COPY

DEBRIS REMOVAL CLOSURE REPORT STUDY AREA BB AND BG LAKE GEORGE STREET DEVENS, MASSACHUSETTS

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Prepared for

U.S. ARMY CORPS OF ENGINEERS NEW ENGLAND DIVISION

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February 1997

Work Order No. 03886-118-004-4300-00

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1. PURPOSE

The purpose of this document is to record the activities at Study Areas (SAs) BB and BG located along Lake George Street, Devens, Massachusetts. The activities included the removal of various metal debris, abandoned drums, and the excavation of approximately 18 cubic yards of contaminated soil. This *Debris Removal Closure Report* was prepared in accordance with the Roy F. Weston, Inc. (WESTON®) Work Plan dated October 1996 and the references incorporated within.

2. BACKGROUND AND PHYSICAL SETTING

2.1 SITE DESCRIPTION AND HISTORY

On December 21, 1989, Devens (formerly Fort Devens) was placed on the National Priority List (NPL) pursuant to the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) of 1980, as amended. 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.

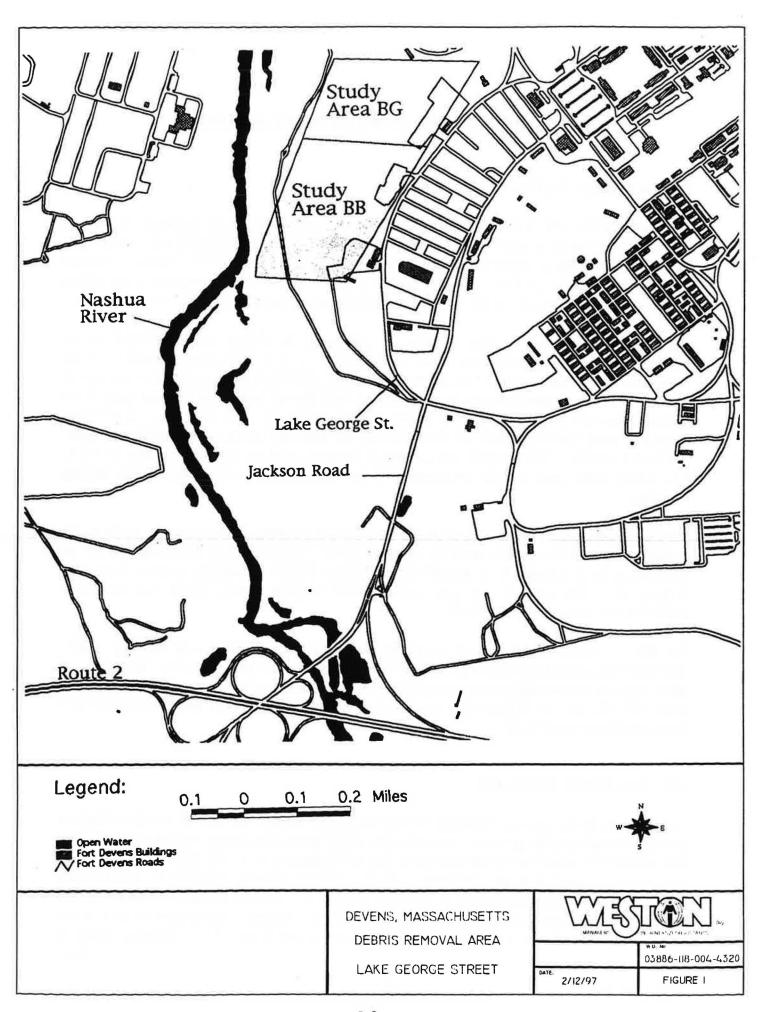
As part of the closure of Fort Devens an evaluation of photos was conducted by the Environmental Photographic Interpretation Center (EPIC). Two sites were identified by the Massachusetts Department of Environmental Protection (MADEP) that required debris removal. The two sites are located between the west side of Lake George Street and the east bank of the Nashua River and are referred to as SAs BB and BG (Figure 1). The area along Lake George Street was once used extensively for field training, and was once occupied by a military hospital and boiler building. The hospital was constructed around 1919 and demolished prior to 1943. The debris in this area is likely associated with the demolished buildings, and former training activities.

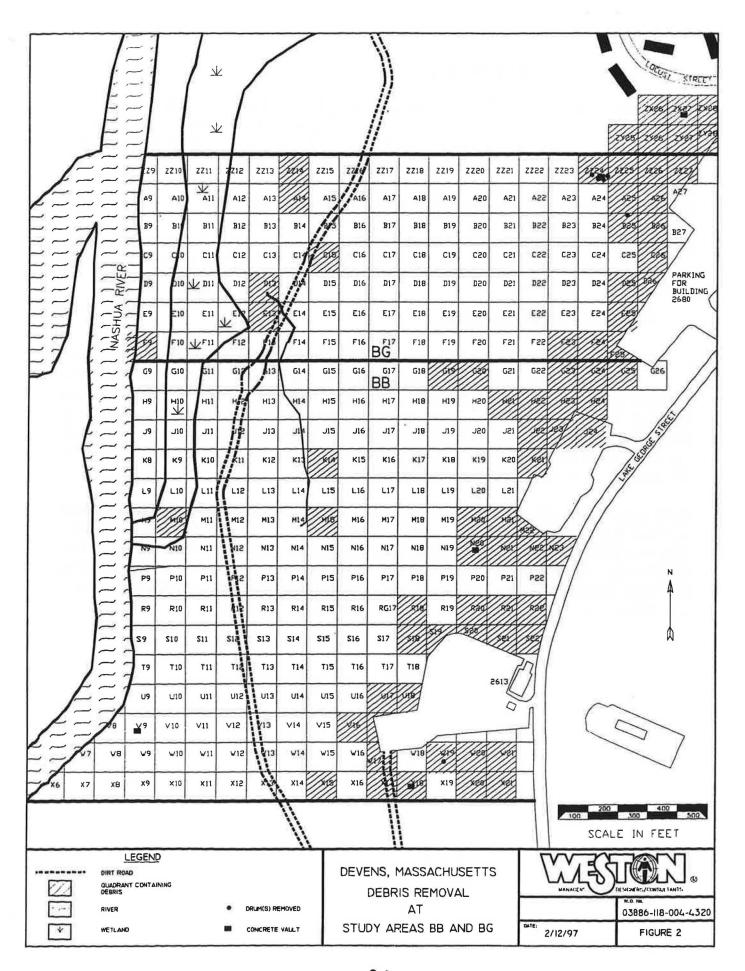
SA BB is generally located west of the fenced area of building 2613 extending north to the southern edge of the parking area for building 2680. WESTON has identified SA BB as quadrant rows G through X as defined on the Human Factors Applications, Inc. (HFA) plan (Figure 2). The area is primarily wooded with varying terrain which includes steep embankments, streams, and wetlands.

SA BG is located to the west of the paved parking areas associated with building 2680. WESTON has identified SA BG as quadrant rows A through F as defined on the HFA plan and additional rows were added north of existing row A. These additional rows are identified as rows ZX, ZY, and ZZ (Figure 2). The area is primarily wooded with areas overgrown with heavy brush and small trees.

2.2 REGIONAL GEOLOGY

Devens is near the western boundary of the Seaboard Lowland Section of the New England Maritime Physiographic province. It is adjacent to the Worcester County Plateau of the Central Uplands province, and part of the installation lies within the province. The land surface is almost completely covered with unconsolidated glacial outwash deposits, resulting in few bedrock outcrops. The surficial deposits are underlain by a highly complex assemblage of intensely folded and faulted metsedimentary rocks and occasional igneous intrusions. The geomorphology of the region is dominated by glacial features such as outwash plains, kames, kames terraces, drumlins, and





2.3 REGIONAL HYDROGEOLOGY

Groundwater at Devens occurs largely in the permeable glacial-deltaic outwash deposits of sand, gravel, and boulders. Well yields within these sediments are dependent upon hydraulic characteristics of the aquifer and can range from 2 to over 300 gallons per minute (gpm). Small amounts of groundwater can be obtained from fractured bedrock with yields ranging from 2 to 10 gpm. Minor amounts of groundwater may be found in thin, permeable glacial lenses elsewhere on the installation. The primary hydrogeologic feature at Devens is the Nashua River, which flows through the installation in a south to north direction with an average discharge rate of 55 cubic feet per second (ft³/s). In addition to the Nashua River, numerous brooks that are associated with attendant wetlands dissect the terrain. There are also several kettle ponds and one kettle lake located within the installation.

2.4 PREVIOUS INVESTIGATIONS

Site visits were conducted by MADEP and BRAC Cleanup Team in March 1995. During the visit a variety of debris was identified including wire, metal stack, bricks, automobile and helicopter parts, spent coal, metal pipe, cans, dishwasher, and a metal locker. In addition, seven drums were located west of the parking area associated with building 2680. The drums are described as crushed and scattered in an area with barbed wire and demolition debris. One drum was located near a dishwasher and a metal paint storage locker; this drum was labeled as "Fog Oil" and appeared to have some contents remaining.

