrachloroethene	5	U	90	%	5	U
	2-Hexanone	5	U	77	%	5	U

*= Outside of EPA CLP QC Limits.

RfW Batch Number: 9811G155

Client: RfW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

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Cust ID: VBLKHO

VBLKHO BS

VBLKHU

VBLKHU BS

RfW#: 98GVB444-MB1 98GVB444-MB1 98GVB445-MB1 98GVB445-MB1

Dibromochloromethane	5	U	83	%	5	U	92	%
Chlorobenzene	5	U	94	%	5	U	104	%
Ethylbenzene	5	U	96	%	5	U	107	%
Xylene (total)	5	U	97	%	5	U	108	%
Styrene	5	U	103	%	5	U	112	%
Bromoform	5	U	82	%	5	U	90	%
1,1,2,2-Tetrachloroethane	5	U	93	%	5	U	103	%

*= Outside of EPA CLP QC Limits.

Recra LabNet - Chicago
BNA ANALYTICAL DATA PACKAGE FOR
RfW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G155

CLIENT ID	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
AOC-32-STOCK-07	001	S	98GB0621	11/13/98	11/17/98	11/20/98	11/23/98
AOC-32-STOCK-07	001 MS	S	98GB0621	11/13/98	11/17/98	11/20/98	11/23/98
AOC-32-STOCK-07	001 MSD	S	98GB0621	11/13/98	11/17/98	11/20/98	11/23/98
AOC-32-STOCK-08	002	S	98GB0621	11/13/98	11/17/98	11/20/98	11/23/98
AOC-32-STOCK-09	003	S	98GB0621	11/13/98	11/17/98	11/20/98	11/23/98
AOC-32-STOCK-10	004	S	98GB0621	11/16/98	11/17/98	11/20/98	11/23/98
AOC-32-STOCK-11	005	S	98GB0621	11/16/98	11/17/98	11/20/98	11/23/98
AOC-32-STOCK-12	006	S	98GB0621	11/16/98	11/17/98	11/20/98	11/23/98

LAB QC:

SBLKFC	MB1	S	98GB0621	N/A	N/A	11/20/98	11/23/98
SBLKFC	MB1 BS	S	98GB0621	N/A	N/A	11/20/98	11/23/98

SIGNATURE

Henry L. Good

DATE

11/25/98



NY CERTIFICATION # 11006

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Recra LabNet - Chicago

GC/MS METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained within this RFW Lot :

GC/MS VOLATILES

_____ SW-846 8260A
_____ SW-846 8260B
_____ EPA 524.2
_____ 40 CFR Part 136, Method 624
_____ CLP OLM03.1/3.2
_____ OLC02.0/2.1

GC/MS SEMIVOLATILES

_____ SW-846 8270A
_____ SW-846 8270B
✓ _____ SW-846 8270C
_____ 40 CFR Part 136, Method 625
_____ CLP OLM03.1/3.2
_____ OLC02.0/2.1

CHI-22-05-001/D-4/98

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Wednesday November 25th, 1998

Attn: Mr. Sam Naik

RE: AOC-32-STOCK-07
Project # 03886-118-204-0630
Lab ID: 9811G155-001
Sample Date: 11/13/98
Date Received: 11/17/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Pheno1	BRL	360	U
bis(2-Chloroethyl)ether	BRL	360	U
2-Chloropheno1	BRL	360	U
1,3-Dichlorobenzene	BRL	360	U
1,4-Dichlorobenzene	BRL	360	U
1,2-Dichlorobenzene	BRL	360	U
2-Methylpheno1	BRL	360	U
2,2'-oxybis(1-Chloropropane)	BRL	360	U
N-Nitroso-di-n-propylamine	BRL	360	U
4-Methylpheno1	BRL	360	U
Hexachloroethane	BRL	360	U
Nitrobenzene	BRL	360	U
Isophorone	BRL	360	U
2-Nitropheno1	BRL	360	U
2,4-Dimethylpheno1	BRL	360	U
bis(2-Chloroethoxy)methane	BRL	360	U
2,4-Dichloropheno1	BRL	360	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-07
Project # 03886-118-204-0630
Lab ID: 9811G155-001
Sample Date: 11/13/98
Date Received: 11/17/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
1,2,4-Trichlorobenzene	BRL	360	U
Naphthalene	BRL	360	U
4-Chloroaniline	BRL	360	U
Hexachlorobutadiene	BRL	360	U
4-Chloro-3-methylphenol	BRL	360	U
2-Methylnaphthalene	BRL	360	U
Hexachlorocyclopentadiene	BRL	360	U
2,4,6-Trichlorophenol	BRL	360	U
2,4,5-Trichlorophenol	BRL	1800	U
2-Chloronaphthalene	BRL	360	U
2-Nitroaniline	BRL	1800	U
Acenaphthylene	BRL	360	U
2,6-Dinitrotoluene	BRL	360	U
3-Nitroaniline	BRL	1800	U
Acenaphthene	BRL	360	U
2,4-Dinitrophenol	BRL	1800	U
Dibenzofuran	BRL	360	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-07
Project # 03886-118-204-0630
Lab ID: 9811G155-001
Sample Date: 11/13/98
Date Received: 11/17/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
4-Nitrophenol	BRL	1800	U
2,4-Dinitrotoluene	BRL	360	U
Fluorene	BRL	360	U
Dimethylphthalate	BRL	360	U
Diethylphthalate	BRL	360	U
4-Chlorophenyl-phenylether	BRL	360	U
4-Nitroaniline	BRL	1800	U
4,6-Dinitro-2-methylphenol	BRL	1800	U
4-Bromophenyl-phenylether	BRL	360	U
Hexachlorobenzene	BRL	360	U
Pentachlorophenol	BRL	1800	U
Phenanthrene	370	360	
Anthracene	99	360	J
Di-n-butylphthalate	BRL	360	U
Fluoranthene	740	360	
Pyrene	580	360	
Butylbenzylphthalate	BRL	360	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-07
Project # 03886-118-204-0630
Lab ID: 9811G155-001
Sample Date: 11/13/98
Date Received: 11/17/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Benzo(a)anthracene	370	360	
3,3'-Dichlorobenzidine	BRL	720	U
Chrysene	430	360	
bis(2-Ethylhexyl)phthalate	72	360	J
Di-n-octylphthalate	BRL	360	U
Benzo(b)fluoranthene	500	360	
Benzo(k)fluoranthene	220	360	J
Benzo(a)pyrene	340	360	J
Indeno(1,2,3-cd)pyrene	240	360	J
Dibenzo(a,h)anthracene	54	360	J
Benzo(g,h,i)perylene	190	360	J
Carbazole	BRL	360	U
N-Nitrosodiphenylamine (1)	BRL	360	U
Benzyl alcohol	BRL	360	U
Benzoic acid	BRL	1800	U
Benzidine	BRL	3600	U

(1) - Cannot be separated from Diphenylamine.

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-07
Project # 03886-118-204-0630
Lab ID: 9811G155-001
Sample Date: 11/13/98
Date Received: 11/17/98
Units: ug/Kg

Tentatively Identified Compounds

5 Semivolatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Semivolatile Compound	Retention Time	Estimated Concentration
UNKNOWN KETONE	4.924	7600 JBA
UNKNOWN ALKANE	5.742	520 JB
Unknown	7.259	520 J
Unknown	8.568	850 JB
Unknown	9.769	1700 J

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-08
Project # 03886-118-204-0630
Lab ID: 9811G155-002
Sample Date: 11/13/98
Date Received: 11/17/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Phenol	BRL	350	U
bis(2-Chloroethyl)ether	BRL	350	U
2-Chlorophenol	BRL	350	U
1,3-Dichlorobenzene	BRL	350	U
1,4-Dichlorobenzene	BRL	350	U
1,2-Dichlorobenzene	BRL	350	U
2-Methylphenol	BRL	350	U
2,2'-oxybis(1-Chloropropane)	BRL	350	U
N-Nitroso-di-n-propylamine	BRL	350	U
4-Methylphenol	BRL	350	U
Hexachloroethane	BRL	350	U
Nitrobenzene	BRL	350	U
Isophorone	BRL	350	U
2-Nitrophenol	BRL	350	U
2,4-Dimethylphenol	BRL	350	U
bis(2-Chloroethoxy)methane	BRL	350	U
2,4-Dichlorophenol	BRL	350	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Wednesday November 25th, 1998

Attn: Mr. Sam Naik

RE: AOC-32-STOCK-08
Project # 03886-118-204-0630
Lab ID: 9811G155-002
Sample Date: 11/13/98
Date Received: 11/17/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
1,2,4-Trichlorobenzene	BRL	350	U
Naphthalene	BRL	350	U
4-Chloroaniline	BRL	350	U
Hexachlorobutadiene	BRL	350	U
4-Chloro-3-methylphenol	BRL	350	U
2-Methylnaphthalene	BRL	350	U
Hexachlorocyclopentadiene	BRL	350	U
2,4,6-Trichlorophenol	BRL	350	U
2,4,5-Trichlorophenol	BRL	1800	U
2-Chloronaphthalene	BRL	350	U
2-Nitroaniline	BRL	1800	U
Acenaphthylene	BRL	350	U
2,6-Dinitrotoluene	BRL	350	U
3-Nitroaniline	BRL	1800	U
Acenaphthene	BRL	350	U
2,4-Dinitrophenol	BRL	1800	U
Dibenzofuran	BRL	350	U

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Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-08
Project # 03886-118-204-0630
Lab ID: 9811G155-002
Sample Date: 11/13/98
Date Received: 11/17/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
4-Nitrophenol	BRL	1800	U
2,4-Dinitrotoluene	BRL	350	U
Fluorene	BRL	350	U
Dimethylphthalate	BRL	350	U
Diethylphthalate	BRL	350	U
4-Chlorophenyl-phenylether	BRL	350	U
4-Nitroaniline	BRL	1800	U
4,6-Dinitro-2-methylphenol	BRL	1800	U
4-Bromophenyl-phenylether	BRL	350	U
Hexachlorobenzene	BRL	350	U
Pentachlorophenol	BRL	1800	U
Phenanthrene	49	350	J
Anthracene	BRL	350	U
Di-n-butylphthalate	BRL	350	U
Fluoranthene	140	350	J
Pyrene	100	350	J
Butylbenzylphthalate	40	350	J

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Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-08
Project # 03886-118-204-0630
Lab ID: 9811G155-002
Sample Date: 11/13/98
Date Received: 11/17/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Benzo(a)anthracene	62	350	J
3,3'-Dichlorobenzidine	BRL	710	U
Chrysene	93	350	J
bis(2-Ethylhexyl)phthalate	99	350	J
Di-n-octylphthalate	BRL	350	U
Benzo(b)fluoranthene	140	350	J
Benzo(k)fluoranthene	BRL	350	U
Benzo(a)pyrene	BRL	350	U
Indeno(1,2,3-cd)pyrene	80	350	J
Dibenzo(a,h)anthracene	BRL	350	U
Benzo(g,h,i)perylene	68	350	J
Carbazole	BRL	350	U
N-Nitrosodiphenylamine (1)	BRL	350	U
Benzyl alcohol	BRL	350	U
Benzoic acid	BRL	1800 ~	U
Benzidine	BRL	3500	U

(1) - Cannot be separated from Diphenylamine.

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-08
Project # 03886-118-204-0630
Lab ID: 9811G155-002
Sample Date: 11/13/98
Date Received: 11/17/98
Units: ug/Kg

Tentatively Identified Compounds

5 Semivolatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Semivolatile Compound	Retention Time	Estimated Concentration
UNKNOWN KETONE	4.873	8300 JBA
UNKNOWN ALKANE	5.724	570 JB
Unknown	7.579	470 JB
Unknown	8.551	690 JB
Unknown	9.740	1600 J

To: RFW-Ft Devens-DRMO Yard
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Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-09
Project # 03886-118-204-0630
Lab ID: 9811G155-003
Sample Date: 11/13/98
Date Received: 11/17/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Phenol	BRL	350	U
bis(2-Chloroethyl)ether	BRL	350	U
2-Chlorophenol	BRL	350	U
1,3-Dichlorobenzene	BRL	350	U
1,4-Dichlorobenzene	BRL	350	U
1,2-Dichlorobenzene	BRL	350	U
2-Methylphenol	BRL	350	U
2,2'-oxybis(1-Chloropropane)	BRL	350	U
N-Nitroso-di-n-propylamine	BRL	350	U
4-Methylphenol	BRL	350	U
Hexachloroethane	BRL	350	U
Nitrobenzene	BRL	350	U
Isophorone	BRL	350	U
2-Nitrophenol	BRL	350	U
2,4-Dimethylphenol	BRL	350	U
bis(2-Chloroethoxy)methane	BRL	350	U
2,4-Dichlorophenol	BRL	350	U

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Attn: Mr. Sam Naik.

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-09

Project # 03886-118-204-0630

Lab ID: 9811G155-003

Sample Date: 11/13/98

Date Received: 11/17/98

Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
1,2,4-Trichlorobenzene	BRL	350	U
Naphthalene	BRL	350	U
4-Chloroaniline	BRL	350	U
Hexachlorobutadiene	BRL	350	U
4-Chloro-3-methylphenol	BRL	350	U
2-Methylnaphthalene	BRL	350	U
Hexachlorocyclopentadiene	BRL	350	U
2,4,6-Trichlorophenol	BRL	350	U
2,4,5-Trichlorophenol	BRL	1800	U
2-Chloronaphthalene	BRL	350	U
2-Nitroaniline	BRL	1800	U
Acenaphthylene	BRL	350	U
2,6-Dinitrotoluene	BRL	350	U
3-Nitroaniline	BRL	1800	U
Acenaphthene	BRL	350	U
2,4-Dinitrophenol	BRL	1800	U
Dibenzofuran	BRL	350	U

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RE: AOC-32-STOCK-09
Project # 03886-118-204-0630
Lab ID: 9811G155-003
Sample Date: 11/13/98
Date Received: 11/17/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
4-Nitrophenol	BRL	1800	U
2,4-Dinitrotoluene	BRL	350	U
Fluorene	BRL	350	U
Dimethylphthalate	BRL	350	U
Diethylphthalate	BRL	350	U
4-Chlorophenyl-phenylether	BRL	350	U
4-Nitroaniline	BRL	1800	U
4,6-Dinitro-2-methylphenol	BRL	1800	U
4-Bromophenyl-phenylether	BRL	350	U
Hexachlorobenzene	BRL	350	U
Pentachlorophenol	BRL	1800	U
Phenanthrene	110	350	J
Anthracene	BRL	350	U
Di-n-butylphthalate	BRL	350	U
Fluoranthene	230	350	J
Pyrene	230	350	J
Butylbenzylphthalate	52	350	J

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RE: AOC-32-STOCK-09
Project # 03886-118-204-0630
Lab ID: 9811G155-003
Sample Date: 11/13/98
Date Received: 11/17/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Benzo(a)anthracene	130	350	J
3,3'-Dichlorobenzidine	BRL	700	U
Chrysene	190	350	J
bis(2-Ethylhexyl)phthalate	94	350	J
Di-n-octylphthalate	BRL	350	U
Benzo(b)fluoranthene	BRL	350	U
Benzo(k)fluoranthene	BRL	350	U
Benzo(a)pyrene	BRL	350	U
Indeno(1,2,3-cd)pyrene	100	350	J
Dibenzo(a,h)anthracene	BRL	350	U
Benzo(g,h,i)perylene	99	350	J
Carbazole	BRL	350	U
N-Nitrosodiphenylamine (1)	BRL	350	U
Benzyl alcohol	BRL	350	U
Benzoic acid	BRL	1800	U
Benzidine	BRL	3500	U

(1) - Cannot be separated from Diphenylamine.

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-09
Project # 03886-118-204-0630
Lab ID: 9811G155-003
Sample Date: 11/13/98
Date Received: 11/17/98
Units: ug/Kg

Tentatively Identified Compounds

5 Semivolatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Semivolatile Compound	Retention Time	Estimated Concentration
UNKNOWN ALKANE	4.991	8600 JBA
UNKNOWN ALKANE	5.766	640 JB
Unknown	7.61	590 JB
Unknown	8.581	980 JB
Unknown	9.76	930 J

To: RFW-Ft Devens-DRMO Yard
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Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-10
Project # 03886-118-204-0630
Lab ID: 9811G155-004
Sample Date: 11/16/98
Date Received: 11/17/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Phenol	BRL	350	U
bis(2-Chloroethyl)ether	BRL	350	U
2-Chlorophenol	BRL	350	U
1,3-Dichlorobenzene	BRL	350	U
1,4-Dichlorobenzene	BRL	350	U
1,2-Dichlorobenzene	BRL	350	U
2-Methylphenol	BRL	350	U
2,2'-oxybis(1-Chloropropane)	BRL	350	U
N-Nitroso-di-n-propylamine	BRL	350	U
4-Methylphenol	BRL	350	U
Hexachloroethane	BRL	350	U
Nitrobenzene	BRL	350	U
Isophorone	BRL	350	U
2-Nitrophenol	BRL	350	U
2,4-Dimethylphenol	BRL	350	U
bis(2-Chloroethoxy)methane	BRL	350	U
2,4-Dichlorophenol	BRL	350	U

To: RFW-Ft Devens-DRMO Yard
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Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-10
Project # 03886-118-204-0630
Lab ID: 9811G155-004
Sample Date: 11/16/98
Date Received: 11/17/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
1,2,4-Trichlorobenzene	BRL	350	U
Naphthalene	BRL	350	U
4-Chloroaniline	BRL	350	U
Hexachlorobutadiene	BRL	350	U
4-Chloro-3-methylphenol	BRL	350	U
2-Methylnaphthalene	BRL	350	U
Hexachlorocyclopentadiene	BRL	350	U
2,4,6-Trichlorophenol	BRL	350	U
2,4,5-Trichlorophenol	BRL	1800	U
2-Chloronaphthalene	BRL	350	U
2-Nitroaniline	BRL	1800	U
Acenaphthylene	BRL	350	U
2,6-Dinitrotoluene	BRL	350	U
3-Nitroaniline	BRL	1800	U
Acenaphthene	BRL	350	U
2,4-Dinitrophenol	BRL	1800	U
Dibenzofuran	BRL	350	U

To: RFW-Ft Devens-DRMO Yard
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Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-10

Project # 03886-118-204-0630

Lab ID: 9811G155-004

Sample Date: 11/16/98

Date Received: 11/17/98

Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
4-Nitrophenol	BRL	1800	U
2,4-Dinitrotoluene	BRL	350	U
Fluorene	BRL	350	U
Dimethylphthalate	BRL	350	U
Diethylphthalate	BRL	350	U
4-Chlorophenyl-phenylether	BRL	350	U
4-Nitroaniline	BRL	1800	U
4,6-Dinitro-2-methylphenol	BRL	1800	U
4-Bromophenyl-phenylether	BRL	350	U
Hexachlorobenzene	BRL	350	U
Pentachlorophenol	BRL	1800	U
Phenanthrene	BRL	350	U
Anthracene	BRL	350	U
Di-n-butylphthalate	BRL	350	U
Fluoranthene	76	350	J
Pyrene	62	350	J
Butylbenzylphthalate	BRL	350	U

To: RFW-Ft Devens-DRMO Yard
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Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-10
Project # 03886-118-204-0630
Lab ID: 9811G155-004
Sample Date: 11/16/98
Date Received: 11/17/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Benzo(a)anthracene	37	350	J
3,3'-Dichlorobenzidine	BRL	700	U
Chrysene	57	350	J
bis(2-Ethylhexyl)phthalate	BRL	350	U
Di-n-octylphthalate	BRL	350	U
Benzo(b)fluoranthene	69	350	J
Benzo(k)fluoranthene	BRL	350	U
Benzo(a)pyrene	39	350	J
Indeno(1,2,3-cd)pyrene	40	350	J
Dibenzo(a,h)anthracene	BRL	350	U
Benzo(g,h,i)perylene	41	350	J
Carbazole	BRL	350	U
N-Nitrosodiphenylamine (1)	BRL	350	U
Benzyl alcohol	BRL	350	U
Benzoic acid	BRL	1800	U
Benzidine	BRL	3500	U

(1) - Cannot be separated from Diphenylamine.

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
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Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-10
Project # 03886-118-204-0630
Lab ID: 9811G155-004
Sample Date: 11/16/98
Date Received: 11/17/98
Units: ug/Kg

Tentatively Identified Compounds

5 Semivolatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Semivolatile Compound	Retention Time	Estimated Concentration
UNKNOWN ALKANE	4.892	7900 JBA
UNKNOWN ALKANE	5.732	520 JB
Unknown	7.587	470 JB
Unknown	8.547	550 JB
Unknown	9.758	2100 J

To: RFW-Ft Devens-DRMO Yard
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Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-11
Project # 03886-118-204-0630
Lab ID: 9811G155-005
Sample Date: 11/16/98
Date Received: 11/17/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Phenol	BRL	360	U
bis(2-Chloroethyl)ether	BRL	360	U
2-Chlorophenol	BRL	360	U
1,3-Dichlorobenzene	BRL	360	U
1,4-Dichlorobenzene	BRL	360	U
1,2-Dichlorobenzene	BRL	360	U
2-Methylphenol	BRL	360	U
2,2'-oxybis(1-Chloropropane)	BRL	360	U
N-Nitroso-di-n-propylamine	BRL	360	U
4-Methylphenol	BRL	360	U
Hexachloroethane	BRL	360	U
Nitrobenzene	BRL	360	U
Isophorone	BRL	360	U
2-Nitrophenol	BRL	360	U
2,4-Dimethylphenol	BRL	360	U
bis(2-Chloroethoxy)methane	BRL	360	U
2,4-Dichlorophenol	BRL	360	U

To: RFW-Ft Devens-DRMO Yard
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Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-11

Project # 03886-118-204-0630

Lab ID: 9811G155-005

Sample Date: 11/16/98

Date Received: 11/17/98

Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
1,2,4-Trichlorobenzene	BRL	360	U
Naphthalene	BRL	360	U
4-Chloroaniline	BRL	360	U
Hexachlorobutadiene	BRL	360	U
4-Chloro-3-methylphenol	BRL	360	U
2-Methylnaphthalene	BRL	360	U
Hexachlorocyclopentadiene	BRL	360	U
2,4,6-Trichlorophenol	BRL	360	U
2,4,5-Trichlorophenol	BRL	1800	U
2-Chloronaphthalene	BRL	360	U
2-Nitroaniline	BRL	1800	U
Acenaphthylene	BRL	360	U
2,6-Dinitrotoluene	BRL	360	U
3-Nitroaniline	BRL	1800	U
Acenaphthene	BRL	360	U
2,4-Dinitrophenol	BRL	1800	U
Dibenzofuran	BRL	360	U

To: RFW-Ft Devens-DRMO Yard
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Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-11
Project # 03886-118-204-0630
Lab ID: 9811G155-005
Sample Date: 11/16/98
Date Received: 11/17/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatiles Compound	Result	Reporting Limit	Flag
4-Nitrophenol	BRL	1800	U
2,4-Dinitrotoluene	BRL	360	U
Fluorene	BRL	360	U
Dimethylphthalate	BRL	360	U
Diethylphthalate	BRL	360	U
4-Chlorophenyl-phenylether	BRL	360	U
4-Nitroaniline	BRL	1800	U
4,6-Dinitro-2-methylphenol	BRL	1800	U
4-Bromophenyl-phenylether	BRL	360	U
Hexachlorobenzene	BRL	360	U
Pentachlorophenol	BRL	1800	U
Phenanthrene	58	360	J
Anthracene	BRL	360	U
Di-n-butylphthalate	BRL	360	U
Fluoranthene	140	360	J
Pyrene	110	360	J
Butylbenzylphthalate	BRL	360	U

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Project # 03886-118-204-0630
Lab ID: 9811G155-005
Sample Date: 11/16/98
Date Received: 11/17/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Benzo(a)anthracene	59	360	J
3,3'-Dichlorobenzidine	BRL	720	U
Chrysene	90	360	J
bis(2-Ethylhexyl)phthalate	160	360	J
Di-n-octylphthalate	BRL	360	U
Benzo(b)fluoranthene	BRL	360	U
Benzo(k)fluoranthene	BRL	360	U
Benzo(a)pyrene	BRL	360	U
Indeno(1,2,3-cd)pyrene	70	360	J
Dibenzo(a,h)anthracene	BRL	360	U
Benzo(g,h,i)perylene	73	360	J
Carbazole	BRL	360	U
N-Nitrosodiphenylamine (1)	BRL	360	U
Benzyl alcohol	BRL	360	U
Benzoic acid	BRL	1800	U
Benzidine	BRL	3600	U

(1) - Cannot be separated from Diphenylamine.

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-11
Project # 03886-118-204-0630
Lab ID: 9811G155-005
Sample Date: 11/16/98
Date Received: 11/17/98
Units: ug/Kg

Tentatively Identified Compounds

5 Semivolatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Semivolatile Compound	Retention Time	Estimated Concentration
UNKNOWN KETONE	4.893	9100 JBA
UNKNOWN ALKANE	5.723	520 JB
Unknown	7.588	590 JB
Unknown	8.56	860 JB
Unknown	9.76	1800 J

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-12
Project # 03886-118-204-0630
Lab ID: 9811G155-006
Sample Date: 11/16/98
Date Received: 11/17/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Phenol	BRL	370	U
bis(2-Chloroethyl)ether	BRL	370	U
2-Chlorophenol	BRL	370	U
1,3-Dichlorobenzene	BRL	370	U
1,4-Dichlorobenzene	BRL	370	U
1,2-Dichlorobenzene	BRL	370	U
2-Methylphenol	BRL	370	U
2,2'-oxybis(1-Chloropropane)	BRL	370	U
N-Nitroso-di-n-propylamine	BRL	370	U
4-Methylphenol	BRL	370	U
Hexachloroethane	BRL	370	U
Nitrobenzene	BRL	370	U
Isophorone	BRL	370	U
2-Nitrophenol	BRL	370	U
2,4-Dimethylphenol	BRL	370	U
bis(2-Chloroethoxy)methane	BRL	370	U
2,4-Dichlorophenol	BRL	370	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-12
Project # 03886-118-204-0630
Lab ID: 9811G155-006
Sample Date: 11/16/98
Date Received: 11/17/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
1,2,4-Trichlorobenzene	BRL	370	U
Naphthalene	BRL	370	U
4-Chloroaniline	BRL	370	U
Hexachlorobutadiene	BRL	370	U
4-Chloro-3-methylphenol	BRL	370	U
2-Methylnaphthalene	BRL	370	U
Hexachlorocyclopentadiene	BRL	370	U
2,4,6-Trichlorophenol	BRL	370	U
2,4,5-Trichlorophenol	BRL	1800	U
2-Chloronaphthalene	BRL	370	U
2-Nitroaniline	BRL	1800	U
Acenaphthylene	BRL	370	U
2,6-Dinitrotoluene	BRL	370	U
3-Nitroaniline	BRL	1800	U
Acenaphthene	BRL	370	U
2,4-Dinitrophenol	BRL	1800	U
Dibenzofuran	BRL	370	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-12

Project # 03886-118-204-0630

Lab ID: 9811G155-006

Sample Date: 11/16/98

Date Received: 11/17/98

Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
4-Nitrophenol	BRL	1800	U
2,4-Dinitrotoluene	BRL	370	U
Fluorene	BRL	370	U
Dimethylphthalate	BRL	370	U
Diethylphthalate	BRL	370	U
4-Chlorophenyl-phenylether	BRL	370	U
4-Nitroaniline	BRL	1800	U
4,6-Dinitro-2-methylphenol	BRL	1800	U
4-Bromophenyl-phenylether	BRL	370	U
Hexachlorobenzene	BRL	370	U
Pentachlorophenol	BRL	1800	U
Phenanthrene	BRL	370	U
Anthracene	BRL	370	U
Di-n-butylphthalate	160	370	J
Fluoranthene	86	370	J
Pyrene	78	370	J
Butylbenzylphthalate	130	370	J

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-12
Project # 03886-118-204-0630
Lab ID: 9811G155-006
Sample Date: 11/16/98
Date Received: 11/17/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Benzo(a)anthracene	41	370	J
3,3'-Dichlorobenzidine	BRL	740	U
Chrysene	73	370	J
bis(2-Ethylhexyl)phthalate	71	370	J
Di-n-octylphthalate	BRL	370	U
Benzo(b)fluoranthene	BRL	370	U
Benzo(k)fluoranthene	BRL	370	U
Benzo(a)pyrene	BRL	370	U
Indeno(1,2,3-cd)pyrene	45	370	J
Dibenzo(a,h)anthracene	BRL	370	U
Benzo(g,h,i)perylene	93	370	J
Carbazole	BRL	370	U
N-Nitrosodiphenylamine (1)	BRL	370	U
Benzyl alcohol	BRL	370	U
Benzoic acid	BRL	1800	U
Benzidine	BRL	3700	U

(1) - Cannot be separated from Diphenylamine.

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Wednesday November 25th, 1998

RE: AOC-32-STOCK-12
Project # 03886-118-204-0630
Lab ID: 9811G155-006
Sample Date: 11/16/98
Date Received: 11/17/98
Units: ug/Kg

Tentatively Identified Compounds

5 Semivolatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Semivolatile Compound	Retention Time	Estimated Concentration
UNKNOWN KETONE	4.914	8900 JBA
UNKNOWN ALKANE	5.743	600 JB
Unknown	7.598	670 JB
Unknown	8.558	560 JB
Unknown	9.759	1800 J

Recra LabNet - Chicago

SEMIVOLATILES BY GC/MS, HSL LIST

Report Date: 11/24/98 13:30

RFW Batch Number: 9811G155

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

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Cust ID: AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK	
-07		-07		-07		-08		-09		-10	
Sample	RFW#:	001	001 MS	001 MSD	002	003	004				
Information	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL				
	D.F.:	1	1	1	1	1	1				
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG				
2-Fluorophenol		76 %	78 %	78 %	72 %	77 %	63 %				
Surrogate Phenol-d5		82 %	84 %	82 %	77 %	78 %	71 %				
Recovery Nitrobenzene-d5		79 %	80 %	81 %	75 %	81 %	68 %				
2-Fluorobiphenyl		85 %	83 %	82 %	82 %	86 %	78 %				
2,4,6-Tribromophenol		114 %	124 %	124 %	96 %	116 %	97 %				
p-Terphenyl-d14		98 %	104 %	102 %	85 %	97 %	86 %				
=====f =====f =====f =====f =====f =====f =====f =====f =====f =====f =====f =====f											
Phenol		360 U	76 %	75 %	350 U	350 U	350 U				
bis(2-Chloroethyl)ether		360 U	71 %	72 %	350 U	350 U	350 U				
2-Chlorophenol		360 U	77 %	79 %	350 U	350 U	350 U				
1,3-Dichlorobenzene		360 U	64 %	67 %	350 U	350 U	350 U				
1,4-Dichlorobenzene		360 U	65 %	68 %	350 U	350 U	350 U				
1,2-Dichlorobenzene		360 U	69 %	72 %	350 U	350 U	350 U				
2-Methylphenol		360 U	87 %	88 %	350 U	350 U	350 U				
2,2'-oxybis(1-Chloropropane)		360 U	72 %	77 %	350 U	350 U	350 U				
N-Nitroso-di-n-propylamine		360 U	83 %	83 %	350 U	350 U	350 U				
4-Methylphenol		360 U	97 %	98 %	350 U	350 U	350 U				
Hexachloroethane		360 U	68 %	71 %	350 U	350 U	350 U				
Nitrobenzene		360 U	73 %	75 %	350 U	350 U	350 U				
Isophorone		360 U	78 %	80 %	350 U	350 U	350 U				
2-Nitrophenol		360 U	74 %	78 %	350 U	350 U	350 U				
2,4-Dimethylphenol		360 U	83 %	84 %	350 U	350 U	350 U				
bis(2-Chloroethoxy)methane		360 U	77 %	77 %	350 U	350 U	350 U				
2,4-Dichlorophenol		360 U	82 %	86 %	350 U	350 U	350 U				
1,2,4-Trichlorobenzene		360 U	79 %	80 %	350 U	350 U	350 U				
Naphthalene		360 U	76 %	79 %	350 U	350 U	350 U				
4-Chloroaniline		360 U	30 %	30 %	350 U	350 U	350 U				
Hexachlorobutadiene		360 U	81 %	82 %	350 U	350 U	350 U				
4-Chloro-3-methylphenol		360 U	100 %	102 %	350 U	350 U	350 U				
2-Methylnaphthalene		360 U	95 %	98 %	350 U	350 U	350 U				

*= Outside of EPA CLP QC Limits.

	Cust ID: AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK	
	-07		-07		-07		-08		-09		-10			
RfW#:	001		001 MS		001 MSD		002		003		004			
Hexachlorocyclopentadiene	360	U	59	%	57	%	350	U	350	U	350	U		
2,4,6-Trichlorophenol	360	U	80	%	82	%	350	U	350	U	350	U		
2,4,5-Trichlorophenol	1800	U	92	%	95	%	1800	U	1800	U	1800	U		
2-Chloronaphthalene	360	U	74	%	75	%	350	U	350	U	350	U		
2-Nitroaniline	1800	U	88	%	89	%	1800	U	1800	U	1800	U		
Acenaphthylene	360	U	80	%	81	%	350	U	350	U	350	U		
2,6-Dinitrotoluene	360	U	90	%	91	%	350	U	350	U	350	U		
3-Nitroaniline	1800	U	85	%	92	%	1800	U	1800	U	1800	U		
Acenaphthene	360	U	78	%	78	%	350	U	350	U	350	U		
2,4-Dinitrophenol	1800	U	62	%	56	%	1800	U	1800	U	1800	U		
Dibenzofuran	360	U	84	%	86	%	350	U	350	U	350	U		
4-Nitrophenol	1800	U	107	%	112	%	1800	U	1800	U	1800	U		
2,4-Dinitrotoluene	360	U	96	%	96	%	350	U	350	U	350	U		
Fluorene	360	U	87	%	89	%	350	U	350	U	350	U		
Dimethylphthalate	360	U	84	%	84	%	350	U	350	U	350	U		
Diethylphthalate	360	U	85	%	88	%	350	U	350	U	350	U		
4-Chlorophenyl-phenylether	360	U	91	%	92	%	350	U	350	U	350	U		
4-Nitroaniline	1800	U	80	%	75	%	1800	U	1800	U	1800	U		
4,6-Dinitro-2-methylphenol	1800	U	76	%	70	%	1800	U	1800	U	1800	U		
4-Bromophenyl-phenylether	360	U	82	%	80	%	350	U	350	U	350	U		
Hexachlorobenzene	360	U	86	%	85	%	350	U	350	U	350	U		
Pentachlorophenol	1800	U	86	%	84	%	1800	U	1800	U	1800	U		
Phenanthrene	370		73	%	74	%	49	J	110	J	350	U		
Anthracene	99	J	75	%	76	%	350	U	350	U	350	U		
Di-n-butylphthalate	360	U	80	%	84	%	350	U	350	U	350	U		
Fluoranthene	740		75	%	78	%	140	J	230	J	76	J		
Pyrene	580		83	%	81	%	100	J	230	J	62	J		
Butylbenzylphthalate	360	U	85	%	87	%	40	J	52	J	350	U		
Benzo(a)anthracene	370		76	%	77	%	62	J	130	J	37	J		
3,3'-Dichlorobenzidine	720	U	27	%	30	%	710	U	700	U	700	U		
Chrysene	430		71	%	72	%	93	J	190	J	57	J		
bis(2-Ethylhexyl)phthalate	72	J	74	%	76	%	99	J	94	J	350	U		
Di-n-octylphthalate	360	U	77	%	78	%	350	U	350	U	350	U		
Benzo(b)fluoranthene	500		83	%	83	%	140	J	350	U	69	J		
Benzo(k)fluoranthene	220	J	74	%	76	%	350	U	350	U	350	U		
Benzo(a)pyrene	340	J	75	%	76	%	350	U	350	U	39	J		

*= Outside of EPA CLP QC Limits.