In November 1995, HFA conducted an unexploded ordnance (UXO) survey of the Lake George area including SAs BB and BG. HFA established 100 feet (ft) by 100 ft grids extending from the edge of Lake George Street to the bank of the Nashua River (Figure 2). HFA personnel then traversed the grids identifying potential UXO, miscellaneous debris, and other features. The UXO personnel identified no UXO at the site, however, they did locate one practice (plastic) anti-tank mine at grid location D-14.

3. FIELD ACTIVITIES

3.1 DEBRIS REMOVAL

On September 30, 1995, WESTON conducted a site walk to visually confirm the location of the study areas and to locate the debris identified by HFA and BRAC. Several items were located in the areas defined on the HFA plan, including several piles of wire, 5 gallon cans, and the seven drums previously identified. One additional drum was located in SA BB quadrant W19. The items removed from SAs BB and BG were defined in the scope of work as surficial drums and significant metal debris. This included metal items larger than a bread box and hazardous waste containers, automobile parts, steel cable, barbed wire, and 5-gallon cans. Concrete, brick, and asphalt material were not removed. Table 3-1 identifies the debris which was located and removed by WESTON and the corresponding grid quadrants location (Figure 2). Metal debris collected from SAs BB and BG was stockpiled on-site prior to off-site disposal. Two 30 cubic yard trailers were filled with the metal debris and transported off-site for recycling.

Four concrete vaults were identified during the debris removal activities. The vault appeared to be associated with a storm drainage system based on the observation of water flowing through three of the four vaults. The vaults are approximately four feet square and approximately 5 feet deep. No covers or grating to prevent pedestrian access were observed at any of the vaults. To eliminate the potential hazard of people falling into the vaults, WESTON filled three of the four vaults with crushed stone; crushed stone will allow water to continue to flow out of the structure. The vault not filled with stone is located at grid V9 and could not be accessed because it is located near a large wetland area.

Table 3-1

Debris Removed from SAs BB and BG

Grid	Items Removed	Grid	Items Removed
A14	bicycle, barbed wire	N22	steel cable
A25	barbed wire	N23	car hood
A26	barbed wire	P21	5 gallon pail
B25	barbed wire, 55 gallon drum, gas stove	R18	drum
B26	barbed wire	R20	barbed wire
C15	Truck parts, metal doors, linseed oil can	R21	misc. metal
C26	steel cable	R22	pipe, wire
D13	fencing, duct work	S18	pipe, trash can
D25	steel cable	S19	tire with rim
D26	steel cable	S20	barbed wire, copper wire
E13	fencing, duct work	S21	car parts, engine block
E25	steel cable	S22	car parts, barbed wire
F23	barbed wire	U15	Steel gutter w/downspout
F24	5 gallon pail	U17	bumper, I-beam
F9	sheet metal	U18	car parts, barbed wire
G19	car seat	V16	paint can, 5 gallon pail, pipe, car parts, large metal object
G20	sheet metal	V17	fencing
G23	I-beam, sheet metal, steel cable, ammo box, play slide	V20	Electrical parts, paint cans
G24	pipe	W17	crushed culvert pipe
G25	fencing	W19	55 gallon drum (with liquid contents)
H21	5 gallon pail	W20	muffler, pipes, air filters
H22	5 gallon pail, oil filter	W21	pipe, 5 gallon pails, pipe, steel cable, paint cans
H23	barbed wire, steel cable, car seat, 5 gallon pail, guard rail	X15	5 gallon pail
H24	barbed wire, fencing, guard rail	X17	5 gallon pail
J22	Car parts, pipes	X18	Barbed wire, folding chair, helicopter parts, fencing
J23	barbed wire, fencing, steel cable	X20	pipe, steel cable, paint cans, wire mesh
J24	radiator	X21	pipe, steel cables, wire mesh, paint cans, barbed wire, car seat, pipes
K14	vegetable peeler	ZX26	barbed wire
K21	barbed wire, steel cable	ZX27	barbed wire, pipes
K22	barbed wire, steel cable	ZX28	barbed wire, pipes, I-beam, bicycle rack
L20	ammo box	ZY25	barbed wire
L21	ammo box	ZY26	barbed wire
L22	fencing, barbed wire, paint cans	ZY27	barbed wire, pipe
M10	tire	ZY28	barbed wire, pipe
M15	Metal scrap	ZZ14	barbed wire
M20	5 gallon pails, pipe, paint can	ZZ24	crushed 55 gallon drums, barbed wire
M21	fence posts, barbed wire, pipe	Z.Z.25	barbed wire
M22	pipe, fence posts	ZZ26	barbed wire
N20	5 gallon pail, metal column	ZZ27	barbed wire
N21	steel cable		

3.2 FIELD ANALYTICAL SCREENING

Prior to excavating soil from the area of the abandoned drums, WESTON collected eight composite field screening samples, one sample from each drum location (Figure 3). The samples were collected from directly under each drum as grab samples, just under the layer of organic matter. The eight soil samples were field screened for TPH using a DEXSIL® PetroFlag Hydrocarbon Test Kit (PetroFlag). TPH was detected above the cleanup action level of 250 parts per million (ppm) in seven of the eight samples; with concentration ranging from 282 to greater than 2000 ppm. Table 3-2 presents the sample location, sample depth, and the field screen TPH concentrations.

Table 3-2

TPH Field Screening Results

Soil Samples Collected by WESTON on November 5, 1996

Sample Location	Depth (feet)	TPH Concentration (ppm)
SABG-D1	Surface	>2000
SABG-D2	Surface	1078
SABG-D3	Surface	1287
SABG-D4	Surface	535
SABG-D5	Surface	576
SABG-D6	Surface	282
SABG-D7	Surface	ND
SABB-D8	Surface	>2000

ppm = parts per million ND = Non-detect

As a result of the elevated TPH concentrations, soil was excavated from under the seven drum locations (SABG-D1 through SABG-D6, and SABB-D8) to a depth of approximately one foot. Composite field screening samples were collected from the floor of the excavations to confirm cleanup goals. The samples were composited from four locations and homogenized prior to placement into sample containers. Due to the small size and close proximity of the excavations, field screening sample FS-2 was a composite from drum locations SABG-D2 and D-3, and sample FS-3 from drum location SABG-D4 and D-5. The composite samples were analyzed using the PetroFlag test kits and by field laboratory EPA Method 418.1 non-dispersive infrared (NDIR).

Sample results indicated TPH concentrations ranging from 168 to 1688 ppm by PetroFlag, and 167 to 1701 ppm by NDIR. The highest concentrations were at sample location FS-5 (SABB-D8) with 1688 ppm by PetroFlag and 1701 ppm by NDIR. PetroFlag results from sample locations FS-2 and FS-3 were at concentration of 869 and 770 ppm, respectively. Sample analysis at sample locations FS-2 and FS-3 using NDIR detected TPH concentrations at much lower levels, 167 and 197 ppm, respectively. The elevated PetroFlag results can be attributed to organic root matter which was noted in the sample locations.

Based on the elevated TPH concentration excavation activities were continued in the area of field screening sample FS-5 (grid quadrant BB-V25). In order achieve the cleanup goal of 250 ppm, the floor was excavated an additional 1.5 to 2.5 feet depth. After the additional excavation, one composite field screening sample (FS-6) was collected and analyzed by NDIR. Field screening analysis indicated a concentration of 55 ppm.

TABLE 3-3
TPH Field Screening Results
Composite Soil Samples Collected by WESTON on November 13, 1996

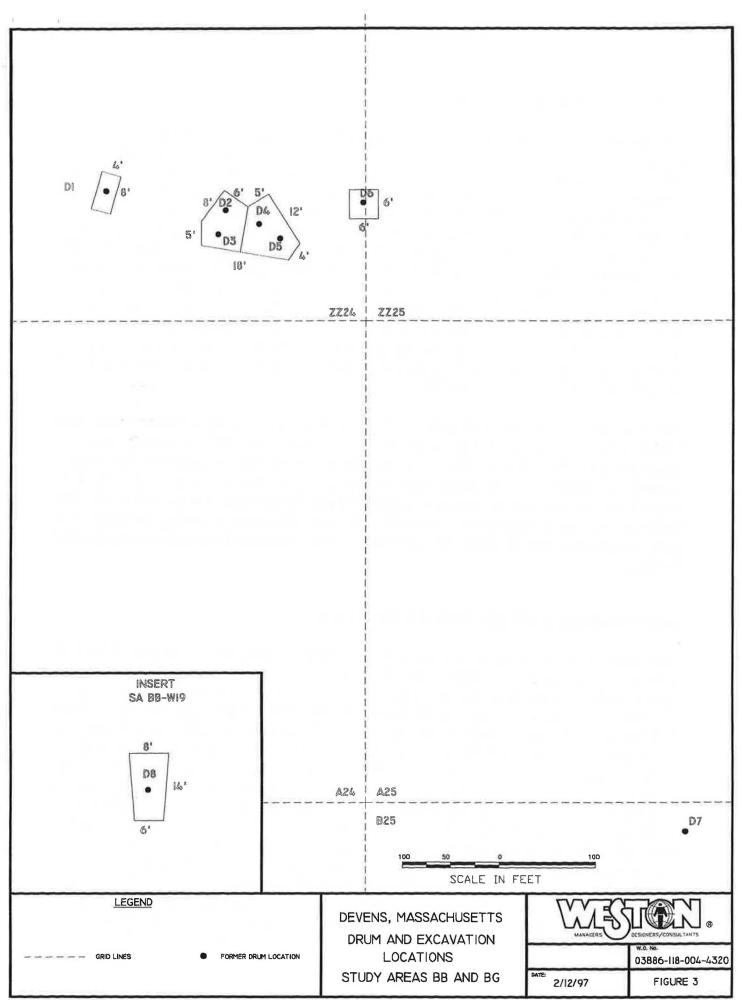
Sample Number (Location)	Depth (feet)	TPH Concentration (ppm)	NDIR results (ppm)
FS-1 (SABG-D1)	1-1.5 feet	168	n.a.
FS-2 (SABG-D2 and D3)	1-1.5 feet	869*	167
FS-3 (SABG-D4 and D5)	1-1.5 feet	779*	197
FS-4 (SABG-D6)	1-1.5 feet	115	n.a.
FS-5 (SABB-D8)	1-1.5 feet	1688	1701
FS-6(SABB-D8)	3-4 feet	n.a.	55

ppm = parts per million

ND = non-detect

n.a. = not analyzed

* = possible organic matter interference.



3.3 SOIL AND DRUM REMOVAL

Eight drums were identified during various stages of work at SAs BB and BG. Seven drums were located in SA BG and one drum in SA BB (Figure 2). Field screening of the soil directly under each of the abandoned drums was conducted using the PetroFlag test kits. The soil was determined to be contaminated with petroleum at seven of the eight drum locations (SABG-D1 through SABG-D6, and SABB-D8). The soil from the seven areas was excavated using a backhoe to a initial depth of approximately 1 to 1.5 feet. The soil at the bottom of each excavation was then sampled to determine if the cleanup goal of 250 ppm was achieved. TPH concentration were detected below 250 ppm at all but one location FS-5 (SA BB-D8). WESTON returned to SA BB and excavated an additional 1.5 to 2.5 feet of soil. One additional field screening sample was collected from SABB-D8, TPH was detected at 55 ppm. The final volume of contaminated soil excavated from SAs BB and BG were approximately 12.5 and 5.5 cubic yards, respectively. The excavated soil was transported to the Soil Storage Facility (SSF) at Building 202. These soils will be disposed of with the other petroleum contaminated soil currently stockpiled in Cell B of the SSF.

Two intact drums were removed from the SAs during debris removal activities. One drum located in SA BG was previously identified by the MADEP and BRAC clean-up team, the second drum was located during debris removal activities in SA BB. Both drums were opened, sampled for disposal purposes, and overpacked into appropriate shipping containers. The drum from SA BB was composed of primarily a heavy weight oil with a small amount of water. The drum from SA BG was composed of primarily oily water with some sludge type material. The drums were transported off-site by General Chemical Corporation and the contents used for fuel blending.

3.4 CONFIRMATORY LABORATORY ANALYSES

Once field analytical screening indicated TPH concentrations were below 250 ppm, WESTON collected three composite soil samples, from the floors of the excavation (Figure 3). The three soil samples, including one field duplicate sample, were submitted for confirmatory laboratory analyses to Katahdin Analytical Services, Inc. (Katahdin) for MADEP Volatile Petroleum Hydrocarbon (VPH) and Extractable Petroleum Hydrocarbon (EPH). Confirmatory samples were collected from two locations, SA BB grid W19 (BB-W19-01) and SA BG grid ZZ24 (BG-ZZ24-01 and BG-Sample location BB-W19-01 was a composite sample from a single excavation, the soil was collected from five floor locations and homogenized prior to filling the sample containers. Samples BG-ZZ24-01 and BG-ZZ24-02 (duplicate) were collected from three small excavations located adjacent to one another, the soil was collected from four floor location from each of the excavation and homogenized to form a singe sample. The sample was then split to Laboratory analytical results did not detect the presence of VPH form a field duplicate. contamination above the respective Katahdin practical quantitation limits (POLs). contamination ranged from 15 to 56 ppm, which are below the applicable MCP S-1/GW-1 action levels (Attachment D). Table 3-4 presents the locations and depths at which each of the samples were collected.

Table 3-4

Confirmation Soil Sample Locations

Composite Soil Samples Collected by WESTON on November 14, 1996

Sample ID	Sample Location	Depth (feet)	VPH		EPH	
	-			C9-C18	C19-C36	C10-C22
BB-W19-01	floor of excavation	1 to 1.5	0 ppm	12 ppm	19 ppm	14 ppm
BG-ZZ24-01	floor of excavation	3 to 4	0 ppm	15 ppm	158 ppm	53 ppm
BG-ZZ24-02	floor of excavation	3 to 4	0 ppm	15 ppm	182 ppm	54 ppm

3.4 DRUM AND CONTAMINATED SOIL CHARACTERIZATION

The two drums located in SAs BB and BG were sampled for waste characterization on 11 and 12 November 1996. Liquid drum samples were collected from both drums using a glass drum thief inserted slowly into the liquid. The samples were submitted to Katahdin Analytical Services for VOCs by EPA Method 8260, RCRA metals by EPA Method 8010/7000, TPH by EPA Method 418.1; and Ignitability, Reactivity, and Corrosivity analyses. The oil samples could not be analyzed for TPH by EPA Method 418.1 due to its insolubility in freon, a supplemental analysis for Diesel range organics (DRO) by SW846 Method 8015 Modified was agreed to and performed. Laboratory analyses indicates several VOCs above specific sample detection limits. DRO analysis indicates concentration of 34,000,000 micrograms per liter (µg/L) and 130,000 milligrams per kilogram (mg/kg) dry weight for samples BG-B25-D1 and BB-W19-D1, respectively. Hazardous waste characterization results identified the liquid as having a pH ranging from 4.7 to 4.9, reactivity less than 20 and 27 milligram per liter (mg/l) (cyanide and sulfide, respectively), and a flash point greater than 65 degrees Celsius. No metals were detected above lab PQLs.

Contaminated soil excavated from the former drum locations was sampled using stainless steel sampling equipment. One composite sample was taken to represent the approximate 18 cubic yards of petroleum contaminated soil that was removed. The sample was submitted to Katahdin Analytical Services for VOCs by EPA Method 8260, SVOC by EPA Method 8270, RCRA metals by EPA Method 8010/7000, TPH by EPA Method 418.1, and Ignitability, Reactivity, and Corrosivity analyses. The composite sample was collected from five locations within the pile. The composite sample, with the exception of VOCs, was homogenized prior to filling sample jars. The VOCs sample was collected by filling a single jar with approximately equal amounts from the five locations.

Laboratory analyses indicated a total of nine VOC, seven SVOC, and four metals contaminants above laboratory detection. In addition, TPH was detected at 1,300 ppm, and sulfide reactivity was detected at 27 ppm. Table 3-5 represents the sample results for concentrations detected above sample PQLs.

Excavated soils concentration as determined by off-site laboratory analyses are below the MCP limits for reuse in lined landfills in Massachusetts.

Table 3-5
Summary of Analytical Results for Excavated Soil
Samples collected by WESTON on November 14, 1996

Parameter	Sample Result	Sample Detection Limit
VOCs		
Ethylbenzene	2.0 μg/kg	1.0μg/kg
o-Xylene	5.0 μg/kg	1.0µg/kg
Isopropylbenzene	3.0µg/kg	1.0µg/kg
n-Propylbenzene	6.0 μg/kg	1.0µg/kg
1,3,5-Trimethylbenzene	12.0 μg/kg	1.0µg/kg
1,2,4-Trimethylbenzene	4.0 μg/kg	1.0µg/kg
sec-Butylbenzene	6.0µg/kg	1.0μg/kg
4-Isopropyltoluene	13.0µg/kg	1.0µg/kg
n-Butylbenzene	7.0µg/kg	1.0μg/kg
SVOCs		
Phenanthrene	890 μg/kg	330 μg/kg
Flouranthene	860 μg/kg	330 μg/kg
Pyrene	970 μg/kg	330 μg/kg
Benzo (a) anthracene	540 μg/kg	330 μg/kg
Chrysene	510 μg/kg	330 μg/kg
Benzo (b) flouranthene	710 μg/kg	330 μg/kg
Benzo (a) pyrene	420 μg/kg	330 μg/kg
Metals		
Arsenic	18.5 mg/kg	0.8 mg/kg
Barium	34.3 mg/kg	0.5 mg/kg
Chromium	23.4 mg/kg	1.5 mg/kg
Lead	44.5 mg/kg	0.5 mg/kg
Hazard Waste Characteristics		
Corrosivity	6.6 pH units	0.1 pH units
Ignitability	>65° Celsius	25° Celsius
Sulfide. Reactive	27 mg/kg	27 mg/kg
Total Petroleum Hydrocarbon	1,300 mg/kg	25 mg/kg

3-8

VOCs = Volatile Organic Compounds

SVOCs = Semi Volatile Organic Compounds

μg/kg = Microgram per kilogram mg/kg = Milligram per kilogram

4. CONCLUSION

No further action is recommended for the SAs BB and BG, Lake George Street. This recommendation is based on laboratory analytical results of confirmatory soil samples which indicate VPH and EPH concentrations at SAs BB and BG to be less than the applicable EPA SSG and MCP Method 1 S-1/GW-1 standards. The removal action provided a permanent, long term solution for the site and eliminated the threat to public welfare that was proposed by the presence of the metal debris, crushed drums and petroleum contaminated soils.