RFW Batch Number: 9811G155

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 1c

Cust ID: AOC-32-STOCK AOC-32-STOCK AOC-32-STOCK AOC-32-STOCK AOC-32-STOCK AOC-32-STOCK

	-07	-07	-07	-08	-09	-10
RFW#:	001	001 MS	001 MSD	002	003	004

Indeno(1,2,3-cd)pyrene	240 J	95 %	96 %	80 J	100 J	40 J
Dibenzo(a,h)anthracene	54 J	80 %	82 %	350 U	350 U	350 U
Benzo(g,h,i)perylene	190 J	69 %	69 %	68 J	99 J	41 J
Carbazole	360 U	108 %	98 %	350 U	350 U	350 U
N-Nitrosodiphenylamine (1)	360 U	78 %	77 %	350 U	350 U	350 U
Benzyl alcohol	360 U	90 %	93 %	350 U	350 U	350 U
Benzoic acid	1800 U	44 %	32 %	1800 U	1800 U	1800 U
Benzidine	3600 U	0 %	0 %	3500 U	3500 U	3500 U

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

Recra LabNet - Chicago

SEMIVOLATILES BY GC/MS, HSL LIST

Report Date: 11/24/98 13:30

RFW Batch Number: 9811G155

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 2a

		Cust ID: AOC-32-STOCK		AOC-32-STOCK		SBLKFC		SBLKFC BS	
		-11		-12		98GB0621-MB1		98GB0621-MB1	
Sample Information	RFW#:	005		006		98GB0621-MB1		98GB0621-MB1	
	Matrix:	SOIL		SOIL		SOIL		SOIL	
	D.F.:	1		1		1		1	
	Units:	UG/KG		UG/KG		UG/KG		UG/KG	
Surrogate Recovery	2-Fluorophenol	73	%	72	%	62	%	70	%
	Phenol-d5	83	%	78	%	67	%	81	%
	Nitrobenzene-d5	76	%	75	%	68	%	75	%
	2-Fluorobiphenyl	88	%	82	%	77	%	86	%
	2,4,6-Tribromophenol	109	%	118	%	72	%	115	%
	p-Terphenyl-d14	91	%	96	%	95	%	82	%
=====f]=====f]=====f]=====f]=====f]=====f]									
Phenol		360	U	370	U	330	U	74	%
bis(2-Chloroethyl)ether		360	U	370	U	330	U	72	%
2-Chlorophenol		360	U	370	U	330	U	75	%
1,3-Dichlorobenzene		360	U	370	U	330	U	65	%
1,4-Dichlorobenzene		360	U	370	U	330	U	64	%
1,2-Dichlorobenzene		360	U	370	U	330	U	68	%
2-Methylphenol		360	U	370	U	330	U	82	%
2,2'-oxybis(1-Chloropropane)		360	U	370	U	330	U	69	%
N-Nitroso-di-n-propylamine		360	U	370	U	330	U	82	%
4-Methylphenol		360	U	370	U	330	U	92	%
Hexachloroethane		360	U	370	U	330	U	69	%
Nitrobenzene		360	U	370	U	330	U	71	%
Isophorone		360	U	370	U	330	U	78	%
2-Nitrophenol		360	U	370	U	330	U	74	%
2,4-Dimethylphenol		360	U	370	U	330	U	82	%
bis(2-Chloroethoxy)methane		360	U	370	U	330	U	77	%
2,4-Dichlorophenol		360	U	370	U	330	U	84	%
1,2,4-Trichlorobenzene		360	U	370	U	330	U	76	%
Naphthalene		360	U	370	U	330	U	76	%
4-Chloroaniline		360	U	370	U	330	U	25 *	%
Hexachlorobutadiene		360	U	370	U	330	U	77	%
4-Chloro-3-methylphenol		360	U	370	U	330	U	100	%
2-Methylnaphthalene		360	U	370	U	330	U	92	%

*= Outside of EPA CLP QC Limits.

Cust ID: AOC-32-STOCK AOC-32-STOCK SBLKFC SBLKFC BS

-11

-12

RFW#:

005

006

98GB0621-MB1

98GB0621-MB1

Hexachlorocyclopentadiene	360	U	370	U	330	U	64	%
2,4,6-Trichlorophenol	360	U	370	U	330	U	78	%
2,4,5-Trichlorophenol	1800	U	1800	U	1700	U	93	%
2-Chloronaphthalene	360	U	370	U	330	U	76	%
2-Nitroaniline	1800	U	1800	U	1700	U	87	%
Acenaphthylene	360	U	370	U	330	U	82	%
2,6-Dinitrotoluene	360	U	370	U	330	U	92	%
3-Nitroaniline	1800	U	1800	U	1700	U	64	%
Acenaphthene	360	U	370	U	330	U	82	%
2,4-Dinitrophenol	1800	U	1800	U	1700	U	82	%
Dibenzofuran	360	U	370	U	330	U	86	%
4-Nitrophenol	1800	U	1800	U	1700	U	88	%
2,4-Dinitrotoluene	360	U	370	U	330	U	96	%
Fluorene	360	U	370	U	330	U	87	%
Dimethylphthalate	360	U	370	U	330	U	89	%
Diethylphthalate	360	U	370	U	330	U	92	%
4-Chlorophenyl-phenylether	360	U	370	U	330	U	93	%
4-Nitroaniline	1800	U	1800	U	1700	U	79	%
4,6-Dinitro-2-methylphenol	1800	U	1800	U	1700	U	91	%
4-Bromophenyl-phenylether	360	U	370	U	330	U	87	%
Hexachlorobenzene	360	U	370	U	330	U	93	%
Pentachlorophenol	1800	U	1800	U	1700	U	87	%
Phenanthrene	58	J	370	U	330	U	89	%
Anthracene	360	U	370	U	330	U	82	%
Di-n-butylphthalate	360	U	160	J	330	U	86	%
Fluoranthene	140	J	86	J	330	U	95	%
Pyrene	110	J	78	J	330	U	74	%
Butylbenzylphthalate	360	U	130	J	330	U	74	%
Benzo(a)anthracene	59	J	41	J	330	U	84	%
3,3'-Dichlorobenzidine	720	U	740	U	670	U	51	%
Chrysene	90	J	73	J	330	U	84	%
bis(2-Ethylhexyl)phthalate	160	J	71	J	330	U	74	%
Di-n-octylphthalate	360	U	370	U	330	U	71	%
Benzo(b)fluoranthene	360	U	370	U	330	U	95	%
Benzo(k)fluoranthene	360	U	370	U	330	U	80	%
Benzo(a)pyrene	360	U	370	U	330	U	85	%

*= Outside of EPA CLP QC Limits.

Cust ID: AOC-32-STOCK AOC-32-STOCK SBLKFC SBLKFC BS

RFW#: -11 005 -12 006 98GB0621-MB1 98GB0621-MB1

93

Indeno(1,2,3-cd)pyrene	70	J	45	J	330	U	112	%
Dibenzo(a,h)anthracene	360	U	370	U	330	U	91	%
Benzo(g,h,i)perylene	73	J	93	J	330	U	86	%
Carbazole	360	U	370	U	330	U	104	%
N-Nitrosodiphenylamine (1)	360	U	370	U	330	U	87	%
Benzyl alcohol	360	U	370	U	330	U	84	%
Benzoic acid	1800	U	1800	U	1700	U	78	%
Benzidine	3600	U	3700	U	3300	U	0	%

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

6/11/2018

Recra LabNet - Chicago
 PEST/PCB ANALYTICAL DATA PACKAGE FOR
 RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G155

CLIENT ID	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
AOC-32-STOCK-07	001	S	98GP1092	11/13/98	11/17/98	11/18/98	11/19/98
AOC-32-STOCK-07	001 MS	S	98GP1092	11/13/98	11/17/98	11/18/98	11/19/98
AOC-32-STOCK-07	001 MSD	S	98GP1092	11/13/98	11/17/98	11/18/98	11/19/98
AOC-32-STOCK-08	002	S	98GP1092	11/13/98	11/17/98	11/18/98	11/19/98
AOC-32-STOCK-09	003	S	98GP1092	11/13/98	11/17/98	11/18/98	11/19/98
AOC-32-STOCK-10	004	S	98GP1092	11/16/98	11/17/98	11/18/98	11/19/98
AOC-32-STOCK-11	005	S	98GP1092	11/16/98	11/17/98	11/18/98	11/20/98
AOC-32-STOCK-12	006	S	98GP1092	11/16/98	11/17/98	11/18/98	11/20/98
AOC-32-ASPH-03	008	S	98GP1092	11/16/98	11/17/98	11/18/98	11/20/98
AOC-32-ASPH-04	009	S	98GP1092	11/16/98	11/17/98	11/18/98	11/20/98
AOC-32-ASPH-05	010	S	98GP1092	11/16/98	11/17/98	11/18/98	11/20/98
AOC-32-ASPH-06	011	S	98GP1092	11/16/98	11/17/98	11/18/98	11/20/98
AOC-32-ASPH-07	012	S	98GP1092	11/16/98	11/17/98	11/18/98	11/20/98
AOC-32-ASPH-08	013	S	98GP1092	11/16/98	11/17/98	11/18/98	11/20/98

LAB QC:

PBLKRK	MB1	S	98GP1092	N/A	N/A	11/18/98	11/19/98
PBLKRK	MB1 BS	S	98GP1092	N/A	N/A	11/18/98	11/19/98

SIGNATURE

Linda S. Macleary

DATE 11-24-98

NY CERTIFICATION # 11006



Recra LabNet - Chicago
Pesticide/PCB Case Narrative

RFW-Ft. Devens-DRMO Yard
RFW# 9811G155-001\005, 006, 008\013
Pesticides/PCBs

1. Recra LabNet - Chicago used the following Gas Chromatographic systems for the analysis of these pesticides and PCBs:

<u>ID#</u>	<u>INSTRUMENT</u>	<u>COLUMN TYPE</u>	<u>DETECTOR</u>
29	HP 5890 II+	DB-5	Electron Capture
30	HP 5890 II+	Rtx-35	Electron Capture

2. These soil samples were extracted based on SW846 method 3550. The extracts were analyzed for Pesticides and PCBs based on SW846 method 8081.
3. All required hold times were met for the extraction and the analysis.
4. The method blanks were below the reporting limit for all target compounds.
5. The surrogate compounds used for this analysis were Decachlorobiphenyl (DCB) and Tetrachloro-m-xylene (TCX). All surrogate recoveries were within control limits.
6. All blank spike recoveries were within statistical control limits and are summarized on the spreadsheet summary.
7. A matrix spike and matrix spike duplicate were performed on samples 9811G155-001 (AOC-32-STOCK-07). The matrix spike and matrix spike duplicate had 15 out of 20 recoveries outside of control limits and 1 RPD out. All recoveries are summarized on the spreadsheet summary.
8. All initial and continuing standard calibrations were within control limits on at least one column and all positive hits were in control on both columns.


Linda S. Mackley
Organics Section Manager

11-24-98
Date

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Tuesday November 24th, 1998

RE: AOC-32-STOCK-07
Project # 03886-118-204-0630
Lab ID: 9811G155-001
Sample Date: 11/13/98
Date Received: 11/17/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	26	U
beta-BHC	BRL	26	U
delta-BHC	BRL	26	U
gamma-BHC (Lindane)	BRL	26	U
Heptachlor	BRL	26	U
Aldrin	BRL	26	U
Heptachlor epoxide	BRL	26	U
Endosulfan I	BRL	26	U
Dieldrin	BRL	53	U
4,4'-DDE	110	53	
Endrin	BRL	53	U
Endosulfan II	BRL	53	U
4,4'-DDD	BRL	53	U
Endosulfan sulfate	BRL	53	U
4,4'-DDT	700	53	
Methoxychlor	BRL	260	U
alpha-Chlordane	BRL	26	U

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Date: Tuesday November 24th, 1998

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RE: AOC-32-STOCK-07
Project # 03886-118-204-0630
Lab ID: 9811G155-001
Sample Date: 11/13/98
Date Received: 11/17/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	26	U
Toxaphene	BRL	530	U
Endrin aldehyde	BRL	53	U
Endrin ketone	BRL	53	U
Aroclor-1016	BRL	260	U
Aroclor-1221	BRL	260	U
Aroclor-1232	BRL	260	U
Aroclor-1242	BRL	260	U
Aroclor-1248	BRL	260	U
Aroclor-1254	BRL	260	U
Aroclor-1260	BRL	260	U

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Date: Tuesday November 24th, 1998

Attn: Mr. Sam Naik

RE: AOC-32-STOCK-08
Project # 03886-118-204-0630
Lab ID: 9811G155-002
Sample Date: 11/13/98
Date Received: 11/17/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	26	U
beta-BHC	BRL	26	U
delta-BHC	BRL	26	U
gamma-BHC (Lindane)	BRL	26	U
Heptachlor	BRL	26	U
Aldrin	BRL	26	U
Heptachlor epoxide	BRL	26	U
Endosulfan I	BRL	26	U
Dieldrin	BRL	53	U
4,4'-DDE	78	53	
Endrin	BRL	53	U
Endosulfan II	BRL	53	U
4,4'-DDD	BRL	53	U
Endosulfan sulfate	BRL	53	U
4,4'-DDT	440	53	
Methoxychlor	BRL	260	U
alpha-Chlordane	BRL	26	U

To: RFW-Ft Devens-DRMO Yard
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Attn: Mr. Sam Naik

Date: Tuesday November 24th, 1998

RE: AOC-32-STOCK-08
Project # 03886-118-204-0630
Lab ID: 9811G155-002
Sample Date: 11/13/98
Date Received: 11/17/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	26	U
Toxaphene	BRL	530	U
Endrin aldehyde	BRL	53	U
Endrin ketone	BRL	53	U
Aroclor-1016	BRL	260	U
Aroclor-1221	BRL	260	U
Aroclor-1232	BRL	260	U
Aroclor-1242	BRL	260	U
Aroclor-1248	BRL	260	U
Aroclor-1254	BRL	260	U
Aroclor-1260	BRL	260	U

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Date: Tuesday November 24th, 1998

Attn: Mr. Sam Naik

RE: AOC-32-STOCK-09
Project # 03886-118-204-0630
Lab ID: 9811G155-003
Sample Date: 11/13/98
Date Received: 11/17/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	26	U
beta-BHC	BRL	26	U
delta-BHC	BRL	26	U
gamma-BHC (Lindane)	BRL	26	U
Heptachlor	BRL	26	U
Aldrin	BRL	26	U
Heptachlor epoxide	BRL	26	U
Endosulfan I	BRL	26	U
Dieldrin	BRL	51	U
4,4'-DDE	210	51	
Endrin	BRL	51	U
Endosulfan II	BRL	51	U
4,4'-DDD	46	51	
Endosulfan sulfate	BRL	51	U
4,4'-DDT	910	51	
Methoxychlor	BRL	260	U
alpha-Chlordane	BRL	26	U

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Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Tuesday November 24th, 1998

RE: AOC-32-STOCK-09

Project # 03886-118-204-0630

Lab ID: 9811G155-003

Sample Date: 11/13/98

Date Received: 11/17/98

Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	26	U
Toxaphene	BRL	510	U
Endrin aldehyde	BRL	51	U
Endrin ketone	BRL	51	U
Aroclor-1016	BRL	260	U
Aroclor-1221	BRL	260	U
Aroclor-1232	BRL	260	U
Aroclor-1242	BRL	260	U
Aroclor-1248	BRL	260	U
Aroclor-1254	BRL	260	U
Aroclor-1260	BRL	260	U

To: RFW-Ft Devens-DRMO Yard
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Attn: Mr. Sam Naik

Date: Tuesday November 24th, 1998

RE: AOC-32-STOCK-10
Project # 03886-118-204-0630
Lab ID: 9811G155-004
Sample Date: 11/16/98
Date Received: 11/17/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	25	U
beta-BHC	BRL	25	U
delta-BHC	BRL	25	U
gamma-BHC (Lindane)	BRL	25	U
Heptachlor	BRL	25	U
Aldrin	BRL	25	U
Heptachlor epoxide	BRL	25	U
Endosulfan I	BRL	25	U
Dieldrin	BRL	49	U
4,4'-DDE	79	49	
Endrin	BRL	49	U
Endosulfan II	BRL	49	U
4,4'-DDD	67	49	
Endosulfan sulfate	BRL	49	U
4,4'-DDT	360	49	
Methoxychlor	BRL	250	U
alpha-Chlordane	BRL	25	U

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Ft Devens, MA 01433

Date: Tuesday November 24th, 1998

Attn: Mr. Sam Naik

RE: AOC-32-STOCK-10
Project # 03886-118-204-0630
Lab ID: 9811G155-004
Sample Date: 11/16/98
Date Received: 11/17/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	25	U
Toxaphene	BRL	490	U
Endrin aldehyde	BRL	49	U
Endrin ketone	BRL	49	U
Aroclor-1016	BRL	250	U
Aroclor-1221	BRL	250	U
Aroclor-1232	BRL	250	U
Aroclor-1242	BRL	250	U
Aroclor-1248	BRL	250	U
Aroclor-1254	BRL	250	U
Aroclor-1260	BRL	250	U

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Date: Tuesday November 24th, 1998

Attn: Mr. Sam Naik

RE: AOC-32-STOCK-11
Project # 03886-118-204-0630
Lab ID: 9811G155-005
Sample Date: 11/16/98
Date Received: 11/17/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	25	U
beta-BHC	BRL	25	U
delta-BHC	BRL	25	U
gamma-BHC (Lindane)	BRL	25	U
Heptachlor	BRL	25	U
Aldrin	BRL	25	U
Heptachlor epoxide	BRL	25	U
Endosulfan I	BRL	25	U
Dieldrin	BRL	49	U
4,4'-DDE	130	49	
Endrin	BRL	49	U
Endosulfan II	BRL	49	U
4,4'-DDD	120	49	
Endosulfan sulfate	BRL	49	U
4,4'-DDT	590	49	
Methoxychlor	BRL	250	U
alpha-Chlordane	BRL	25	U

To: RFW-Ft Devens-DRMO Yard
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Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik.

Date: Tuesday November 24th, 1998

RE: AOC-32-STOCK-11
Project # 03886-118-204-0630
Lab ID: 9811G155-005
Sample Date: 11/16/98
Date Received: 11/17/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	25	U
Toxaphene	BRL	490	U
Endrin aldehyde	BRL	49	U
Endrin ketone	BRL	49	U
Aroclor-1016	BRL	250	U
Aroclor-1221	BRL	250	U
Aroclor-1232	BRL	250	U
Aroclor-1242	BRL	250	U
Aroclor-1248	BRL	250	U
Aroclor-1254	BRL	250	U
Aroclor-1260	BRL	250	U

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Tuesday November 24th, 1998

RE: AOC-32-STOCK-12
Project # 03886-118-204-0630
Lab ID: 9811G155-006
Sample Date: 11/16/98
Date Received: 11/17/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	26	U
beta-BHC	BRL	26	U
delta-BHC	BRL	26	U
gamma-BHC (Lindane)	BRL	26	U
Heptachlor	BRL	26	U
Aldrin	BRL	26	U
Heptachlor epoxide	BRL	26	U
Endosulfan I	BRL	26	U
Dieldrin	BRL	52	U
4,4'-DDE	BRL	52	U
Endrin	BRL	52	U
Endosulfan II	BRL	52	U
4,4'-DDD	35	52	J
Endosulfan sulfate	BRL	52	U
4,4'-DDT	200	52	
Methoxychlor	BRL	260	U
alpha-Chlordane	BRL	26	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Tuesday November 24th, 1998

RE: AOC-32-STOCK-12
Project # 03886-118-204-0630
Lab ID: 9811G155-006
Sample Date: 11/16/98
Date Received: 11/17/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	26	U
Toxaphene	BRL	520	U
Endrin aldehyde	BRL	52	U
Endrin ketone	BRL	52	U
Aroclor-1016	BRL	260	U
Aroclor-1221	BRL	260	U
Aroclor-1232	BRL	260	U
Aroclor-1242	BRL	260	U
Aroclor-1248	BRL	260	U
Aroclor-1254	BRL	260	U
Aroclor-1260	BRL	260	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Tuesday November 24th, 1998

RE: AOC-32-ASPH-03
Project # 03886-118-204-0630
Lab ID: 9811G155-008
Sample Date: 11/16/98
Date Received: 11/17/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	26	U
beta-BHC	BRL	26	U
delta-BHC	BRL	26	U
gamma-BHC (Lindane)	BRL	26	U
Heptachlor	BRL	26	U
Aldrin	BRL	26	U
Heptachlor epoxide	BRL	26	U
Endosulfan I	BRL	26	U
Dieldrin	BRL	53	U
4,4'-DDE	76	53	
Endrin	BRL	53	U
Endosulfan II	BRL	53	U
4,4'-DDD	37	53	J
Endosulfan sulfate	BRL	53	U
4,4'-DDT	340	53	
Methoxychlor	BRL	260	U
alpha-Chlordane	BRL	26	U

To: RFW-Ft Devens-DRMO Yard
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Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Tuesday November 24th, 1998

RE: AOC-32-ASPH-03
Project # 03886-118-204-0630
Lab ID: 9811G155-008
Sample Date: 11/16/98
Date Received: 11/17/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	26	U
Toxaphene	BRL	530	U
Endrin aldehyde	BRL	53	U
Endrin ketone	BRL	53	U
Aroclor-1016	BRL	260	U
Aroclor-1221	BRL	260	U
Aroclor-1232	BRL	260	U
Aroclor-1242	BRL	260	U
Aroclor-1248	BRL	260	U
Aroclor-1254	BRL	260	U
Aroclor-1260	BRL	260	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
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Ft Devens, MA 01433

Date: Tuesday November 24th, 1998

Attn: Mr. Sam Naik

RE: AOC-32-ASPH-04
Project # 03886-118-204-0630
Lab ID: 9811G155-009
Sample Date: 11/16/98
Date Received: 11/17/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	26	U
beta-BHC	BRL	26	U
delta-BHC	BRL	26	U
gamma-BHC (Lindane)	BRL	26	U
Heptachlor	BRL	26	U
Aldrin	BRL	26	U
Heptachlor epoxide	BRL	26	U
Endosulfan I	BRL	26	U
Dieldrin	BRL	53	U
4,4'-DDE	BRL	53	U
Endrin	BRL	53	U
Endosulfan II	BRL	53	U
4,4'-DDD	BRL	53	U
Endosulfan sulfate	BRL	53	U
4,4'-DDT	24	53	J
Methoxychlor	BRL	260	U
alpha-Chlordane	BRL	26	U

To: RFW-Ft Devens-DRMO Yard
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Attn: Mr. Sam Naik

Date: Tuesday November 24th, 1998

RE: AOC-32-ASPH-04
Project # 03886-118-204-0630
Lab ID: 9811G155-009
Sample Date: 11/16/98
Date Received: 11/17/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	26	U
Toxaphene	BRL	530	U
Endrin aldehyde	BRL	53	U
Endrin ketone	BRL	53	U
Aroclor-1016	BRL	260	U
Aroclor-1221	BRL	260	U
Aroclor-1232	BRL	260	U
Aroclor-1242	BRL	260	U
Aroclor-1248	BRL	260	U
Aroclor-1254	BRL	260	U
Aroclor-1260	BRL	260	U

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Tuesday November 24th, 1998

RE: AOC-32-ASPH-05
Project # 03886-118-204-0630
Lab ID: 9811G155-010
Sample Date: 11/16/98
Date Received: 11/17/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	260	U
beta-BHC	BRL	260	U
delta-BHC	BRL	260	U
gamma-BHC (Lindane)	BRL	260	U
Heptachlor	BRL	260	U
Aldrin	BRL	260	U
Heptachlor epoxide	BRL	260	U
Endosulfan I	BRL	260	U
Dieldrin	BRL	520	U
4,4'-DDE	BRL	520	U
Endrin	BRL	520	U
Endosulfan II	BRL	520	U
4,4'-DDD	BRL	520	U
Endosulfan sulfate	BRL	520	U
4,4'-DDT	BRL	520	U
Methoxychlor	BRL	2600	U
alpha-Chlordane	BRL	260	U

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Date: Tuesday November 24th, 1998

Attn: Mr. Sam Naik

RE: AOC-32-ASPH-05
Project # 03886-118-204-0630
Lab ID: 9811G155-010
Sample Date: 11/16/98
Date Received: 11/17/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	260	U
Toxaphene	BRL	5200	U
Endrin aldehyde	BRL	520	U
Endrin ketone	BRL	520	U
Aroclor-1016	BRL	2600	U
Aroclor-1221	BRL	2600	U
Aroclor-1232	BRL	2600	U
Aroclor-1242	29000	2600	
Aroclor-1248	BRL	2600	U
Aroclor-1254	BRL	2600	U
Aroclor-1260	BRL	2600	U

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Date: Tuesday November 24th, 1998

Attn: Mr. Sam Naik

RE: AOC-32-ASPH-06
Project # 03886-118-204-0630
Lab ID: 9811G155-011
Sample Date: 11/16/98
Date Received: 11/17/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	25	U
beta-BHC	BRL	25	U
delta-BHC	BRL	25	U
gamma-BHC (Lindane)	BRL	25	U
Heptachlor	BRL	25	U
Aldrin	BRL	25	U
Heptachlor epoxide	BRL	25	U
Endosulfan I	BRL	25	U
Dieldrin	BRL	51	U
4,4'-DDE	BRL	51	U
Endrin	BRL	51	U
Endosulfan II	BRL	51	U
4,4'-DDD	BRL	51	U
Endosulfan sulfate	BRL	51	U
4,4'-DDT	71	51	
Methoxychlor	BRL	250	U
alpha-Chlordane	BRL	25	U

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Attn: Mr. Sam Naik

Date: Tuesday November 24th, 1998

RE: AOC-32-ASPH-06
Project # 03886-118-204-0630
Lab ID: 9811G155-011
Sample Date: 11/16/98
Date Received: 11/17/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	25	U
Toxaphene	BRL	510	U
Endrin aldehyde	BRL	51	U
Endrin ketone	BRL	51	U
Aroclor-1016	BRL	250	U
Aroclor-1221	BRL	250	U
Aroclor-1232	BRL	250	U
Aroclor-1242	BRL	250	U
Aroclor-1248	BRL	250	U
Aroclor-1254	BRL	250	U
Aroclor-1260	BRL	250	U

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Date: Tuesday November 24th, 1998

Attn: Mr. Sam Naik

RE: AOC-32-ASPH-07
Project # 03886-118-204-0630
Lab ID: 9811G155-012
Sample Date: 11/16/98
Date Received: 11/17/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	280	U
beta-BHC	BRL	280	U
delta-BHC	BRL	280	U
gamma-BHC (Lindane)	BRL	280	U
Heptachlor	BRL	280	U
Aldrin	BRL	280	U
Heptachlor epoxide	BRL	280	U
Endosulfan I	BRL	280	U
Dieldrin	BRL	570	U
4,4'-DDE	4600	570	
Endrin	BRL	570	U
Endosulfan II	BRL	570	U
4,4'-DDD	1900	570	
Endosulfan sulfate	BRL	570	U
4,4'-DDT	10000	570	
Methoxychlor	BRL	2800	U
alpha-Chlordane	BRL	280	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Tuesday November 24th, 1998

RE: AOC-32-ASPH-07
Project # 03886-118-204-0630
Lab ID: 9811G155-012
Sample Date: 11/16/98
Date Received: 11/17/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	280	U
Toxaphene	BRL	5700	U
Endrin aldehyde	BRL	570	U
Endrin ketone	BRL	570	U
Aroclor-1016	BRL	2800	U
Aroclor-1221	BRL	2800	U
Aroclor-1232	BRL	2800	U
Aroclor-1242	BRL	2800	U
Aroclor-1248	BRL	2800	U
Aroclor-1254	BRL	2800	U
Aroclor-1260	BRL	2800	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Tuesday November 24th, 1998

Attn: Mr. Sam Naik

RE: AOC-32-ASPH-08
Project # 03886-118-204-0630
Lab ID: 9811G155-013
Sample Date: 11/16/98
Date Received: 11/17/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	27	U
beta-BHC	BRL	27	U
delta-BHC	BRL	27	U
gamma-BHC (Lindane)	BRL	27	U
Heptachlor	BRL	27	U
Aldrin	BRL	27	U
Heptachlor epoxide	BRL	27	U
Endosulfan I	BRL	27	U
Dieldrin	BRL	54	U
4,4'-DDE	590	54	
Endrin	BRL	54	U
Endosulfan II	BRL	54	U
4,4'-DDD	250	54	
Endosulfan sulfate	BRL	54	U
4,4'-DDT	1700	54	
Methoxychlor	BRL	270	U
alpha-Chlordane	BRL	27	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Naik

Date: Tuesday November 24th, 1998

RE: AOC-32-ASPH-08
Project # 03886-118-204-0630
Lab ID: 9811G155-013
Sample Date: 11/16/98
Date Received: 11/17/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	27	U
Toxaphene	BRL	540	U
Endrin aldehyde	BRL	54	U
Endrin ketone	BRL	54	U
Aroclor-1016	BRL	270	U
Aroclor-1221	BRL	270	U
Aroclor-1232	BRL	270	U
Aroclor-1242	BRL	270	U
Aroclor-1248	BRL	270	U
Aroclor-1254	BRL	270	U
Aroclor-1260	BRL	270	U

Recre LabNet - Chicago

PESTICIDE/PCBs BY GC, CLP LIST

Report Date: 11/24/98 15:48

RFW Batch Number: 9811G155

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 13

Sample Information	RFW#: Matrix: D.F.: Units:	Cust ID: AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK	
		-07		-07		-07		-08		-09		-10	
		001		001 MS		001 MSD		002		003		004	
		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
		5.0		5.0		5.0		5.0		5.0		5.0	
		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Surrogate: Tetrachloro-m-xylene		118	%	120	%	120	%	118	%	115	%	115	%
Decachlorobiphenyl		138	%	135	%	135	%	130	%	120	%	125	%
=====f=====		f		f		f		f		f		f	
alpha-BHC		26	U	110	%	108	%	26	U	26	U	25	U
beta-BHC		26	U	125	%	125	%	26	U	26	U	25	U
delta-BHC		26	U	112	%	112	%	26	U	26	U	25	U
gamma-BHC (Lindane)		26	U	112	%	110	%	26	U	26	U	25	U
Heptachlor		26	U	120	%	120	%	26	U	26	U	25	U
Aldrin		26	U	108	%	105	%	26	U	26	U	25	U
Heptachlor epoxide		26	U	98	%	95	%	26	U	26	U	25	U
Endosulfan I		26	U	118 *	%	118 *	%	26	U	26	U	25	U
Dieldrin		53	U	88	%	85	%	53	U	51	U	49	U
4,4'-DDE		110		142 *	%	100	%	78		210		79	
Endrin		53	U	148 *	%	145 *	%	53	U	51	U	49	U
Endosulfan II		53	U	132 *	%	132 *	%	53	U	51	U	49	U
4,4'-DDD		53	U	152 *	%	135 *	%	53	U	46		67	
Endosulfan sulfate		53	U	125 *	%	122 *	%	53	U	51	U	49	U
4,4'-DDT		700		458 *	%	343 *	%	440		910		360	
Methoxychlor		260	U	145	%	140	%	260	U	260	U	250	U
alpha-Chlordane		26	U	145	%	135	%	26	U	26	U	25	U
gamma-Chlordane		26	U	145	%	135	%	26	U	26	U	25	U
Toxaphene		530	U	530	U	520	U	530	U	510	U	490	U
Endrin aldehyde		53	U	158 *	%	155 *	%	53	U	51	U	49	U
Endrin ketone		53	U	122	%	120	%	53	U	51	U	49	U
Aroclor-1016		260	U	260	U	260	U	260	U	260	U	250	U
Aroclor-1221		260	U	260	U	260	U	260	U	260	U	250	U
Aroclor-1232		260	U	260	U	260	U	260	U	260	U	250	U
Aroclor-1242		260	U	260	U	260	U	260	U	260	U	250	U
Aroclor-1248		260	U	260	U	260	U	260	U	260	U	250	U
Aroclor-1254		260	U	260	U	260	U	260	U	260	U	250	U

*= Outside of EPA CLP QC Limits.

RFW Batch Number: 9811G155 Client: RFW-Ft Devens-DRMO Yard Work Order: 03886-118-204-0 Page: 1b

Cust ID:	AOC-32-STOCK	AOC-32-STOCK	AOC-32-STOCK	AOC-32-STOCK	AOC-32-STOCK	AOC-32-STOCK
	-07	-07	-07	-08	-09	-10
RFW#:	001	001 MS	001 MSD	002	003	004

Aroclor-1260	260 U	260 U	260 U	260 U	260 U	250 U
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U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

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PESTICIDE/PCBs BY GC, CLP LIST

Report Date: 11/24/98 15:49

RFW Batch Number: 9811G155

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 2

Sample Information	RFW#: Matrix: D.F.: Units:	Cust ID: AOC-32-STOCK		AOC-32-STOCK		AOC-32-ASPH-		AOC-32-ASPH-		AOC-32-ASPH-		AOC-32-ASPH-	
		-11		-12		03		04		05		06	
		005		006		008		009		010		011	
		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
		5.0		5.0		5.0		5.0		50		5.0	
		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Surrogate: Tetrachloro-m-xylene		112	%	132	%	115	%	118	%	D	%	125	%
Decachlorobiphenyl		125	%	142	%	118	%	120	%	D	%	125	%
alpha-BHC		25	U	26	U	26	U	26	U	260	U	25	U
beta-BHC		25	U	26	U	26	U	26	U	260	U	25	U
delta-BHC		25	U	26	U	26	U	26	U	260	U	25	U
gamma-BHC (Lindane)		25	U	26	U	26	U	26	U	260	U	25	U
Heptachlor		25	U	26	U	26	U	26	U	260	U	25	U
Aldrin		25	U	26	U	26	U	26	U	260	U	25	U
Heptachlor epoxide		25	U	26	U	26	U	26	U	260	U	25	U
Endosulfan I		25	U	26	U	26	U	26	U	260	U	25	U
Dieldrin		49	U	52	U	53	U	53	U	520	U	51	U
4,4'-DDE		130	U	52	U	76	U	53	U	520	U	51	U
Endrin		49	U	52	U	53	U	53	U	520	U	51	U
Endosulfan II		49	U	52	U	53	U	53	U	520	U	51	U
4,4'-DDD		120	U	35	J	37	J	53	U	520	U	51	U
Endosulfan sulfate		49	U	52	U	53	U	53	U	520	U	51	U
4,4'-DDT		590	U	200	U	340	U	24	J	520	U	71	U
Methoxychlor		250	U	260	U	260	U	260	U	2600	U	250	U
alpha-Chlordane		25	U	26	U	26	U	26	U	260	U	25	U
gamma-Chlordane		25	U	26	U	26	U	26	U	260	U	25	U
Toxaphene		490	U	520	U	530	U	530	U	5200	U	510	U
Endrin aldehyde		49	U	52	U	53	U	53	U	520	U	51	U
Endrin ketone		49	U	52	U	53	U	53	U	520	U	51	U
Aroclor-1016		250	U	260	U	260	U	260	U	2600	U	250	U
Aroclor-1221		250	U	260	U	260	U	260	U	2600	U	250	U
Aroclor-1232		250	U	260	U	260	U	260	U	2600	U	250	U
Aroclor-1242		250	U	260	U	260	U	260	U	29000	U	250	U
Aroclor-1248		250	U	260	U	260	U	260	U	2600	U	250	U
Aroclor-1254		250	U	260	U	260	U	260	U	2600	U	250	U

*= Outside of EPA CLP QC Limits.

RFW Batch Number: 9811G155 Client: RFW-Ft Devens-DRMO Yard Work Order: 03886-118-204-0 Page: 2b

Cust ID:	AOC-32-STOCK	AOC-32-STOCK	AOC-32-ASPH-	AOC-32-ASPH-	AOC-32-ASPH-	AOC-32-ASPH-
	-11	-12	03	04	05	06
RFW#:	005	006	008	009	010	011

Aroclor-1260	250 U	260 U	260 U	260 U	2600 U	250 U
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U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Recre LabNet - Chicago
PESTICIDE/PCBs BY GC, CLP LIST

RFW Batch Number: 9811G155

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Report Date: 11/24/98 15:49

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Sample Information	Cust ID: AOC-32-ASPH-07		AOC-32-ASPH-08		PBLKRK		PBLKRK BS	
	RFW#: 012		013		98GP1092-MB1		98GP1092-MB1	
	Matrix: SOIL		SOIL		SOIL		SOIL	
	D.F.: 50		5.0		0.50		0.50	
	Units: ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Surrogate: Tetrachloro-m-xylene	D	%	115	%	92	%	90	%
Decachlorobiphenyl	D	%	150	%	90	%	92	%
=====f]=====f]=====f]=====f]=====f]=====f]								
alpha-BHC	280	U	27	U	2.5	U	102	%
beta-BHC	280	U	27	U	2.5	U	88	%
delta-BHC	280	U	27	U	2.5	U	105	%
gamma-BHC (Lindane)	280	U	27	U	2.5	U	98	%
Heptachlor	280	U	27	U	2.5	U	102	%
Aldrin	280	U	27	U	2.5	U	100	%
Heptachlor epoxide	280	U	27	U	2.5	U	100	%
Endosulfan I	280	U	27	U	2.5	U	98	%
Dieldrin	570	U	54	U	5.0	U	102	%
4,4'-DDE	4600		590		5.0	U	112	%
Endrin	570	U	54	U	5.0	U	105	%
Endosulfan II	570	U	54	U	5.0	U	100	%
4,4'-DDD	1900		250		5.0	U	105	%
Endosulfan sulfate	570	U	54	U	5.0	U	102	%
4,4'-DDT	10000		1700		5.0	U	108	%
Methoxychlor	2800	U	270	U	25	U	115	%
alpha-Chlordane	280	U	27	U	2.5	U	115	%
gamma-Chlordane	280	U	27	U	2.5	U	95	%
Toxaphene	5700	U	540	U	50	U	50	U
Endrin aldehyde	570	U	54	U	5.0	U	112	%
Endrin ketone	570	U	54	U	5.0	U	105	%
Aroclor-1016	2800	U	270	U	25	U	25	U
Aroclor-1221	2800	U	270	U	25	U	25	U
Aroclor-1232	2800	U	270	U	25	U	25	U
Aroclor-1242	2800	U	270	U	25	U	25	U
Aroclor-1248	2800	U	270	U	25	U	25	U
Aroclor-1254	2800	U	270	U	25	U	25	U

*= Outside of EPA CLP Qc Limits.