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ATTACHMENT A STUDY AREA BB AND BG HAZARDOUS WASTE MANIFESTS

ATTACHMENT B

STUDY AREA BB AND BG

CONFIRMATORY SOIL SAMPLE ANALYTICAL RESULTS KATAHDIN ANALYTICAL SERVICES



December 6, 1996

Mr. Mike Wagner Roy F. Weston PO Box 425 Ayer, Ma. 01432

Katahdin Lab Number: WM2580

Project ID:

Ft. Devens

Project Manager:

Ms. Andrea J. Colby

Sample Receipt Date: November 15, 1996

Dear Mr. Wagner:

Please find enclosed the following information:

- * Report of Analysis
- * Quality Control Data Summary
- * Confirmation
- * Chain of Custody

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact the project manager listed above. This cover letter is an integral part of the ROA.

We appreciate your continued use of our laboratory and look forward to working with you in the future. The following signature indicates technical review and acceptance of the data.

Sincerely,

KATAHDIN ANALYTICAL SERVICES

nadeau

Authorized Signature

12.6.96 Date



TECHNICAL NARRATIVE

Client: Roy F. Weston
Work Order #: WM2580

GC Laboratory:

Samples WM2580-1 through 3 and 7 were received on 11/15/96. The samples were analyzed for extractable petroleum hydrocarbons and volatile petroleum hydrocarbons using the Massachusetts DEP methods EPH and VPH, respectively. All of the samples were extracted and analyzed within hold time.

EPH Analysis

Phthalate contamination was introduced to the samples from the solid phase extraction cartridges (SPE). The level of phthalate contamination is inconsistent from sample to sample. In the aliphatic fraction the phthalate contamination is primarily seen as one peak in the C_9 - C_{18} aliphatic range, between tetradecane and hexadecane. This major peak in the aliphatic fraction was factored out of the C_9 - C_{18} aliphatic range. In the aromatic fraction the phthalate contamination is primarily seen as three to six peaks. One phthalate peak coelutes with chyrsene. The major phthalate contaminant peaks in the aromatic fractions were factored out of the C_{10} - C_{22} Aromatic range results. It is important to note that the phthalate contamination in the blanks and samples is not limited to the major peaks, but includes many minor peaks. Taking into account all of the phthalate contamination would reduce the Aliphatic and the Aromatic ranges of all extraction blanks to below their respective practical quantitation limits.

The recoveries of the following analytes were outside of the method criteria in the fractionation check: dodecane and chrysene. Dodecane had a recovery of 156%. The recovery of chrysene was high, 218%, due to phthalate contamination.

Recovery of the targeted analytes and ranges in the laboratory control samples (LCS) are within the accepted range of 60 to 140%, with the following exceptions: The recovery of hydrocarbons in the C_{9} - C_{18} and the C_{19} - C_{36} aliphatic ranges were high due to phthalate contamination.

The following two pairs of targeted PAH analytes could not be resolved by the GC-FID analysis: benzo(b)fluoranthene and benzo(k)fluoranthene, as well as, indeno(1,2,3-cd)pyrene and dibenzo(a,h)anthracene. These coeluting analytes were analyzed and reported as one peak for each set of coeluting analytes. The one major phthalate contaminant peak was factored out of the C₉-C₁₈ aliphatic range. Also, the major phthalate contaminant peaks were factored out of the C₁₀-C₂₂ Aromatic range. Any results for the Aliphatic and Aromatic ranges should be considered to have a high bias due to background phthalate contamination. Any reported results for chrysene have to be considered to have a high bias due to phthalate contamination.

All of the EPH extracts were analyzed by HPLC for confirmation of targeted PAH analytes based on the GC-FID analysis. Some of the GC-FID raw results are elevated due to the presence of a petroleum type



product envelope. Note the HPLC confirmation analysis is qualitative only. The final report contains the values for the targeted PAH analytes that were obtained from the GC-FID analysis and qualitatively confirmed by the HPLC analysis.

VPH Analysis

All quality control parameters were met. There were no deviations or observations made by the GC laboratory staff during the VPH analysis. The equivalent concentration values of zero denote that the actual equivalent concentrations were below their respective equivalent practical quantitation limits.

DRO Analysis

Samples WM2580-4 and 5 were originally logged in for TPH by 418.1. However, the material was insoluable in freon. After discussions between Mike Wagner and John Burton, it was decided to analyze these samples for Diesel Range Organics according to SW846 Method 8015 Modified. Sample -4 was treated as a free product and prepared by diluting 1g to 10 ml with Methylene chloride. Sample -5 was extracted as a water according to SW846 Method 3510. An aliquot from each was then analyzed for DRO. Both samples required dilutions in order to quantitate the high concentration within the calibration range. From observation of the sample chromatograms, neither of the two samples resemble any of the typical petroleum hydrocarbons that are calibrated with the instrument. Both samples contain a heavy petroleum product similar to motor oil. The product in sample -4 elutes much later than that from sample -5. There were no further deviations or observations made by the GC laboratory staff.

Summary Sheet

Client: Roy F. Weston

Client Sample ID: BB-W19-01

KAS Sample ID: WM2580 - 1

Matrix: Soil

Analytical Results

Parameter	Results	PQL	Units
Volatile Petroleum Hydrocarbons (VPH)	000	6.555	mg/Kg
Extractable Petroleum Hydrocarbons (EPH)	15.0	8.67	mg/Kg
Equivalent TPH (E-TPH) [If both VPH and EPH Analyses Performed]	15.0	15.225	mg/Kg

Comments

Extractable Petroleum Hydrocarbon (EPH) Analysis

Client: Roy F. Weston

Date Collected: 11/14/96

Client Sample ID: BB-W19-01

Date Recieved: 11/15/96

KAS Sample ID: WM2580 - 1

Date Extracted: 11/11/96

Matrix: Soil

Date Aliphatics Analyzed: 11/24/96

6 % Percent Moisture:

Date Aromatics Analyzed: 11/24/96

Date Reported: 12/2/96

Extractable Petroleum Hydrocarbon (EPH)

Parameter	Results	PQL	Toxicity Multiplier	Equivalent Concentration	Equivalent PQL	Units
C9-C18 Aliphatics	12	3	0.05	0.6	0.15	mg/Kg
C19-C36 Aliphatics	19	4	0.005	0.1	0.02	mg/Kg
C10-C22 Aromatics**	14	8.5	1	14.3	8.5	mg/Kg
Extractable Petrol	15.0	8.67	mg/Kg			

^{**} Excludes Targeted PAH Analytes

Surrogate Recoveries

Surrogate	% Recovery	Acceptance Range
Chloro-octadecane	109	60% - 140%
Para-terphenyl	86	60% - 140%

Targeted PAH Analytes

Analyte	Results	PQL	Units
Acenaphthene	<1	0.5	mg/Kg
Acenaphthylene	<1	0.5	mg/Kg
Anthracene	<1	0.5	mg/Kg
Benzo(a)Anthracene	<1	0.5	mg/Kg
Benzo(a)Pyrene	<1	0.5	mg/Kg
Benzo(b)Fluoranthene (1)	<1	1	mg/Kg
Benzo(g,h,i)Perylene	<1	0.5	mg/Kg
Benzo(k)Fluoranthene (1)	<1	1	mg/Kg
Chrysene	<1	0.5	mg/Kg
Dibenzo(a,h)Anthracene (2)	<1	1	mg/Kg
Fluoranthene	<1	0.5	mg/Kg
Fluorene	<1	0.5	mg/Kg
Indeno(1,2,3-cd)Pyrene (2)	<1	1	mg/Kg
Naphthalene	<1	0.5	mg/Kg
Phenanthrene	<1	0.5	mg/Kg
Pyrene	<1	0.5	mg/Kg
2-Methylnaphthalene	<1	0.5	mg/Kg

^{(1) (2) -} Individual concentrations for these coeluting analytes were not confirmed and therefore could not be determined. The reported concentrations for coeluting compounds are the results for the combined analytes in a given window.