RFW Batch Number: 9811G155 Client: RFW-Ft Devens-DRMO Yard Work Order: 03886-118-204-0 Page: 3b

Cust ID: AOC-32-ASPH- AOC-32-ASPH- PBLKRK PBLKRK BS

07 08

RFW#: 012 013 98GP1092-MB1 98GP1092-MB1

Aroclor-1260 2800 U 270 U 25 U 25 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Recra LabNet - Chicago
DRO ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G155

CLIENT ID	Sample #	MTX	PREP-#	COLLECTN	DATE	REC	EXT/PREP	ANALYSIS
AOC-32-STOCK-07	001	S	98GP1101	11/13/98	11/17/98	11/20/98	11/23/98	
AOC-32-STOCK-08	002	S	98GP1101	11/13/98	11/17/98	11/20/98	11/23/98	
AOC-32-STOCK-09	003	S	98GP1101	11/13/98	11/17/98	11/20/98	11/23/98	
AOC-32-STOCK-10	004	S	98GP1101	11/16/98	11/17/98	11/20/98	11/23/98	
AOC-32-STOCK-11	005	S	98GP1101	11/16/98	11/17/98	11/20/98	11/23/98	
AOC-32-STOCK-12	006	S	98GP1101	11/16/98	11/17/98	11/20/98	11/23/98	

LAB QC:

PBLKRU	MB1	S	98GP1101	N/A	N/A	11/20/98	11/23/98
PBLKRU	MB1 BS	S	98GP1101	N/A	N/A	11/20/98	11/23/98
PBLKRU	MB1 BSD	S	98GP1101	N/A	N/A	11/20/98	11/23/98

SIGNATURE

Linda A. Macchery

DATE 11-24-98



NY CERTIFICATION # 11006

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Recra LabNet - Chicago

GC/HPLC METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained within this RFW Lot :

Pesticides/PCBs	_____ SW-846 8080A
	_____ SW-846 8081
	_____ 40 CFR Part 136, Method 608
	_____ OLM03.1/3.2
Pesticides	_____ SW-846 8081A
PCBs	_____ SW-846 8082
Organophosphorus Pesticides	_____ SW-846 8141A
Herbicides	_____ SW-846 8150B
	_____ SW-846 8151A
Explosives	_____ SW-846 8330
Polynuclear Aromatics	_____ SW-846 8310
	_____ 40 CFR Part 136, Method 610
Petroleum Hydrocarbons	_____/ SW-846 8015A Mod
	_____/ California LUFT
	_____ Other _____
EDB & DBCP	_____ EPA Method 504.1
GC VOLATILES	_____ SW-846 8010A
	_____ 40 CFR Part 136, Method 601
	_____ SW-846 8020A
	_____ SW-846 8021A
	_____ 40 CFR Part 136, Method 602
	_____ SW-846 8015 Mod

CHI-22-05-003/F-4/98

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Niak

Date: Tuesday November 24th, 1998

RE: AOC-32-STOCK-07
Project # 03886-118-204-0630
Lab ID: 9811G155-001
Sample Date: 11/13/98
Date Received: 11/17/98
Units: MG/KG

DIESEL RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Diesel Range Organics	200	67	Y

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Niak

Date: Tuesday November 24th, 1998

RE: AOC-32-STOCK-08
Project # 03886-118-204-0630
Lab ID: 9811G155-002
Sample Date: 11/13/98
Date Received: 11/17/98
Units: MG/KG

DIESEL RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Diesel Range Organics	150	66	Y

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Niak

Date: Tuesday November 24th, 1998

RE: AOC-32-STOCK-09
Project # 03886-118-204-0630
Lab ID: 9811G155-003
Sample Date: 11/13/98
Date Received: 11/17/98
Units: MG/KG

DIESEL RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Diesel Range Organics	170	66	Y

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Niak

Date: Tuesday November 24th, 1998

RE: AOC-32-STOCK-10
Project # 03886-118-204-0630
Lab ID: 9811G155-004
Sample Date: 11/16/98
Date Received: 11/17/98
Units: MG/KG

DIESEL RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Diesel Range Organics	32	6.5	Y

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Niak

Date: Tuesday November 24th, 1998

RE: AOC-32-STOCK-11
Project # 03886-118-204-0630
Lab ID: 9811G155-005
Sample Date: 11/16/98
Date Received: 11/17/98
Units: MG/KG

DIESEL RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Diesel Range Organics	480	32	Y

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Niak

Date: Tuesday November 24th, 1998

RE: AOC-32-STOCK-12
Project # 03886-118-204-0630
Lab ID: 9811G155-006
Sample Date: 11/16/98
Date Received: 11/17/98
Units: MG/KG

DIESEL RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Diesel Range Organics	530	70	Y

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DIESEL RANGE ORGANICS

RFW Batch Number: 9811G155

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Report Date: 11/24/98 10:42
Page: 1

Sample Information	Cust ID: AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK	
	-07		-08		-09		-10		-11		-12	
	RFW#: 001		002		003		004		005		006	
	Matrix: SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.: 2.5		2.5		2.5		0.25		1.2		2.5	
	Units: MG/KG		MG/KG		MG/KG		MG/KG		MG/KG		MG/KG	
Surrogate:	2-Fluorobiphenyl	95 %	96 %	85 %	84 %	83 %	97 %					
	o-Terphenyl	104 %	105 %	102 %	90 %	115 %	116 %					
=====f]=====f]=====f]=====f]=====f]=====f]=====f]												
Diesel Range Organics		200 Y	150 Y	170 Y	32 Y	480 Y	530 Y					

Sample Information	Cust ID: PBLKRU		PBLKRU BS		PBLKRU BSD	
	RFW#: 98GP1101-MB1		98GP1101-MB1		98GP1101-MB1	
	Matrix: SOIL		SOIL		SOIL	
	D.F.: 0.25		0.25		0.25	
	Units: MG/KG		MG/KG		MG/KG	
Surrogate:	2-Fluorobiphenyl	79 %	104 %	97 %		
	o-Terphenyl	86 %	100 %	92 %		
=====f]=====f]=====f]=====f]=====f]=====f]=====f]						
Diesel Range Organics		6.2 U	95 %	88 %		

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Recra LabNet - Chicago
GRO ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G155

CLIENT ID	Sample #	MTX	PREP #	COLLECTN	DATE	REC	EXT/PREP	ANALYSIS
AOC-32-STOCK-07	001	S	98GVD458	11/13/98	11/17/98	N/A		11/22/98
AOC-32-STOCK-08	002	S	98GVD458	11/13/98	11/17/98	N/A		11/23/98
AOC-32-STOCK-09	003	S	98GVD458	11/13/98	11/17/98	N/A		11/23/98
AOC-32-STOCK-10	004	S	98GVD458	11/16/98	11/17/98	N/A		11/23/98
AOC-32-STOCK-11	005	S	98GVD458	11/16/98	11/17/98	N/A		11/23/98
AOC-32-STOCK-12	006	S	98GVD458	11/16/98	11/17/98	N/A		11/23/98

LAB QC:

BLK	MB1	S	98GVD458	N/A	N/A	N/A	11/22/98
BLK	MB1 BS	S	98GVD458	N/A	N/A	N/A	11/22/98

SIGNATURE

Frank J. Macaluso

DATE 11-23-98



NY CERTIFICATION # 11006

135

Recra LabNet - Chicago

GC/HPLC METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained within this RFW Lot :

Pesticides/PCBs	_____ SW-846 8080A
	_____ SW-846 8081
	_____ 40 CFR Part 136, Method 608
	_____ OLM03.1/3.2
Pesticides	_____ SW-846 8081A
PCBs	_____ SW-846 8082
Organophosphorus Pesticides	_____ SW-846 8141A
Herbicides	_____ SW-846 8150B
	_____ SW-846 8151A
Explosives	_____ SW-846 8330
Polynuclear Aromatics	_____ SW-846 8310
	_____ 40 CFR Part 136, Method 610
Petroleum Hydrocarbons	_____ SW-846 8015A Mod
	_____ California LUFT
	_____ Other _____
EDB & DBCP	_____ EPA Method 504.1
GC VOLATILES	_____ SW-846 8010A
	_____ 40 CFR Part 136, Method 601
	_____ SW-846 8020A
	_____ SW-846 8021A
	_____ 40 CFR Part 136, Method 602
	_____ / SW-846 8015 Mod

CHI-22-05-003/F-4/98

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Niak

Date: Monday November 23rd, 1998

RE: AOC-32-STOCK-07
Project # 03886-118-204-0630
Lab ID: 9811G155-001
Sample Date: 11/13/98
Date Received: 11/17/98
Units: UG/KG

GASOLINE RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Gasoline Range Organics	BRL	54	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Niak

Date: Monday November 23rd, 1998

RE: AOC-32-STOCK-08
Project # 03886-118-204-0630
Lab ID: 9811G155-002
Sample Date: 11/13/98
Date Received: 11/17/98
Units: UG/KG

GASOLINE RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Gasoline Range Organics	42	54	JY

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Niak

Date: Monday November 23rd, 1998

RE: AOC-32-STOCK-09
Project # 03886-118-204-0630
Lab ID: 9811G155-003
Sample Date: 11/13/98
Date Received: 11/17/98
Units: UG/KG

GASOLINE RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Gasoline Range Organics	BRL	54	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Niak

Date: Monday November 23rd, 1998

RE: AOC-32-STOCK-10
Project # 03886-118-204-0630
Lab ID: 9811G155-004
Sample Date: 11/16/98
Date Received: 11/17/98
Units: UG/KG

GASOLINE RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Gasoline Range Organics	32	53	JY

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Mr. Sam Niak

Date: Monday November 23rd, 1998

RE: AOC-32-STOCK-11
Project # 03886-118-204-0630
Lab ID: 9811G155-005
Sample Date: 11/16/98
Date Received: 11/17/98
Units: UG/KG

GASOLINE RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Gasoline Range Organics	38	54	JY

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Monday November 23rd, 1998

Attn: Mr. Sam Niak

RE: AOC-32-STOCK-12
Project # 03886-118-204-0630
Lab ID: 9811G155-006
Sample Date: 11/16/98
Date Received: 11/17/98
Units: UG/KG

GASOLINE RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Gasoline Range Organics	BRL	56	U

Recra LabNet - Chicago
GASOLINE RANGE ORGANICS

Report Date: 11/23/98 15:16

RFW Batch Number: 9811G155

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 13

Sample Information	Cust ID:	AOC-32-STOCK -07	AOC-32-STOCK -08	AOC-32-STOCK -09	AOC-32-STOCK -10	AOC-32-STOCK -11	AOC-32-STOCK -12
	RFW#:	001	002	003	004	005	006
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.0	1.0	1.0	1.0	1.0	1.0
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
a,a,a-Trifluorotoluene		79 %	88 %	56 %	75 %	65 %	72 %
Surrogate 4-Bromofluorobenzene		65 %	74 %	39 %	62 %	54 %	56 %
=====f]=====f]=====f]=====f]=====f]=====f]=====							
Gasoline Range Organics		54 U	42 JY	54 U	32 JY	38 JY	56 U

Sample Information	Cust ID:	BLK	BLK BS
	RFW#:	98GVD458-MB1	98GVD458-MB1
	Matrix:	SOIL	SOIL
	D.F.:	1.0	1.0
	Units:	ug/Kg	ug/Kg
a,a,a-Trifluorotoluene		101 %	110 %
Surrogate 4-Bromofluorobenzene		101 %	114 %
=====f]=====f]=====f]=====f]=====f]=====f]=====			
Gasoline Range Organics		50 U	87 %

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

WEAPON
MANAGERS DESIGNERS CONSULTANTS

[illegible]

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS				DATE/REVISIONS:				WESTON Analytics Use Only																			
Special Instructions: * TEMP BLANK INCLUDED				1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____				Samples were: 1) Shipped ☒ or Hand Delivered _____ Airbill # _____ 2) Ambient or Chilled 3.2° 3) Received in Good Condition Y or N 4) Labels Indicate Properly Preserved Y or N 5) Received Within Holding Times Y or N																			
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Relinquished by</th> <th style="width: 25%;">Received by</th> <th style="width: 25%;">Date</th> <th style="width: 25%;">Time</th> </tr> </thead> <tbody> <tr> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table>				Relinquished by	Received by	Date	Time	_____	_____	_____	_____	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Relinquished by</th> <th style="width: 25%;">Received by</th> <th style="width: 25%;">Date</th> <th style="width: 25%;">Time</th> </tr> </thead> <tbody> <tr> <td>_____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table>				Relinquished by	Received by	Date	Time	_____	_____	_____	_____	Discrepancies Between Samples Labels and COC Record? Y or N NOTES: _____			
Relinquished by	Received by	Date	Time																								
_____	_____	_____	_____																								
Relinquished by	Received by	Date	Time																								
_____	_____	_____	_____																								

WESTON
MANAGEMENT • DESIGN-BUILD CONTRACTS

RFW 21-21-001/A-7/91	L372	L373	L375	L377	L378	Ref#	Cooler#	381-596a
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Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G975

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN DATE	REC	EXT/PREP	ANALYSIS
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AOC-32-STOCK-01

REACTIVE CYANIDE	001	S	98GCN170	11/02/98	11/03/98	11/06/98	11/06/98
REACTIVE CYANIDE	001 REP	S	98GCN170	11/02/98	11/03/98	11/06/98	11/06/98
REACTIVE CYANIDE	001 MS	S	98GCN170	11/02/98	11/03/98	11/06/98	11/06/98
CORROSIVITY	001	S	98GPH362	11/02/98	11/03/98	11/05/98	11/05/98
FLASH POINT CLOSED C	001	S	98GMB079	11/02/98	11/03/98	11/04/98	11/04/98
REACTIVE SULFIDE	001	S	98GSF140	11/02/98	11/03/98	11/04/98	11/04/98
Reactive Sulfide Rep	001 REP	S	98GSF140	11/02/98	11/03/98	11/04/98	11/04/98

AOC-32-STOCK-02

REACTIVE CYANIDE	002	S	98GCN170	11/02/98	11/03/98	11/06/98	11/06/98
CORROSIVITY	002	S	98GPH362	11/02/98	11/03/98	11/05/98	11/05/98
FLASH POINT CLOSED C	002	S	98GMB079	11/02/98	11/03/98	11/04/98	11/04/98
FLASH POINT	002 REP	S	98GMB079	11/02/98	11/03/98	11/04/98	11/04/98
REACTIVE SULFIDE	002	S	98GSF140	11/02/98	11/03/98	11/04/98	11/04/98
Reactive Sulfide Spi	002 MS	S	98GSF140	11/02/98	11/03/98	11/04/98	11/04/98

AOC-32-STOCK-03

REACTIVE CYANIDE	003	S	98GCN170	11/02/98	11/03/98	11/06/98	11/06/98
CORROSIVITY	003	S	98GPH362	11/02/98	11/03/98	11/05/98	11/05/98
FLASH POINT CLOSED C	003	S	98GMB079	11/02/98	11/03/98	11/04/98	11/04/98
REACTIVE SULFIDE	003	S	98GSF140	11/02/98	11/03/98	11/04/98	11/04/98

AOC-32-STOCK-04

REACTIVE CYANIDE	004	S	98GCN170	11/02/98	11/03/98	11/06/98	11/06/98
CORROSIVITY	004	S	98GPH362	11/02/98	11/03/98	11/05/98	11/05/98
FLASH POINT CLOSED C	004	S	98GMB079	11/02/98	11/03/98	11/04/98	11/04/98
REACTIVE SULFIDE	004	S	98GSF140	11/02/98	11/03/98	11/04/98	11/04/98

LAB QC:

REACTIVE CYANIDE	LCS BS	W	98GCN170	N/A	N/A	11/06/98	11/06/98
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NY CERTIFICATION # 11006

002

Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RfW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G975

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN DATE	REC	EXT/PREP	ANALYSIS
REACTIVE CYANIDE	MB1	W	98GCN170	N/A	N/A	11/06/98	11/06/98
Reactive Sulfide Spi	LCS BS	W	98GSF140	N/A	N/A	11/04/98	11/04/98
REACTIVE SULFIDE	MB1	W	98GSF140	N/A	N/A	11/04/98	11/04/98

SIGNATURE

Daniel H. P.

DATE

11/9/98



NY CERTIFICATION # 11006

003

Recra LabNet - Chicago
WET CHEMISTRY METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained with RFW Lot: 9811C-975

PARAMETER	EPA 600	STANDARD METHODS	SW-846	OTHER
%Water Karl Fisher				___ASTM D4377
%Water Dean Stark				___ASTM D95
Acidity	___ 305.1	___ 2310B		
Alkalinity, Total, Carbonate, Bicarbonate	___ 310.1	___ 2320B		
Ammonia (Dist/Nessler's)	___ 350.2	___ 4500NH ₃ C		
Biochemical Oxygen Demand	___ 405.1	___ 5210B		
Bottom Sediment & Water BTU				___ASTM D4007 ___ASTM D240
Bromide	___ 300.0	___ 4110B	___ 9056	
Bromine	___ 300.0 Detection		___ 5050 Prep	
Chemical Oxygen Demand				___HACH 8000
Chloride	___ 325.2	___ 4500C1E	___ 9251	
	___ 300.0	___ 4110B	___ 9056	
Chlorine (O ₂ Bomb)	___ 300.0 Detection		___ 5050 Prep	___ISE Detection
Chlorine, Residual	___ 330.4	___ 4500C1F		
Chromium VI		___ 3500CrD	___ 3060 Digestion ___ 7196A	
Color	___ 110.2	___ 2120B		
Corrosivity, pH	___ 150.1		___ 9045C - Waste pH in Water ___ 9040A	
Corrosivity, Langlier		___ 2330A+B		
Cyanide, Amenable	___ 335.1	___ 4500CNG	___ 9010B / 9014	
Cyanide, Weak, Dissociable		___ 4500CNI		
Cyanide, Reactive			___ 7.3.3.2	
Cyanide, Total	___ 335.2	___ 4500CNC	___ 9010B / 9014	___ILM03.0/4.0
Density/Specific Gravity		___ 2710F		___ASTM D1298 ___ASTM D5057
Ext. Organic Halogens				___Dohrmann
Flashpoint			___ 1010	___ASTM D93 ___ASTM D92
Fluoride ___ Distilled	___ 340.2	___ 4500 FC		
___ Undistilled	___ 300.0		___ 9056	
Fluorine	___ 340.2 Detection		___ 5050 Prep	
	___ 300.0 Detection			
Hardness	___ 130.2	___ 2340C ___ 2340B		
Heavy Metals				___USP 231
Ignitability			___ Sec. 7	___ASTM D-4982A
MBAS (Surfactants)	___ 425.1	___ 5540 C		
Nitrate/Nitrite	___ 353.2	___ 4500NO ₃ F		
Nitrate	___ 353.2 -354.1	___ 4110B		
	___ 300.0		___ 9056	
Nitrite	___ 354.1	___ 4500NO ₂ B	___ 9056	
	___ 300.0	___ 4110B		
Odor	___ 140.1	___ 2150B		
Oil & Grease	___ 413.1	___ 5520B	___ 9070	
Oil & Grease, IR	___ 413.2	___ 5520C		

Recra LabNet - Chicago
WET CHEMISTRY METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained with RFW Lot: 98116-975

PARAMETER	EPA 600	STANDARD METHODS	SW-846	OTHER
Oil & Grease, Soxhlet		___ 5520D	___ 9071A	
		___ 5520E		
Oxygen, Dissolved	___ 360.1 Electrode	___ 4500OG		
	___ 360.2 Winkler	___ 4500OC		
Paint Filters (Free Liquid)			___ 9095A	
Petroleum Hydrocarbons	___ 418.1	___ 5520F	___ 9071A Extract.	
pH, Water	___ 150.1	___ 4500H ⁺ B	___ 9040B	
pH, Soil			___ 9045C - Waste pH in Water	
			___ 9041A Paper	
Phenolics	___ 420.2		___ 9066	
Orthophosphate as P	___ 365.2	___ 4500PE		
	___ 300.0	___ 4110B	___ 9056	
Phosphorus as P	___ 365.2	___ 4500PE		
Residue on Evaporation 180C	___ 160.1 Modified	___ 2540C Modified		
Solids, Settleable	___ 160.5	___ 2540F		
Solids, Total	___ 160.3	___ 2540B		
Solids, Total Dissolved	___ 160.1	___ 2540C		
Solids, Total Suspended	___ 160.2	___ 2540D		
Solids, Total Volatile	___ 160.4	___ 2540E		
Solids, Dissolved Volatile	___ 160.4	___ 2540E		
Solids, Suspended Volatile	___ 160.4	___ 2540E		
Soluble Organic Carbon	___ 415.1	___ 5310C		
Specific Conductance	___ 120.1	___ 2510B	___ 9050A	
Sulfate	___ 375.4 Mod.	___ 4500SO ₄ ²⁻ E	___ 9038 Mod.	
	___ 300.0	___ 4110B	___ 9056	
Sulfide	___ 376.1	___ 4500S ²⁻ E	___ 9030A Mod	
			___ 9030B / 9034	
Sulfide, Reactive			✓ 7.3.4.2	
Sulfur	___ 375.4 Detection		___ 5050Prep	
	___ 300.0 Detection			
Total Kjeldahl Nitrogen	___ 351.3	___ 4500N _{ORG} C		
Total Inorganic Carbon	___ 415.1	___ 5310C		
Total Organic Carbon	___ 415.1	___ 5310C	___ 9060 Quads	___ Walkley-Black
Total Organic Halogens		___ 5320B	___ 9020B	
Total Org Halogens on Waste	___ 325.2 Detection		___ 5050prep	___ ISE Detection
	___ 300.0 Detection			
Turbidity	___ 180.1	___ 2130B		
Viscosity, Brookfield				___ ASTM D2196
Viscosity, Kinematic				___ ASTM D445

Comments:

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Monday November 9th, 1998

RE: AOC-32-STOCK-01
Project # 03886-118-204-0630
Lab ID: 9811G975-001
Sample Date: 11/02/98
Date Received: 11/03/98

Inorganic Data Report

Parameters	Result	Units	Reporting Limit
Cyanide, Reactive	0.22	u mg/kg	0.22
Corrosivity by pH	6.0	pH@18.5	0.20
Flash Point, Closed Cup	>200	DEG F	
Sulfide Reactive	25.7	u mg/kg	25.7

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Monday November 9th, 1998

RE: AOC-32-STOCK-02
Project # 03886-118-204-0630
Lab ID: 9811G975-002
Sample Date: 11/02/98
Date Received: 11/03/98

Inorganic Data Report

Parameters	Result	Units	Reporting Limit
Cyanide, Reactive	0.26	u mg/kg	0.26
Corrosivity by pH	6.1	pH@18.4	0.20
Flash Point, Closed Cup	>200	DEG F	
Sulfide Reactive	26.2	u mg/kg	26.2

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Monday November 9th, 1998

RE: AOC-32-STOCK-03
Project # 03886-118-204-0630
Lab ID: 9811G975-003
Sample Date: 11/02/98
Date Received: 11/03/98

Inorganic Data Report

Parameters	Result	Units	Reporting Limit
Cyanide, Reactive	0.26	u mg/kg	0.26
Corrosivity by pH	6.1	pH@18.2	0.20
Flash Point, Closed Cup	>200	DEG F	
Sulfide Reactive	26.8	u mg/kg	26.8

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Monday November 9th, 1998

RE: AOC-32-STOCK-04

Project # 03886-118-204-0630

Lab ID: 9811G975-004

Sample Date: 11/02/98

Date Received: 11/03/98

Inorganic Data Report

Parameters	Result	Units	Reporting Limit
Cyanide, Reactive	0.26	u mg/kg	0.26
Corrosivity by pH	6.2	pH@17.8	0.20
Flash Point, Closed Cup	>200	DEG F	
Sulfide Reactive	26.0	u mg/kg	26.0

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Monday November 9th, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G975

Attn: Sam Naik

Inorganic Method Blank Data Report

Sample	Lab ID	Parameter	Result	Units	Reporting Limit
Blank 1	98GCN170-MB1	Cyanide, Reactive	0.010	u mg/L	0.010
Blank 1	98GSF140-MB1	Sulfide Reactive	1.0	u mg/L	1.0

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Monday November 9th, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G975

Attn: Sam Naik

Inorganic Precision Data Report

Sample	Site ID	Parameter	Initial Result		Replicate		RPD
-001REP	AOC-32-STOCK-01	Cyanide, Reactive	0.22	u	0.25	u	NC
		Sulfide Reactive	25.7	u	24.5	u	NC
-002REP	AOC-32-STOCK-02	Flash Point (REP)	>200		>200		NC

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Monday November 9th, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G975

Attn: Sam Naik

Inorganic Accuracy Data Report

Sample	Site ID	Parameter	Spiked Sample	Initial Result		Spiked Amount	% Recov
-001	AOC-32-STOCK-01	Cyanide, Reactive	0.77	0.22	u	4.5	17.3
-002	AOC-32-STOCK-02	Sulfide Reactive	113	26.2	u	104	109

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Monday November 9th, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G975

Attn: Sam Naik

Inorganic Laboratory Control Standards Report

Lab ID	Parameter	Spiked Amount	Units	Spike #1 % Recov.	Spike #2 % Recov.	RPD
98GCN170-LCS	Cyanide, Reactive	0.20	mg/L	10.7	NA	NA
98GSF140-LCS	Sulfide Reactive	4.0	mg/L	117	NA	NA

Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G975

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
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AOC-32-STOCK-01

% SOLIDS	001	S	98GTS651	11/02/98	11/03/98	11/04/98	11/04/98
% SOLIDS	001 REP	S	98GTS651	11/02/98	11/03/98	11/04/98	11/04/98
SILVER. SERIAL DILUT	001 L	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
SILVER. TOTAL	001	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
SILVER. TOTAL	001 REP	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
SILVER. TOTAL	001 MS	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
ARSENIC. SERIAL DILU	001 L	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
ARSENIC. TOTAL	001	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
ARSENIC. TOTAL	001 REP	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
ARSENIC. TOTAL	001 MS	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
BARIUM. SERIAL DILUT	001 L	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
BARIUM. TOTAL	001	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
BARIUM. TOTAL	001 REP	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
BARIUM. TOTAL	001 MS	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
CADMIUM. SERIAL DILU	001 L	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
CADMIUM. TOTAL	001	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
CADMIUM. TOTAL	001 REP	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
CADMIUM. TOTAL	001 MS	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
CHROMIUM. SERIAL DIL	001 L	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
CHROMIUM. TOTAL	001	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
CHROMIUM. TOTAL	001 REP	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
CHROMIUM. TOTAL	001 MS	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
MERCURY. TOTAL	001	S	98HG646	11/02/98	11/03/98	11/04/98	11/04/98
LEAD. SERIAL DILUTIO	001 L	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
LEAD. TOTAL	001	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
LEAD. TOTAL	001 REP	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
LEAD. TOTAL	001 MS	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
SELENIUM. SERIAL DIL	001 L	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
SELENIUM. TOTAL	001	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
SELENIUM. TOTAL	001 REP	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
SELENIUM. TOTAL	001 MS	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98

AOC-32-STOCK-02

% SOLIDS	002	S	98GTS651	11/02/98	11/03/98	11/04/98	11/04/98
SILVER. TOTAL	002	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
ARSENIC. TOTAL	002	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98



NY CERTIFICATION # 11006

014

Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G975

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
BARIUM. TOTAL	002	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
CADMIUM. TOTAL	002	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
CHROMIUM. TOTAL	002	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
MERCURY. TOTAL	002	S	98HG646	11/02/98	11/03/98	11/04/98	11/04/98
LEAD. TOTAL	002	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
SELENIUM. TOTAL	002	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98

AOC-32-STOCK-03

% SOLIDS	003	S	98GTS651	11/02/98	11/03/98	11/04/98	11/04/98
SILVER. TOTAL	003	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
ARSENIC. TOTAL	003	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
BARIUM. TOTAL	003	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
CADMIUM. TOTAL	003	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
CHROMIUM. TOTAL	003	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
MERCURY. TOTAL	003	S	98HG646	11/02/98	11/03/98	11/04/98	11/04/98
LEAD. TOTAL	003	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
SELENIUM. TOTAL	003	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98

AOC-32-STOCK-04

% SOLIDS	004	S	98GTS651	11/02/98	11/03/98	11/04/98	11/04/98
SILVER. TOTAL	004	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
ARSENIC. TOTAL	004	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
BARIUM. TOTAL	004	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
CADMIUM. TOTAL	004	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
CHROMIUM. TOTAL	004	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
MERCURY. TOTAL	004	S	98HG646	11/02/98	11/03/98	11/04/98	11/04/98
LEAD. TOTAL	004	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98
SELENIUM. TOTAL	004	S	98GI398	11/02/98	11/03/98	11/06/98	11/10/98

AOC-32-08

% SOLIDS	006	S	98GTS656	11/03/98	11/04/98	11/06/98	11/06/98
% SOLIDS	006 REP	S	98GTS656	11/03/98	11/04/98	11/06/98	11/06/98
ARSENIC. SERIAL DILU	006 L	S	98GI402	11/03/98	11/04/98	11/09/98	11/10/98
ARSENIC. TOTAL	006	S	98GI402	11/03/98	11/04/98	11/09/98	11/10/98
ARSENIC. TOTAL	006 REP	S	98GI402	11/03/98	11/04/98	11/09/98	11/10/98
ARSENIC. TOTAL	006 MS	S	98GI402	11/03/98	11/04/98	11/09/98	11/10/98
LEAD. SERIAL DILUTIO	006 L	S	98GI402	11/03/98	11/04/98	11/09/98	11/10/98



Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G975

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN	DATE	REC	EXT/PREP	ANALYSIS
LEAD. TOTAL	006	S	98GI402	11/03/98	11/04/98	11/09/98	11/10/98	
LEAD. TOTAL	006 REP	S	98GI402	11/03/98	11/04/98	11/09/98	11/10/98	
LEAD. TOTAL	006 MS	S	98GI402	11/03/98	11/04/98	11/09/98	11/10/98	
AOC-32-09								
% SOLIDS	007	S	98GTS656	11/03/98	11/04/98	11/06/98	11/06/98	
ARSENIC. TOTAL	007	S	98GI402	11/03/98	11/04/98	11/09/98	11/10/98	
LEAD. TOTAL	007	S	98GI402	11/03/98	11/04/98	11/09/98	11/10/98	
AOC-32-EXC-W-01								
% SOLIDS	009	S	98GTS656	11/03/98	11/04/98	11/06/98	11/06/98	
ARSENIC. TOTAL	009	S	98GI402	11/03/98	11/04/98	11/09/98	11/10/98	
LEAD. TOTAL	009	S	98GI402	11/03/98	11/04/98	11/09/98	11/10/98	
AOC-32-EXC-W-02								
% SOLIDS	010	S	98GTS656	11/03/98	11/04/98	11/06/98	11/06/98	
ARSENIC. TOTAL	010	S	98GI402	11/03/98	11/04/98	11/09/98	11/10/98	
LEAD. TOTAL	010	S	98GI402	11/03/98	11/04/98	11/09/98	11/10/98	
AOC-32-EXC-W-03								
% SOLIDS	011	S	98GTS656	11/03/98	11/04/98	11/06/98	11/06/98	
ARSENIC. TOTAL	011	S	98GI402	11/03/98	11/04/98	11/09/98	11/10/98	
LEAD. TOTAL	011	S	98GI402	11/03/98	11/04/98	11/09/98	11/10/98	
AOC-32-EXC-W-04								
% SOLIDS	012	S	98GTS656	11/03/98	11/04/98	11/06/98	11/06/98	
ARSENIC. TOTAL	012	S	98GI402	11/03/98	11/04/98	11/09/98	11/10/98	
LEAD. TOTAL	012	S	98GI402	11/03/98	11/04/98	11/09/98	11/10/98	
AOC-32-EXC-FLR-05								
% SOLIDS	013	S	98GTS656	11/03/98	11/04/98	11/06/98	11/06/98	
ARSENIC. TOTAL	013	S	98GI402	11/03/98	11/04/98	11/09/98	11/10/98	
LEAD. TOTAL	013	S	98GI402	11/03/98	11/04/98	11/09/98	11/10/98	



NY CERTIFICATION # 11006

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Recra LabNet - Chicago
INORGANIC ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G975

CLIENT ID /ANALYSIS	Sample #	MTX	PREP #	COLLECTN DATE	REC	EXT/PREP	ANALYSIS
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LAB QC:

SILVER LABORATORY	LC1 BS	S	98GI398	N/A	N/A	11/06/98	11/10/98
ARSENIC LABORATORY	LC1 BS	S	98GI398	N/A	N/A	11/06/98	11/10/98
BARIUM LABORATORY	LC1 BS	S	98GI398	N/A	N/A	11/06/98	11/10/98
CADMIUM LABORATORY	LC1 BS	S	98GI398	N/A	N/A	11/06/98	11/10/98
CHROMIUM LABORATORY	LC1 BS	S	98GI398	N/A	N/A	11/06/98	11/10/98
LEAD LABORATORY	LC1 BS	S	98GI398	N/A	N/A	11/06/98	11/10/98
SELENIUM LABORATORY	LC1 BS	S	98GI398	N/A	N/A	11/06/98	11/10/98
SILVER LABORATORY	LC2 BS	S	98GI398	N/A	N/A	11/06/98	11/10/98
ARSENIC LABORATORY	LC2 BS	S	98GI398	N/A	N/A	11/06/98	11/10/98
BARIUM LABORATORY	LC2 BS	S	98GI398	N/A	N/A	11/06/98	11/10/98
CADMIUM LABORATORY	LC2 BS	S	98GI398	N/A	N/A	11/06/98	11/10/98
CHROMIUM LABORATORY	LC2 BS	S	98GI398	N/A	N/A	11/06/98	11/10/98
LEAD LABORATORY	LC2 BS	S	98GI398	N/A	N/A	11/06/98	11/10/98
SELENIUM LABORATORY	LC2 BS	S	98GI398	N/A	N/A	11/06/98	11/10/98
SILVER, TOTAL	MB1	S	98GI398	N/A	N/A	11/06/98	11/10/98
ARSENIC, TOTAL	MB1	S	98GI398	N/A	N/A	11/06/98	11/10/98
BARIUM, TOTAL	MB1	S	98GI398	N/A	N/A	11/06/98	11/10/98
CADMIUM, TOTAL	MB1	S	98GI398	N/A	N/A	11/06/98	11/10/98
CHROMIUM, TOTAL	MB1	S	98GI398	N/A	N/A	11/06/98	11/10/98
LEAD, TOTAL	MB1	S	98GI398	N/A	N/A	11/06/98	11/10/98
SELENIUM, TOTAL	MB1	S	98GI398	N/A	N/A	11/06/98	11/10/98
MERCURY LABORATORY	LC1 BS	S	98HG646	N/A	N/A	11/04/98	11/04/98
MERCURY LABORATORY	LC2 BS	S	98HG646	N/A	N/A	11/04/98	11/04/98
MERCURY, TOTAL	MB1	S	98HG646	N/A	N/A	11/04/98	11/04/98
ARSENIC LABORATORY	LC1 BS	S	98GI402	N/A	N/A	11/09/98	11/10/98
LEAD LABORATORY	LC1 BS	S	98GI402	N/A	N/A	11/09/98	11/10/98
ARSENIC LABORATORY	LC2 BS	S	98GI402	N/A	N/A	11/09/98	11/10/98
LEAD LABORATORY	LC2 BS	S	98GI402	N/A	N/A	11/09/98	11/10/98
ARSENIC, TOTAL	MB1	S	98GI402	N/A	N/A	11/09/98	11/10/98
LEAD, TOTAL	MB1	S	98GI402	N/A	N/A	11/09/98	11/10/98

SIGNATURE

[Handwritten Signature]

DATE

11/11/98



NY CERTIFICATION # 11006

Recra LabNet - Chicago
METALS CASE NARRATIVE

Client: RFW - Ft. Devens
RFW#: 9811G975

WO#: 03886-118-204-0630
Date Rec'd: 11/03/98

1. This narrative covers the analysis of 11 Soil samples for the following metals:

(Samples 001 - 004):

ICP Ag,As,Ba,Cd,Cr,Pb,Se

CVAA Hg

Method Ref: USEPA SW-846 "Test Methods for Evaluating Solid Wastes,
Physical/Chemical Methods".