Volatile Petroleum Hydrocarbon (VPH) Analysis

Client: Roy F. Weston

6 %

Date Collected: 11/14/96

Client Sample ID: BB-W19-01

Date Recieved: 11/15/96

KAS Sample ID: WM2580 - 1

Date Extracted: 11/22/96

Matrix: Soil

Date Aliphatics Analyzed: 11/22/96

Percent Moisture:

Date Aromatics Analyzed: 11/22/96

Date Reported: 12/5/96

VPH Results

Parameter	Results	PQL	Toxicity Multiplier	Equivalent Concentration	Equivalent PQL	Units
C5-C8 Aliphatics*	<11	10.7	0.5	0	5.35	mg/Kg
C9-C12 Aliphatics**	< 3	2.7	0.05	0	0.135	mg/Kg
C9-C10 Aromatics	< 6	5.35	1	0	5.35	mg/Kg
Volatile Petrole	um Hydroca	rbons (VPH) Conc.	000	10.835	mg/Kg

^{*} Excludes BTEX and MTBE

Surrogate Recovery

Surrogate	% Recovery	Acceptance Range (%)
2,5-dibromotoluene (FID)	100	80 - 120
2,5-dibromotoluene (PID)	110	80 - 120

Targeted VPH Analytes

Analyte	Results	PQL	Units
Methyl-tert-butylether	< 4	4	mg/Kg
Benzene	< 1	1.3	mg/Kg
Toluene	< 4	4	mg/Kg
Ethylbenzene	< 1	1.3	mg/Kg
m,p-Xylene	< 6	5.4	mg/Kg
o-Xylene	< 3	2.7	mg/Kg
Naphthalene	< 3	2.7 ·	mg/Kg

^{**} Excludes Naphthalene and 1,2,4-Trimethylbenzene

Summary Sheet

Client: Roy F. Weston

Client Sample ID: BG-ZZ24-02

KAS Sample ID: WM2580 - 2

Matrix: Soil

Analytical Results

Parameter	Results	PQL	Units
Volatile Petroleum Hydrocarbons (VPH)	000	6.555	mg/Kg
Extractable Petroleum Hydrocarbons (EPH)	55.0	8.67	mg/Kg
Equivalent TPH (E-TPH) [If both VPH and EPH Analyses Performed]	55.0	15.225	mg/Kg

Comments

Extractable Petroleum Hydrocarbon (EPH) Analysis

Client: Roy F. Weston

Date Collected: 11/14/96

Client Sample ID: BG-ZZ24-02

Date Recieved: 11/15/96

KAS Sample ID:

WM2580 - 2

Date Extracted: 11/11/96

Matrix: Soil

Date Aliphatics Analyzed: 11/24/96

Percent Moisture: 14 %

Date Aromatics Analyzed: 11/24/96

Date Reported: 12/2/96

Extractable Petroleum Hydrocarbon (EPH)

Parameter	Results	PQL	Toxicity Multiplier	Equivalent Concentration	Equivalent PQL	Units
C9-C18 Aliphatics	15	3	0.05	0.7	0.15	mg/Kg
C19-C36 Aliphatics	158	4	0.005	0.8	0.02	mg/Kg
C10-C22 Aromatics**	53	8.5	1	53.5	8.5	mg/Kg
Extractable Petrol	leum Hydroca	rbons (EPI	H) Conc.	55.0	8.67	mg/Kg

^{**} Excludes Targeted PAH Analytes

Surrogate Recoveries

Surrogate	% Recovery	Acceptance Range
Chloro-octadecane	156	60% - 140%
Para-terphenyl	105	60% - 140%

Targeted PAH Analytes

Analyte	Results	PQL	Units
Acenaphthene	<1	0.5	mg/Kg
Acenaphthylene	<1	0.5	mg/Kg
Anthracene	<1	0.5	mg/Kg
Benzo(a)Anthracene	<1	0.5	mg/Kg
Benzo(a)Pyrene	<1	0.5	mg/Kg
Benzo(b)Fluoranthene (1)	<1	1	mg/Kg
Benzo(g,h,i)Perylene	<1	0.5	mg/Kg
Benzo(k)Fluoranthene (1)	<1	1	mg/Kg
Chrysene	<1	0.5	mg/Kg
Dibenzo(a,h)Anthracene (2)	<1	1	mg/Kg
Fluoranthene	<1	0.5	mg/Kg
Fluorene	<1	0.5	mg/Kg
Indeno(1,2,3-cd)Pyrene (2)	<1	1	mg/Kg
Naphthalene	<1	0.5	mg/Kg
Phenanthrene	<1	0.5	mg/Kg
Pyrene	<1	0.5	mg/Kg
2-Methylnaphthalene	<1	0.5	mg/Kg

^{(1) (2) -} Individual concentrations for these coeluting analytes were not confirmed and therefore could not be determined. The reported concentrations for coeluting compounds are the results for the combined analytes in a given window.

Volatile Petroleum Hydrocarbon (VPH) Analysis

Client: Roy F. Weston

Date Collected: 11/14/96

Client Sample ID: BG-ZZ24-02

Date Recieved: 11/15/96

KAS Sample ID: WM2580 - 2

Date Extracted: 11/22/96

Matrix: Soil

Date Aliphatics Analyzed: 11/22/96

Percent Moisture: 14 %

Date Aromatics Analyzed: 11/22/96

Date Reported: 12/5/96

VPH Results

Parameter	Results	PQL	Toxicity Multiplier	Equivalent Concentration	Equivalent PQL	Units
C5-C8 Aliphatics*	< 12	10.7	0.5	0	5.35	mg/Kg
C9-C12 Aliphatics**	< 3	2.7	0.05	0	0.135	mg/Kg
C9-C10 Aromatics	< 6	5.35	1	0	5.35	mg/Kg
Volatile Petrole	um Hydroca	rbons (VPH	Conc.	000	10.835	mg/Kg

^{*} Excludes BTEX and MTBE

Surrogate Recovery

Surrogate	% Recovery	Acceptance Range (%)
2,5-dibromotoluene (FID)	96	80 - 120
2,5-dibromotoluene (PID)	106	80 - 120

Targeted VPH Analytes

Analyte	Results	PQL	Units
Methyl-tert-butylether	< 5	4	mg/Kg
Benzene	< 2	1.3	mg/Kg
Toluene	< 5	4	mg/Kg
Ethylbenzene	< 2	1.3	mg/Kg
m,p-Xylene	< 6	5.4	mg/Kg
o-Xylene	< 3	2.7	mg/Kg
Naphthalene	< 3	2.7	mg/Kg

^{**} Excludes Naphthalene and 1,2,4-Trimethylbenzene

Summary Sheet

Client: Roy F. Weston

Client Sample ID: BG-ZZ24-01

KAS Sample ID: WM2580 - 3

Matrix: Soil

Analytical Results

Parameter	Results	PQL	Units
Volatile Petroleum Hydrocarbons (VPH)	000	6.555	mg/Kg
Extractable Petroleum Hydrocarbons (EPH)	56.0	8.67	mg/Kg
Equivalent TPH (E-TPH) [If both VPH and EPH Analyses Performed]	56.0	15.225	mg/Kg

Comments

Extractable Petroleum Hydrocarbon (EPH) Analysis

Client: Roy F. Weston

Date Collected: 11/14/96

Client Sample ID: BG-ZZ24-01

Date Recieved: 11/15/96

KAS Sample ID: WM2580 - 3

Date Extracted: 11/11/96

Matrix: Soil

Date Aliphatics Analyzed: 11/27/96

Percent Moisture:

13 %

Date Aromatics Analyzed: 11/24/96

Date Reported: 12/3/96

Extractable Petroleum Hydrocarbon (EPH)

Parameter	Results	PQL	Toxicity Multiplier	Equivalent Concentration	Equivalent PQL	Units
C9-C18 Aliphatics	15	3	0.05	0.7	0.15	mg/Kg
C19-C36 Aliphatics	182	4	0.005	0.9	0.02	mg/Kg
C10-C22 Aromatics**	54	8.5	1	54.3	8.5	mg/Kg
Extractable Petrol	eum Hydroca	rbons (EPI	H) Conc.	56.0	8.67	mg/Kg

^{**} Excludes Targeted PAH Analytes

Surrogate Recoveries

Surrogate	% Recovery	Acceptance Range
Chloro-octadecane	84	60% - 140%
Para-terphenyl	99	60% - 140%

Targeted PAH Analytes

Analyte	Results	PQL	Units
Acenaphthene	<1	0.5	mg/Kg
Acenaphthylene	<1	0.5	mg/Kg
Anthracene	<1	0.5	mg/Kg
Benzo(a)Anthracene	<1	0.5	mg/Kg
Benzo(a)Pyrene	<1	0.5	mg/Kg
Benzo(b)Fluoranthene (1)	<1	1	mg/Kg
Benzo(g,h,i)Perylene	<1	0.5	mg/Kg
Benzo(k)Fluoranthene (1)	<1	1	mg/Kg
Chrysene	<1	0.5	mg/Kg
Dibenzo(a,h)Anthracene (2)	<1	1	mg/Kg
Fluoranthene	<1	0.5	mg/Kg
Fluorene	<1	0.5	mg/Kg
Indeno(1,2,3-cd)Pyrene (2)	<1	1	mg/Kg
Naphthalene	<1	0.5	mg/Kg
Phenanthrene	<1	0.5	mg/Kg
Pyrene	<1	0.5	mg/Kg
2-Methylnaphthalene	<1	0.5	mg/Kg

^{(1) (2) -} Individual concentrations for these coeluting analytes were not confirmed and therefore could not be determined. The reported concentrations for coeluting compounds are the results for the combined analytes in a given window.