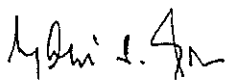
(Samples 006,007,009-013):

ICP As,Pb

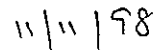
2. All analyses were performed within the required holding times.
3. All Initial and Continuing Calibration Verification (ICV/CCV's) were within control limits.
4. All Initial and Continuing Calibration Blanks (ICB/CCB's) were within control limits.
5. All ICP Interference Check Samples (ICSA and ICSAB) were within control limits.
6. Two Laboratory Control Samples (LCS's) were prepared with each digestion batch.
Both LCS recoveries were within control limits.
7. All Method blanks were less than the CRDL.
8. All Matrix Spike recoveries were within the 75-125% control limits (exception allowed when the sample concentration exceed the spike added concentration by a factor of 4 or more) except for:
9. All Duplicate analysis were within the 20% Relative Percent Difference (RPD) control limits for sample concentration greater than 5X the CRDL or +/- the CRDL for sample concentration less than 5X the CRDL except for:

9811G975-006 Pb 60.0%

9811G975-001 Cd 59.2% 9811G975-006 Pb 88.0%
Se 126.0



Mani S. Iyer
Metals Section Manager



Date



Recra LabNet - Chicago

METALS METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained with this RFW Lot: 98110975

SW846	☒ 6010A ☐ 6010B ☒ Ag ☐ Al ☒ As ☐ B ☒ Ba ☐ Be ☐ Ca ☒ Cd ☐ Co ☒ Cr ☐ Cu ☐ Fe ☐ K ☐ Li ☐ Mg ☐ Mn ☐ Mo ☐ Na ☐ Ni ☐ P ☒ Pb ☐ Sb ☒ Se ☐ Si ☐ Sn ☐ Sr ☐ Ti ☐ Tl ☐ V ☐ Zn ☐ Ag7761 ☐ As7060A ☐ Cd7131A ☐ Cr7191 ☐ Cu7211 ☐ Hg7470A ☒ Hg7471A ☐ Pb7421 ☐ Sb7041 ☐ Se7740 ☐ Tl7841 ☐ CN 9010A ☐ CN 9010B/9014
EPA	200.7 ☐ Ag ☐ Al ☐ As ☐ B ☐ Ba ☐ Be ☐ Ca ☐ Cd ☐ Co ☐ Cr ☐ Cu ☐ Fe ☐ K ☐ Li ☐ Mg ☐ Mn ☐ Mo ☐ Na ☐ Ni ☐ P ☐ Pb ☐ Sb ☐ Se ☐ Si ☐ Sn ☐ Sr ☐ Ti ☐ Tl ☐ V ☐ Zn ☐ Ag272.2 ☐ As206.2 ☐ Cd213.2 ☐ Cr218.2 ☐ Cu220.2 ☐ Hg245.1 ☐ Hg245.5 ☐ Pb239.2 ☐ Sb204.2 ☐ Se270.2 ☐ Tl279.2 200.9 ☐ As ☐ Cd ☐ Pb ☐ Sb ☐ Se ☐ Tl
CLP ILM04.0	200.7 CLP-M ☐ Ag ☐ Al ☐ As ☐ B ☐ Ba ☐ Be ☐ Ca ☐ Cd ☐ Co ☐ Cr ☐ Cu ☐ Fe ☐ K ☐ Li ☐ Mg ☐ Mn ☐ Mo ☐ Na ☐ Ni ☐ P ☐ Pb ☐ Sb ☐ Se ☐ Si ☐ Sn ☐ Sr ☐ Ti ☐ Tl ☐ V ☐ Zn ☐ As206.2 ☐ Cd213.2 ☐ Hg245.1 ☐ Hg245.5 ☐ Pb239.2 ☐ Sb204.2 ☐ Se270.2 ☐ Tl279.2 ☐ CN335.2
Digestion Method	SW846 ☐ 3005A ☐ 3010A ☐ 3020A ☐ 3020A(+H ₂ O ₂) ☒ 3050A ☐ 7060A/7740 ☐ 7470A ☒ 7471A ☐ 3050B EPA ☐ 200.7 ☐ 200.0(+H ₂ O ₂) ☐ 200.9(-HCL;+H ₂ O ₂) USEPA/CLP ☐ ILM04.0 Exhibit D, Section III
Extraction Method	SW846 ☐ 1311TCLP ☐ 1312SPLP ☐ 1320MEP Using TCLP ASTM ☐ D3987 Neutral Leach CAM Title 22 ☐ W.E.T.
%Solids	☐ SM 2540G ☐ ASTM D2216 ☐ Exhibit D Part F

CHI-22-05-002/J-4/98

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-01
Project # 03886-118-204-0630
Lab ID: 9811G975-001
Sample Date: 11/02/98
Date Received: 11/03/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	94.6	%	0.10
Silver, Total	0.86	u mg/kg	0.86
Arsenic, Total	12.5	mg/kg	8.6
Barium, Total	24.0	mg/kg	4.3
Cadmium, Total	1.0	mg/kg	0.86
Chromium, Total	19.2	mg/kg	1.7
Mercury, Total	0.04	u mg/kg	0.04
Lead, Total	65.2	mg/kg	4.3
Selenium, Total	19.8	mg/kg	8.6

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-02
Project # 03886-118-204-0630
Lab ID: 9811G975-002
Sample Date: 11/02/98
Date Received: 11/03/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	93.4	%	0.10
Silver, Total	0.86	u mg/kg	0.86
Arsenic, Total	15.7	mg/kg	8.6
Barium, Total	28.7	mg/kg	4.3
Cadmium, Total	1.2	mg/kg	0.86
Chromium, Total	18.2	mg/kg	1.7
Mercury, Total	0.04	u mg/kg	0.04
Lead, Total	93.5	mg/kg	4.3
Selenium, Total	26.6	mg/kg	8.6

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-03
Project # 03886-118-204-0630
Lab ID: 9811G975-003
Sample Date: 11/02/98
Date Received: 11/03/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	92.2	%	0.10
Silver, Total	0.83	u mg/kg	0.83
Arsenic, Total	14.2	mg/kg	8.3
Barium, Total	40.5	mg/kg	4.2
Cadmium, Total	1.6	mg/kg	0.83
Chromium, Total	16.6	mg/kg	1.7
Mercury, Total	0.25	mg/kg	0.04
Lead, Total	77.4	mg/kg	4.2
Selenium, Total	16.5	mg/kg	8.3

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-04
Project # 03886-118-204-0630
Lab ID: 9811G975-004
Sample Date: 11/02/98
Date Received: 11/03/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	94.2	%	0.10
Silver, Total	0.82	u mg/kg	0.82
Arsenic, Total	58.9	mg/kg	8.2
Barium, Total	28.6	mg/kg	4.1
Cadmium, Total	0.89	mg/kg	0.82
Chromium, Total	15.8	mg/kg	1.6
Mercury, Total	0.06	mg/kg	0.04
Lead, Total	47.1	mg/kg	4.1
Selenium, Total	33.9	mg/kg	8.2

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-08
Project # 03886-118-204-0630
Lab ID: 9811G975-006
Sample Date: 11/03/98
Date Received: 11/04/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	91.2	%	0.10
Arsenic, Total	12.8	mg/kg	9.7
Lead, Total	37.2	mg/kg	4.9

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-09

Project # 03886-118-204-0630

Lab ID: 9811G975-007

Sample Date: 11/03/98

Date Received: 11/04/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	93.9	%	0.10
Arsenic, Total	9.3	u mg/kg	9.3
Lead, Total	7.6	mg/kg	4.6

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-EXC-W-01
Project # 03886-118-204-0630
Lab ID: 9811G975-009
Sample Date: 11/03/98
Date Received: 11/04/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	91.7	%	0.10
Arsenic, Total	9.7	mg/kg	9.1
Lead, Total	5.3	mg/kg	4.5

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-EXC-W-02
Project # 03886-118-204-0630
Lab ID: 9811G975-010
Sample Date: 11/03/98
Date Received: 11/04/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	93.2	%	0.10
Arsenic, Total	23.7	mg/kg	9.2
Lead, Total	12.3	mg/kg	4.6

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-EXC-W-03
Project # 03886-118-204-0630
Lab ID: 9811G975-011
Sample Date: 11/03/98
Date Received: 11/04/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	94.9	%	0.10
Arsenic, Total	21.4	mg/kg	8.6
Lead, Total	7.0	mg/kg	4.3

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-EXC-W-04
Project # 03886-118-204-0630
Lab ID: 9811G975-012
Sample Date: 11/03/98
Date Received: 11/04/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	93.9	%	0.10
Arsenic, Total	18.5	mg/kg	8.7
Lead, Total	12.1	mg/kg	4.4

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-EXC-FLR-05
Project # 03886-118-204-0630
Lab ID: 9811G975-013
Sample Date: 11/03/98
Date Received: 11/04/98

Metals Data Report

Parameters	Result	Units	Reporting Limit
% Solids	96.0	%	0.10
Arsenic, Total	9.1	mg/kg	8.1
Lead, Total	5.3	mg/kg	4.1

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Wednesday November 11th, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G975

Attn: Sam Naik

Inorganic Method Blank Data Report

Sample	Lab ID	Parameter	Result	Units	Reporting Limit
Blank 1	98GTS651-MB1	% Solids	0.10	u %	0.10
Blank 1	98GI398-MB1	Silver, Total	1.0	u mg/kg	1.0
		Arsenic, Total	10.0	u mg/kg	10.0
		Barium, Total	5.0	u mg/kg	5.0
		Cadmium, Total	1.0	u mg/kg	1.0
		Chromium, Total	2.0	u mg/kg	2.0
		Lead, Total	5.0	u mg/kg	5.0
		Selenium, Total	10.0	u mg/kg	10.0
Blank 1	98HG646-MB1	Mercury, Total	0.03	u mg/kg	0.03
Blank 1	98GTS656-MB1	% Solids	0.10	u %	0.10
Blank 1	98GI402-MB1	Arsenic, Total	10.0	u mg/kg	10.0
		Lead, Total	5.0	u mg/kg	5.0

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Wednesday November 11th, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G975

Attn: Sam Naik

Inorganic Accuracy Data Report

Sample	Site ID	Parameter	Spiked Sample	Initial Result	Spiked Amount	% Recov
-001	AOC-32-STOCK-01	Silver, Total	4.2	0.86 u	4.3	96.0
		Arsenic, Total	168	12.5	173	89.7
		Barium, Total	174	24.0	173	86.8
		Cadmium, Total	5.1	1.0	4.3	93.5
		Chromium, Total	36.5	19.2	17.3	91.5
		Lead, Total	116	65.2	43.3	118
		Selenium, Total	173	19.8	173	88.4
-006	AOC-32-08	Arsenic, Total	193	12.8	191	94.4
		Lead, Total	65.8	37.2	47.7	60.0

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Wednesday November 11th, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G975

Attn: Sam Naik

Inorganic Laboratory Control Standards Report

Lab ID	Parameter	Spiked Amount	Units	Spike #1 % Recov.	Spike #2 % Recov.	RPD
98GI398-LC1	Silver, LCS	5.0	mg/kg	91.7	91.5	0.13
	Arsenic, LCS	200	mg/kg	88.1	89.3	1.3
	Barium, LCS	200	mg/kg	87.3	88.0	0.78
	Cadmium, LCS	5.0	mg/kg	94.2	96.7	2.6
	Chromium, LCS	20.0	mg/kg	91.7	92.6	0.97
	Lead, LCS	50.0	mg/kg	90.6	90.6	0.060
	Selenium, LCS	200	mg/kg	87.5	89.2	1.9
98HG646-LC1	Mercury, LCS	0.30	mg/kg	111	110	0.78
98GI402-LC1	Arsenic, LCS	200	mg/kg	92.7	93.8	1.1
	Lead, LCS	50.0	mg/kg	96.9	96.7	0.13

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Wednesday November 11th, 1998

Project # 03886-118-204-0630
Lab Batch: 9811G975

Attn: Sam Naik

Inorganic Precision Data Report

Sample Site ID	Parameter	Initial Result	Replicate	RPD
-001REP AOC-32-STOCK-01	% Solids	94.6	93.5	1.1
	Silver, Total	0.86 u	0.87 u	NC
	Arsenic, Total	12.5	8.7 u	NC
	Barium, Total	24.0	23.4	2.7
	Cadmium, Total	1.0	1.9	59.2
	Chromium, Total	19.2	22.4	15.0
	Lead, Total	65.2	77.5	17.3
	Selenium, Total	19.8	86.6	126
-006REP AOC-32-08	% Solids	91.2	89.3	2.1
	Arsenic, Total	12.8	9.2 u	NC
	Lead, Total	37.2	14.5	88.0

Recra LabNet - Chicago
8260 ANALYTICAL DATA PACKAGE FOR
RfW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G975

CLIENT ID	Sample #	MTX	PREP #	COLLECTN DATE	REC	EXT/PREP	ANALYSIS
AOC-32-STOCK-01	001	S	98GVJ331	11/02/98	11/03/98	N/A	11/04/98
AOC-32-STOCK-02	002	S	98GVJ331	11/02/98	11/03/98	N/A	11/04/98
AOC-32-STOCK-03	003	S	98GVB424	11/02/98	11/03/98	N/A	11/11/98
AOC-32-STOCK-04	004	S	98GVB424	11/02/98	11/03/98	N/A	11/11/98
Trip Blank	005	W	98GVF416	11/02/98	11/03/98	N/A	11/04/98
Trip Blank	005	D1 W	98GVF416	11/02/98	11/03/98	N/A	11/04/98

LAB QC:

VBLKPB	MB1	S	98GVJ331	N/A	N/A	N/A	11/04/98
VBLKPB	MB1 BS	S	98GVJ331	N/A	N/A	N/A	11/04/98
VBLKTY	MB1	S	98GVB424	N/A	N/A	N/A	11/11/98
VBLKTY	MB1 BS	S	98GVB424	N/A	N/A	N/A	11/11/98
VBLKOK	MB1	W	98GVF416	N/A	N/A	N/A	11/04/98
VBLKOK	MB1 BS	W	98GVF416	N/A	N/A	N/A	11/04/98

SIGNATURE

Jugary L. Good

DATE

11/11/98



NY CERTIFICATION # 11006

035

Recra LabNet - Chicago

GC/MS METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained within this RFW Lot :

GC/MS VOLATILES

_____ SW-846 8260A
✓ _____ SW-846 8260B
_____ EPA 524.2
_____ 40 CFR Part 136, Method 624
_____ CLP OLM03.1/3.2
_____ OLC02.0/2.1

GC/MS SEMIVOLATILES

_____ SW-846 8270A
_____ SW-846 8270B
_____ SW-846 8270C
_____ 40 CFR Part 136, Method 625
_____ CLP OLM03.1/3.2
_____ OLC02.0/2.1

CHI-22-05-001/D-4/98

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-01
Project # 03886-118-204-0630
Lab ID: 9811G975-001
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	5	U
Vinyl chloride	BRL	5	U
Bromomethane	BRL	5	U
Chloroethane	BRL	5	U
1,1-Dichloroethene	BRL	5	U
Acetone	BRL	5	U
Carbon Disulfide	BRL	5	U
Methylene Chloride	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
1,1-Dichloroethane	BRL	5	U
2-Butanone	BRL	5	U
Chloroform	BRL	5	U
1,1,1-Trichloroethane	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Benzene	BRL	5	U
1,2-Dichloroethane	BRL	5	U
Trichloroethene	BRL	5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-01
Project # 03886-118-204-0630
Lab ID: 9811G975-001
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
Bromodichloromethane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
4-Methyl-2-pentanone	BRL	5	U
Toluene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Tetrachloroethene	BRL	5	U
2-Hexanone	BRL	5	U
Dibromochloromethane	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Xylene (total)	BRL	5	U
Styrene	BRL	5	U
Bromoform	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-02
Project # 03886-118-204-0630
Lab ID: 9811G975-002
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	5	U
Vinyl chloride	BRL	5	U
Bromomethane	BRL	5	U
Chloroethane	BRL	5	U
1,1-Dichloroethene	BRL	5	U
Acetone	BRL	5	U
Carbon Disulfide	BRL	5	U
Methylene Chloride	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
1,1-Dichloroethane	BRL	5	U
2-Butanone	BRL	5	U
Chloroform	BRL	5	U
1,1,1-Trichloroethane	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Benzene	BRL	5	U
1,2-Dichloroethane	BRL	5	U
Trichloroethene	BRL	5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-02
Project # 03886-118-204-0630
Lab ID: 9811G975-002
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
Bromodichloromethane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
4-Methyl-2-pentanone	BRL	5	U
Toluene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Tetrachloroethene	BRL	5	U
2-Hexanone	BRL	5	U
Dibromochloromethane	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Xylene (total)	BRL	5	U
Styrene	BRL	5	U
Bromoform	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-03
Project # 03886-118-204-0630
Lab ID: 9811G975-003
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	5	U
Vinyl chloride	BRL	5	U
Bromomethane	BRL	5	U
Chloroethane	BRL	5	U
1,1-Dichloroethene	BRL	5	U
Acetone	BRL	5	U
Carbon Disulfide	BRL	5	U
Methylene Chloride	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
1,1-Dichloroethane	BRL	5	U
2-Butanone	BRL	5	U
Chloroform	BRL	5	U
1,1,1-Trichloroethane	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Benzene	BRL	5	U
1,2-Dichloroethane	BRL	5	U
Trichloroethene	BRL	5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-03
Project # 03886-118-204-0630
Lab ID: 9811G975-003
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
Bromodichloromethane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
4-Methyl-2-pentanone	BRL	5	U
Toluene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Tetrachloroethene	BRL	5	U
2-Hexanone	BRL	5	U
Dibromochloromethane	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Xylene (total)	BRL	5	U
Styrene	BRL	5	U
Bromoform	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-04
Project # 03886-118-204-0630
Lab ID: 9811G975-004
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	5	U
Vinyl chloride	BRL	5	U
Bromomethane	BRL	5	U
Chloroethane	BRL	5	U
1,1-Dichloroethene	BRL	5	U
Acetone	BRL	5	U
Carbon Disulfide	BRL	5	U
Methylene Chloride	BRL	5	U
1,2-Dichloroethene (total)	BRL	5	U
1,1-Dichloroethane	BRL	5	U
2-Butanone	BRL	5	U
Chloroform	BRL	5	U
1,1,1-Trichloroethane	BRL	5	U
Carbon Tetrachloride	BRL	5	U
Benzene	BRL	5	U
1,2-Dichloroethane	BRL	5	U
Trichloroethene	BRL	5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Wednesday November 11th, 1998

Attn: Sam Naik

RE: AOC-32-STOCK-04
Project # 03886-118-204-0630
Lab ID: 9811G975-004
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	5	U
Bromodichloromethane	BRL	5	U
cis-1,3-Dichloropropene	BRL	5	U
4-Methyl-2-pentanone	BRL	5	U
Toluene	BRL	5	U
trans-1,3-Dichloropropene	BRL	5	U
1,1,2-Trichloroethane	BRL	5	U
Tetrachloroethene	BRL	5	U
2-Hexanone	BRL	5	U
Dibromochloromethane	BRL	5	U
Chlorobenzene	BRL	5	U
Ethylbenzene	BRL	5	U
Xylene (total)	BRL	5	U
Styrene	BRL	5	U
Bromoform	BRL	5	U
1,1,2,2-Tetrachloroethane	BRL	5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: Trip Blank
Project # 03886-118-204-0630
Lab ID: 9811G975-005
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/L

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
Chloromethane	BRL	0.5	U
Vinyl chloride	BRL	0.5	U
Bromomethane	BRL	0.5	U
Chloroethane	BRL	0.5	U
1,1-Dichloroethene	BRL	0.5	U
Acetone	E	2	
Carbon Disulfide	BRL	2	U
Methylene Chloride	BRL	0.5	U
1,2-Dichloroethene (total)	BRL	0.5	U
1,1-Dichloroethane	BRL	0.5	U
2-Butanone	E	2	
Chloroform	BRL	0.5	U
1,1,1-Trichloroethane	BRL	0.5	U
Carbon Tetrachloride	BRL	0.5	U
Benzene	BRL	0.5	U
1,2-Dichloroethane	BRL	0.5	U
Trichloroethene	BRL	0.5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: Trip Blank
Project # 03886-118-204-0630
Lab ID: 9811G975-005
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/L

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
1,2-Dichloropropane	BRL	0.5	U
Bromodichloromethane	BRL	0.5	U
cis-1,3-Dichloropropene	BRL	0.5	U
4-Methyl-2-pentanone	BRL	2	U
Toluene	BRL	0.5	U
trans-1,3-Dichloropropene	BRL	0.5	U
1,1,2-Trichloroethane	BRL	0.5	U
Tetrachloroethene	BRL	0.5	U
2-Hexanone	BRL	2	U
Dibromochloromethane	BRL	0.5	U
Chlorobenzene	BRL	0.5	U
Ethylbenzene	BRL	0.5	U
Xylene (total)	BRL	0.5	U
Styrene	BRL	0.5	U
Bromoform	BRL	0.5	U
1,1,2,2-Tetrachloroethane	BRL	0.5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: Trip Blank
Project # 03886-118-204-0630
Lab ID: 9811G975-005 DL
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/L

METHOD 8260 VOLATILES

Volatile Compound	Result	Reporting Limit	Flag
Acetone	160	50	D
2-Butanone	380	50	D

Page: 1a

*= Outside of EPA CLP QC Limits.

RFW Batch Number: 9811G975

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 1b

Cust ID: AOC-32-STOCK AOC-32-STOCK AOC-32-STOCK AOC-32-STOCK Trip Blank Trip Blank

-01

-02

-03

-04

RFW#:

001

002

003

004

005

005 DL

Dibromochloromethane	5 U	5 U	5 U	5 U	0.5 U	NA
Chlorobenzene	5 U	5 U	5 U	5 U	0.5 U	NA
Ethylbenzene	5 U	5 U	5 U	5 U	0.5 U	NA
Xylene (total)	5 U	5 U	5 U	5 U	0.5 U	NA
Styrene	5 U	5 U	5 U	5 U	0.5 U	NA
Bromoform	5 U	5 U	5 U	5 U	0.5 U	NA
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	5 U	0.5 U	NA

*= Outside of EPA CLP QC Limits.

049

Recra LabNet - Chicago
METHOD 8260 VOLATILES

Report Date: 11/11/98 15:42

RFW Batch Number: 9811G975

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 2a

050

Cust ID: VBLKPB		VBLKPB BS		VBLKTY		VBLKTY BS		VBLKOK		VBLKOK BS	
Sample Information		RFW#: 98GVJ331-MB1	98GVJ331-MB1	98GVJ331-MB1	98GVJ331-MB1	98GVJ331-MB1	98GVJ331-MB1	98GVJ331-MB1	98GVJ331-MB1	98GVJ331-MB1	98GVJ331-MB1
		Matrix: SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	WATER	WATER	WATER	WATER
		D.F.: 1	1	1	1	1	1	1	1	1	1
		Units: UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/L	UG/L	UG/L	UG/L
Surrogate	1,2-Dichloroethane-d4	77 %	86 %	100 %	102 %	104 %	114 %				
Recovery	Toluene-d8	92 %	92 %	98 %	95 %	113 %	112 %				
	4-Bromofluorobenzene	85 %	87 %	93 %	90 %	104 %	111 %				
=====f=====f=====f=====f=====f=====f=====											
	Chloromethane	5 U	98 %	5 U	91 %	0.5 U	100 %				
	Vinyl chloride	5 U	101 %	5 U	93 %	0.5 U	87 %				
	Bromomethane	5 U	90 %	5 U	90 %	0.5 U	111 %				
	Chloroethane	5 U	92 %	5 U	91 %	0.5 U	104 %				
	1,1-Dichloroethene	5 U	84 %	5 U	97 %	0.5 U	79 %				
	Acetone	5 U	85 %	5 U	78 %	2 U	56 %				
	Carbon Disulfide	5 U	65 %	5 U	85 %	2 U	71 %				
	Methylene Chloride	5 U	81 %	5 U	106 %	0.5 U	84 %				
	1,2-Dichloroethene (total)	5 U	92 %	5 U	102 %	0.5 U	88 %				
	1,1-Dichloroethane	5 U	96 %	5 U	101 %	0.5 U	92 %				
	2-Butanone	5 U	70 %	5 U	89 %	2 U	105 %				
	Chloroform	5 U	95 %	5 U	99 %	0.5 U	95 %				
	1,1,1-Trichloroethane	5 U	93 %	5 U	105 %	0.5 U	91 %				
	Carbon Tetrachloride	5 U	92 %	5 U	100 %	0.5 U	91 %				
	Benzene	5 U	95 %	5 U	113 %	0.5 U	95 %				
	1,2-Dichloroethane	5 U	84 %	5 U	111 %	0.5 U	94 %				
	Trichloroethene	5 U	97 %	5 U	101 %	0.5 U	99 %				
	1,2-Dichloropropane	5 U	101 %	5 U	105 %	0.5 U	104 %				
	Bromodichloromethane	5 U	89 %	5 U	96 %	0.5 U	97 %				
	cis-1,3-Dichloropropene	5 U	85 %	5 U	97 %	0.5 U	91 %				
	4-Methyl-2-pentanone	5 U	82 %	5 U	99 %	2 U	111 %				
	Toluene	5 U	102 %	5 U	105 %	0.5 U	94 %				
	trans-1,3-Dichloropropene	5 U	93 %	5 U	94 %	0.5 U	101 %				
	1,1,2-Trichloroethane	5 U	89 %	5 U	93 %	0.5 U	97 %				
	Tetrachloroethene	5 U	100 %	5 U	104 %	0.5 U	99 %				
	2-Hexanone	5 U	84 %	5 U	103 %	2 U	112 %				

*= Outside of EPA CLP QC Limits.

RFW Batch Number: 9811G975

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 2b

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Cust ID: VBLKPB

VBLKPB BS

VBLKTY

VBLKTY BS

VBLKOK

VBLKOK BS

RFW#: 98GVJ331-MB1

98GVJ331-MB1

98GVB424-MB1

98GVB424-MB1

98GVF416-MB1

98GVF416-MB1

Dibromochloromethane	5	U	82	%	5	U	93	%	0.5	U	97	%
Chlorobenzene	5	U	98	%	5	U	107	%	0.5	U	103	%
Ethylbenzene	5	U	102	%	5	U	111	%	0.5	U	100	%
Xylene (total)	5	U	102	%	5	U	109	%	0.5	U	104	%
Styrene	5	U	101	%	5	U	116 *	%	0.5	U	106	%
Bromoform	5	U	78 *	%	5	U	90	%	0.5	U	105	%
1,1,2,2-Tetrachloroethane	5	U	99	%	5	U	101	%	0.5	U	97	%

*= Outside of EPA CLP QC Limits.

Recra LabNet - Chicago
BNA ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G975

CLIENT ID	Sample #	MTX	PREP #	COLLECTN	DATE	REC	EXT/PREP	ANALYSIS
AOC-32-STOCK-01	001	S	98GB0594	11/02/98	11/03/98	11/06/98	11/09/98	
AOC-32-STOCK-01	001 MS	S	98GB0594	11/02/98	11/03/98	11/06/98	11/09/98	
AOC-32-STOCK-01	001 MSD	S	98GB0594	11/02/98	11/03/98	11/06/98	11/10/98	
AOC-32-STOCK-02	002	S	98GB0594	11/02/98	11/03/98	11/06/98	11/09/98	
AOC-32-STOCK-03	003	S	98GB0594	11/02/98	11/03/98	11/06/98	11/09/98	
AOC-32-STOCK-04	004	S	98GB0594	11/02/98	11/03/98	11/06/98	11/10/98	

LAB QC:

SBLKDY	MB1	S	98GB0594	N/A	N/A	11/06/98	11/09/98	
SBLKDY	MB1 BS	S	98GB0594	N/A	N/A	11/06/98	11/09/98	

SIGNATURE

Gregory L. Good

DATE 11/11/98



NY CERTIFICATION # 11006

052

Recra LabNet - Chicago

GC/MS METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained within this RFW Lot :

GC/MS VOLATILES

_____ SW-846 8260A
_____ SW-846 8260B
_____ EPA 524.2
_____ 40 CFR Part 136, Method 624
_____ CLP OLM03.1/3.2
_____ OLC02.0/2.1

GC/MS SEMIVOLATILES

_____ SW-846 8270A
_____ SW-846 8270B
✓ _____ SW-846 8270C
_____ 40 CFR Part 136, Method 625
_____ CLP OLM03.1/3.2
_____ OLC02.0/2.1

CHI-22-05-001/D-4/98

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-01
Project # 03886-118-204-0630
Lab ID: 9811G975-001
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Phenol	BRL	350	U
bis(2-Chloroethyl)ether	BRL	350	U
2-Chlorophenol	BRL	350	U
1,3-Dichlorobenzene	BRL	350	U
1,4-Dichlorobenzene	BRL	350	U
1,2-Dichlorobenzene	BRL	350	U
2-Methylphenol	BRL	350	U
2,2'-oxybis(1-Chloropropane)	BRL	350	U
N-Nitroso-di-n-propylamine	BRL	350	U
4-Methylphenol	BRL	350	U
Hexachloroethane	BRL	350	U
Nitrobenzene	BRL	350	U
Isophorone	BRL	350	U
2-Nitrophenol	BRL	350	U
2,4-Dimethylphenol	BRL	350	U
bis(2-Chloroethoxy)methane	BRL	350	U
2,4-Dichlorophenol	BRL	350	U

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Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-01
Project # 03886-118-204-0630
Lab ID: 9811G975-001
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
1,2,4-Trichlorobenzene	BRL	350	U
Naphthalene	120	350	J
4-Chloroaniline	BRL	350	U
Hexachlorobutadiene	BRL	350	U
4-Chloro-3-methylphenol	BRL	350	U
2-Methylnaphthalene	180	350	J
Hexachlorocyclopentadiene	BRL	350	U
2,4,6-Trichlorophenol	BRL	350	U
2,4,5-Trichlorophenol	BRL	1700	U
2-Chloronaphthalene	BRL	350	U
2-Nitroaniline	BRL	1700	U
Acenaphthylene	76	350	J
2,6-Dinitrotoluene	BRL	350	U
3-Nitroaniline	BRL	1700	U
Acenaphthene	BRL	350	U
2,4-Dinitrophenol	BRL	1700	U
Dibenzofuran	56	350	J

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Project # 03886-118-204-0630
Lab ID: 9811G975-001
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
4-Nitrophenol	BRL	1700	U
2,4-Dinitrotoluene	BRL	350	U
Fluorene	BRL	350	U
Dimethylphthalate	BRL	350	U
Diethylphthalate	BRL	350	U
4-Chlorophenyl-phenylether	BRL	350	U
4-Nitroaniline	BRL	1700	U
4,6-Dinitro-2-methylphenol	BRL	1700	U
4-Bromophenyl-phenylether	BRL	350	U
Hexachlorobenzene	BRL	350	U
Pentachlorophenol	BRL	1700	U
Phenanthrene	480	350	
Anthracene	59	350	J
Di-n-butylphthalate	BRL	350	U
Fluoranthene	1100	350	
Pyrene	920	350	
Butylbenzylphthalate	BRL	350	U

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Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-01

Project # 03886-118-204-0630

Lab ID: 9811G975-001

Sample Date: 11/02/98

Date Received: 11/03/98

Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Benzo(a)anthracene	490	350	
3,3'-Dichlorobenzidine	BRL	690	U
Chrysene	770	350	
bis(2-Ethylhexyl)phthalate	130	350	J
Di-n-octylphthalate	BRL	350	U
Benzo(b)fluoranthene	1000	350	
Benzo(k)fluoranthene	370	350	
Benzo(a)pyrene	590	350	
Indeno(1,2,3-cd)pyrene	530	350	
Dibenzo(a,h)anthracene	120	350	J
Benzo(g,h,i)perylene	460	350	
Carbazole	180	350	J
N-Nitrosodiphenylamine (1)	BRL	350	U
Benzyl alcohol	BRL	350	U
Benzoic acid	BRL	1700	U
Benzidine	BRL	3500	U

(1) - Cannot be separated from Diphenylamine.

To: RFW-Ft Devens-DRMO Yard
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Barnum Road
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Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-01
Project # 03886-118-204-0630
Lab ID: 9811G975-001
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

Tentatively Identified Compounds

5 Semivolatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Semivolatile Compound	Retention Time	Estimated Concentration
UNKNOWN KETONE	6.083	5200 JBA
UNKNOWN ALKANE	6.844	620 JB
Unknown	8.237	380 J
Unknown	8.548	530 JB
CYCLOOCTADIENE ISOMER	19.213	460 J

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-02
Project # 03886-118-204-0630
Lab ID: 9811G975-002
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Phenol	BRL	350	U
bis(2-Chloroethyl)ether	BRL	350	U
2-Chlorophenol	BRL	350	U
1,3-Dichlorobenzene	BRL	350	U
1,4-Dichlorobenzene	BRL	350	U
1,2-Dichlorobenzene	BRL	350	U
2-Methylphenol	BRL	350	U
2,2'-oxybis(1-Chloropropane)	BRL	350	U
N-Nitroso-di-n-propylamine	BRL	350	U
4-Methylphenol	BRL	350	U
Hexachloroethane	BRL	350	U
Nitrobenzene	BRL	350	U
Isophorone	BRL	350	U
2-Nitrophenol	BRL	350	U
2,4-Dimethylphenol	BRL	350	U
bis(2-Chloroethoxy)methane	BRL	350	U
2,4-Dichlorophenol	BRL	350	U

To: RFW-Ft Devens-DRMO Yard
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Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-02
Project # 03886-118-204-0630
Lab ID: 9811G975-002
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
1,2,4-Trichlorobenzene	BRL	350	U
Naphthalene	61	350	J
4-Chloroaniline	BRL	350	U
Hexachlorobutadiene	BRL	350	U
4-Chloro-3-methylphenol	BRL	350	U
2-Methylnaphthalene	80	350	J
Hexachlorocyclopentadiene	BRL	350	U
2,4,6-Trichlorophenol	BRL	350	U
2,4,5-Trichlorophenol	BRL	1800	U
2-Chloronaphthalene	BRL	350	U
2-Nitroaniline	BRL	1800	U
Acenaphthylene	120	350	J
2,6-Dinitrotoluene	BRL	350	U
3-Nitroaniline	BRL	1800	U
Acenaphthene	BRL	350	U
2,4-Dinitrophenol	BRL	1800	U
Dibenzofuran	BRL	350	U

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

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Project # 03886-118-204-0630
Lab ID: 9811G975-002
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
4-Nitrophenol	BRL	1800	U
2,4-Dinitrotoluene	BRL	350	U
Fluorene	98	350	J
Dimethylphthalate	BRL	350	U
Diethylphthalate	BRL	350	U
4-Chlorophenyl-phenylether	BRL	350	U
4-Nitroaniline	BRL	1800	U
4,6-Dinitro-2-methylphenol	BRL	1800	U
4-Bromophenyl-phenylether	BRL	350	U
Hexachlorobenzene	BRL	350	U
Pentachlorophenol	BRL	1800	U
Phenanthrene	1100	350	
Anthracene	240	350	J
Di-n-butylphthalate	BRL	350	U
Fluoranthene	2400	350	
Pyrene	2300	350	
Butylbenzylphthalate	BRL	350	U

To: RFW-Ft Devens-DRMO Yard
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Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-02
Project # 03886-118-204-0630
Lab ID: 9811G975-002
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Benzo(a)anthracene	1300	350	
3,3'-Dichlorobenzidine	BRL	700	U
Chrysene	1400	350	
bis(2-Ethylhexyl)phthalate	BRL	350	U
Di-n-octylphthalate	BRL	350	U
Benzo(b)fluoranthene	1400	350	
Benzo(k)fluoranthene	530	350	
Benzo(a)pyrene	1000	350	
Indeno(1,2,3-cd)pyrene	620	350	
Dibenzo(a,h)anthracene	160	350	J
Benzo(g,h,i)perylene	570	350	
Carbazole	150	350	J
N-Nitrosodiphenylamine (1)	BRL	350	U
Benzyl alcohol	BRL	350	U
Benzoic acid	BRL	1800	U
Benzidine	BRL	3500	U

(1) - Cannot be separated from Diphenylamine.