Volatile Petroleum Hydrocarbon (VPH) Analysis

Client: Roy F. Weston

Date Collected: 11/14/96

Client Sample ID: BG-ZZ24-01

Date Recieved: 11/15/96

KAS Sample ID: WM2580 - 3

Date Extracted: 11/22/96

Matrix: Soil

Date Aliphatics Analyzed: 11/22/96

Percent Moisture:

13 %

Date Aromatics Analyzed: 11/22/96

Date Reported: 12/5/96

VPH Results

Parameter	arameter Results PQL Toxicity Multiplier		Equivalent Concentration	Equivalent PQL	Units	
C5-C8 Aliphatics*	< 12	10.7	0.5	0	5.35	mg/Kg
C9-C12 Aliphatics**	< 3	2.7	0.05	0	0.135	mg/Kg
C9-C10 Aromatics	< 6	5.35	1	0	5.35	mg/Kg
Volatile Petrole	000	10.835	mg/Kg			

^{*} Excludes BTEX and MTBE

Surrogate Recovery

Surrogate	% Recovery	Acceptance Range (%)					
2,5-dibromotoluene (FID)	91	80 - 120					
2,5-dibromotoluene (PID)	102	80 - 120					

Targeted VPH Analytes

Analyte	Results	PQL	Units
Methyl-tert-butylether	< 5	4	mg/Kg
Benzene	< 1	1.3	mg/Kg
Toluene	< 5	4	mg/Kg
Ethylbenzene	<1	1.3	mg/Kg
m,p-Xylene	< 6	5.4	mg/Kg
o-Xylene	< 3	2.7	mg/Kg
Naphthalene	< 3	2.7	mg/Kg

^{**} Excludes Naphthalene and 1,2,4-Trimethylbenzene



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number: WM-2580-1 Report Date: 12/06/96 PO No. : 03886-118-004

PO No. Project

: 03886-118-0

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SAMPLE DESCRIPTION		MATRIX			SAMPLED BY		SAMPLED DATE RECEIVED			
BB-W19-01					CLIENT			6	11/15/96	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD		ANALYZED	BY	NOTES	
Solids-Total Residue (TS)	94.	wt %	1.0	0.10	CLP/CIP	SOW	11/20/96	JF	1	

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

(1) Sample Preparation on 11/19/96 by JF

12/06/96

WO/ejnajc(dw)



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number: WM-2580-2

Report Date: 12/06/96

PO No.

: 03886-118-004

Project

: FT DEVENS

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	4	MATRIX			ED BY	SAMPLED DATE RECEIVED		
BG-ZZ24-02		Solid		CLIEN	T	11/14/9	6	11/15/96
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Solids-Total Residue (TS)	87.	wt %	1.0	0.10	CLP/CIP	SOW 11/20/96	JF	1

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

(1) Sample Preparation on 11/19/96 by JF

12/06/96

LJO/ejnajc(dw)



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number: WM-2580-3 Report Date: 12/06/96

PO No.

: 03886-118-004

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: FT DEVENS

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SAMPLE DESCRIPTION MATRIX				SAMPL	SAMPLED D	SAMPLED DATE RECEIVED		
BG-ZZ24-01		Solid		CLIEN	T	11/14/9	6	11/15/96
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Solids-Total Residue (TS)	87.	wt %	1.0	0.10	CLP/CIP	SOW 11/20/96	JF	1

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

(1) Sample Preparation on 11/19/96 by JF

12/06/96

LJO/ejnajc(dw)



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number: WM-2580-4

Report Date: 12/06/96

PO No.

: 03886-118-004

Project

: FT DEVENS

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SAMPLE DESCRIPTION	MATRIX		SAMPLED BY		SAMPLED D	RECEIVED			
EB-W19-D1		Free Product/ Liquid		CLIENT		11/11/96		11/15/96	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES	
Arsenic, Total	<0.5	mg/kgwetwt	1.0	0.5	6010	12/03/96	EM	1	
Barium, Total	<0.50	mg/kgwetwt	1.0	0.50	6010	12/03/96	EM	1	
Cadmium, Total	<1.00	mg/kgwetwt	1.0	1.00	6010	12/03/96	EM	1	
Chromium, Total	<1.50	mg/kgwetwt	1.0	1.50	6010	12/03/96	EM	. 1	
Lead, Total	<0.5	mg/kgwetwt	1.0	0.5	6010	12/03/96	EM	1	
Mercury, Total	<0.100	μg/gwetwt	1.0	0.100	7471	11/21/96	GB	2	
Selenium, Total	<0.5	mg/kgwetwt	1.0	0.5	6010	12/03/96	EM	1	
Silver, Total	<1.5	mg/kgwetwt	1.0	1.5	6010	12/03/96	EM	1	

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/kdwajc(dw)/rh ML03ICS1

⁽¹⁾ Sample Preparation on 12/03/96 by PLC using 3050

⁽²⁾ Sample Preparation on 11/21/96 by GFB using 7471



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number: WM-2580-4

Report Date: 12/06/96

PO No.

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SAMPLE DESCRIPTION		MATRIX		SAMPLED	вұ	SAMPLED DATE RECEIVE			
BB-W19-D1		Free Product/ Liquid				11/11/9	6	11/15/96	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES	
Corrosivity as pH	4.7	pH unit	s 1.0	0.10	SW9045	11/19/96	JF	1	
Cyanide, Reactive	<20	mg/L	1.0	20	SW7.3	11/20/96	WL	2	
Ignitability-Flash Point	>65	degrees	C 1.0	25	SW1010	11/18/96	WL		
Sulfide, Reactive	<27	mg/L	1.0	27	SW7.3	11/18/96	CM	2	

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect samplespecific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/ejnajc(dw)/pph

⁽¹⁾ Sample Preparation on 11/19/96 by JF

⁽²⁾ Sample Preparation on 11/18/96 by CLM



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number: WM-2580-4

Report Date: 12/06/96

PO No. : 03886-118-004

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REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION EB-W19-D1		MATRIX		SAMPLET	BY	SAMPLED I	RECEIVED	
		Free Product/ Liquid		CLIENT		11/11/96		11/15/96
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Diesel Range Organics Diesel Range Organics	130000.	mg/kgdry	wt 10	5.0	8015M-DRO	12/03/96	PL	1,2

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect samplespecific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/jcbajc(dw)/pdl

⁽¹⁾ Sample Preparation on 11/27/96 by KGT using METHOD

⁽²⁾ Sample dilution required for quantitation of one or more target analytes; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number : WM-2580-4
Report Date: 12/06/96
PO No. : 03886-118-004

PO No. Project

: FT DEVENS

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION		MATRIX		SAMPLED	BY	SAMPLED I	ETAC	RECEIVED
BB-W19-D1		Free Produc Liquid	ct/	CLIENT		11/11/9	6	11/15/96
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
VOAs (8260)								1,2,3
Dichlorodifluoromethane	<250.	μg/kgwetwt	125	2	EPA 8260	11/19/96	IM	
Chloromethane	<250.	μg/kgwetwt	125	2	EPA 8260	11/19/96	IM	
Vinyl chloride	<250.	μg/kgwetwt	125	2	EPA 8260	11/19/96	LM	
Bromomethane	<250.	μg/kgwetwt	125	2	EPA 8260	11/19/96	LM	
Chloroethane	<250.	μg/kgwetwt	125	2	EPA 8260	11/19/96	IM	
Trichlorofluoromethane	<250.	μg/kgwetwt	125	2	EPA 8260	11/19/96	LM	
1,1-Dichloroethene	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	LM	
Methylene chloride	B150	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM	
trans-1,2-Dichloroethene	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	LM	
1,1-Dichloroethane	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM	
cis-1,2-Dichloroethene	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	LM	
2,2-Dichloropropane	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM	

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect samplespecific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/jcbajc (dw) /kwh

^{(1) &}quot;J" flag denotes an estimated value less than the Laboratory's Practical Quantitation Level.

^{(2) &}quot;B" flag denotes detection of this analyte in the laboratory method blank analyzed concurrently with the sample.

⁽³⁾ Sample dilution required due to matrix interference, sample viscosity or other matrix-related problem; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number : WM-2580-4 Report Date: 12/06/96

PO No. Project : 03886-118-004 : FT DEVENS

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION		MATRIX	SAMPLED BY	SAMPLED DATE RECE	RECEIVED	
BB-W19-D1		Free Product/ Liquid	CLIENT	11/11/96 11/1	15/96	
PARAMETER	RESULT	UNITS DE	*PQL METHOD	ANALYZED BY	NOTES	
Bromochloromethane	<130.	μg/kgwetwt 125	1 EPA 8260	11/19/96 IM		
Chloroform	<130.	μg/kgwetwt 125	1 EPA 8260	11/19/96 IM		
1,1,1-Trichloroethane	<130.	μg/kgwetwt 125	1 EPA 8260) 11/19/96 IM		
1,2-Dichloroethane	<130.	μg/kgwetwt 125	1 EPA 8260) 11/19/96 IM		
1,1-Dichloropropene	<130.	μg/kgwetwt 125	1 EPA 8260) 11/19/96 IM		
Carbon tetrachloride	<130.	μg/kgwetwt 125	1 EPA 8260) 11/19/96 IM		
Benzene	<130.	μg/kgwetwt 125	1 EPA 8260) 11/19/96 IM		
1,2-Dichloropropane	<130.	μg/kgwetwt 125	1 EPA 8260) 11/19/96 IM		
Trichloroethene	<130.	μg/kgwetwt 125	1 EPA 8260	11/19/96 LM		
cis-1,3-Dichloropropene	<130.	μg/kgwetwt 125	1 EPA 8260	11/19/96 IM		
Dibramamethane	<130.	μg/kgwetwt 125	1 EPA 8260	11/19/96 LM		
Bromodichloromethane	<130.	μg/kgwetwt 125	1 EPA 8260	11/19/96 IM		
Toluene	410.	μg/kgwetwt 125	1 EPA 8260) 11/19/96 IM		