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-02
Project # 03886-118-204-0630
Lab ID: 9811G975-002
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

Tentatively Identified Compounds

5 Semivolatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Semivolatile Compound	Retention Time	Estimated Concentration
UNKNOWN KETONE	6.137	4900 JBA
Unknown	8.549	540 JB
UNKNOWN AROMATIC C15H12	21.882	680 J
UNKNOWN AROMATIC C15H10	22.054	750 J
UNKNOWN AROMATIC C20H12	29.857	1100 J

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-03

Project # 03886-118-204-0630

Lab ID: 9811G975-003

Sample Date: 11/02/98

Date Received: 11/03/98

Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Phenol	BRL	350	U
bis(2-Chloroethyl)ether	BRL	350	U
2-Chlorophenol	BRL	350	U
1,3-Dichlorobenzene	BRL	350	U
1,4-Dichlorobenzene	BRL	350	U
1,2-Dichlorobenzene	BRL	350	U
2-Methylphenol	BRL	350	U
2,2'-oxybis(1-Chloropropane)	BRL	350	U
N-Nitroso-di-n-propylamine	BRL	350	U
4-Methylphenol	BRL	350	U
Hexachloroethane	BRL	350	U
Nitrobenzene	BRL	350	U
Isophorone	BRL	350	U
2-Nitrophenol	BRL	350	U
2,4-Dimethylphenol	BRL	350	U
bis(2-Chloroethoxy)methane	BRL	350	U
2,4-Dichlorophenol	BRL	350	U

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-03
Project # 03886-118-204-0630
Lab ID: 9811G975-003
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
1,2,4-Trichlorobenzene	BRL	350	U
Naphthalene	83	350	J
4-Chloroaniline	BRL	350	U
Hexachlorobutadiene	BRL	350	U
4-Chloro-3-methylphenol	BRL	350	U
2-Methylnaphthalene	130	350	J
Hexachlorocyclopentadiene	BRL	350	U
2,4,6-Trichlorophenol	BRL	350	U
2,4,5-Trichlorophenol	BRL	1800	U
2-Chloronaphthalene	BRL	350	U
2-Nitroaniline	BRL	1800	U
Acenaphthylene	45	350	J
2,6-Dinitrotoluene	BRL	350	U
3-Nitroaniline	BRL	1800	U
Acenaphthene	BRL	350	U
2,4-Dinitrophenol	BRL	1800	U
Dibenzofuran	42	350	J

To: RFW-Ft Devens-DRMO Yard
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Lab ID: 9811G975-003
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
4-Nitrophenol	BRL	1800	U
2,4-Dinitrotoluene	BRL	350	U
Fluorene	BRL	350	U
Dimethylphthalate	210	350	J
Diethylphthalate	BRL	350	U
4-Chlorophenyl-phenylether	BRL	350	U
4-Nitroaniline	BRL	1800	U
4,6-Dinitro-2-methylphenol	BRL	1800	U
4-Bromophenyl-phenylether	BRL	350	U
Hexachlorobenzene	BRL	350	U
Pentachlorophenol	BRL	1800	U
Phenanthrene	450	350	
Anthracene	100	350	J
Di-n-butylphthalate	BRL	350	U
Fluoranthene	940	350	
Pyrene	890	350	
Butylbenzylphthalate	BRL	350	U

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Project # 03886-118-204-0630
Lab ID: 9811G975-003
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Benzo(a)anthracene	480	350	
3,3'-Dichlorobenzidine	BRL	710	U
Chrysene	600	350	
bis(2-Ethylhexyl)phthalate	37	350	J
Di-n-octylphthalate	BRL	350	U
Benzo(b)fluoranthene	860	350	
Benzo(k)fluoranthene	290	350	J
Benzo(a)pyrene	490	350	
Indeno(1,2,3-cd)pyrene	410	350	
Dibenzo(a,h)anthracene	90	350	J
Benzo(g,h,i)perylene	340	350	J
Carbazole	170	350	J
N-Nitrosodiphenylamine (1)	BRL	350	U
Benzyl alcohol	BRL	350	U
Benzoic acid	BRL	1800	U
Benzidine	BRL	3500	U

(1) - Cannot be separated from Diphenylamine.

To: RFW-Ft Devens-DRMO Yard
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Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-03
Project # 03886-118-204-0630
Lab ID: 9811G975-003
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

Tentatively Identified Compounds

5 Semivolatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Semivolatile Compound	Retention Time	Estimated Concentration
UNKNOWN KETONE	6.094	5200 JBA
UNKNOWN ALKANE	6.855	640 JB
Unknown	8.538	590 JB
UNKNOWN KETONE	10.628	580 J
CYCLOOCTADIENE ISOMER	19.203	490 J

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-04
Project # 03886-118-204-0630
Lab ID: 9811G975-004
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Phenol	BRL	350	U
bis(2-Chloroethyl)ether	BRL	350	U
2-Chlorophenol	BRL	350	U
1,3-Dichlorobenzene	BRL	350	U
1,4-Dichlorobenzene	BRL	350	U
1,2-Dichlorobenzene	BRL	350	U
2-Methylphenol	BRL	350	U
2,2'-oxybis(1-Chloropropane)	BRL	350	U
N-Nitroso-di-n-propylamine	BRL	350	U
4-Methylphenol	BRL	350	U
Hexachloroethane	BRL	350	U
Nitrobenzene	BRL	350	U
Isophorone	BRL	350	U
2-Nitrophenol	BRL	350	U
2,4-Dimethylphenol	BRL	350	U
bis(2-Chloroethoxy)methane	BRL	350	U
2,4-Dichlorophenol	BRL	350	U

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Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-04
Project # 03886-118-204-0630
Lab ID: 9811G975-004
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
1,2,4-Trichlorobenzene	BRL	350	U
Naphthalene	180	350	J
4-Chloroaniline	BRL	350	U
Hexachlorobutadiene	BRL	350	U
4-Chloro-3-methylphenol	BRL	350	U
2-Methylnaphthalene	230	350	J
Hexachlorocyclopentadiene	BRL	350	U
2,4,6-Trichlorophenol	BRL	350	U
2,4,5-Trichlorophenol	BRL	1800	U
2-Chloronaphthalene	BRL	350	U
2-Nitroaniline	BRL	1800	U
Acenaphthylene	150	350	J
2,6-Dinitrotoluene	BRL	350	U
3-Nitroaniline	BRL	1800	U
Acenaphthene	BRL	350	U
2,4-Dinitrophenol	BRL	1800	U
Dibenzofuran	86	350	J

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-04
Project # 03886-118-204-0630
Lab ID: 9811G975-004
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
4-Nitrophenol	BRL	1800	U
2,4-Dinitrotoluene	BRL	350	U
Fluorene	48	350	J
Dimethylphthalate	BRL	350	U
Diethylphthalate	BRL	350	U
4-Chlorophenyl-phenylether	BRL	350	U
4-Nitroaniline	BRL	1800	U
4,6-Dinitro-2-methylphenol	BRL	1800	U
4-Bromophenyl-phenylether	BRL	350	U
Hexachlorobenzene	BRL	350	U
Pentachlorophenol	BRL	1800	U
Phenanthrene	920	350	
Anthracene	140	350	J
Di-n-butylphthalate	BRL	350	U
Fluoranthene	1800	350	
Pyrene	1400	350	
Butylbenzylphthalate	BRL	350	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
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Project # 03886-118-204-0630
Lab ID: 9811G975-004
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

SEMIVOLATILES BY GC/MS, HSL LIST

Semivolatile Compound	Result	Reporting Limit	Flag
Benzo(a)anthracene	880	350	
3,3'-Dichlorobenzidine	BRL	700	U
Chrysene	1400	350	
bis(2-Ethylhexyl)phthalate	110	350	J
Di-n-octylphthalate	BRL	350	U
Benzo(b)fluoranthene	1800	350	
Benzo(k)fluoranthene	770	350	
Benzo(a)pyrene	1100	350	
Indeno(1,2,3-cd)pyrene	1000	350	
Dibenzo(a,h)anthracene	390	350	
Benzo(g,h,i)perylene	1000	350	
Carbazole	98	350	J
N-Nitrosodiphenylamine (1)	BRL	350	U
Benzyl alcohol	BRL	350	U
Benzoic acid	BRL	1800	U
Benzidine	BRL	3500	U

(1) - Cannot be separated from Diphenylamine.

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-04
Project # 03886-118-204-0630
Lab ID: 9811G975-004
Sample Date: 11/02/98
Date Received: 11/03/98
Units: ug/Kg

Tentatively Identified Compounds

5 Semivolatile Compounds greater than 10% of the nearest internal standard were tentatively identified by mass spectral library search. This is exclusive of any target compounds, surrogates or internal standards.

Semivolatile Compound	Retention Time	Estimated Concentration
UNKNOWN KETONE	5.531	4500 JBA
UNKNOWN ALKANE	6.319	400 JB
Unknown	8.088	610 JB
UNKNOWN KETONE	9.012	340 J
CYCLOOCTADIENE ISOMER	18.794	590 J

Recra LabNet - Chicago

SEMIVOLATILES BY GC/MS; HSL LIST

Report Date: 11/11/98 10:35

RFW Batch Number: 9811G975

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 1a

		Cust ID: AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK	
		-01		-01		-01		-02		-03		-04	
Sample Information	RFW#:	001		001 MS		001 MSD		002		003		004	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	D.F.:	1		1		1		1		1		1	
	Units:	UG/KG		UG/KG		UG/KG		UG/KG		UG/KG		UG/KG	
Surrogate Recovery	2-Fluorophenol	77	%	80	%	87	%	70	%	72	%	72	%
	Phenol-d5	82	%	88	%	98	%	73	%	78	%	78	%
	Nitrobenzene-d5	79	%	84	%	99	%	74	%	76	%	85	%
	2-Fluorobiphenyl	83	%	82	%	93	%	79	%	79	%	93	%
	2,4,6-Tribromophenol	80	%	79	%	126	%	75	%	77	%	76	%
	p-Terphenyl-d14	82	%	81	%	103	%	75	%	85	%	78	%
=====f=====f=====f=====f=====f=====f=====f=====													
Phenol		350	U	78	%	85	%	350	U	350	U	350	U
bis(2-Chloroethyl)ether		350	U	79	%	80	%	350	U	350	U	350	U
2-Chlorophenol		350	U	78	%	83	%	350	U	350	U	350	U
1,3-Dichlorobenzene		350	U	66	%	74	%	350	U	350	U	350	U
1,4-Dichlorobenzene		350	U	66	%	75	%	350	U	350	U	350	U
1,2-Dichlorobenzene		350	U	70	%	86	%	350	U	350	U	350	U
2-Methylphenol		350	U	79	%	88	%	350	U	350	U	350	U
2,2'-oxybis(1-Chloropropane)		350	U	75	%	95	%	350	U	350	U	350	U
N-Nitroso-di-n-propylamine		350	U	88	%	97	%	350	U	350	U	350	U
4-Methylphenol		350	U	84	%	91	%	350	U	350	U	350	U
Hexachloroethane		350	U	68	%	73	%	350	U	350	U	350	U
Nitrobenzene		350	U	71	%	88	%	350	U	350	U	350	U
Isophorone		350	U	79	%	92	%	350	U	350	U	350	U
2-Nitrophenol		350	U	75	%	94	%	350	U	350	U	350	U
2,4-Dimethylphenol		350	U	72	%	86	%	350	U	350	U	350	U
bis(2-Chloroethoxy)methane		350	U	78	%	89	%	350	U	350	U	350	U
2,4-Dichlorophenol		350	U	75	%	85	%	350	U	350	U	350	U
1,2,4-Trichlorobenzene		350	U	70	%	82	%	350	U	350	U	350	U
Naphthalene		120	J	73	%	84	%	61	J	83	J	180	J
4-Chloroaniline		350	U	10 *	%	8 *	%	350	U	350	U	350	U
Hexachlorobutadiene		350	U	71	%	88	%	350	U	350	U	350	U
4-Chloro-3-methylphenol		350	U	78	%	98	%	350	U	350	U	350	U
2-Methylnaphthalene		180	J	77	%	86	%	80	J	130	J	230	J

*= Outside of EPA CLP QC Limits.

Cust ID:	AOC-32-STOCK	AOC-32-STOCK	AOC-32-STOCK	AOC-32-STOCK	AOC-32-STOCK	AOC-32-STOCK
	-01	-01	-01	-02	-03	-04
RFW#:	001	001 MS	001 MSD	002	003	004

Hexachlorocyclopentadiene	350	U	47	%	63	%	350	U	350	U	350	U
2,4,6-Trichlorophenol	350	U	70	%	86	%	350	U	350	U	350	U
2,4,5-Trichlorophenol	1700	U	72	*	92	%	1800	U	1800	U	1800	U
2-Chloronaphthalene	350	U	69	%	76	%	350	U	350	U	350	U
2-Nitroaniline	1700	U	72	%	104	%	1800	U	1800	U	1800	U
Acenaphthylene	76	J	71	*	79	%	120	J	45	J	150	J
2,6-Dinitrotoluene	350	U	72	*	75	*	350	U	350	U	350	U
3-Nitroaniline	1700	U	46	%	36	%	1800	U	1800	U	1800	U
Acenaphthene	350	U	72	%	81	%	350	U	350	U	350	U
2,4-Dinitrophenol	1700	U	51	%	100	%	1800	U	1800	U	1800	U
Dibenzofuran	56	J	69	*	85	%	350	U	42	J	86	J
4-Nitrophenol	1700	U	72	%	101	%	1800	U	1800	U	1800	U
2,4-Dinitrotoluene	350	U	72	%	121	%	350	U	350	U	350	U
Fluorene	350	U	72	%	87	%	98	J	350	U	48	J
Dimethylphthalate	350	U	78	%	90	%	350	U	210	J	350	U
Diethylphthalate	350	U	76	%	103	%	350	U	350	U	350	U
4-Chlorophenyl-phenylether	350	U	72	*	90	%	350	U	350	U	350	U
4-Nitroaniline	1700	U	49	%	61	%	1800	U	1800	U	1800	U
4,6-Dinitro-2-methylphenol	1700	U	62	%	132	%	1800	U	1800	U	1800	U
4-Bromophenyl-phenylether	350	U	72	%	88	%	350	U	350	U	350	U
Hexachlorobenzene	350	U	68	*	86	%	350	U	350	U	350	U
Pentachlorophenol	1700	U	71	%	97	%	1800	U	1800	U	1800	U
Phenanthrene	480		74	%	86	%	1100		450		920	
Anthracene	59	J	69	*	80	%	240	J	100	J	140	J
Di-n-butylphthalate	350	U	75	%	102	%	350	U	350	U	350	U
Fluoranthene	1100		73	%	95	%	2400		940		1800	
Pyrene	920		70	%	77	%	2300		890		1400	
Butylbenzylphthalate	350	U	74	%	88	%	350	U	350	U	350	U
Benzo(a)anthracene	490		70	*	82	%	1300		480		880	
3,3'-Dichlorobenzidine	690	U	0	*	3	*	700	U	710	U	700	U
Chrysene	770		68	%	77	%	1400		600		1400	
bis(2-Ethylhexyl)phthalate	130	J	72	%	86	%	350	U	37	J	110	J
Di-n-octylphthalate	350	U	75	%	83	%	350	U	350	U	350	U
Benzo(b)fluoranthene	1000		66	*	77	%	1400		860		1800	
Benzo(k)fluoranthene	370		84	%	73	%	530		290	J	770	
Benzo(a)pyrene	590		62	*	73	%	1000		490		1100	

*= Outside of EPA CLP QC Limits.

RFW Batch Number: 9811G975

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 1c

Cust ID: AOC-32-STOCK AOC-32-STOCK AOC-32-STOCK AOC-32-STOCK AOC-32-STOCK AOC-32-STOCK

RFW#:	-01	-01	-01	-02	-03	-04
	001	001 MS	001 MSD	002	003	004

Indeno(1,2,3-cd)pyrene	530	59 * %	62 %	620	410	1000
Dibenzo(a,h)anthracene	120 J	59 %	64 %	160 J	90 J	390
Benzo(g,h,i)perylene	460	53 * %	58 * %	570	340 J	1000
Carbazole	180 J	87 %	82 %	150 J	170 J	98 J
N-Nitrosodiphenylamine (1)	350 U	76 %	85 %	350 U	350 U	350 U
Benzyl alcohol	350 U	85 %	83 %	350 U	350 U	350 U
Benzoic acid	1700 U	76 %	88 %	1800 U	1800 U	1800 U
Benzidine	3500 U	0 U	0 U	3500 U	3500 U	3500 U

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

Recra LabNet - Chicago

SEMIVOLATILES BY GC/MS, HSL LIST

Report Date: 11/11/98 10:35

RFW Batch Number: 9811G975

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

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Cust ID: SBLKDY

SBLKDY BS

Sample	RFW#:	98GB0594-MB1	98GB0594-MB1
Information	Matrix:	SOIL	SOIL
	D.F.:	1	1
	Units:	UG/KG	UG/KG

Surrogate	2-Fluorophenol	68	%	76	%
Recovery	Phenol-d5	74	%	78	%
	Nitrobenzene-d5	76	%	84	%
	2-Fluorobiphenyl	74	%	90	%
	2,4,6-Tribromophenol	70	%	89	%
	p-Terphenyl-d14	92	%	84	%
=====f]=====f]=====f]=====f]=====f]=====f]					
	Phenol	330	U	71	%
	bis(2-Chloroethyl)ether	330	U	73	%
	2-Chlorophenol	330	U	72	%
	1,3-Dichlorobenzene	330	U	71	%
	1,4-Dichlorobenzene	330	U	69	%
	1,2-Dichlorobenzene	330	U	71	%
	2-Methylphenol	330	U	71	%
	2,2'-oxybis(1-Chloropropane)	330	U	73	%
	N-Nitroso-di-n-propylamine	330	U	78	%
	4-Methylphenol	330	U	77	%
	Hexachloroethane	330	U	75	%
	Nitrobenzene	330	U	76	%
	Isophorone	330	U	83	%
	2-Nitrophenol	330	U	78	%
	2,4-Dimethylphenol	330	U	78	%
	bis(2-Chloroethoxy)methane	330	U	80	%
	2,4-Dichlorophenol	330	U	78	%
	1,2,4-Trichlorobenzene	330	U	78	%
	Naphthalene	330	U	78	%
	4-Chloroaniline	330	U	37	%
	Hexachlorobutadiene	330	U	81	%
	4-Chloro-3-methylphenol	330	U	79	%
	2-Methylnaphthalene	330	U	78	%

*= Outside of EPA CLP QC Limits.

270

Cust ID: SBLKDY

SBLKDY BS

RFW#: 98GB0594-MB1 98GB0594-MB1

Hexachlorocyclopentadiene	330	U	80	%
2,4,6-Trichlorophenol	330	U	88	%
2,4,5-Trichlorophenol	1700	U	81	%
2-Chloronaphthalene	330	U	81	%
2-Nitroaniline	1700	U	82	%
Acenaphthylene	330	U	85	%
2,6-Dinitrotoluene	330	U	81	%
3-Nitroaniline	1700	U	68	%
Acenaphthene	330	U	85	%
2,4-Dinitrophenol	1700	U	82	%
Dibenzofuran	330	U	80	%
4-Nitrophenol	1700	U	79	%
2,4-Dinitrotoluene	330	U	82	%
Fluorene	330	U	82	%
Dimethylphthalate	330	U	85	%
Diethylphthalate	330	U	84	%
4-Chlorophenyl-phenylether	330	U	81	%
4-Nitroaniline	1700	U	74	%
4,6-Dinitro-2-methylphenol	1700	U	90	%
4-Bromophenyl-phenylether	330	U	88	%
Hexachlorobenzene	330	U	87	%
Pentachlorophenol	1700	U	88	%
Phenanthrene	330	U	89	%
Anthracene	330	U	86	%
Di-n-butylphthalate	330	U	90	%
Fluoranthene	330	U	92	%
Pyrene	330	U	76	%
Butylbenzylphthalate	330	U	81	%
Benzo(a)anthracene	330	U	87	%
3,3'-Dichlorobenzidine	670	U	61	%
Chrysene	330	U	87	%
bis(2-Ethylhexyl)phthalate	330	U	81	%
Di-n-octylphthalate	330	U	81	%
Benzo(b)fluoranthene	330	U	85	%
Benzo(k)fluoranthene	330	U	80	%
Benzo(a)pyrene	330	U	80	%

*= Outside of EPA CLP QC Limits.

820

RfW Batch Number: 9811G975

Client: RfW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 2c

Cust ID: SBLKDY

SBLKDY BS

RfW#: 98GB0594-MB1 98GB0594-MB1

Indeno(1,2,3-cd)pyrene	330	U	82	%
Dibenzo(a,h)anthracene	330	U	80	%
Benzo(g,h,i)perylene	330	U	83	%
Carbazole	330	U	107	%
N-Nitrosodiphenylamine (1)	330	U	93	%
Benzyl alcohol	330	U	74	%
Benzoic acid	1700	U	97	%
Benzidine	3300	U	0	%

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

JW 11/11/98

620

Recra LabNet - Chicago
PEST/PCB ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G975

CLIENT ID	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
AOC-32-STOCK-01	001	S	98GP1042	11/02/98	11/03/98	11/04/98	11/07/98
AOC-32-STOCK-01	001 MS	S	98GP1042	11/02/98	11/03/98	11/04/98	11/07/98
AOC-32-STOCK-01	001 MSD	S	98GP1042	11/02/98	11/03/98	11/04/98	11/07/98
AOC-32-STOCK-02	002	S	98GP1042	11/02/98	11/03/98	11/04/98	11/07/98
AOC-32-STOCK-03	003	S	98GP1042	11/02/98	11/03/98	11/04/98	11/07/98
AOC-32-STOCK-04	004	S	98GP1042	11/02/98	11/03/98	11/04/98	11/07/98
AOC-32-08	006	S	98GP1047	11/03/98	11/04/98	11/05/98	11/07/98
AOC-32-09	007	S	98GP1047	11/03/98	11/04/98	11/05/98	11/07/98
AOC-32-EXC-W-01	009	S	98GP1047	11/03/98	11/04/98	11/05/98	11/07/98
AOC-32-EXC-W-02	010	S	98GP1047	11/03/98	11/04/98	11/05/98	11/07/98
AOC-32-EXC-W-03	011	S	98GP1047	11/03/98	11/04/98	11/05/98	11/07/98
AOC-32-EXC-W-04	012	S	98GP1047	11/03/98	11/04/98	11/05/98	11/07/98
AOC-32-EXC-FLR-05	013	S	98GP1047	11/03/98	11/04/98	11/05/98	11/07/98
AOC-32-EXC-FLR-05	013 MS	S	98GP1047	11/03/98	11/04/98	11/05/98	11/07/98
AOC-32-EXC-FLR-05	013 MSD	S	98GP1047	11/03/98	11/04/98	11/05/98	11/07/98

LAB QC:

PBLKNB	MB1	S	98GP1042	N/A	N/A	11/04/98	11/07/98
PBLKNB	MB1 BS	S	98GP1042	N/A	N/A	11/04/98	11/07/98
PBLKNY	MB1	S	98GP1047	N/A	N/A	11/05/98	11/07/98
PBLKNY	MB1 BS	S	98GP1047	N/A	N/A	11/05/98	11/07/98

SIGNATURE

Kindle S. Machley

DATE 11-11-98



NY CERTIFICATION # 11006

080

Recra LabNet - Chicago
Pesticide/PCB Case Narrative

RFW-Ft. Devens-DRMO Yard
RFW# 9811G975-001\004, 006, 007, 009\013
Pesticides/PCBs

1. Recra LabNet - Chicago used the following Gas Chromatographic systems for the analysis of these pesticides and PCBs:

<u>ID#</u>	<u>INSTRUMENT</u>	<u>COLUMN TYPE</u>	<u>DETECTOR</u>
29	HP 5890 II+	DB-5	Electron Capture
30	HP 5890 II+	Rtx-35	Electron Capture

2. These soil samples were extracted based on SW846 method 3550. The extracts were analyzed for Pesticides and PCBs based on SW846 method 8081.
3. All required hold times were met for the extraction and the analysis.
4. The method blanks were below the reporting limit for all target compounds.
5. The surrogate compounds used for this analysis were Decachlorobiphenyl (DCB) and Tetrachloro-m-xylene (TCX). All surrogate recoveries were within control limits.
6. Some blank spike recoveries were above statistical control limits and are flagged with an "*" on the spreadsheet summary.
7. A matrix spike and matrix spike duplicate were performed on samples 9810G975-001 (AOC-32-STOCK-01) and 9810G975-013 (AOC-32-EXC-FLR-05). All recoveries are summarized on the spreadsheet summary.
8. All initial and continuing standard calibrations were within control limits.


Linda S. Mackley
Organics Section Manager

11-11-98
Date

Recra LabNet - Chicago

GC/HPLC METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained within this RFW Lot :

Pesticides/PCBs	☐ SW-846 8080A
	☒ SW-846 8081
	☐ 40 CFR Part 136, Method 608
	☐ OLM03.1/3.2
Pesticides	☐ SW-846 8081A
PCBs	☐ SW-846 8082
Organophosphorus Pesticides	☐ SW-846 8141A
Herbicides	☐ SW-846 8150B
	☐ SW-846 8151A
Explosives	☐ SW-846 8330
Polynuclear Aromatics	☐ SW-846 8310
	☐ 40 CFR Part 136, Method 610
Petroleum Hydrocarbons	☐ SW-846 8015A Mod
	☐ California LUFT
	☐ Other _____
EDB & DBCP	☐ EPA Method 504.1
GC VOLATILES	☐ SW-846 8010A
	☐ 40 CFR Part 136, Method 601
	☐ SW-846 8020A
	☐ SW-846 8021A
	☐ 40 CFR Part 136, Method 602
	☐ SW-846 8015 Mod

CHI-22-05-003/F-4/98

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-01
Project # 03886-118-204-0630
Lab ID: 9811G975-001
Sample Date: 11/02/98
Date Received: 11/03/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	26	U
beta-BHC	BRL	26	U
delta-BHC	BRL	26	U
gamma-BHC (Lindane)	BRL	26	U
Heptachlor	BRL	26	U
Aldrin	BRL	26	U
Heptachlor epoxide	41	26	
Endosulfan I	BRL	26	U
Dieldrin	BRL	52	U
4,4'-DDE	36	52	J
Endrin	BRL	52	U
Endosulfan II	BRL	52	U
4,4'-DDD	39	52	J
Endosulfan sulfate	BRL	52	U
4,4'-DDT	310	52	
Methoxychlor	BRL	260	U
alpha-Chlordane	BRL	26	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-01
Project # 03886-118-204-0630
Lab ID: 9811G975-001
Sample Date: 11/02/98
Date Received: 11/03/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	26	U
Toxaphene	BRL	520	U
Endrin aldehyde	BRL	52	U
Endrin ketone	BRL	52	U
Aroclor-1016	BRL	260	U
Aroclor-1221	BRL	260	U
Aroclor-1232	BRL	260	U
Aroclor-1242	BRL	260	U
Aroclor-1248	BRL	260	U
Aroclor-1254	BRL	260	U
Aroclor-1260	BRL	260	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-02

Project # 03886-118-204-0630

Lab ID: 9811G975-002

Sample Date: 11/02/98

Date Received: 11/03/98

Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	26	U
beta-BHC	BRL	26	U
delta-BHC	BRL	26	U
gamma-BHC (Lindane)	BRL	26	U
Heptachlor	BRL	26	U
Aldrin	BRL	26	U
Heptachlor epoxide	BRL	26	U
Endosulfan I	BRL	26	U
Dieldrin	BRL	51	U
4,4'-DDE	31	51	J
Endrin	BRL	51	U
Endosulfan II	BRL	51	U
4,4'-DDD	BRL	51	U
Endosulfan sulfate	BRL	51	U
4,4'-DDT	190	51	
Methoxychlor	BRL	260	U
alpha-Chlordane	BRL	26	U

To: RFW-Ft Devens-DRMO Yard
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Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-02
Project # 03886-118-204-0630
Lab ID: 9811G975-002
Sample Date: 11/02/98
Date Received: 11/03/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	26	U
Toxaphene	BRL	510	U
Endrin aldehyde	BRL	51	U
Endrin ketone	BRL	51	U
Aroclor-1016	BRL	260	U
Aroclor-1221	BRL	260	U
Aroclor-1232	BRL	260	U
Aroclor-1242	BRL	260	U
Aroclor-1248	BRL	260	U
Aroclor-1254	BRL	260	U
Aroclor-1260	BRL	260	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-03
Project # 03886-118-204-0630
Lab ID: 9811G975-003
Sample Date: 11/02/98
Date Received: 11/03/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	26	U
beta-BHC	BRL	26	U
delta-BHC	BRL	26	U
gamma-BHC (Lindane)	BRL	26	U
Heptachlor	BRL	26	U
Aldrin	BRL	26	U
Heptachlor epoxide	BRL	26	U
Endosulfan I	BRL	26	U
Dieldrin	BRL	51	U
4,4'-DDE	38	51	J
Endrin	BRL	51	U
Endosulfan II	BRL	51	U
4,4'-DDD	BRL	51	U
Endosulfan sulfate	BRL	51	U
4,4'-DDT	250	51	
Methoxychlor	BRL	260	U
alpha-Chlordane	BRL	26	U

To: RFW-Ft Devens-DRMO Yard
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Barnum Road
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Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-03
Project # 03886-118-204-0630
Lab ID: 9811G975-003
Sample Date: 11/02/98
Date Received: 11/03/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	26	U
Toxaphene	BRL	510	U
Endrin aldehyde	BRL	51	U
Endrin ketone	BRL	51	U
Aroclor-1016	BRL	260	U
Aroclor-1221	BRL	260	U
Aroclor-1232	BRL	260	U
Aroclor-1242	BRL	260	U
Aroclor-1248	BRL	260	U
Aroclor-1254	BRL	260	U
Aroclor-1260	BRL	260	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-04
Project # 03886-118-204-0630
Lab ID: 9811G975-004
Sample Date: 11/02/98
Date Received: 11/03/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	26	U
beta-BHC	BRL	26	U
delta-BHC	BRL	26	U
gamma-BHC (Lindane)	BRL	26	U
Heptachlor	BRL	26	U
Aldrin	BRL	26	U
Heptachlor epoxide	40	26	
Endosulfan I	BRL	26	U
Dieldrin	BRL	53	U
4,4'-DDE	33	53	J
Endrin	BRL	53	U
Endosulfan II	BRL	53	U
4,4'-DDD	BRL	53	U
Endosulfan sulfate	BRL	53	U
4,4'-DDT	290	53	
Methoxychlor	BRL	260	U
alpha-Chlordane	BRL	26	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-04
Project # 03886-118-204-0630
Lab ID: 9811G975-004
Sample Date: 11/02/98
Date Received: 11/03/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	26	U
Toxaphene	BRL	530	U
Endrin aldehyde	BRL	53	U
Endrin ketone	BRL	53	U
Aroclor-1016	BRL	260	U
Aroclor-1221	BRL	260	U
Aroclor-1232	BRL	260	U
Aroclor-1242	BRL	260	U
Aroclor-1248	BRL	260	U
Aroclor-1254	BRL	260	U
Aroclor-1260	BRL	260	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-08

Project # 03886-118-204-0630

Lab ID: 9811G975-006

Sample Date: 11/03/98

Date Received: 11/04/98

Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	5.5	U
beta-BHC	BRL	5.5	U
delta-BHC	BRL	5.5	U
gamma-BHC (Lindane)	BRL	5.5	U
Heptachlor	BRL	5.5	U
Aldrin	BRL	5.5	U
Heptachlor epoxide	BRL	5.5	U
Endosulfan I	BRL	5.5	U
Dieldrin	BRL	11	U
4,4'-DDE	BRL	11	U
Endrin	BRL	11	U
Endosulfan II	BRL	11	U
4,4'-DDD	BRL	11	U
Endosulfan sulfate	BRL	11	U
4,4'-DDT	BRL	11	U
Methoxychlor	BRL	55	U
alpha-Chlordane	BRL	5.5	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-08
Project # 03886-118-204-0630
Lab ID: 9811G975-006
Sample Date: 11/03/98
Date Received: 11/04/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	5.5	U
Toxaphene	BRL	110	U
Endrin aldehyde	BRL	11	U
Endrin ketone	BRL	11	U
Aroclor-1016	BRL	55	U
Aroclor-1221	BRL	55	U
Aroclor-1232	BRL	55	U
Aroclor-1242	BRL	55	U
Aroclor-1248	BRL	55	U
Aroclor-1254	BRL	55	U
Aroclor-1260	BRL	55	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-09
Project # 03886-118-204-0630
Lab ID: 9811G975-007
Sample Date: 11/03/98
Date Received: 11/04/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	5.2	U
beta-BHC	BRL	5.2	U
delta-BHC	BRL	5.2	U
gamma-BHC (Lindane)	BRL	5.2	U
Heptachlor	BRL	5.2	U
Aldrin	BRL	5.2	U
Heptachlor epoxide	BRL	5.2	U
Endosulfan I	BRL	5.2	U
Dieldrin	BRL	10	U
4,4'-DDE	BRL	10	U
Endrin	BRL	10	U
Endosulfan II	BRL	10	U
4,4'-DDD	BRL	10	U
Endosulfan sulfate	BRL	10	U
4,4'-DDT	BRL	10	U
Methoxychlor	BRL	52	U
alpha-Chlordane	BRL	5.2	U

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Date: Wednesday November 11th, 1998

Attn: Sam Naik

RE: AOC-32-09
Project # 03886-118-204-0630
Lab ID: 9811G975-007
Sample Date: 11/03/98
Date Received: 11/04/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	5.2	U
Toxaphene	BRL	100	U
Endrin aldehyde	BRL	10	U
Endrin ketone	BRL	10	U
Aroclor-1016	BRL	52	U
Aroclor-1221	BRL	52	U
Aroclor-1232	BRL	52	U
Aroclor-1242	BRL	52	U
Aroclor-1248	BRL	52	U
Aroclor-1254	BRL	52	U
Aroclor-1260	BRL	52	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-EXC-W-01
Project # 03886-118-204-0630
Lab ID: 9811G975-009
Sample Date: 11/03/98
Date Received: 11/04/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	2.6	U
beta-BHC	BRL	2.6	U
delta-BHC	BRL	2.6	U
gamma-BHC (Lindane)	BRL	2.6	U
Heptachlor	BRL	2.6	U
Aldrin	BRL	2.6	U
Heptachlor epoxide	BRL	2.6	U
Endosulfan I	BRL	2.6	U
Dieldrin	BRL	5.2	U
4,4'-DDE	BRL	5.2	U
Endrin	BRL	5.2	U
Endosulfan II	BRL	5.2	U
4,4'-DDD	BRL	5.2	U
Endosulfan sulfate	BRL	5.2	U
4,4'-DDT	BRL	5.2	U
Methoxychlor	BRL	26	U
alpha-Chlordane	BRL	2.6	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Wednesday November 11th, 1998

Attn: Sam Naik

RE: AOC-32-EXC-W-01
Project # 03886-118-204-0630
Lab ID: 9811G975-009
Sample Date: 11/03/98
Date Received: 11/04/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	2.6	U
Toxaphene	BRL	52	U
Endrin aldehyde	BRL	5.2	U
Endrin ketone	BRL	5.2	U
Aroclor-1016	BRL	26	U
Aroclor-1221	BRL	26	U
Aroclor-1232	BRL	26	U
Aroclor-1242	BRL	26	U
Aroclor-1248	BRL	26	U
Aroclor-1254	BRL	26	U
Aroclor-1260	BRL	26	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-EXC-W-02
Project # 03886-118-204-0630
Lab ID: 9811G975-010
Sample Date: 11/03/98
Date Received: 11/04/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	2.5	U
beta-BHC	BRL	2.5	U
delta-BHC	BRL	2.5	U
gamma-BHC (Lindane)	BRL	2.5	U
Heptachlor	BRL	2.5	U
Aldrin	BRL	2.5	U
Heptachlor epoxide	BRL	2.5	U
Endosulfan I	BRL	2.5	U
Dieldrin	BRL	5.1	U
4,4'-DDE	BRL	5.1	U
Endrin	BRL	5.1	U
Endosulfan II	BRL	5.1	U
4,4'-DDD	BRL	5.1	U
Endosulfan sulfate	BRL	5.1	U
4,4'-DDT	10	5.1	
Methoxychlor	BRL	25	U
alpha-Chlordane	BRL	2.5	U

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-EXC-W-02
Project # 03886-118-204-0630
Lab ID: 9811G975-010
Sample Date: 11/03/98
Date Received: 11/04/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	2.5	U
Toxaphene	BRL	51	U
Endrin aldehyde	BRL	5.1	U
Endrin ketone	BRL	5.1	U
Aroclor-1016	BRL	25	U
Aroclor-1221	BRL	25	U
Aroclor-1232	BRL	25	U
Aroclor-1242	BRL	25	U
Aroclor-1248	BRL	25	U
Aroclor-1254	BRL	25	U
Aroclor-1260	BRL	25	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-EXC-W-03
Project # 03886-118-204-0630
Lab ID: 9811G975-011
Sample Date: 11/03/98
Date Received: 11/04/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	2.6	U
beta-BHC	BRL	2.6	U
delta-BHC	BRL	2.6	U
gamma-BHC (Lindane)	BRL	2.6	U
Heptachlor	BRL	2.6	U
Aldrin	BRL	2.6	U
Heptachlor epoxide	BRL	2.6	U
Endosulfan I	BRL	2.6	U
Dieldrin	BRL	5.2	U
4,4'-DDE	BRL	5.2	U
Endrin	5.2	5.2	
Endosulfan II	BRL	5.2	U
4,4'-DDD	BRL	5.2	U
Endosulfan sulfate	BRL	5.2	U
4,4'-DDT	BRL	5.2	U
Methoxychlor	BRL	26	U
alpha-Chlordane	BRL	2.6	U

To: RFW-Ft Devens-DRMO Yard
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Barnum Road
Ft Devens, MA 01433