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect samplespecific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/jcbajc(dw)/kwh



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number : WM-2580-4

Report Date: 12/06/96 PO No. : 03886-118-004

Project : FT DEVENS

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION		MATRIX		SAMPLED BY		SAMPLED DATE		RECEIVED	
BB-W19-D1		Free Produc	t/	CLIENT		11/11/9	6	11/15/96	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES	
trans-1,3-Dichloropropene	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	LM		
1,1,2-Trichloroethane	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM		
1,3-Dichloropropane	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	LM		
Dibromochloromethane	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	LM		
Tetrachloroethene	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	LM		
1,2-Dibromoethane	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	LM		
Chlorobenzene	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM		
1,1,1,2-tetrachloroethane	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	LM		
Ethylbenzene	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	LM	.	
m-Xylene/p-Xylene	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM		
Bromoform	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	LM	1.67-	
o-Xylene	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	LM		
Styrene	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM		

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/jcbajc(dw)/kwh



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number: WM-2580-4

Report Date: 12/06/96 PO No. : 03886-118-004

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SAMPLE DESCRIPTION		MATRIX	SAMPLED	BY	SAMPLED I	DATE	RECEIVED
BB-W19-D1		Free Product, Liquid	/ CLIENT		11/11/9	6	11/15/96
PARAMETER	RESULT	UNITS I	F *PQL	METHOD	ANALYZED	BY	NOTES
1,1,2,2-Tetrachloroethane	<130.	μg/kgwetwt 12	25 1	EPA 8260	11/19/96	IM	
1,2,3-Trichloropropane	<130.	μg/kgwetwt 12	25 1	EPA 8260	11/19/96	IM	
Isopropylbenzene	<130.	μg/kgwetwt 12	25 1	EPA 8260	11/19/96	IM	
Bromobenzene	<130.	μg/kgwetwt 12	25 1	EPA 8260	11/19/96	IM	
2-Chlorotoluene	<130.	μg/kgwetwt 12	25 1	EPA 8260	11/19/96	IM	
n-Propylbenzene	<130.	μg/kgwetwt 12	.5 1	EPA 8260	11/19/96	IM	
4-Chlorotoluene	<130.	μg/kgwetwt 12	.5 1	EPA 8260	11/19/96	IM	
1,3,5-Trimethylbenzene	<130.	μg/kgwetwt 12	.5 1	EPA 8260	11/19/96	IM	
tert-Butylbenzene	<130.	μg/kgwetwt 12	.5 1	EPA 8260	11/19/96	IM	
1,2,4-Trimethylbenzene	<130.	μg/kgwetwt 12	:5 1	EPA 8260	11/19/96	IM	
sec-Butylbenzene	<130.	μg/kgwetwt 12	5 1	EPA 8260	11/19/96	IM	
1,3-Dichlorobenzene	<130.	μg/kgwetwt 12	5 1	EPA 8260	11/19/96	IM	
4-Isopropyltoluene	J97	μg/kgwetwt 12	5 1	EPA 8260	11/19/96	IM	

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/jcbajc(dw)/kwh



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number : WM-2580-4
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SAMPLE DESCRIPTION		MATRIX		SAMPLED I	BY	SAMPLED D	ATE	RECEIVED	
BB-W19-D1		Free Produc	t/	CLIENT		11/11/9	6	11/15/96	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES	
1,4-Dichlorobenzene	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM		
1,2-Dichlorobenzene	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM		
n-Butylbenzene	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM		
1,2-Dibromo-3-chloropropane	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM		
1,2,4-Trichlorobenzene	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM		
Naphthalene	300.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM		
Hexachlorobutadiene	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM		
1,2,3-Trichlorobenzene	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM		
Dibromofluoromethane (Surr.)	102.	8	125		EPA 8260	11/19/96	IM		
Toluene-d8 (%)	101.	8	125		EPA 8260	11/19/96	IM		
p-Bromofluorobenzene (%)	103.	ક	125		EPA 8260	11/19/96	IM		
Acetone	J500.	μg/kgwetwt	125	5.0	EPA 8260	11/19/96	IM		
2-Butanone	<630.	μg/kgwetwt	125	5.0	EPA 8260	11/19/96	IM		

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/jcbajc(dw)/kwh



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number: WM-2580-4

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SAMPLE DESCRIPTION		MATRIX		SAMPLED	BY	SAMPLED I	RECEIVED		
BB-W19-D1		Free Product/ Liquid		CLIENT		11/11/96		11/15/96	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES	
4-Methyl-2-pentanone 2-Hexanone	<380. <500.	μg/kgwetwt μg/kgwetwt			EPA 8260	11/19/96 11/19/96	LM		

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect samplespecific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/jcbajc(dw)/kwh



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number: WM-2580-5 Report Date: 12/06/96

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SAMPLE DESCRIPTION		MATRIX	SAMPLED	BY	SAMPLED DATE RECEIV					
BG-B25-D1		Free Product/ Liquid	CLIENT	CLIENT		96	11/15/96			
PARAMETER	RESULT	UNITS D	F *PQL	METHOD	ANALYZED	BY	NOTES			
Arsenic, Total	<0.8	mg/kgwetwt 1.	0 0.8	6010	11/22/96	EM	1			
Barium, Total	<0.50	mg/kgwetwt 1.	0 0.50	6010	11/22/96	EM	1			
Cadmium, Total	<1.00	mg/kgwetwt 1.	0 1.00	6010	11/22/96	EM	1			
Chromium, Total	<1.50	mg/kgwetwt 1.	0 1.50	6010	11/22/96	EM	1			
Lead, Total	<0.5	mg/kgwetwt 1.	0 0.5	6010	11/22/96	EM	1			
Mercury, Total	<0.100	μg/gwetwt 1.	0.100	7471	11/21/96	GB	2			
Selenium, Total	<1.0	mg/kgwetwt 1.	0 1.0	6010	11/22/96	EM	1			
Silver, Total	<1.5	mg/kgwetwt 1.	0 1.5	6010	11/22/96	EM	1			

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/kdwajc (dw) MK22ICS1

⁽¹⁾ Sample Preparation on 11/22/96 by PLC using 3050

⁽²⁾ Sample Preparation on 11/21/96 by GFB using 7471



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number: WM-2580-5

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SAMPLE DESCRIPTION		MATRIX SAMPLED BY				SAMPLED DATE RECEIVED				
BG-B25-D1		Free Product/ Liquid		CLIENT		11/12/96		11/15/96		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	ву	NOTES		
Corrosivity as pH	4.9	pH unit	s 1.0	0.10	SW9045	11/19/96	JF	1		
Cyanide, Reactive	<20	mg/L	1.0	20	SW7.3	11/20/96	WL	2		
Ignitability-Flash Point	>65	degrees	C 1.0	25	SW1010	11/18/96	WL			
Sulfide, Reactive	<27	mg/L	1.0	27	SW7.3	11/18/96	CM	2		

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/ejnajc(dw)/pph

⁽¹⁾ Sample Preparation on 11/19/96 by JF

⁽²⁾ Sample Preparation on 11/18/96 by CLM



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number: WM-2580-5 Report Date: 12/06/96

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SAMPLE DESCRIPTION	MZ	TRIX		SAMPLED	BY	SAMPLED I	RECEIVED		
BG-B25-D1		Free Product/ Liquid				11/12/96		11/15/96	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD ·	ANALYZED	BY	NOTES	
Diesel Range Organics Diesel Range Organics o-Terphenyl	3400000 0 DL	μg/L %	2900 2900	50	8015M-DRO 8015M-DRO				

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/jcbajc(dw)/djn/pdl

⁽¹⁾ Sample Preparation on 12/02/96 by KGT using METHOD

^{(2) &}quot;DL" flag denotes inability to calculate surrogate recovery due to sample dilution.

⁽³⁾ Sample dilution required for quantitation of one or more target analytes; therefore, standard laboratory Practical Quantitation Level (PQL) could not be achieved.



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SAMPLE DESCRIPTION		MATRIX		SAMPLED	BY		SAMPLED I	ATE	REC	EIVED
BG-B25-D1		Free Produ	ct/	CLIENT			11/12/9	6	11/	15/96
PARAMETER	RESULT	UNITS	DF	*PQL	METHO	Ď I	ANALYZED	BY		NOTES
VOAs (8260)										1,2
Dichlorodifluoromethane	<250.	μg/kgwetwt	125	2	EPA 8	260 1	1/19/96	IM		
Chloromethane	<250.	μg/kgwetwt	125	2	EPA 8	260 1	1/19/96	IM		
Vinyl chloride	<250.	μg/kgwetwt	125	2	EPA 8	260 1	1/19/96	IM		
Bronomethane	<250.	μg/kgwetwt	125	2	EPA 8	260 1	L1/19/96	IM		
Chloroethane	<250.	μg/kgwetwt	125	2	EPA 8	260 1	1/19/96	IM		
Trichlorofluoromethane	<250.	μg/kgwetwt	125	2	EPA 8	260 1	1/19/96	IM		
1,1-Dichloroethene	<130.	μg/kgwetwt	125	1	EPA 8	260 1	1/19/96	IM		
Methylene chloride	B190	μg/kgwetwt	125	1	EPA 8	260 1	1/19/96	IM		
trans-1,2-Dichloroethene	<130.	μg/kgwetwt	125	1	EPA 8	260 1	1/19/96	IM		
1,1-Dichloroethane	<130.	μg/kgwetwt	125	1	EPA 8	260 1	1/19/96	IM		
cis-1,2-Dichloroethene	<130.	μg/kgwetwt	125	1	EPA 8	260 1	1/19/96	IM		
2,2-Dichloropropane	<130.	μg/kgwetwt		1	EPA 8	260 1	1/19/96	IM		
Bromochloromethane	<130.	μg/kgwetwt					1/19/96	IM		

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect samplespecific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/jcbajc(dw)/kwh

^{(1) &}quot;J" flag denotes an estimated value less than the Laboratory's Practical Quantitation Level.