Date: Wednesday November 11th, 1998

Attn: Sam Naik

RE: AOC-32-EXC-W-03
Project # 03886-118-204-0630
Lab ID: 9811G975-011
Sample Date: 11/03/98
Date Received: 11/04/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	2.6	U
Toxaphene	BRL	52	U
Endrin aldehyde	BRL	5.2	U
Endrin ketone	BRL	5.2	U
Aroclor-1016	BRL	26	U
Aroclor-1221	BRL	26	U
Aroclor-1232	BRL	26	U
Aroclor-1242	BRL	26	U
Aroclor-1248	BRL	26	U
Aroclor-1254	BRL	26	U
Aroclor-1260	BRL	26	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-EXC-W-04
Project # 03886-118-204-0630
Lab ID: 9811G975-012
Sample Date: 11/03/98
Date Received: 11/04/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	2.4	U
beta-BHC	BRL	2.4	U
delta-BHC	BRL	2.4	U
gamma-BHC (Lindane)	BRL	2.4	U
Heptachlor	BRL	2.4	U
Aldrin	BRL	2.4	U
Heptachlor epoxide	BRL	2.4	U
Endosulfan I	BRL	2.4	U
Dieldrin	BRL	4.9	U
4,4'-DDE	BRL	4.9	U
Endrin	BRL	4.9	U
Endosulfan II	BRL	4.9	U
4,4'-DDD	BRL	4.9	U
Endosulfan sulfate	BRL	4.9	U
4,4'-DDT	BRL	4.9	U
Methoxychlor	BRL	24	U
alpha-Chlordane	BRL	2.4	U

To: RFW-Ft Devens-DRMO Yard
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Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-EXC-W-04
Project # 03886-118-204-0630
Lab ID: 9811G975-012
Sample Date: 11/03/98
Date Received: 11/04/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	2.4	U
Toxaphene	BRL	49	U
Endrin aldehyde	BRL	4.9	U
Endrin ketone	BRL	4.9	U
Aroclor-1016	BRL	24	U
Aroclor-1221	BRL	24	U
Aroclor-1232	BRL	24	U
Aroclor-1242	BRL	24	U
Aroclor-1248	BRL	24	U
Aroclor-1254	BRL	24	U
Aroclor-1260	BRL	24	U

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-EXC-FLR-05
Project # 03886-118-204-0630
Lab ID: 9811G975-013
Sample Date: 11/03/98
Date Received: 11/04/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
alpha-BHC	BRL	2.4	U
beta-BHC	BRL	2.4	U
delta-BHC	BRL	2.4	U
gamma-BHC (Lindane)	BRL	2.4	U
Heptachlor	BRL	2.4	U
Aldrin	BRL	2.4	U
Heptachlor epoxide	BRL	2.4	U
Endosulfan I	BRL	2.4	U
Dieldrin	BRL	4.8	U
4,4'-DDE	BRL	4.8	U
Endrin	BRL	4.8	U
Endosulfan II	BRL	4.8	U
4,4'-DDD	BRL	4.8	U
Endosulfan sulfate	BRL	4.8	U
4,4'-DDT	BRL	4.8	U
Methoxychlor	BRL	24	U
alpha-Chlordane	BRL	2.4	U

To: RFW-Ft Devens-DRMO Yard
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Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-EXC-FLR-05
Project # 03886-118-204-0630
Lab ID: 9811G975-013
Sample Date: 11/03/98
Date Received: 11/04/98
Units: UG/KG

PESTICIDE/PCBs BY GC, CLP LIST

Compound	Result	Reporting Limit	Flag
gamma-Chlordane	BRL	2.4	U
Toxaphene	BRL	48	U
Endrin aldehyde	BRL	4.8	U
Endrin ketone	BRL	4.8	U
Aroclor-1016	BRL	24	U
Aroclor-1221	BRL	24	U
Aroclor-1232	BRL	24	U
Aroclor-1242	BRL	24	U
Aroclor-1248	BRL	24	U
Aroclor-1254	BRL	24	U
Aroclor-1260	BRL	24	U

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PESTICIDE/PCBs BY GC, CLP LIST

Report Date: 11/11/98 12:26

RFW Batch Number: 9811G975

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 1

Sample Information	RFW#: Matrix: D.F.: Units:	Cust ID: AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK	
		-01		-01		-01		-02		-03		-04	
		001		001 MS		001 MSD		002		003		004	
		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
		5.0		5.0		5.0		5.0		5.0		5.0	
		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg	
Surrogate: Tetrachloro-m-xylene		105	%	110	%	108	%	108	%	100	%	108	%
Decachlorobiphenyl		I	%	118	%	122	%	112	%	132	%	140	%
=====f=====f=====f=====f=====f=====													
alpha-BHC		26	U	122	%	122	%	26	U	26	U	26	U
beta-BHC		26	U	128	%	128	%	26	U	26	U	26	U
delta-BHC		26	U	118	%	115	%	26	U	26	U	26	U
gamma-BHC (Lindane)		26	U	125	%	122	%	26	U	26	U	26	U
Heptachlor		26	U	135	%	132	%	26	U	26	U	26	U
Aldrin		26	U	105	%	115	%	26	U	26	U	26	U
Heptachlor epoxide		41		45 *	%	53	%	26	U	26	U	40	
Endosulfan I		26	U	130 *	%	130 *	%	26	U	26	U	26	U
Dieldrin		52	U	98	%	92	%	51	U	51	U	53	U
4,4'-DDE		36	J	112	%	126	%	31	J	38	J	33	J
Endrin		52	U	125	%	90	%	51	U	51	U	53	U
Endosulfan II		52	U	128 *	%	130 *	%	51	U	51	U	53	U
4,4'-DDD		39	J	48	%	53	%	51	U	51	U	53	U
Endosulfan sulfate		52	U	128 *	%	132 *	%	51	U	51	U	53	U
4,4'-DDT		310		0 *	%	75	%	190		250		290	
Methoxychlor		260	U	174	%	178 *	%	260	U	260	U	260	U
alpha-Chlordane		26	U	190 *	%	225 *	%	26	U	26	U	26	U
gamma-Chlordane		26	U	120	%	125	%	26	U	26	U	26	U
Toxaphene		520	U	520	U	510	U	510	U	510	U	530	U
Endrin aldehyde		52	U	75	%	75	%	51	U	51	U	53	U
Endrin ketone		52	U	130	%	130	%	51	U	51	U	53	U
Aroclor-1016		260	U	260	U	260	U	260	U	260	U	260	U
Aroclor-1221		260	U	260	U	260	U	260	U	260	U	260	U
Aroclor-1232		260	U	260	U	260	U	260	U	260	U	260	U
Aroclor-1242		260	U	260	U	260	U	260	U	260	U	260	U
Aroclor-1248		260	U	260	U	260	U	260	U	260	U	260	U
Aroclor-1254		260	U	260	U	260	U	260	U	260	U	260	U

* = Outside of EPA CLP QC Limits.

RFW Batch Number: 9811G975

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 1b

Cust ID: AOC-32-STOCK AOC-32-STOCK AOC-32-STOCK AOC-32-STOCK AOC-32-STOCK AOC-32-STOCK

RFW#: -01 001 -01 001 MS -01 001 MSD -02 002 -03 003 -04 004

Aroclor-1260 260 U 260 U 260 U 260 U 260 U 260 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Recra LabNet - Chicago
PESTICIDE/PCBs BY GC, CLP LIST

Report Date: 11/11/98 12:26

RFW Batch Number: 9811G975

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 2

Sample Information	Cust ID:	AOC-32-08	AOC-32-09	AOC-32-EXC-W -01	AOC-32-EXC-W -02	AOC-32-EXC-W -03	AOC-32-EXC-W -04
	RFW#:	006	007	009	010	011	012
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.0	1.0	0.50	0.50	0.50	0.50
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate: Tetrachloro-m-xylene		98 %	100 %	85 %	85 %	88 %	42 %
Decachlorobiphenyl		108 %	108 %	95 %	95 %	95 %	50 %
=====f]=====f]=====f]=====f]=====f]=====f]=====							
alpha-BHC		5.5 U	5.2 U	2.6 U	2.5 U	2.6 U	2.4 U
beta-BHC		5.5 U	5.2 U	2.6 U	2.5 U	2.6 U	2.4 U
delta-BHC		5.5 U	5.2 U	2.6 U	2.5 U	2.6 U	2.4 U
gamma-BHC (Lindane)		5.5 U	5.2 U	2.6 U	2.5 U	2.6 U	2.4 U
Heptachlor		5.5 U	5.2 U	2.6 U	2.5 U	2.6 U	2.4 U
Aldrin		5.5 U	5.2 U	2.6 U	2.5 U	2.6 U	2.4 U
Heptachlor epoxide		5.5 U	5.2 U	2.6 U	2.5 U	2.6 U	2.4 U
Endosulfan I		5.5 U	5.2 U	2.6 U	2.5 U	2.6 U	2.4 U
Dieldrin		11 U	10 U	5.2 U	5.1 U	5.2 U	4.9 U
4,4'-DDE		11 U	10 U	5.2 U	5.1 U	5.2 U	4.9 U
Endrin		11 U	10 U	5.2 U	5.1 U	5.2 U	4.9 U
Endosulfan II		11 U	10 U	5.2 U	5.1 U	5.2 U	4.9 U
4,4'-DDD		11 U	10 U	5.2 U	5.1 U	5.2 U	4.9 U
Endosulfan sulfate		11 U	10 U	5.2 U	5.1 U	5.2 U	4.9 U
4,4'-DDT		11 U	10 U	5.2 U	10	5.2 U	4.9 U
Methoxychlor		55 U	52 U	26 U	25 U	26 U	24 U
alpha-Chlordane		5.5 U	5.2 U	2.6 U	2.5 U	2.6 U	2.4 U
gamma-Chlordane		5.5 U	5.2 U	2.6 U	2.5 U	2.6 U	2.4 U
Toxaphene		110 U	100 U	52 U	51 U	52 U	49 U
Endrin aldehyde		11 U	10 U	5.2 U	5.1 U	5.2 U	4.9 U
Endrin ketone		11 U	10 U	5.2 U	5.1 U	5.2 U	4.9 U
Aroclor-1016		55 U	52 U	26 U	25 U	26 U	24 U
Aroclor-1221		55 U	52 U	26 U	25 U	26 U	24 U
Aroclor-1232		55 U	52 U	26 U	25 U	26 U	24 U
Aroclor-1242		55 U	52 U	26 U	25 U	26 U	24 U
Aroclor-1248		55 U	52 U	26 U	25 U	26 U	24 U
Aroclor-1254		55 U	52 U	26 U	25 U	26 U	24 U

*= Outside of EPA CLP QC Limits.

RFW Batch Number: 9811G975

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 2b

Cust ID:	AOC-32-08	AOC-32-09	AOC-32-EXC-W -01	AOC-32-EXC-W -02	AOC-32-EXC-W -03	AOC-32-EXC-W -04
RFW#:	006	007	009	010	011	012

Aroclor-1260	55 U	52 U	26 U	25 U	26 U	24 U
--------------	------	------	------	------	------	------

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Recra LabNet - Chicago
PESTICIDE/PCBs BY GC, CLP LIST

Report Date: 11/11/98 12:26

RFW Batch Number: 9811G975

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 3

Sample Information	RFW#: Matrix: D.F.: Units:	Cust ID: AOC-32-EXC-F	AOC-32-EXC-F	AOC-32-EXC-F	PBLKNB	PBLKNB BS	PBLKNY
		LR-05	LR-05	LR-05			
		013	013 MS	013 MSD	98GP1042-MB1	98GP1042-MB1	98GP1047-MB1
		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		0.50	0.50	0.50	0.50	0.50	0.50
		ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate: Tetrachloro-m-xylene		78 %	85 %	80 %	88 %	82 %	80 %
Decachlorobiphenyl		92 %	92 %	95 %	100 %	100 %	95 %
=====f]=====f]=====f]=====f]=====f]=====f]=====f]							
alpha-BHC		2.4 U	118 %	118 %	2.5 U	125 * %	2.5 U
beta-BHC		2.4 U	100 %	102 %	2.5 U	110 %	2.5 U
delta-BHC		2.4 U	118 %	118 %	2.5 U	128 %	2.5 U
gamma-BHC (Lindane)		2.4 U	115 %	115 %	2.5 U	120 %	2.5 U
Heptachlor		2.4 U	118 %	120 %	2.5 U	120 %	2.5 U
Aldrin		2.4 U	112 %	112 %	2.5 U	115 %	2.5 U
Heptachlor epoxide		2.4 U	118 %	118 %	2.5 U	122 %	2.5 U
Endosulfan I		2.4 U	115 * %	118 * %	2.5 U	122 * %	2.5 U
Dieldrin		4.8 U	110 %	110 %	5.0 U	135 * %	5.0 U
4,4'-DDE		4.8 U	122 %	128 %	5.0 U	132 * %	5.0 U
Endrin		4.8 U	122 %	125 %	5.0 U	130 %	5.0 U
Endosulfan II		4.8 U	112 %	118 %	5.0 U	120 %	5.0 U
4,4'-DDD		4.8 U	120 %	122 %	5.0 U	128 * %	5.0 U
Endosulfan sulfate		4.8 U	115 %	108 %	5.0 U	120 * %	5.0 U
4,4'-DDT		4.8 U	122 %	122 %	5.0 U	128 %	5.0 U
Methoxychlor		24 U	130 %	138 %	25 U	142 %	25 U
alpha-Chlordane		2.4 U	125 %	125 %	2.5 U	125 %	2.5 U
gamma-Chlordane		2.4 U	110 %	110 %	2.5 U	115 %	2.5 U
Toxaphene		48 U	50 U	50 U	50 U	50 U	50 U
Endrin aldehyde		4.8 U	112 %	120 %	5.0 U	142 * %	5.0 U
Endrin ketone		4.8 U	112 %	115 %	5.0 U	118 %	5.0 U
Aroclor-1016		24 U	25 U	25 U	25 U	25 U	25 U
Aroclor-1221		24 U	25 U	25 U	25 U	25 U	25 U
Aroclor-1232		24 U	25 U	25 U	25 U	25 U	25 U
Aroclor-1242		24 U	25 U	25 U	25 U	25 U	25 U
Aroclor-1248		24 U	25 U	25 U	25 U	25 U	25 U
Aroclor-1254		24 U	25 U	25 U	25 U	25 U	25 U

* = Outside of EPA CLP QC Limits.

RFW Batch Number: 9811G975

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 3b

Cust ID: AOC-32-EXC-F AOC-32-EXC-F AOC-32-EXC-F PBLKNB PBLKNB BS PBLKNY

RFW#: LR-05 013 LR-05 013 MS LR-05 013 MSD 98GP1042-MB1 98GP1042-MB1 98GP1047-MB1

Aroclor-1260 24 U 25 U 25 U 25 U 25 U 25 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Recra LabNet - Chicago

PESTICIDE/PCBs BY GC, CLP LIST

Report Date: 11/11/98 12:26

RFW Batch Number: 9811G975

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 4

Cust ID: PBLKNY BS

Sample Information RFW#: 98GP1047-MB1
 Matrix: SOIL
 D.F.: 0.50
 Units: ug/Kg

Surrogate:	Tetrachloro-m-xylene	82	%
	Decachlorobiphenyl	100	%
=====f=====f=====f=====f=====f=====			
alpha-BHC		120	%
beta-BHC		105	%
delta-BHC		125	%
gamma-BHC (Lindane)		118	%
Heptachlor		118	%
Aldrin		112	%
Heptachlor epoxide		120	%
Endosulfan I		118	* %
Dieldrin		118	* %
4,4'-DDE		130	%
Endrin		128	%
Endosulfan II		120	%
4,4'-DDD		120	%
Endosulfan sulfate		112	%
4,4'-DDT		125	%
Methoxychlor		138	%
alpha-Chlordane		125	%
gamma-Chlordane		110	%
Toxaphene		50	U
Endrin aldehyde		132	%
Endrin ketone		118	%
Aroclor-1016		25	U
Aroclor-1221		25	U
Aroclor-1232		25	U
Aroclor-1242		25	U
Aroclor-1248		25	U
Aroclor-1254		25	U

* = Outside of EPA CLP QC Limits.

RFW Batch Number: 9811G975

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 4b

Cust ID: PBLKNY BS

RFW#: 98GP1047-MB1

Aroclor-1260

25 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Recra LabNet - Chicago
DRO ANALYTICAL DATA PACKAGE FOR
RfW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G975

CLIENT ID	Sample #	MTX	PREP #	COLLECTN	DATE	REC	EXT/PREP	ANALYSIS
AOC-32-STOCK-01	001	S	98GP1041	11/02/98	11/03/98	11/04/98	11/07/98	
AOC-32-STOCK-02	002	S	98GP1041	11/02/98	11/03/98	11/04/98	11/08/98	
AOC-32-STOCK-03	003	S	98GP1041	11/02/98	11/03/98	11/04/98	11/08/98	
AOC-32-STOCK-04	004	S	98GP1041	11/02/98	11/03/98	11/04/98	11/08/98	

LAB QC:

PBLKNT	MB1	S	98GP1041	N/A	N/A	11/04/98	11/06/98	
PBLKNT	MB1 BS	S	98GP1041	N/A	N/A	11/04/98	11/06/98	
PBLKNT	MB1 BSD	S	98GP1041	N/A	N/A	11/04/98	11/06/98	

SIGNATURE

Frank A. Nicolai

DATE 11-10-98

NY CERTIFICATION # 11006

Recra LabNet - Chicago
Extractable Hydrocarbon Case Narrative

RFW-Ft. Devens-DRMO Yard
RFW# 9811G975-001\004
Diesel Range Organics (DRO)

1. These samples were extracted based on the California LUFT Manual. A 20 gram sample size was used and the extracts were brought up to a 5mL final volume. The extracts were analyzed for DRO based on SW846 method 8015A. An HP5890 gas chromatograph equipped with a flame ionization detector and an Xti-5 column was used for the analysis.
2. All required holding times were met for the extraction and the analysis.
3. The method blank was below the reporting limit for DRO.
4. The surrogate compounds used for this analysis were o-Terphenyl and 2-Fluorobiphenyl. All surrogate recoveries were within control limits.
5. The blank spike and blank spike duplicate recovery and RPD were within control limits. A solution of Diesel Fuel was used for spiking.
6. A matrix spike and a matrix spike duplicate were not performed on this SDG.
7. A Diesel Fuel #2 standard was used for quantitating DRO results, using a hydrocarbon range from C10 through C28. A hydrocarbon standard ranging from C8 through C40 was analyzed for qualitative purposes of interfering hydrocarbons.
8. All initial and continuing standard calibrations were within control limits.
9. The DRO results for these samples have been flagged with a "Y" indicating that the pattern of peaks appear to match a typical fuel pattern. However, the fuel finger print continues beyond the range of C28 indicating the fuel present is something "heavier" than Diesel Fuel.


Linda S. Mackley
Organics Section Manager

11-10-98
Date

Recra LabNet - Chicago

GC/HPLC METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained within this RFW Lot :

Pesticides/PCBs	_____ SW-846 8080A
	_____ SW-846 8081
	_____ 40 CFR Part 136, Method 608
	_____ OLM03.1/3.2
Pesticides	_____ SW-846 8081A
PCBs	_____ SW-846 8082
Organophosphorus Pesticides	_____ SW-846 8141A
Herbicides	_____ SW-846 8150B
	_____ SW-846 8151A
Explosives	_____ SW-846 8330
Polynuclear Aromatics	_____ SW-846 8310
	_____ 40 CFR Part 136, Method 610
Petroleum Hydrocarbons	_____/____ SW-846 8015A Mod
	_____/____ California LUFT
	_____ Other _____
EDB & DBCP	_____ EPA Method 504.1
GC VOLATILES	_____ SW-846 8010A
	_____ 40 CFR Part 136, Method 601
	_____ SW-846 8020A
	_____ SW-846 8021A
	_____ 40 CFR Part 136, Method 602
	_____ SW-846 8015 Mod

CHI-22-05-003/F-4/98

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Tuesday November 10th, 1998

RE: AOC-32-STOCK-01
Project # 03886-118-204-0630
Lab ID: 9811G975-001
Sample Date: 11/02/98
Date Received: 11/03/98
Units: MG/KG

DIESEL RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Diesel Range Organics	89	6.6	Y

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Tuesday November 10th, 1998

RE: AOC-32-STOCK-02
Project # 03886-118-204-0630
Lab ID: 9811G975-002
Sample Date: 11/02/98
Date Received: 11/03/98
Units: MG/KG

DIESEL RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Diesel Range Organics	40	6.6	Y

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Tuesday November 10th, 1998

RE: AOC-32-STOCK-03
Project # 03886-118-204-0630
Lab ID: 9811G975-003
Sample Date: 11/02/98
Date Received: 11/03/98
Units: MG/KG

DIESEL RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Diesel Range Organics	76	6.6	Y

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Tuesday November 10th, 1998

Attn: Sam Naik

RE: AOC-32-STOCK-04
Project # 03886-118-204-0630
Lab ID: 9811G975-004
Sample Date: 11/02/98
Date Received: 11/03/98
Units: MG/KG

DIESEL RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Diesel Range Organics	120	6.6	Y

Recra LabNet - Chicago
DIESEL RANGE ORGANICS

RFW Batch Number: 9811G975

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Report Date: 11/09/98 16:48

Page: 1

		Cust ID: AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		PBLKNT	PBLKNT BS
		-01		-02		-03		-04			
Sample Information	RFW#:	001		002		003		004		98GP1041-MB1	98GP1041-MB1
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	SOIL
	D.F.:	0.25		0.25		0.25		0.25		0.25	0.25
	Units:	MG/KG		MG/KG		MG/KG		MG/KG		MG/KG	MG/KG
Surrogate:	2-Fluorobiphenyl	91	%	106	%	99	%	102	%	83	%
	o-Terphenyl	102	%	114	%	109	%	115	%	90	%
		=====f]		=====f]		=====f]		=====f]		=====f]	
Diesel Range Organics		89	Y	40	Y	76	Y	120	Y	6.2	U
										102	%

Cust ID: PBLKNT BSD

Sample
Information

RFW#: 98GP1041-MB1
Matrix: SOIL
D.F.: 0.25
Units: MG/KG

Surrogate:	2-Fluorobiphenyl	102	%
	o-Terphenyl	98	%
		=====f]	
Diesel Range Organics		95	%

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Recra LabNet - Chicago
GRO ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G975

CLIENT ID	Sample #	MTX	PREP #	COLLECTN DATE	REC	EXT/PREP	ANALYSIS
AOC-32-STOCK-01	001	S	98GVD424	11/02/98	11/03/98	N/A	11/06/98
AOC-32-STOCK-02	002	S	98GVD424	11/02/98	11/03/98	N/A	11/06/98
AOC-32-STOCK-03	003	S	98GVD424	11/02/98	11/03/98	N/A	11/06/98
AOC-32-STOCK-04	004	S	98GVD424	11/02/98	11/03/98	N/A	11/06/98
LAB QC:							
BLK	MB1	S	98GVD424	N/A	N/A	N/A	11/06/98
BLK	MB1 BS	S	98GVD424	N/A	N/A	N/A	11/06/98

SIGNATURE

Linda S. Mackley

DATE 11-11-98



NY CERTIFICATION # 11006

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Recra LabNet - Chicago

GC/HPLC METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained within this RFW Lot :

Pesticides/PCBs	_____ SW-846 8080A
	_____ SW-846 8081
	_____ 40 CFR Part 136, Method 608
	_____ OLM03.1/3.2
Pesticides	_____ SW-846 8081A
PCBs	_____ SW-846 8082
Organophosphorus Pesticides	_____ SW-846 8141A
Herbicides	_____ SW-846 8150B
	_____ SW-846 8151A
Explosives	_____ SW-846 8330
Polynuclear Aromatics	_____ SW-846 8310
	_____ 40 CFR Part 136, Method 610
Petroleum Hydrocarbons	_____/ SW-846 8015A Mod
	_____ California LUFT
	_____ Other _____
EDB & DBCP	_____ EPA Method 504.1
GC VOLATILES	_____ SW-846 8010A
	_____ 40 CFR Part 136, Method 601
	_____ SW-846 8020A
	_____ SW-846 8021A
	_____ 40 CFR Part 136, Method 602
	_____ SW-846 8015 Mod

CHI-22-05-003/F-4/98

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-01
Project # 03886-118-204-0630
Lab ID: 9811G975-001
Sample Date: 11/02/98
Date Received: 11/03/98
Units: UG/KG

GASOLINE RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Gasoline Range Organics	30	53	JZ

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-02
Project # 03886-118-204-0630
Lab ID: 9811G975-002
Sample Date: 11/02/98
Date Received: 11/03/98
Units: UG/KG

GASOLINE RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Gasoline Range Organics	30	54	JZ

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-03
Project # 03886-118-204-0630
Lab ID: 9811G975-003
Sample Date: 11/02/98
Date Received: 11/03/98
Units: UG/KG

GASOLINE RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Gasoline Range Organics	28	54	JZ

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-04
Project # 03886-118-204-0630
Lab ID: 9811G975-004
Sample Date: 11/02/98
Date Received: 11/03/98
Units: UG/KG

GASOLINE RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Gasoline Range Organics	BRL	53	U

Recra LabNet - Chicago
GASOLINE RANGE ORGANICS

Report Date: 11/10/98 22:30

RFW Batch Number: 98116975

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 1

Sample Information	Cust ID:	AOC-32-STOCK	AOC-32-STOCK	AOC-32-STOCK	AOC-32-STOCK	BLK	BLK BS
		-01	-02	-03	-04		
	RFW#:	001	002	003	004	98GVD424-MB1	98GVD424-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.0	1.0	1.0	1.0	1.0	1.0
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
a,a,a-Trifluorotoluene		49 %	87 %	58 %	88 %	99 %	102 %
Surrogate 4-Bromofluorobenzene		36 %	74 %	41 %	74 %	100 %	105 %
=====f]=====f]=====f]=====f]=====f]=====f]=====f]							
Gasoline Range Organics		30 JZ	30 JZ	28 JZ	53 U	50 U	94 %

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

WESTON
MANAGERS DESIGNERS CONSULTANTS

Page 1 of 1

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

L372

L373

L375

L377

L378

Ref#

Cooler#

596a

APPENDIX B
WASTE DISPOSAL SHIPPING DOCUMENTS

Charter Environmental, Inc.
Material Shipping Record & Log

A. Generator/Site Information

STOCKPILE: # 13

1. Provide the following generator information:

Organization Name: Devens RSTA

Contact Name: Jim Chambers

Site Address: AFRC-FAD-PW-A Box 10 30 Quebec Street

City/State/Zip Code: Devens, MA 01432-4429

B. Transporter/Common Carrier Information

1. Provide the following information:

Transporter/Common Carrier Name: Charter Environmental, Inc. / Sams

Contact Person: Robert Delhome, President

Street: 85 Crescent Avenue

City/State/Zip Code: Chelsea, MA 02150

Telephone Number: (617) 889-2228

C. Receiving Facility Information

1. Provide the following information on the receiving facility:

Operator/Facility Name: Waste Management of New Hampshire, Inc. - TREE

Street: 97 Rochester Neck Road

City/State/Zip Code: Rochester, NH 03839 - 7065

3. Permit number: DES-SW-SP-95-001

D. Description of Material

1. Waste Profile # 511955

E. Certification of Generator

Signature: *John McDowell*

Date: *Oct 6, 1999*

Name (print): JOHN McDOWELL

Charter Environmental, Inc.
Material Shipping Record & Log

A. Generator/Site Information

STOCKPILE: # ASTH 01,02

1. Provide the following generator information:

Organization Name: Devens RSTA

Contact Name: Jim Chambers

Site Address: AFRC-FAD-PW-A Box 10 30 Quebec Street

City/State/Zip Code: Devens, MA 01432-4429

B. Transporter/Common Carrier Information

1. Provide the following information:

Transporter/Common Carrier Name: Charter Environmental, Inc. / Sams

Contact Person: Robert Delhome, President

Street: 85 Crescent Avenue

City/State/Zip Code: Chelsea, MA 02150

Telephone Number: (617) 889-2228

C. Receiving Facility Information

1. Provide the following information on the receiving facility:

Operator/Facility Name: Waste Management of New Hampshire, Inc. - TREE

Street: 97 Rochester Neck Road

City/State/Zip Code: Rochester, NH 03839 - 7065

3. Permit number: DES-SW-SP-95-001

D. Description of Material

1. Waste Profile #511956

E. Certification of Generator

Signature: John McDowell

Date: OCT 6, 1999

Name (print): JOHN McDOWELL

Charter Environmental, Inc.
Material Shipping Record & Log

A. Generator/Site Information**STOCKPILE: #7,8,10,11****1. Provide the following generator information:****Organization Name:** Devens RSTA**Contact Name:** Jim Chambers**Site Address:** AFRC-FAD-PW-A Box 10 30 Quebec Street**City/State/Zip Code:** Devens, MA 01432-4429**B. Transporter/Common Carrier Information****1. Provide the following information:****Transporter/Common Carrier Name:** Charter Environmental, Inc. / Sams**Contact Person:** Robert Delhome, President**Street:** 85 Crescent Avenue**City/State/Zip Code:** Chelsea, MA 02150**Telephone Number:** (617) 889-2228**C. Receiving Facility Information****1. Provide the following information on the receiving facility:****Operator/Facility Name:** Waste Management of New Hampshire, Inc. - TREE**Street:** 97 Rochester Neck Road**City/State/Zip Code:** Rochester, NH 03839 - 7065**3. Permit number:** DES-SW-SP-95-001**D. Description of Material****1. Cover Material** PROFILE # 511954**E. Certification of Generator****Signature:***John McDowell***Date:***Oct 6, 1999***Name (print):***JOHN McDOWELL*

NYB9208206

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



CHH

HAZARDOUS WASTE MANIFEST

P.O. Box 12820, Albany, New York 12212

Please type or print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 11 18 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1		Manifest Doc. No. 1 8 4 1 1		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.					
3. Generator's Name and Mailing Address US ARMY FORT DEVENS BING 1050 FORT DEVENS MA 01462 ATTN: JIM CHAMBERS						A. NYB9208206							
4. Generator's Telephone Number (96-1184)						B. Generator's ID SAME							
5. Transporter 1 (Company Name) Dart Trucking Co. Inc.				6. US EPA ID Number 014000191816513215		C. State Transporter's ID TLE-4119 CHH							
7. Transporter 2 (Company Name)				8. US EPA ID Number		D. Transporter's Telephone (36) 537-6251							
9. Designated Facility Name and Site Address CWH CHEMICAL SERVICES, L.L.C. 1550 PALMER RD. MODEL CITY NY 14107						E. State Transporter's ID							
10. US EPA ID Number NYD049036679						F. Transporter's Telephone ()							
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) a. HAZARDOUS WASTE, SOLID, H.U.S., 9.NA3077, III, (LEAD)						12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol		15. Waste No.	
						1		1		1		EPA 3008	
						1		1		1		STATE	
b.												EPA	
												STATE	
c.												EPA	
												STATE	
d.												EPA	
												STATE	
J. Additional Descriptions for Materials listed Above a. LEAD SOIL						K. Handling Codes for Wastes Listed Above a. ☒ T c. ☐							
b. ☐						b. ☐ d. ☐							
15. Special Handling Instructions and Additional Information CHH HEC Emergency Response Number (800) 424-9300 WH Contract SERVISE REQUEST# 523262													
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 and state laws and 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 generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.													
Printed/Typed Name On Behalf of the US Army McBowell, John Corps of Engineers						Signature John McBowell				Mo. Day Year 1/10/12 99			
17. Transporter 1 Acknowledgement of Receipt of Materials						Signature Pete Andrews				Mo. Day Year 1/10/12 99			
18. Transporter 2 Acknowledgement of Receipt of Materials						Signature				Mo. 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						Signature				Mo. Day Year			

COPY 4—Generator State—Mailed by Generator

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

GENERATOR

TRANSPORTER

FACILITY

NYB9208323

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



WM1

HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

Please type or print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. <u>14171210001621214</u>		Manifest Doc. No. <u>18410</u>		2. Page 1 of 1 Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address US ARMY FORT DEVENS BLDG 1650 FORT DEVENS MA 01432 ATTN: JIM CHAMBERS				A. NYB9208323			
				B. Generator's ID SAME			
4. Generator's Telephone Number 796-3784				C. State Transporter's ID TL6424104			
5. Transporter 1 (Company Name) Dart Trucking Co., Inc.		6. US EPA ID Number 04.DC09865825		D. Transporter's Telephone () 800-533-0255			
7. Transporter 2 (Company Name)		8. US EPA ID Number		E. State Transporter's ID			
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, L.L.C. 1550 BALMER RD. MODEL CITY NY 14107				10. US EPA ID Number NYD049036679		F. Transporter's Telephone ()	
				G. State Facility ID		H. Facility Telephone () 716-754-8231	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) a. RA, HAZARDOUS WASTE, SOLID, R.O.S., 9,HA3077,III,(LEAD)				12. Containers Number Type		13. Total Quantity	
				14. Unit Wt/Vol		1. Waste No.	
b.						EPA	
						STATE	
c.						EPA	
						STATE	
d.						EPA	
						STATE	
J. Additional Descriptions for Materials listed Above a. CFI001- LEAD SOIL				K. Handling Codes for Wastes Listed Above a. T			
b.				b.			
15. Special Handling Instructions and Additional Information CHEMTEC Emergency Response Number (800)424-9300 WM1 Contract ERG#171 SERVICE REQUEST# 523262							
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 and state laws and 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 generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.							
Printed/Typed Name On Behalf of the US Army McDowell, J. Corps of Engineers				Signature <i>John McDowell</i>		Mo. Day Year 1/12/99	
17. Transporter 1 Acknowledgement of Receipt of Materials							
Printed/Typed Name Charles E. Daugherty				Signature <i>Charles E. Daugherty</i>		Mo. Day Year 1/12/99	
18. Transporter 2 Acknowledgement of Receipt of Materials							
Printed/Typed Name				Signature		Mo. 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				Signature		Mo. Day Year	

COPY 4—Generator State—Mailed by Generator

DIVISION OF SOLID & HAZARDOUS MATERIALS
HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. MA12210025154		Manifest Doc. No. 1,641,3		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.		
3. Generator's Name and Mailing Address US ARMY FORT DEVENS Bldg 1650 FORT DEVENS MA 01932 ATTN: JIM CHAMBERS						A. NYB9208314				
						B. Generator's ID SAME				
4. Generator's Telephone Number 796-3784						C. State Transporter's ID TL54070				
5. Transporter 1 (Company Name) Dart Trucking Co Inc						D. Transporter's Telephone (900) 533-0255				
6. US EPA ID Number 04D007465825						E. State Transporter's ID				
7. Transporter 2 (Company Name)						F. Transporter's Telephone ()				
8. US EPA ID Number						G. State Facility ID				
9. Designated Facility Name and Site Address CWN CHEMICAL SERVICES, L.L.C. 1550 BALMER RD. MODEL CITY NY 14107						H. Facility Telephone () 716 754-0231				
10. US EPA ID Number NYD049836679										
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) a. RG, HAZARDOUS WASTE, SOLID, N.O.S., 9, NA3077, III, (LEAD)						12. Containers Number	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No. EP008 STATE
								Estimate 00107 C, C, C, 22 F		
b.										EPA
										STATE
c.										EPA
										STATE
d.										EPA
										STATE
J. Additional Descriptions for Materials listed Above OPTOOL LEAD SOIL						K. Handling Codes for Wastes Listed Above				
a						a		c		
b						b		d		
15. Special Handling Instructions and Additional Information CHENTREC Emergency Response Number (800) 424-9300 WHI Contract EMG#171 SERVICE REQUEST# 523262										
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 and state laws and 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 generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.										
Printed/Typed Name On Behalf of the US Army						Signature <i>John McDowell</i>			Mo. Day Year 1, 4, 1, 3, 99	
17. Transporter 1 Acknowledgement of Receipt of Materials						Signature <i>David S Rosati Jr</i>			Mo. Day Year 1, 0, 1, 2, 99	
18. Transporter 2 Acknowledgement of Receipt of Materials						Signature			Mo. 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						Signature			Mo. Day Year	

COPY 4—Generator State—Mailed by Generator

NYB9208242

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS
HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212



CWM

Please type or print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 1672100020104		Manifest Doc. No. 11851		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address US ARMY FORT DEVENS BLDG 1650 FORT DEVENS MA 01432 ATTN: JIM CHAMBERS						A. NYB9208242			
4. Generator's Telephone 978-796-3784						B. Generator's ID GAME			
5. Transporter 1 (Company Name) US BULK TRANSPORT INC				6. US EPA ID Number PA D987347515		C. State Transporter's ID XA83828			
7. Transporter 2 (Company Name)				8. US EPA ID Number		D. Transporter's Telephone 800 846 8710			
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, L.L.C. 1550 BALMER RD. MODEL CITY NY 14107						10. US EPA ID Number NY D049836679			
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) HAZARDOUS WASTE, SOLID, N.O.S., 9.NA3077, III, (LEAD)						12. Containers Number Type 0010T		13. Total Quantity 44000 P	
						14. Unit Wt/Vol		I. Waste No.	
								EPA 1000	
								STATE	
								EPA	
								STATE	
J. Additional Descriptions for Materials listed Above CP1001- LEAD SOIL						K. Handling Codes for Wastes Listed Above			
a						a ☒		c ☐	
b						b ☐		d ☐	
15. Special Handling Instructions and Additional Information CH2M HILL Emergency Response Number (800)424-9300 WMI Contract SERVICE REQUEST # J23264									
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 and state laws and 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 generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.									
Printed/Typed Name MCDOWELL						Signature <i>John McDowell</i>		Mo. Day Year 11/11/99	
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name KW BOARDMAN						Signature <i>[Signature]</i>		Mo. Day Year 10/1/99	
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name						Signature		Mo. 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						Signature		Mo. Day Year	

COPY 3--Disposer State--Mailed by Generator

NYB9208296

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS
HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212



CWHI

Please type or print. Do not staple.

(Hazardous Waste Manifest 4/87)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. MA7210025154		Manifest Doc. No. 18515		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.						
3. Generator's Name and Mailing Address US ARMY FORT DEVENS BLDG 1650 FORT DEVENS MA 01432 ATTN: JIM CHAMBERS						A. NYB9208296								
						B. Generator's ID SAHE								
4. Generator's Telephone 796-3784						C. State Transporter's ID 88737HNY								
5. Transporter 1 (Company Name) PAGE ETC. INC.				6. US EPA ID Number NYD986969947		D. Transporter's Telephone 800 233 0121								
7. Transporter 2 (Company Name)				8. US EPA ID Number		E. State Transporter's ID								
9. Designated Facility Name and Site Address CWH CHEMICAL SERVICES, L.L.C. 1550 BALMER RD. MODEL CITY NY 14107						G. State Facility ID								
						H. Facility Telephone () 716 754-0231								
10. US EPA ID Number NYD049836679						12. Containers		13. Total		14. Unit				
						Number		Type		Quantity		Wt/Vol		I. Waste No.
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) a. HQ, HAZARDOUS WASTE, SOLID, N.O.S., 9, NA3077, 111, (LEAD)						2010T		Est. 4400.0 P		EPA				
										STATE				
b.										EPA				
										STATE				
c.										EPA				
										STATE				
d.										EPA				
										STATE				
J. Additional Descriptions for Materials listed Above a. CP1001- LEAD SOIL						K. Handling Codes for Wastes Listed Above								
b.						a. ☒ T ☐ c. ☐								
d.						b. ☐ d. ☐								
15. Special Handling Instructions and Additional Information CHUMTREC Emergency Response Number (800) 424-9300 WHI Contract ERU#171 SERVICE REQUEST# 523264														
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 and state laws and 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 generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.														
Printed/Typed Name On Behalf of the US ARMY McDowell, John Corps of Engineers						Signature <i>John McDowell</i>			Mo. Day Year 10 01 14 99					
17. Transporter 1 Acknowledgement of Receipt of Materials						Printed/Typed Name KEVIN HICKS			Signature <i>Kevin Hicks</i>			Mo. Day Year 10 01 14 99		
18. Transporter 2 Acknowledgement of Receipt of Materials						Printed/Typed Name			Signature			Mo. 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						Signature			Mo. Day Year					

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

COPY 3—Disposer State—Mailed by Generator

NYB9208215

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



CWHI

HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

Please type or print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. HA7210025154		Manifest Doc. No. 18517		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.					
3. Generator's Name and Mailing Address US ARMY FORT DEVENS BLDG 1650 FORT DEVENS MA 01432 ATTN: JIM CHAMBERS						A. NYB9208215							
4. Generator's Telephone 978-796-3784						B. Generator's ID SAME							
5. Transporter 1 (Company Name) PAGE E.T.C. INC.			6. US EPA ID Number NYD986969947			C. State Transporter's ID 20889N NY							
7. Transporter 2 (Company Name)			8. US EPA ID Number			D. Transporter's Telephone () (800) 233-712							
9. Designated Facility Name and Site Address CWH CHEMICAL SERVICES, L.L.C. 1550 BALMER RD. MODEL CITY NY 14107						E. State Transporter's ID							
10. US EPA ID Number NYD049836679						F. Transporter's Telephone ()							
						G. State Facility ID							
						H. Facility Telephone () 716 754-8231							
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol		15. Waste No.	
a. RG, HAZARDOUS WASTE, SOLID, H.O.S., 9, NA3077, 111, (LEAD)						00101		44000		P		EPA 15008	
b.												STATE	
c.												EPA	
d.												STATE	
J. Additional Descriptions for Materials listed Above CP1001- LEAD SOIL						K. Handling Codes for Wastes Listed Above							
a.						b.		c.		d.		e.	
b.						c.		d.		e.		f.	
15. Special Handling Instructions and Additional Information CHEMTREC Emergency Response Number (800) 424-9300 WHI Contract ERG#171 SERVICE REQUEST# 523264													
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 and state laws and 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 generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.													
Printed/Typed Name On behalf of US ARMY McDowell, John Corps of Engineers						Signature <i>John McDowell</i>				Mo. Day Year 11 01 14 99			
17. Transporter 1 Acknowledgement of Receipt of Materials													
Printed/Typed Name WRIGHT HAMPTON						Signature <i>Wright Hampton</i>				Mo. Day Year 10 14 99			
18. Transporter 2 Acknowledgement of Receipt of Materials													
Printed/Typed Name						Signature				Mo. 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						Signature				Mo. Day Year			

COPY 3—Disposer State—Mailed by Generator

NYB9208287

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS
HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212



WMI

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. HA7210026154		Manifest Doc. No. 18517		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.			
3. Generator's Name and Mailing Address US ARMY FORT DEVENS BLDG 1650 FORT DEVENS MA 01432 ATTN: JIM CHAMBERS						A. NYB9208287					
						B. Generator's ID SAME					
4. Generator's Telephone Number 508-796-3784						C. State Transporter's ID 73361 J NY					
5. Transporter 1 (Company Name) PAGE ETC INC						D. Transporter's Telephone (800) 249-1511					
6. US EPA ID Number NY 0086969947						E. State Transporter's ID					
7. Transporter 2 (Company Name)						F. Transporter's Telephone ()					
8. US EPA ID Number						G. State Facility ID					
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, L.L.C. 1650 BALMER RD. MODEL CITY NY 14107						10. US EPA ID Number NY D049836679					
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) HAZARDOUS WASTE, SOLID, N.O.S., 9, NA3077, III, (LEAD)						12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol	
						1. Waste No. EPA 0008					
b.						EPA					
						STATE					
c.						EPA					
						STATE					
d.						EPA					
						STATE					
J. Additional Descriptions for Materials listed Above CPI001- LEAD SOIL						K. Handling Codes for Wastes Listed Above T					
a						a		c			
b						b		d			
15. Special Handling Instructions and Additional Information CHEMTRAC Emergency Response Number (800)424-9300 WMI Contract ERG#171 SERVICE REQUEST# 523264											
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 and state laws and 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 generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.											
Printed/Typed Name On behalf of the US ARMY McDowell, John Corps of Engineers						Signature <i>John McDowell</i>					
17. Transporter 1 Acknowledgement of Receipt of Materials						Mo. Day Year 10/14/99					
Printed/Typed Name <i>Scott Smith</i>						Signature <i>Scott Smith</i>					
18. Transporter 2 Acknowledgement of Receipt of Materials						Mo. Day Year 10/14/99					
Printed/Typed Name						Signature					
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						Signature					
						Mo. Day Year					

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

COPY 3—Disposer State—Mailed by Generator

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS
HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212



CWM

Please type or print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. HA7210025154		Manifest Doc. No. 18518		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.									
3. Generator's Name and Mailing Address US ARMY FORT DEVENS BLDG 1650 FORT DEVENS MA 01432 ATTN: JIM CHAMBERS						A. NYB9208224											
4. Generator's Telephone 978-796-3784						B. Generator's ID SAHE											
5. Transporter 1 (Company Name) PALE ETL INC.			6. US EPA ID Number NYD0986969947			C. State Transporter's ID 733675-01											
7. Transporter 2 (Company Name)			8. US EPA ID Number			D. Transporter's Telephone (800) 248-1510											
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, L.L.C. 1550 BALMER RD. MODEL CITY NY 14107						10. US EPA ID Number NYD049836679											
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) a. RG, HAZARDOUS WASTE, SOLID, N.O.S., 9, NA3077, III, (LEAD)						12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol		I. Waste No.					
						00103		7,400		P		EPA 1008					
												STATE					
												EPA					
												STATE					
J. Additional Descriptions for Materials listed Above a. CP1001- LEAD SOIL						K. Handling Codes for Wastes Listed Above a. ☒ T c. ☐											
b. ☐						b. ☐ d. ☐											
15. Special Handling Instructions and Additional Information CHEMREC Emergency Response Number (800)424-9300 WMI Contract ERG#171 SERVICE REQUEST# 523264																	
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 and state laws and 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 generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.						Printed/Typed Name On behalf of US ARMY				Signature <i>John McDowell</i>				Mo. Day Year 11/01/14 1919			
17. Transporter 1 Acknowledgement of Receipt of Materials						Printed/Typed Name Bart Hampton				Signature <i>Bart Hampton</i>				Mo. Day Year 11/01/14 1919			
18. Transporter 2 Acknowledgement of Receipt of Materials						Printed/Typed Name				Signature				Mo. 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						Signature						Mo. Day Year					

COPY 3--Disposer State--Mailed by Generator

DIVISION OF SOLID & HAZARDOUS MATERIALS
HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. HA7210025154		Manifest Doc. No.		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.			
3. Generator's Name and Mailing Address US ARMY FORT DEVENS BLDG 1650 FORT DEVENS MA 01432 ATTN: JIM CHAMBERS						A. NYB9208233					
						B. Generator's ID SAME					
4. Generator's Telephone Number 978-796-3784						C. State Transporter's ID 103037A NY					
						D. Transporter's Telephone (800) (64) 2511					
5. Transporter 1 (Company Name) U.S. Bulk Transport						6. US EPA ID Number AA0987347515					
7. Transporter 2 (Company Name)						8. US EPA ID Number					
9. Designated Facility Name and Site Address CVM CHEMICAL SERVICES, L.L.C. 1950 BALMER RD. MODEL CITY NY 14107						10. US EPA ID Number NYD049036679					
H. Facility Telephone () 716 754-8231						F. Transporter's Telephone ()					
						G. State Facility ID					
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) HAZARDOUS WASTE, SOLID, N.O.S. 9.NA3077, 111, (LEAD)						12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol	
						1. Waste No.					
b.						1. Waste No.		EPA		STATE	
						EPA		STATE			
c.						EPA		STATE		EPA	
						STATE		EPA		STATE	
d.						EPA		STATE		EPA	
						STATE		EPA		STATE	
J. Additional Descriptions for Materials listed Above CPI001- LEAD SOIL						K. Handling Codes for Wastes Listed Above					
a						a ☒ T ☐ c ☐					
b						b ☐ d ☐					
15. Special Handling Instructions and Additional Information CHENTREC Emergency Response Number (800) 424-9300 UMI Contract ERG#171 SERVICE REQUEST#											
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 and state laws and 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 generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.											
Printed/Typed Name On behalf of US ARMY McDowell, John Corps of Engineers						Signature <i>John McDowell</i>			Mo. Day Year 11 01 14 99		
17. Transporter 1 Acknowledgement of Receipt of Materials											
Printed/Typed Name Matthew Abbey						Signature <i>Matthew Abbey</i>			Mo. Day Year 11 11 14 99		
18. Transporter 2 Acknowledgement of Receipt of Materials											
Printed/Typed Name						Signature			Mo. 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						Signature			Mo. Day Year		

COPY 3—Disposer State—Mailed by Generator

NYB9208278

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



WMI

HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

Please type or print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. MA7210025154		Manifest Doc. No. 18512		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address US ARMY FORT DEVENS BLDG 1650 FORT DEVENS MA 01432 ATTN: JIM CHAMBERS						A. NYB9208278			
4. Generator's Telephone Number 796-3784						B. Generator's ID SAME			
5. Transporter 1 (Company Name) US Bulk Transport INC.				6. US EPA ID Number PA0987347515		C. State Transporter's ID 0242856 ME			
7. Transporter 2 (Company Name)				8. US EPA ID Number		D. Transporter's Telephone (1800)428910			
9. Designated Facility Name and Site Address OWN CHEMICAL SERVICES, L.L.C. 1550 PALMER RD. MODEL CITY NY 14107						10. US EPA ID Number NYD049836679			
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) a. RG, HAZARDOUS WASTE, SOLID, N.O.S. 9, NA3077, 111, (LEAD)						12. Containers Number Type 001 DT		13. Total Quantity Est 4,400.00 P	
b.								14. Unit Wt/Vol P	
c.								I. Waste No. EPA 1008	
d.								STATE	
J. Additional Descriptions for Materials listed Above a. GP1001- LEAD SOIL						K. Handling Codes for Wastes Listed Above a. T			
b.						b.			
15. Special Handling Instructions and Additional Information CHENTREC Emergency Response Number (800)424-9300 WMI Contract SERV#171 SERVICE REQUEST# 523264									
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 and state laws and 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 generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.									
Printed/Typed Name On behalf of US ARMY McDowell, John Corps of Engineers				Signature <i>John McDowell</i>		Mo. Day Year 11 10 11 14 19 19			
17. Transporter 1 Acknowledgement of Receipt of Materials				Printed/Typed Name Randy A Kim		Signature <i>Randy Kim</i>		Mo. Day Year 11 01 14 19 19	
18. Transporter 2 Acknowledgement of Receipt of Materials				Printed/Typed Name		Signature		Mo. 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				Signature		Mo. Day Year			

COPY 3—Disposer State—Mailed by Generator

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the NY State Department of Environmental Conservation (518) 457-7362

NYB9208269

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

Please type or print. Do not staple.

(Hazardous Waste Manifest 4/87)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. HA7210020154		Manifest Doc. No. 18511		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.			
3. Generator's Name and Mailing Address US ARMY FORT DEVENS BLDG 1650 FORT DEVENS MA 01432 ATTN: JIM CHAMBERS						A. NYB9208269					
						B. Generator's ID SAME					
4. Generator's Telephone Number 796-3784						C. State Transporter's ID 3329-OF					
5. Transporter 1 (Company Name) US BULK TRANSPORT INC.				6. US EPA ID Number PA0997347515		D. Transporter's Telephone (800) 642-8940					
7. Transporter 2 (Company Name)				8. US EPA ID Number		E. State Transporter's ID					
9. Designated Facility Name and Site Address CUM CHEMICAL SERVICES, L.L.C. 1550 BALMER RD. MODEL CITY NY 14107						F. Transporter's Telephone ()					
						G. State Facility ID					
10. US EPA ID Number NYD049836679						H. Facility Telephone () 716 754-8231					
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) aq. HAZARDOUS WASTE, SOLID, N.O.S. 9,HA3077,111,(LEAD)						12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol	
						001 DT		4,400,0		P	
b.										I. Waste No. EPA 1008	
										STATE	
c.										EPA	
										STATE	
d.										EPA	
										STATE	
J. Additional Descriptions for Materials listed Above a CPT001- LEAD SOIL						K. Handling Codes for Wastes Listed Above					
a						b ☒		c ☐			
b						b ☐		d ☐			
15. Special Handling Instructions and Additional Information CHEMTREC Emergency Response Number (800)424-9300 VMI Contract ERG#171 SERVICE REQUEST# 523264											
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 and state laws and 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 generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.											
Printed/Typed Name On behalf of US ARMY McDowell, John Corps of Engineers						Signature <i>John McDowell</i>			Mo. Day Year 11 01 14 99		
17. Transporter 1 Acknowledgement or Receipt of Materials											
Printed/Typed Name MARK W STRONG						Signature <i>Mark W Strong</i>			Mo. Day Year 11 01 14 99		
18. Transporter 2 Acknowledgement or Receipt of Materials											
Printed/Typed Name						Signature			Mo. 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						Signature			Mo. Day Year		

COPY 3—Disposer State—Mailed by Generator

HAZARDOUS WASTE MANIFEST

P.O. Box 12820, Albany, New York 12212



CWM1

Please type or print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. HA17210026154		Manifest Doc. No. 18516		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.									
3. Generator's Name and Mailing Address US ARMY FORT DEVENS BLDG 1650 FORT DEVENS MA 01432 ATTN: JIM CHAMBERS						A. NYB9208305											
4. Generator's Telephone Number 978-796-3784						B. Generator's ID SAME											
5. Transporter 1 (Company Name) Page ETC INC			6. US EPA ID Number NY0985969942			C. State Transporter's ID NY6403N											
7. Transporter 2 (Company Name)			8. US EPA ID Number			D. Transporter's Telephone (800) 233-7112											
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, L.L.C. 1550 BALMER RD. MODEL CITY NY 14107						E. State Transporter's ID											
10. US EPA ID Number NYD049836679						F. Transporter's Telephone ()											
						G. State Facility ID											
						H. Facility Telephone () 716 754-8231											
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol		I. Waste No.					
a. HAZARDOUS WASTE, SOLID, N.O.S., 9, NA3077, 111, (LEAD)						001 UT		EST 44000 P				EPA 5008					
b.												STATE					
c.												EPA					
d.												STATE					
J. Additional Descriptions for Materials listed Above						K. Handling Codes for Wastes Listed Above											
a. CP1001 - LEAD SOIL						a. ☒		c. ☐									
b.						b. ☐		d. ☐									
15. Special Handling Instructions and Additional Information CHEMTREC Emergency Response Number (800) 424-9300 WMI Contract SERVICE REQUEST # 523264																	
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Printed/Typed Name On behalf of the US ARMY MCDowell, John Corps of Engineers						Signature <i>John McDowell</i>				Mo. Day Year 10 14 99							
17. Transporter 1 Acknowledgement of Receipt of Materials						Printed/Typed Name Ernie Smith				Signature <i>Ernie Smith</i>				Mo. Day Year 10 14 99			
18. Transporter 2 Acknowledgement of Receipt of Materials						Printed/Typed Name				Signature				Mo. 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						Signature				Mo. Day Year							

COPY 3—Disposer State—Mailed by Generator

HAZARDOUS WASTE MANIFEST

P.O. Box 12820, Albany, New York 12212



CWM

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. HA7210028154		Manifest Doc. No. 1851H		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.			
3. Generator's Name and Mailing Address US ARMY FORT DEVENS RD 1650 FORT DEVENS MA 01432 ATTN: JIM CHAMBERS						A. Generator's ID NYB9208251					
4. Generator's Telephone Number 978-796-3784						B. Generator's ID SAHE					
5. Transporter 1 (Company Name) PAGE ETC. INC			6. US EPA ID Number NY10986969947			C. State Transporter's ID 670476 NY					
7. Transporter 2 (Company Name)			8. US EPA ID Number			D. Transporter's Telephone 8002481510					
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, L.L.C. 1550 BALMER RD. MODEL CITY NY 14107						E. State Transporter's ID					
10. US EPA ID Number NY1049836679						F. Transporter's Telephone ()					
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) a. RC, HAZARDOUS WASTE, SOLID, N.O.S., 9, NA3077, 111, (LEAD)						12. Containers Number Type 0010T		13. Total Quantity 441.0102		14. Unit Wt/Vol P	
b. c. d.										I. Waste No. EPA 1008	
										STATE	
										EPA	
										STATE	
J. Additional Descriptions for Materials listed Above a. CP1001- LEAD SOIL						K. Handling Codes for Wastes Listed Above a. T		c.		b.	
b.						d.		b.		d.	
15. Special Handling Instructions and Additional Information CH2M HILL Emergency Response Number (800)424-9300 WMI Contract SERVICE REQUEST# 523264											
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 and state laws and 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 generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.											
Printed/Typed Name On Behalf of US ARMY McDowell, John Corps of Engineers						Signature <i>John McDowell</i>		Mo. Day Year 11 01 14 09			
17. Transporter 1 Acknowledgement of Receipt of Materials						Signature <i>Jack Knapp</i>		Mo. Day Year 11 01 14 99			
18. Transporter 2 Acknowledgement of Receipt of Materials						Signature		Mo. Day Year			
Printed/Typed Name						Signature		Mo. 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						Signature		Mo. Day Year			

COPY 3—Disposer State—Mailed by Generator

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Tuesday November 10th, 1998

Attn: Sam Naik

RE: AOC-32-STOCK-02
Project # 03886-118-204-0630
Lab ID: 9811G975-002
Sample Date: 11/02/98
Date Received: 11/03/98
Units: MG/KG

DIESEL RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Diesel Range Organics	40	6.6	Y

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Tuesday November 10th, 1998

RE: AOC-32-STOCK-03
Project # 03886-118-204-0630
Lab ID: 9811G975-003
Sample Date: 11/02/98
Date Received: 11/03/98
Units: MG/KG

DIESEL RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Diesel Range Organics	76	6.6	Y

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Tuesday November 10th, 1998

RE: AOC-32-STOCK-04
Project # 03886-118-204-0630
Lab ID: 9811G975-004
Sample Date: 11/02/98
Date Received: 11/03/98
Units: MG/KG

DIESEL RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Diesel Range Organics	120	6.6	Y

Recre LabNet - Chicago
DIESEL RANGE ORGANICS

Report Date: 11/09/98 16:48

RFW Batch Number: 9811G975

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 1

		Cust ID: AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		AOC-32-STOCK		PBLKNT	PBLKNT BS
		-01		-02		-03		-04			
Sample Information	RFW#:	001		002		003		004		98GP1041-MB1	98GP1041-MB1
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	SOIL
	D.F.:	0.25		0.25		0.25		0.25		0.25	0.25
	Units:	MG/KG		MG/KG		MG/KG		MG/KG		MG/KG	MG/KG
Surrogate:	2-Fluorobiphenyl	91	%	106	%	99	%	102	%	83	%
	o-Terphenyl	102	%	114	%	109	%	115	%	90	%
=====f]=====f]=====f]=====f]=====f]=====f]											
Diesel Range Organics		89	Y	40	Y	76	Y	120	Y	6.2	U
										102	%

Cust ID: PBLKNT BSD

Sample RFW#: 98GP1041-MB1
Information Matrix: SOIL
D.F.: 0.25
Units: MG/KG

Surrogate:	2-Fluorobiphenyl	102	%
	o-Terphenyl	98	%
=====f]=====f]=====f]=====f]=====f]=====f]			
Diesel Range Organics		95	%

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Recra LabNet - Chicago
GRO ANALYTICAL DATA PACKAGE FOR
RFW-Ft Devens-DRMO Yard

LABORATORY CHRONICLE

LOT # :9811G975

CLIENT ID	Sample #	MTX	PREP #	COLLECTN	DATE REC	EXT/PREP	ANALYSIS
AOC-32-STOCK-01	001	S	98GVD424	11/02/98	11/03/98	N/A	11/06/98
AOC-32-STOCK-02	002	S	98GVD424	11/02/98	11/03/98	N/A	11/06/98
AOC-32-STOCK-03	003	S	98GVD424	11/02/98	11/03/98	N/A	11/06/98
AOC-32-STOCK-04	004	S	98GVD424	11/02/98	11/03/98	N/A	11/06/98
LAB QC:							
BLK	MB1	S	98GVD424	N/A	N/A	N/A	11/06/98
BLK	MB1 BS	S	98GVD424	N/A	N/A	N/A	11/06/98

SIGNATURE

Linda A. MacLellan

DATE 11-11-98



NY CERTIFICATION # 11006

121

Recra LabNet - Chicago

GC/HPLC METHOD REFERENCE

The following methods are used as reference for the analysis of samples contained within this RFW Lot :

Pesticides/PCBs	_____ SW-846 8080A
	_____ SW-846 8081
	_____ 40 CFR Part 136, Method 608
	_____ OLM03.1/3.2
Pesticides	_____ SW-846 8081A
PCBs	_____ SW-846 8082
Organophosphorus Pesticides	_____ SW-846 8141A
Herbicides	_____ SW-846 8150B
	_____ SW-846 8151A
Explosives	_____ SW-846 8330
Polynuclear Aromatics	_____ SW-846 8310
	_____ 40 CFR Part 136, Method 610
Petroleum Hydrocarbons	_____/____ SW-846 8015A Mod
	_____ California LUFT
	_____ Other _____
EDB & DBCP	_____ EPA Method 504.1
GC VOLATILES	_____ SW-846 8010A
	_____ 40 CFR Part 136, Method 601
	_____ SW-846 8020A
	_____ SW-846 8021A
	_____ 40 CFR Part 136, Method 602
	_____ SW-846 8015 Mod

CHI-22-05-003/F-4/98

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-01
Project # 03886-118-204-0630
Lab ID: 9811G975-001
Sample Date: 11/02/98
Date Received: 11/03/98
Units: UG/KG

GASOLINE RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Gasoline Range Organics	30	53	JZ

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-02
Project # 03886-118-204-0630
Lab ID: 9811G975-002
Sample Date: 11/02/98
Date Received: 11/03/98
Units: UG/KG

GASOLINE RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Gasoline Range Organics	30	54	JZ

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Date: Wednesday November 11th, 1998

Attn: Sam Naik

RE: AOC-32-STOCK-03
Project # 03886-118-204-0630
Lab ID: 9811G975-003
Sample Date: 11/02/98
Date Received: 11/03/98
Units: UG/KG

GASOLINE RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Gasoline Range Organics	28	54	JZ

To: RFW-Ft Devens-DRMO Yard
Building 3701, 2nd Floor
Barnum Road
Ft Devens, MA 01433

Attn: Sam Naik

Date: Wednesday November 11th, 1998

RE: AOC-32-STOCK-04
Project # 03886-118-204-0630
Lab ID: 9811G975-004
Sample Date: 11/02/98
Date Received: 11/03/98
Units: UG/KG

GASOLINE RANGE ORGANICS

Compound	Result	Reporting Limit	Flag
Gasoline Range Organics	BRL	53	U

Recra LabNet - Chicago
GASOLINE RANGE ORGANICS

Report Date: 11/10/98 22:30

RFW Batch Number: 9811G975

Client: RFW-Ft Devens-DRMO Yard

Work Order: 03886-118-204-0

Page: 1

Sample Information	Cust ID:	AOC-32-STOCK	AOC-32-STOCK	AOC-32-STOCK	AOC-32-STOCK	BLK	BLK BS
		-01	-02	-03	-04		
	RFW#:	001	002	003	004	98GVD424-MB1	98GVD424-MB1
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	D.F.:	1.0	1.0	1.0	1.0	1.0	1.0
	Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
a,a,a-Trifluorotoluene		49 %	87 %	58 %	88 %	99 %	102 %
Surrogate 4-Bromofluorobenzene		36 %	74 %	41 %	74 %	100 %	105 %
=====f]=====f]=====f]=====f]=====f]=====f]=====f]							
Gasoline Range Organics		30 JZ	30 JZ	28 JZ	53 U	50 U	94 %

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

WESTON
MILITARY

RFW 21-21-001^7/91

APPENDIX B
WASTE DISPOSAL SHIPPING DOCUMENTS

Charter Environmental, Inc.
Material Shipping Record & Log

A. Generator/Site Information

STOCKPILE: # 13

1. Provide the following generator information:

Organization Name: Devens RSTA

Contact Name: Jim Chambers

Site Address: AFRC-FAD-PW-A Box 10 30 Quebec Street

City/State/Zip Code: Devens, MA 01432-4429

B. Transporter/Common Carrier Information

1. Provide the following information:

Transporter/Common Carrier Name: Charter Environmental, Inc. / Sams

Contact Person: Robert Delhome, President

Street: 85 Crescent Avenue

City/State/Zip Code: Chelsea, MA 02150

Telephone Number: (617) 889-2228

C. Receiving Facility Information

1. Provide the following information on the receiving facility:

Operator/Facility Name: Waste Management of New Hampshire, Inc. - TREE

Street: 97 Rochester Neck Road

City/State/Zip Code: Rochester, NH 03839 - 7065

3. Permit number: DES-SW-SP-95-001

D. Description of Material

1. Waste Profile # 511955

E. Certification of Generator

Signature:

John McDowell

Date:

Oct 6, 1999

Name (print):

JOHN McDOWELL

Charter Environmental, Inc.
Material Shipping Record & Log

A. Generator/Site Information

STOCKPILE: # ASTH 01,02

1. Provide the following generator information:

Organization Name: Devens RSTA

Contact Name: Jim Chambers

Site Address: AFRC-FAD-PW-A Box 10 30 Quebec Street

City/State/Zip Code: Devens, MA 01432-4429

B. Transporter/Common Carrier Information

1. Provide the following information:

Transporter/Common Carrier Name: Charter Environmental, Inc. / Sams

Contact Person: Robert Delhome, President

Street: 85 Crescent Avenue

City/State/Zip Code: Chelsea, MA 02150

Telephone Number: (617) 889-2228

C. Receiving Facility Information

1. Provide the following information on the receiving facility:

Operator/Facility Name: Waste Management of New Hampshire, Inc. - TREE

Street: 97 Rochester Neck Road

City/State/Zip Code: Rochester, NH 03839 - 7065

3. Permit number: DES-SW-SP-95-001

D. Description of Material

1. Waste Profile #511956

E. Certification of Generator

Signature: John McDowell

Date: Oct 6, 1999

Name (print): JOHN McDOWELL

Charter Environmental, Inc.
Material Shipping Record & Log

A. Generator/Site Information**STOCKPILE: # 7,8,10,11****1. Provide the following generator information:****Organization Name:** Devens RSTA**Contact Name:** Jim Chambers**Site Address:** AFRC-FAD-PW-A Box 10 30 Quebec Street**City/State/Zip Code:** Devens, MA 01432-4429**B. Transporter/Common Carrier Information****1. Provide the following information:****Transporter/Common Carrier Name:** Charter Environmental, Inc. / Sams**Contact Person:** Robert Delhome, President**Street:** 85 Crescent Avenue**City/State/Zip Code:** Chelsea, MA 02150**Telephone Number:** (617) 889-2228**C. Receiving Facility Information****1. Provide the following information on the receiving facility:****Operator/Facility Name:** Waste Management of New Hampshire, Inc. - TREE**Street:** 97 Rochester Neck Road**City/State/Zip Code:** Rochester, NH 03839 - 7065**3. Permit number:** DES-SW-SP-95-001**D. Description of Material****1. Cover Material** PROFILE # 511954**E. Certification of Generator****Signature:**

John McDowell

Date:

Oct 6, 1999

Name (print):

JOHN McDOWELL

NYB9208206

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



11111

HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

Please type or print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 19181612121212121212		Manifest Doc. No. 118411		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.			
3. Generator's Name and Mailing Address US ARMY FORT DEVENS BIDG 1650 FORT DEVENS MA 01432 ATTN: JIM CHAMBERS						A. NYB9208206					
4. Generator's Telephone Number 796-1184						B. Generator's ID SAME					
5. Transporter 1 (Company Name) Dart Trucking Co. Inc.			6. US EPA ID Number D14D0009121615181215			C. State Transporter's ID TLE-4419					
7. Transporter 2 (Company Name)			8. US EPA ID Number			D. Transporter's Telephone (303) 537-1250					
9. Designated Facility Name and Site Address CWH CHEMICAL SERVICES, L.L.C. 1550 BALMER RD. MODEL CITY NY 14107						E. State Transporter's ID					
10. US EPA ID Number NYD0049036679						F. Transporter's Telephone ()					
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) a. RC, HAZARDOUS WASTE, SOLID, H.O.S., 9, NA3077, III, (LEAD)						12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol	
						00101		0100224		I. Waste No. EPA STATE	
b.										EPA STATE	
c.										EPA STATE	
d.										EPA STATE	
J. Additional Descriptions for Materials listed Above a. UPTOOL LEAD SOIL						K. Handling Codes for Wastes Listed Above a. ☒ T c. ☐					
b.						b. ☐ d. ☐					
15. Special Handling Instructions and Additional Information CHENIERE Emergency Response Number (800)424-9300 WH Contract URGENT SERVICE REQUEST# S23262											
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 and state laws and 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 generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.						Signature John M. Powell Mo. Day Year 11/01/99					
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name McBowell, John Corps of Engineers						Signature Pete J. Andrews Mo. Day Year 11/01/99					
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name						Signature Mo. 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 Signature Mo. Day Year											

COPY 4—Generator State—Mailed by Generator

In case of emergency or spill immediately call the National Response Center (800) 424-9802 and the NYS Department of Environmental Conservation (518) 457-7362

NYB9208323

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



CMH

HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

Please type or print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No.		Manifest Doc. No.		2. Page 1 of		Information within heavy bold line is not required by Federal Law.	
		3. Generator's Name and Mailing Address		6. US EPA ID Number		C. State Transporter's ID			
3. Generator's Name and Mailing Address US ARMY FORT DEVENS BLDG 1650 FORT DEVENS MA 01432 ATTN: JIM CHAMBERS 4. Generator's Telephone Number 796-3784		5. Transporter 1 (Company Name)		6. US EPA ID Number		D. Transporter's Telephone		A. NYB9208323	
		7. Transporter 2 (Company Name)		8. US EPA ID Number		E. State Transporter's ID		B. Generator's ID	
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, L.L.C. 1550 BALMER RD. MODEL CITY NY 14107		10. US EPA ID Number		F. Transporter's Telephone ()		G. State Facility ID		H. Facility Telephone ()	
		11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers		13. Total		14. Unit	
a. ARM, HAZARDOUS WASTE, SOLID, R.O.S., 9, HAZ077, III, (LEAD)				Number Type 20103		Quantity 6101212		I. Waste No.	
								STATE	
								EPA	
								STATE	
b.								EPA	
								STATE	
								EPA	
								STATE	
c.								EPA	
								STATE	
								EPA	
								STATE	
d.								EPA	
								STATE	
								EPA	
								STATE	
J. Additional Descriptions for Materials listed Above CF1001- LEAD SOIL		K. Handling Codes for Wastes Listed Above a. ☒ b. ☐ c. ☐ d. ☐							
15. Special Handling Instructions and Additional Information CHEMTRK Emergency Response Number (800)424-9300 WHI Contract ERG#171 SERVICE REQUEST# 523262									
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 and state laws and 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 generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.									
Printed/Typed Name On Behalf of the US Army McDowell, J. Corps of Engineers		Signature <i>John McDowell</i>		Mo. Day Year 10/1/99					
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Charles E. Daugherty		Signature <i>Charles E. Daugherty</i>		Mo. Day Year 10/1/99					
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Mo. 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									
Signature		Mo. Day Year							

COPY 4—Generator State—Mailed by Generator

NYB9208314

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. MA 123 002 515 4		Manifest Doc. No. 1, 4, 13		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address US ARMY FORT DEVENS BLVD 1650 FORT DEVENS MA 01432 ATTN: JIM CHAMBERS						A. NYB9208314			
4. Generator's Telephone Number 796-3784						B. Generator's ID SAME			
5. Transporter 1 (Company Name) Dart Trucking CO INC			6. US EPA ID Number QHD009865825			C. State Transporter's ID 7754070			
7. Transporter 2 (Company Name)			8. US EPA ID Number			D. Transporter's Telephone (400) 533-0295			
9. Designated Facility Name and Site Address OWN CHEMICAL SERVICES, L.L.C. 1550 BALMER RD. MODEL CITY NY 14107						E. State Transporter's ID			
10. US EPA ID Number NYD049836679						F. Transporter's Telephone ()			
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) a. RG, HAZARDOUS WASTE, SOLID, N.O.S., 9, NA3077, III, (LEAD)						12. Containers Number Type 001 UT		13. Total Quantity Estimate 66.22 F	
b. c. d.						14. Unit Wt/Vol		I. Waste No. EPA 1008 STATE EPA STATE EPA STATE	
						J. Additional Descriptions for Materials listed Above OPT001 LEAD SOIL		K. Handling Codes for Wastes Listed Above	
						a		b	
						b		d	
15. Special Handling Instructions and Additional Information CHENTREC Emergency Response Number (800) 424-9300 WHI Contract BRG#171 SERVICE REQUEST# 523262									
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 and state laws and 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 generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.									
Printed/Typed Name On Behalf of the US Army McDonnell, J Corp of Engineers			Signature John McDonnell			Mo. Day Year 1 4 1 2 99			
17. Transporter 1 Acknowledgement of Receipt of Materials									
Printed/Typed Name David S Rosati JR			Signature David S Rosati			Mo. Day Year 1 0 1 2 99			
18. Transporter 2 Acknowledgement of Receipt of Materials									
Printed/Typed Name			Signature			Mo. 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			Signature			Mo. Day Year			

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

HAZARDOUS WASTE MANIFEST

P.O. Box 12820, Albany, New York 12212



CWM1

Please type or print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. NA1210026104		Manifest Doc. No. 11851		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.			
3. Generator's Name and Mailing Address US ARMY FORT DEVENS BLDG 1650 FORT DEVENS MA 01432 ATTN: JIM CHAMBERS						A. NYB9208242					
4. Generator's Telephone 978-796-3784						B. Generator's ID 6AME					
5. Transporter 1 (Company Name) US BULK TRANSPORT INC						C. State Transporter's ID XA83948					
6. US EPA ID Number PA0987347515						D. Transporter's Telephone 800-442-8710					
7. Transporter 2 (Company Name)						E. State Transporter's ID					
8. US EPA ID Number						F. Transporter's Telephone ()					
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, L.L.C. 1550 BALMER RD. MODEL CITY NY 14107						G. State Facility ID					
10. US EPA ID Number NYD049836679						H. Facility Telephone () 716 754-8231					
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) 25F. 44000 P RQ, HAZARDOUS WASTE, SOLID, N.O.S., 9, NA3077, III, (LEAD)						12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol	
										I. Waste No. 5008	
										STATE	
										EPA	
										STATE	
										EPA	
										STATE	
										EPA	
										STATE	
J. Additional Descriptions for Materials listed Above CP1001- LEAD SOIL						K. Handling Codes for Wastes Listed Above T					
15. Special Handling Instructions and Additional Information CHEMTREC Emergency Response Number (800)424-9300 WMI Contract ERG#171 SERVICE REQUEST# 523264											
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 and state laws and 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 generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.											
Printed/Typed Name ON BEHALF OF US ARMY McDowell						Signature <i>John McDowell</i>		Mo. Day Year 11/01/99			
17. Transporter 1 Acknowledgement of Receipt of Materials											
Printed/Typed Name RW Boardman						Signature <i>RW Boardman</i>		Mo. Day Year 10/1/99			
18. Transporter 2 Acknowledgement of Receipt of Materials											
Printed/Typed Name						Signature		Mo. 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						Signature		Mo. Day Year			

COPY 3—Disposer State—Mailed by Generator

NYB9208296

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



CWHI

HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

Please type or print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. MA7210025154		Manifest Doc. No. 18515		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.			
3. Generator's Name and Mailing Address US ARMY FORT DEVENS BLDG 1650 FORT DEVENS MA 01432 ATTN: JIM CHAMBERS						A. NYB9208296					
4. Generator's Telephone Number 796-3784						B. Generator's ID SAME					
5. Transporter 1 (Company Name) PAGE ETC. INC.			6. US EPA ID Number NYD986969947			C. State Transporter's ID 887371/11					
7. Transporter 2 (Company Name)			8. US EPA ID Number			D. Transporter's Telephone 800 233 012					
9. Designated Facility Name and Site Address CWH CHEMICAL SERVICES, L.L.C. 1550 BALMER RD. MODEL CITY NY 14107						E. State Transporter's ID					
10. US EPA ID Number NYD049836679						F. Transporter's Telephone ()					
						G. State Facility ID					
						H. Facility Telephone () 716 754-8231					
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol	
a. RQ, HAZARDOUS WASTE, SOLID, N.O.S., 9, NA3077, 111, (LEAD)						001 DT		Est. 4400.0 P		I. Waste No. EPA 1008 STATE	
b.										EPA STATE	
c.										EPA STATE	
d.										EPA STATE	
J. Additional Descriptions for Materials listed Above						K. Handling Codes for Wastes Listed Above					
a. CP1001- LEAD SOIL						a. T c.					
b.						b. d.					
15. Special Handling Instructions and Additional Information CHENTREC Emergency Response Number (800) 424-9300 WHI Contract EMERGENCY SERVICE REQUEST# 523264											
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 and state laws and 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 generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.											
Printed/Typed Name On Behalf of the US ARMY McDowell, John Corps of Engineers						Signature <i>John McDowell</i>			Mo. Day Year 10/14/99		
17. Transporter 1 Acknowledgement of Receipt of Materials											
Printed/Typed Name KEVIN HICKS						Signature <i>Kevin Hicks</i>			Mo. Day Year 10/14/99		
18. Transporter 2 Acknowledgement of Receipt of Materials											
Printed/Typed Name						Signature			Mo. 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						Signature			Mo. Day Year		

COPY 3—Disposer State—Mailed by Generator

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

NYB9208215

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



CWHI

HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

Please type or print. Do not staple.

(Hazardous Waste Manifest 497)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. HA7210025154		Manifest Doc. No. 18517		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.					
3. Generator's Name and Mailing Address US ARMY FORT DEVENS BLDG 1650 FORT DEVENS MA 01432 ATTN: JIM CHAMBERS						A. NYB9208215							
4. Generator's Telephone 978-796-3784						B. Generator's ID SAME							
5. Transporter 1 (Company Name) PAGE E.T.C. INC.			6. US EPA ID Number NYD986969947			C. State Transporter's ID 2089N NY							
7. Transporter 2 (Company Name)			8. US EPA ID Number			D. Transporter's Telephone (800) 233-712							
9. Designated Facility Name and Site Address CWH CHEMICAL SERVICES, L.L.C. 1550 BALMER RD. MODEL CITY NY 14107						E. State Transporter's ID							
10. US EPA ID Number NYD049836679						F. Transporter's Telephone ()							
						G. State Facility ID							
						H. Facility Telephone () 716 754-8231							
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol		1. Waste No.	
a. RG, HAZARDOUS WASTE, SOLID, N.O.S., 9, NA3077, 111, (LEAD)						00101		44000 P				EPA 1008	
b.												STATE	
c.												EPA	
d.												STATE	
J. Additional Descriptions for Materials listed Above CP1001 - LEAD SOIL						K. Handling Codes for Wastes Listed Above							
a.						T						c.	
b.												d.	
15. Special Handling Instructions and Additional Information CHEMTREC Emergency Response Number (800) 424-9300 WMI Contract ERG#171 SERVICE REQUEST# 523264													
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 and state laws and 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 generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.													
Printed/Typed Name On behalf of US ARMY McDowell, John Corps of Engineers						Signature <i>John McDowell</i>				Mo. Day Year 11 01 14 99			
17. Transporter 1 Acknowledgement of Receipt of Materials													
Printed/Typed Name WRIGHT HAMPTON						Signature <i>Wright Hampton</i>				Mo. Day Year 12 14 99			
18. Transporter 2 Acknowledgement of Receipt of Materials													
Printed/Typed Name						Signature				Mo. 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						Signature				Mo. Day Year			

COPY 3—Disposer State—Mailed by Generator

STATE OF NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION DIVISION OF SOLID & HAZARDOUS MATERIALS

NYB9208287

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS
HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212



CWM1

Please type or print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. MA7210026154		Manifest Doc. No. 18513		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address US ARMY FORT DEVENS BLDG 1650 FORT DEVENS MA 01432 ATTN: JIM CHAMBERS						A. NYB9208287			
4. Generator's Telephone Number 508-796-3784						B. Generator's ID SAME			
5. Transporter 1 (Company Name) PAGE ETC INC				6. US EPA ID Number NYD0986969947		C. State Transporter's ID 73361 J NY			
7. Transporter 2 (Company Name)				8. US EPA ID Number		D. Transporter's Telephone (800) 248-1540			
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, L.L.C. 1650 BALMER RD. MODEL CITY NY 14107						E. State Transporter's ID			
10. US EPA ID Number NYD049836679						F. Transporter's Telephone ()			
						G. State Facility ID			
						H. Facility Telephone () 716 754-8231			
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) HAZARDOUS WASTE, SOLID, N.O.S., 9, NA3077, 111, (LEAD)						12. Containers Number	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
							EST 600.00 P		EPA D008
b.									STATE
c.									EPA
d.									STATE
J. Additional Descriptions for Materials listed Above CP1001- LEAD SOIL						K. Handling Codes for Wastes Listed Above			
a							T		
b									
15. Special Handling Instructions and Additional Information CHEMTRAC Emergency Response Number (800) 424-9300 WHI Contract GRG#171 SERVICE REQUEST# 523264									
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 and state laws and 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 generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.									
Printed/Typed Name On behalf of the US ARMY McDowell, John Corps of Engineers						Signature <i>John McDowell</i>		Mo. Day Year 10/14/99	
17. Transporter 1 Acknowledgement of Receipt of Materials						Signature <i>Scott Smith</i>		Mo. Day Year 10/14/99	
18. Transporter 2 Acknowledgement of Receipt of Materials						Signature		Mo. 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						Signature		Mo. Day Year	

COPY 3—Disposer State—Mailed by Generator

NYB9208224

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS

CWM

HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. HAZ210026154		Manifest Doc. No. 18578		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address US ARMY FORT DEVENS BLDG 1650 FORT DEVENS MA 01432 ATTN: JIM CHAMBERS						A. NYB9208224			
4. Generator's Telephone Number 978-796-3784						B. Generator's ID SAME			
5. Transporter 1 (Company Name) PAGE ETC. INC.			6. US EPA ID Number NYD0986969947			C. State Transporter's ID 735675-01			
7. Transporter 2 (Company Name)			8. US EPA ID Number			D. Transporter's Telephone 800-248-1510			
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, L.L.C. 1550 BALMER RD. MODEL CITY NY 14107						10. US EPA ID Number NYD049836679			
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) RG, HAZARDOUS WASTE, SOLID, N.O.S., 9, NA3077, III, (LEAD)						12. Containers Number Type 00101 7,40,00 P		13. Total Quantity 7,40,00	
J. Additional Descriptions for Materials listed Above CP1001- LEAD SOIL						14. Unit Wt/Vol P		I. Waste No. EPA D008	
								STATE	
								EPA	
								STATE	
K. Handling Codes for Wastes Listed Above a ☒ b ☐ c ☐ d ☐						EPA		STATE	
								EPA	
								STATE	
								EPA	
15. Special Handling Instructions and Additional Information CHEMTREC Emergency Response Number (800)424-9300 CWM Contract SERVICE REQUEST# 523264									
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 and state laws and 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 generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.									
Printed/Typed Name On behalf of US ARMY McDowell, John Corps of Engineers				Signature <i>John McDowell</i>				Mo. Day Year 11/01/1999	
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature <i>Bart Hampton</i>				Mo. Day Year 11/01/1999	
18. Transporter 2 Acknowledgement of Receipt of Materials				Signature				Mo. 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				Signature				Mo. Day Year	

COPY 3—Disposer State—Mailed by Generator

NYB9208233

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS

CWM

HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

(Hazardous Waste Manifest 4/97)

Please type or print. Do not staple.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. MA7210025154		Manifest Doc. No.		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address US ARMY FORT DEVENS BLUG 1650 FORT DEVENS MA 01432 ATTN: JIM CHAMBERS						A. NYB9208233			
4. Generator's Telephone 978-796-3784						B. Generator's ID SAME			
5. Transporter 1 (Company Name) U.S. Bulk Transport			6. US EPA ID Number AAD987347515			C. State Transporter's ID 103237A NY			
7. Transporter 2 (Company Name)			8. US EPA ID Number			D. Transporter's Telephone (800) 643-5511			
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, L.L.C. 1850 DALMER RD. MODEL CITY NY 14107						E. State Transporter's ID			
10. US EPA ID Number NYD049836679						F. Transporter's Telephone ()			
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) a. RQ, HAZARDOUS WASTE, SOLID, N.O.S., 9, NA3077, III, (LEAD)						12. Containers Number Type 001 DT		13. Total Quantity Est. 4,400 P	
b. c. d.						14. Unit Wt/Vol		I. Waste No. EPA 1008	
								STATE	
								EPA	
								STATE	
J. Additional Descriptions for Materials listed Above a. CP1001- LEAD SOIL						K. Handling Codes for Wastes Listed Above a ☒ T c ☐			
b						b ☐ d ☐			
15. Special Handling Instructions and Additional Information CHENTREC Emergency Response Number (800) 424-9300 WMI Contract ERG#171 SERVICE REQUEST#									
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 and state laws and 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 generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.									
Printed/Typed Name On behalf of US ARMY McDowell, John Corps of Engineers				Signature <i>John McDowell</i>		Mo. Day Year 11 01 14 99			
17. Transporter 1 Acknowledgement of Receipt of Materials				Printed/Typed Name Matthew Abbey		Signature <i>Matthew Abbey</i>		Mo. Day Year 11 11 14 99	
18. Transporter 2 Acknowledgement of Receipt of Materials				Printed/Typed Name		Signature		Mo. 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				Signature		Mo. Day Year			

COPY 3—Disposer State—Mailed by Generator

NYB9208278

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS
HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212



WMI

Please type or print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. MA7210025154		Manifest Doc. No. 18512		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address US ARMY FORT DEVENS BLDG 1650 FORT DEVENS MA 01432 ATTN: JIM CHAMBERS						A. NYB9208278			
4. Generator's Telephone Number 796-3784						B. Generator's ID SAME			
5. Transporter 1 (Company Name) US Bulk Transport INC.				6. US EPA ID Number PA0987347515		C. State Transporter's ID 0242856 ME			
7. Transporter 2 (Company Name)				8. US EPA ID Number		D. Transporter's Telephone (1800)428910			
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, L.L.C. 1550 BALMER RD. MODEL CITY NY 14107						10. US EPA ID Number NYD049836679			
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) RG, HAZARDOUS WASTE, SOLID, N.O.S. 9, NA3077.111, (LEAD)						12. Containers Number Type 001 BT		13. Total Quantity Est 4,400.00 P	
14. Unit Wt/Vol P						1. Waste No. EPA 1008			
						STATE			
						EPA			
						STATE			
						EPA			
J. Additional Descriptions for Materials listed Above a GP1001- LEAD SOIL						K. Handling Codes for Wastes Listed Above a T			
b						b			
c						c			
d						d			
15. Special Handling Instructions and Additional Information CHENTREC Emergency Response Number (800)424-9300 WMI Contract SERV#171 SERVICE REQUEST# 523264									
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 and state laws and 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 generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.									
Printed/Typed Name On behalf of US ARMY McDowell, John Corps of Engineers				Signature <i>John McDowell</i>		Mo. Day Year 11 10 14 19 19			
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature <i>Randy A Kim</i>		Mo. Day Year 11 01 14 19 19			
18. Transporter 2 Acknowledgement of Receipt of Materials				Signature		Mo. 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				Signature		Mo. Day Year			

COPY 3--Disposer State--Mailed by Generator

In case of emergency, call the National Response Center (800) 424-9300 and the NY State Department of Environmental Conservation (518) 457-7362

NYB9208269

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS
HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212



CWM

Please type or print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. HA7210040154		Manifest Doc. No. 18511		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address US ARMY FORT DEVENS BLDG 1650 FORT DEVENS MA 01432 ATTN: JIM CHAMBERS						A. NYB9208269			
4. Generator's Telephone 978-796-3784						B. Generator's ID SAME			
5. Transporter 1 (Company Name) US Bulk Transport Inc.			6. US EPA ID Number PA0997347515			C. State Transporter's ID 3329-OF			
7. Transporter 2 (Company Name)			8. US EPA ID Number			D. Transporter's Telephone (800) 642-8910			
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, L.L.C. 1550 BALMER RD. MODEL CITY NY 14107						10. US EPA ID Number NYD049836679			
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) HAZ. HAZARDOUS WASTE, SOLID, N.O.S. 9,HA3077,111,(LEAD)						12. Containers Number Type 00101		13. Total Quantity 4,400.0 P	
						14. Unit Wt/Vol		1. Waste No. EP008	
								STATE	
								EPA	
								STATE	
								EPA	
J. Additional Descriptions for Materials listed Above CP1001- LEAD SOIL						K. Handling Codes for Wastes Listed Above			
a						a		c	
b						b		d	
15. Special Handling Instructions and Additional Information CHENTRECO Emergency Response Number (800)424-9300 VMI Contract ERG#171 SERVICE REQUEST# 523264									
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 and state laws and 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 generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.									
Printed/Typed Name On behalf of US ARMY McDowell, John Corps of Engineers				Signature <i>John McDowell</i>				Mo. Day Year 11 01 14 99	
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature <i>Mark W Strong</i>				Mo. Day Year 11 01 14 99	
18. Transporter 2 Acknowledgement of Receipt of Materials				Signature				Mo. 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				Signature				Mo. Day Year	

COPY 3-Disposer State-Mailed by Generator

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

NYB9208305

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



CWM

HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

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(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. 181210026154		Manifest Doc. No. 18516		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.					
3. Generator's Name and Mailing Address US ARMY FORT DEVENS BLDG 1650 FORT DEVENS MA 01432 ATTN: JIM CHAMBERS						A. NYB9208305							
4. Generator's Telephone Number 796-3784						B. Generator's ID SAME							
5. Transporter 1 (Company Name) Page ETC INC			6. US EPA ID Number NYD0985969942			C. State Transporter's ID NYB003N							
7. Transporter 2 (Company Name)			8. US EPA ID Number			D. Transporter's Telephone (800) 233-7111							
9. Designated Facility Name and Site Address CWM CHEMICAL SERVICES, L.L.C. 1550 BALMER RD. MODEL CITY NY 14107						E. State Transporter's ID							
10. US EPA ID Number NYD049836679						F. Transporter's Telephone ()							
						G. State Facility ID							
						H. Facility Telephone () 716 754-8231							
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers Number Type		13. Total Quantity		14. Unit Wt/Vol		I. Waste No.	
a. RQ, HAZARDOUS WASTE, SOLID, N.O.S., 9, NA3077, 111, (LEAD)						001 DT		Est. 44000 P				EEB008	
b.												STATE	
c.												EPA	
d.												STATE	
J. Additional Descriptions for Materials listed Above CP1001 - LEAD SOIL						K. Handling Codes for Wastes Listed Above							
a.						b. ☒		c. ☐		d. ☐			
b.						c. ☐		d. ☐					
15. Special Handling Instructions and Additional Information CHEMTREC Emergency Response Number (800) 424-9300 WMI Contract SERVICE REQUEST # 523264													
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 and state laws and 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 generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.													
Printed/Typed Name McDowell, John						Signature <i>John McDowell</i>				Mo. Day Year 10 14 99			
17. Transporter 1 Acknowledgement of Receipt of Materials													
Printed/Typed Name Ernie Smith						Signature <i>Ernie Smith</i>				Mo. Day Year 10 14 99			
18. Transporter 2 Acknowledgement of Receipt of Materials													
Printed/Typed Name						Signature				Mo. 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						Signature				Mo. Day Year			

COPY 3—Disposer State—Mailed by Generator

In case of emergency or spill immediately, call the National Response Center (800) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7962

GENERATOR

TRANSPORTER

CITY

NYB9208251

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS



WM1

HAZARDOUS WASTE MANIFEST
P.O. Box 12820, Albany, New York 12212

Please type or print. Do not staple.

(Hazardous Waste Manifest 4/97)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA No. MA701000015H		Manifest Doc. No. 1851H		2. Page 1 of 1		Information within heavy bold line is not required by Federal Law.	
3. Generator's Name and Mailing Address US ARMY FORT DEVENS BLDG 1650 FORT DEVENS MA 01432 ATTN: JIM CHAMBERS						A. Generator's ID NYB9208251			
4. Generator's Telephone Number 978-796-3784						B. Generator's ID SAHE			
5. Transporter 1 (Company Name) PAGE ETC INC			6. US EPA ID Number NY10986969947			C. State Transporter's ID 670476 NY			
7. Transporter 2 (Company Name)			8. US EPA ID Number			D. Transporter's Telephone 8002481510			
9. Designated Facility Name and Site Address CWH CHEMICAL SERVICES, L.L.C. 1550 BALMER RD. MODEL CITY NY 14107						E. State Transporter's ID			
10. US EPA ID Number NYD049836679						F. Transporter's Telephone ()			
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number) RC, HAZARDOUS WASTE, SOLID, N.O.S., 9,NA3077,111,(LEAD)						12. Containers Number Type 0010T		13. Total Quantity 65T	
						14. Unit Wt/Vol P		I. Waste No. EPA 1008	
b.								STATE	
c.								EPA	
d.								STATE	
J. Additional Descriptions for Materials listed Above a CP1001- LEAD SOIL						K. Handling Codes for Wastes Listed Above a T			
b						b			
15. Special Handling Instructions and Additional Information CHMTRC Emergency Response Number (800)424-9300 WM1 Contract ERG#171 SERVICE REQUEST# 523264									
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 and state laws and 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 generator, I have made a good faith effort to minimize my waste and select the best waste management method that is available to me and that I can afford.									
Printed/Typed Name On Behalf of US ARMY McDowell, John Corps of Engineers			Signature <i>John McDowell</i>			Mo. Day Year 11 01 40 9			
17. Transporter 1 Acknowledgement of Receipt of Materials			Signature <i>Jack Knapp</i>			Mo. Day Year 11 01 49 9			
Printed/Typed Name JACK KNAPP			Signature			Mo. Day Year			
18. Transporter 2 Acknowledgement of Receipt of Materials			Signature			Mo. Day Year			
Printed/Typed Name			Signature			Mo. 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			Signature			Mo. Day Year			

COPY 3—Disposer State—Mailed by Generator

In case of emergency or spill immediately call the National Response Center (800) 424-9802 and the NYS Department of Environmental Conservation (518) 457-7362

APPENDIX C
COMMENTS AND RESPONSE TO COMMENTS ON
DRAFT SOILS REMEDIAL ACTION OPERABLE UNIT
COMPLETION REPORT - AOC 32

(RECEIVED BY WESTON® VIA E-MAIL)

December 14, 1999

James Chambers
BRAC Environmental Coordinator
Devens Reserve Forces Training Area
AFZD-BEC Box 1
Fort Devens, MA 01433-5010

**Re: Draft Soils Remedial Action Operable Unit, Completion Report,
Soil, Asphalt, and Debris Removal at Area of Concern (AOC) 32**

Dear Mr. Chambers:

EPA New England has reviewed the above referenced document in accordance with section VII (consultation with EPA) of the Fort Devens Federal Facility Agreement. The comments are attached.

If you have any questions or concerns, please feel free to call me at (617) 918-1393.

Sincerely,

Jerry Keefe,
Remedial Project Manager

Attachment:

cc: Mark Applebee, USACOE NED
Peter Golonka, Gannett Fleming
Patricia Plant, HLA
John Regan, MADEP Worcester
Ron Ostrowski, DCC

Draft
Soils Remedial Action Operable Unit
Completion Report
Soil, Asphalt, and Debris Removal
at Area of Concern (AOC) 32
Devens, Massachusetts

Attachment

General Comments

1. The removal was successful, as defined by the cleanup criteria and the sampling plan. In general, exceedances detected following initial excavation resulted in further excavation until the cleanup criteria were met. With only minor exceptions (see relevant Specific Comment below), the final analyses verify compliance with the cleanup standards. Superficially, at least, the site appears to be “clean,” according to the criteria established in advance of the removal action.
2. Please provide the rationale for the confirmation sampling plan; provide any discussion of the results of the sampling in view of that rationale and a detailed discussion of how the results support the conclusion that the site is clean. This will enable the document to “stand alone,” and, in addition, will complete the logical progression from the sampling plan to the interpretation of the results. It is critical that these steps be taken, as it is not sufficient simply to show that every analysis for every confirmation sample is below the agreed-upon cleanup criteria. While this is certainly a positive result, it is not by itself conclusive. In particular, the attainment of cleanup goals is necessarily a statistical issue (see, e.g., EPA guidance [1]), and this has not been addressed explicitly in the document.

Specific Comments

Page 3-6, section 3.3.1, paragraph 2: The report notes that AOC-32-01 showed exceedances, and that further excavation was performed until confirmatory sampling indicated compliance with the cleanup goals. Table 3-1 shows, in addition, that grids AOC-32-02 and AOC-32-03 had exceedances of the same constituents (benzo(b)fluoranthene at 1.9 and 1.5 ppm (compare to cleanup goal of 1.0 ppm), respectively; benzopyrene at 1.2 and 1.3 ppm (compare to cleanup goal of 0.7 ppm), respectively; indeno(1,2,3-cd)pyrene at AOC-32-02 at 1.3 ppm (compare to cleanup goal of 1 ppm). Please provide the rationale for accepting these exceedances, while those in AOC-32-01 triggered further excavation. How do the remaining exceedances at AOC-32-02 and AOC-32-03 affect the conclusion that the removal action was “successful?”

Reference

[1] USEPA, “Methods for Evaluating the Attainment of Cleanup Standards, Volume 1: Soils and Solid Media,” Statistical Policy Branch (PM-223), Office of Policy, Planning, and Evaluation, Washington, DC, **PB89-234959**.

Response to Comments from USEPA on the Draft Soils Remedial Action Operable Unit Completion Report Soil, Asphalt, and Debris Removal at Area of Concern (AOC) 32, Devens, Massachusetts

Dated: December 14, 1999

General Comments

1. The removal was successful, as defined by the cleanup criteria and the sampling plan. In general, exceedances detected following initial excavation resulted in further excavation until the cleanup criteria were met. With only minor exceptions (see relevant Specific Comment below), the final analyses verify compliance with the cleanup standards. Superficially, at least, the site appears to be "clean," according to the criteria established in advance of the removal action.
2. Please provide the rationale for the confirmation sampling plan; provide any discussion of the results of the sampling in view of that rationale and a detailed discussion of how the results support the conclusion that the site is clean. This will enable the document to "stand alone," and, in addition, will complete the logical progression from the sampling plan to the interpretation of the results. It is critical that these steps be taken, as it is not sufficient simply to show that every analysis for every confirmation sample is below the agreed-upon cleanup criteria. While this is certainly a positive result, it is not by itself conclusive. In particular, the attainment of cleanup goals is necessarily a statistical issue (see, e.g., EPA guidance [1]), and this has not been addressed explicitly in the document.

Response: The sampling plan prepared for the project called for establishment of sampling grids to cover the areas of excavation recommended by the Record of Decision and the Action Memorandum for the site. The sampling rationale proposed as part of the Action Memorandum were approved by USEPA and the MADEP. The grid sizes were chosen to not exceed an area of 1500 square feet per grid which was also accepted by USEPA via approval of the Action Memorandum, and does not exceed the grid sizes normally used for soil sampling. The depth of excavation was initially anticipated to not exceed 12-15 inches (surficial soil excavation due to the presence of contamination in the surface only). The placement of the grids over the excavation areas and the frequency of sampling provided for a uniform examination of the excavated areas for conformance to project cleanup goals.

In areas where the excavation was conducted deeper than surficial level (grid AOC-32-08 which was excavated to about 8 feet below ground surface), samples of the sidewalls and the floor were additionally collected and analyzed (sample IDs AOC-32-EXC-W-01 thru -04 and AOC-32-EXC-FLR-05 for grid AOC-32-08). This adequately examined the boundaries of the deeper excavation and the analytical results for these soil samples indicated that project cleanup goals were not exceeded in these samples from the sidewalls and the floor.

Statistically, the entire cleanup area was examined uniformly via the use of grids of similar size, the use of the same sampling parameters, the same sampling methodology and the

same offsite laboratory of record.

Specific Comments

Page 3-6, section 3.3.1, paragraph 2: The report notes that AOC-32-01 showed exceedances, and that further excavation was performed until confirmatory sampling indicated compliance with the cleanup goals. Table 3-1 shows, in addition, that grids AOC-32-02 and AOC-32-03 had exceedances of the same constituents (benzo(b)fluoranthene at 1.9 and 1.5 ppm (compare to cleanup goal of 1.0 ppm), respectively; benzopyrene at 1.2 and 1.3 ppm (compare to cleanup goal of 0.7 ppm), respectively; indeno(1,2,3-cd)pyrene at AOC-32-02 at 1.3 ppm (compare to cleanup goal of 1 ppm). Please provide the rationale for accepting these exceedances, while those in AOC-32-01 triggered further excavation. How do the remaining exceedances at AOC-32-02 and AOC-32-03 affect the conclusion that the removal action was “successful?”

Response: Table 3-1 inadvertently was not updated to reflect the fact that grid AOC-32-01 was excavated and sampled a total of three times, and grids AOC-32-02 and AOC-32-03 were excavated and sampled two times, until the analytical results of the final set of samples (sample IDs AOC-32-01C, AOC-32-02B and AOC-32-03B)) indicated that project cleanup goals were met for these grids. Table 3-1 has been updated to reflect the final results for these grids and now does not conflict with the text in Section 3.3.1, paragraph 2.



COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Central Regional Office, 627 Main Street, Worcester, MA 01608

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Governor

JANE SWIFT
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BOB DURAND
Secretary

LAUREN A. LISS
Commissioner

November 15, 1999

Mr. Jim Chambers
BRAC Environmental Office
30 Quebec Street
Box 100
Devens, MA 01433-5190

RE: MADEP Comments on the Draft Soils Remedial Action Operable Unit Completion Report: Soil, Asphalt, and Debris Removal At Area of Contamination (AOC) 32 (Weston, October 1999)

Dear Mr. Chambers:

The Massachusetts Department of Environmental Protection (MADEP) has reviewed the Draft Soils Remedial Action Operable Unit Completion Report: Soil, Asphalt, and Debris Removal at Area of Contamination (AOC) 32 (Weston, October 1999). The purpose of the report was to document the remedial activities conducted at AOC 32 which included the excavation and disposal of over 3000 cubic yards of soil, asphalt, and various debris. The remedial actions were undertaken to eliminate the potential risk associated with contaminated soil and debris which pose a threat to human health or the environment or future use of the property and to provide a permanent, long-term solution for the site. Based on this review, MADEP has the following comments.

1. Section 3.3.2, Page 3-7, Line 8 – The text refers to “stockpile ID AOC-32-13”. In that there is a confirmatory sample by the same identifier, is this a typo that should read “AOC-32-STOCK-13”?
2. Section 3.3.4, Page 3-8, second paragraph – The text discusses that concentrations of DDE and DDT exceeded the site cleanup goals but subsequently references the cleanup goal for DDD, which has a different value. Please reference the correct cleanup goals.
3. Section 3.3.4, Page 3-8, last paragraph – The text states that the analytical results from the final confirmatory soil sampling indicate no exceedance of the site cleanup goals in the soils from these grids after final excavation. However, a review of Table 3-1 indicates that

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analytical result for samples AOC-32-ASPH-03B, -07B and -08B exceeded the cleanup goals for one or more various PAHs. Please correct this statement

4. Table 2-1, Page 2-6 – Under the PCBs category, change “Oracular 1260” to “Aroclor 1260.”
5. Table 3-1 AOC-32 Confirmatory Sampling Results – The presentation of the data is inconsistent with regard to non-detect results. Several samples are shown using “ND” for samples in which COCs were not detected above the method detection limits while others that were non-detect only show the method detection limit and are missing the non-detect symbol “<”. These latter samples are misinterpreted as having all positive hits. MADEP prefers and recommends that all non-detect sample results be shown using the non-detect symbol “<” with the detection limit. Please complete a thorough review of this table and the raw analytical data to ensure non-detect symbols are placed accordingly. This is particularly important in that some positive hits were observed at or near the detection limit and these should not be confused with actual non-detects.
7. Table 3-1 Samples AOC-32-ASPH-07 and AOC-32-ASPH-07B – There were no VPH, EPH, or inorganics results reported in the table for sample -07. A review of the laboratory analytical data sheets in Appendix A indicates that the VPH and EPH sample results for -07 were those listed under -07B in the table. In addition, the pesticides results reported in the table for -07 do not coincide with the raw data or those reported within the report text. No laboratory data for AOC-32-ASPH-07B could be found by MADEP within Appendix A. Please correct the data in the Table as appropriate and include all relevant laboratory data within Appendix A.

Please do not hesitate to contact Craig Durrett at (508) 767-2828 if you have any questions regarding these comments,

Sincerely,

Craig Durrett
Environmental Analyst
Federal Facilities, CERO

cc: Informational Repositories
Fort Devens Mailing List
Joe Pierce, Fort Devens
Jerry Keefe, EPA
Jeff Waugh, AEC
Mark Applebee, ACOE
Ron Ostrowski, Mass Land Bank
Sam Naik, Weston
Stan Reed, HLA
Richard Skryness, Stone & Webster
Deborah Gevalt, Haley & Aldrich

Response to Comments from MADEP (dated November 15, 1999) on the Draft Soils Remedial Action Operable Unit, Completion Report, Soil, Asphalt, and Debris Removal at Area of Concern (AOC) 32.

1. Section 3.3.2, Page 3-7, Line 8 – The text refers to “stockpile ID AOC-32-13”. In that there is a confirmatory sample by the same identifier, is this a typo that should read “AOC-32-STOCK-13”?

The correct ID is AOC-32-STOCK-13. The text will be corrected.

2. Section 3.3.4, Page 3-8, second paragraph – The text discusses that concentrations of DDE and DDT exceeded the site cleanup goals but subsequently references the cleanup goal for DDD, which has a different value. Please reference the correct cleanup goals.

The text will be corrected to read “site cleanup goals of 2 ppm for DDE and 2 ppm for DDT”.

3. Section 3.3.4, Page 3-8, last paragraph – The text states that the analytical results from the final confirmatory soil sampling indicate no exceedance of the site cleanup goals in the soils from these grids after final excavation. However, a review of Table 3-1 indicates that analytical result for samples AOC-32-ASPH-03B, -07B and -08B exceeded the cleanup goals for one or more various PAHs. Please correct this statement.

Table 3-1 presently displays the values for PAH target analytes from the EPH analysis of the first round of samples taken after the first round of excavation in these grids. The cleanup goals approved by the regulatory authorities (Table 3-1, Final Remedial Action Work Plan, Soil, Asphalt, and Debris Removal, AOC 32, Devens, MA dated July 1998) lists only the hydrocarbon fractions and not the PAH target analytes as part of cleanup goals. However, as a conservative measure, the PAH target analytes were also analyzed during the project. Grids AOC-32-ASPH-03, -07 and 08 were resampled due to the EPH target analyte PAH exceedances. The EPH analytical results report for AOC-32-ASPH-03B, -07B and -08B for EPH were inadvertently left out during reproduction of the report copies. The correct analytical results report will now be included in the Final Report Appendices, Table 3-1 will be updated, and copies of the results submitted as an attachment to this response.

The analytical results indicate that samples AOC-32-ASPH-03B shows slight exceedances for Benzo(b)fluoranthene (at 1.1 ppm compared to the conservative goal of 1.0 ppm for the site) and for Benzo(a)pyrene (at 0.81 ppm compared to the goal of 0.7 ppm). These PAH compounds are typically present in the vicinity of asphalt pavements. These grids were paved with asphalt prior to the excavation. Pieces of old asphalt were observed in the surficial soils from previous fills, and the presence of the low levels of these PAHs are attributable to the presence of asphalt products in these grids from previously existing asphalt pavement.

The last paragraph of Section 3.3.4, page 3-8 will be revised to say “Analytical results from confirmatory soil sampling indicate very low-level presence of two PAH compounds in one grid (AOC-32-ASPH-03B) attributable to the presence of remnants of previous asphalt pavement in

these grids, and no exceedance of site cleanup goals in the soils from any other grids after final excavation.”

4. Table 2-1, Page 2-6 – Under the PCBs category, change “Oracular 1260” to “Aroclor 1260.”

The text will be corrected accordingly.

5. Table 3-1 AOC-32 Confirmatory Sampling Results – The presentation of the data is inconsistent with regard to non-detect results. Several samples are shown using “ND” for samples in which COCs were not detected above the method detection limits while others that were non-detect only show the method detection limit and are missing the non-detect symbol “<”. These latter samples are misinterpreted as having all positive hits. MADEP prefers and recommends that all non-detect sample results be shown using the non-detect symbol “<” with the detection limit. Please complete a thorough review of this table and the raw analytical data to ensure non-detect symbols are placed accordingly. This is particularly important in that some positive hits were observed at or near the detection limit and these should not be confused with actual non-detects.

A detailed review of the analytical data has been done and the table has been updated to reflect the changes as suggested above.

6. Table 3-1 Samples AOC-32-ASPH-07 and AOC-32-ASPH-07B – There were no VPH, EPH, or inorganics results reported in the table for sample –07. A review of the laboratory analytical data sheets in Appendix A indicates that the VPH and EPH sample results for –07 were those listed under –07B in the table. In addition, the pesticides results reported in the table for –07 do not coincide with the raw data or those reported within the report text. No laboratory data for AOC-32-ASPH-07B could be found by MADEP within Appendix A. Please correct the data in the Table as appropriate and include all relevant laboratory data within Appendix A.

The analytical results reports for AOC-32-ASPH-07B for the EPH and pesticides were inadvertently missed during reproduction of the report. This sample grid showed VPH and inorganic levels below cleanup goals during the first round of excavation and sampling. Therefore the grid was resampled and analyzed for EPH and pesticides only. These corrected values will now be included in the Final report as well as an attachment to this response, and Table 3-1 updated accordingly.

The values currently shown for inorganics under AOC-32-ASPH-07B in Table 3-1 are for AOC-32-ASPH-07 and will be shown in the column for AOC-32-ASPH-07B.

The column for AOC-32-ASPH-07 will now be removed and only the column for AOC-32-ASPH-07B will be shown with the more recent sample results for EPH, and Pesticides/PCBs. The inorganic and VPH results from AOC-32-ASPH-07 will be carried over to this column.