^{(2) &}quot;B" flag denotes detection of this analyte in the laboratory method blank analyzed concurrently with the sample.



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number : WM-2580-5

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SAMPLE DESCRIPTION	PLE DESCRIPTION MATRIX SAMPLED BY				BY	SAMPLED D	ATE	RECEIVED
BG-B25-D1		Free Product/ Liquid I UNITS DI µg/kgwetwt 12:	et/	CLIENT		11/12/9	6	11/15/96
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Chloroform	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	LM	
1,1,1-Trichloroethane	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM	
1,2-Dichloroethane	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	LM	
1,1-Dichloropropene	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM	
Carbon tetrachloride	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	LM	
Benzene	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM	- 12
1,2-Dichloropropane	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM	
Trichloroethene	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM	
cis-1,3-Dichloropropene	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM	
Dibromomethane	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM	
Bromodichloromethane	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM	
Toluene	200.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM	
trans-1,3-Dichloropropene	<130.	μg/kgwetwt		1	EPA 8260	11/19/96	IM	
1,1,2-Trichloroethane	<130.	μg/kgwetwt		1	EPA 8260	11/19/96	IM	

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect samplespecific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/jcbajc(dw)/kwh



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SAMPLE DESCRIPTION		MATRIX		SAMPLED	BY		SAMPLED I	1/19/96 LM 1/19/96 LM 1/19/96 LM 1/19/96 LM 1/19/96 LM 1/19/96 LM 1/19/96 LM			
BG-B25-D1		Free Produ	ct/	CLIENT			11/12/9	6	11/15/96		
PARAMETER	RESULT	UNITS	DF	*PQL	METI	ĐĐ	ANALYZED	BY	NOTES		
1,3-Dichloropropane	<130.	μg/kgwetwt	125	1	EPA	8260	11/19/96	LM			
Dibromochloromethane	<130.	μg/kgwetwt	125	1	EPA	8260	11/19/96	LM			
Tetrachloroethene	<130.	μg/kgwetwt	125	1	EPA	8260	11/19/96	LM			
1,2-Dibromoethane	<130.	μg/kgwetwt	125	1	EPA	8260	11/19/96	IM			
Chlorobenzene	<130.	μg/kgwetwt	125	1	EPA	8260	11/19/96	LM			
1,1,1,2-tetrachloroethane	<130.	μg/kgwetwt	125	1	EPA	8260	11/19/96	LM			
Ethylbenzene	J110	μg/kgwetwt	125	1	EPA	8260	11/19/96	IM			
m-Xylene/p-Xylene	600.	μg/kgwetwt		1	EPA	8260	11/19/96	LM			
Bramoform	<130.	μg/kgwetwt	125	1	EPA	8260	11/19/96	IM			
o-Xylene	350.	μg/kgwetwt	125	1	EPA	8260	11/19/96	LM			
Styrene	<130.	μg/kgwetwt	125	1	EPA	8260	11/19/96	LM			
1,1,2,2-Tetrachloroethane	<130.	μg/kgwetwt	125	1	EPA	8260	11/19/96	IM			
1,2,3-Trichloropropane	<130.	μg/kgwetwt		1	EPA	8260	11/19/96	IM			
Isopropylbenzene	<130.	μg/kgwetwt		1	EPA	8260	11/19/96	LM			

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect samplespecific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/jcbajc(dw)/kwh



ROY F WESTON
P.O. BOX 425
AYER, MA 01432

Lab Number: WM-2580-5 Report Date: 12/06/96

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SAMPLE DESCRIPTION		MATRIX		SAMPLED	BY		SAMPLED D	ATE	RECEIVED
BG-B25-D1		Free Produ	ct/	CLIENT			11/12/9	BY NOTE IM IM IM IM IM IM IM IM IM I	11/15/96
PARAMETER	RESULT	UNITS	DF	*PQL	METH	EOD	ANALYZED	BY	NOTES
Bromobenzene	<130.	μg/kgwetwt	125	1	EPA	8260	11/19/96	IM	
2-Chlorotoluene	<130.	μg/kgwetwt	125	1	EPA	8260	11/19/96	IM	
n-Propylbenzene	190.	μg/kgwetwt	125	1	EPA	8260	11/19/96	IM	
4-Chlorotoluene	<130.	μg/kgwetwt	125	1	EPA	8260	11/19/96	IM	
1,3,5-Trimethylbenzene	1700.	μg/kgwetwt	125	1	EPA	8260	11/19/96	IM	
tert-Butylbenzene	<130.	μg/kgwetwt	125	1	EPA	8260	11/19/96	IM	
1,2,4-Trimethylbenzene	1400.	μg/kgwetwt	125	1	EPA	8260	11/19/96	IM	
sec-Butylbenzene	<130.	µg/kgwetwt	125	₂ 1	EPA	8260	11/19/96	IM	
1,3-Dichlorobenzene	<130.	μg/kgwetwt	125	1	EPA	8260	11/19/96	IM	
4-Isopropyltoluene	J120	μg/kgwetwt	125	1	EPA	8260	11/19/96	IM	
1,4-Dichlorobenzene	<130.	μg/kgwetwt	125	1	EPA	8260	11/19/96	IM	
1,2-Dichlorobenzene	<130.	μg/kgwetwt	125	1	EPA	8260	11/19/96	IM	
n-Butylbenzene	200.	μg/kgwetwt	125	1	EPA	8260	11/19/96	IM	
1,2-Dibromo-3-chloropropane	<130.	μg/kgwetwt	125	1	EPA	8260	11/19/96	IM	

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/jcbajc(dw)/kwh



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number: WM-2580-5 Report Date: 12/06/96

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SAMPLE DESCRIPTION		MATRIX		SAMPLED	BY	SAMPLED I	ATE	RECEIVED
BG-B25-D1		Free Produ			CLIENT		96	11/15/96
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	ву	NOTES
1,2,4-Trichlorobenzene	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	LM	
Naphthalene	630.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM	
Hexachlorobutadiene	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM	
1,2,3-Trichlorobenzene	<130.	μg/kgwetwt	125	1	EPA 8260	11/19/96	IM	
Dibromofluoromethane (Surr.)	100.	8	125		EPA 8260	11/19/96	IM	
Toluene-d8 (%)	101.	ક	125		EPA 8260	11/19/96	IM	
p-Bromofluorobenzene (%)	103.	8	125		EPA 8260	11/19/96	IM	
Acetone	<630.	μg/kgwetwt	125	5.0	EPA 8260	11/19/96	IM	
2-Butanone	<630.	μg/kgwetwt	125	5.0	EPA 8260	11/19/96	IM	
4-Methyl-2-pentanone	<380.	μg/kgwetwt	125	3.0	EPA 8260	11/19/96	IM	
2-Hexanone	<500.	μg/kgwetwt	125	4.0	EPA 8260	11/19/96	IM	

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect samplespecific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/jcbajc(dw)/kwh



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number: WM-2580-6 Report Date: 12/06/96

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SAMPLE DESCRIPTION		MATRIX		SAMPLED	BY	SAMPLED D	ATE	RECEIVED
BBBG-WC01		Solid		CLIENT		11/14/9	6	11/15/96
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Arsenic, Total	18.5	mg/kgdrywt	1.0	0.8	6010	12/03/96	EM	1
Barium, Total	34.3	mg/kgdrywt	1.0	0.50	6010	12/03/96	EM	1
Cadmium, Total	<1.00	mg/kgdrywt	1.0	1.00	6010	12/03/96	EM	1
Chromium, Total	23.4	mg/kgdrywt	1.0	1.50	6010	12/03/96	EM	1
Lead, Total	44.5	mg/kgdrywt	1.0	0.5	6010	12/03/96	EM	1
Mercury, Total	<0.100	μg/gdrywt	1.0	0.100	7471	11/21/96	GB	2
Selenium, Total	<1.0	mg/kgdrywt	1.0	1.0	6010	12/03/96	EM	1
Silver, Total	<1.5	mg/kgdrywt	1.0	1.5	6010	12/03/96	EM	1

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect samplespecific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/kdwajc(dw) ML03ICS1

⁽¹⁾ Sample Preparation on 12/03/96 by PLC using 3050

⁽²⁾ Sample Preparation on 11/21/96 by GFB using 7471



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number: WM-2580-6

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SAMPLE DESCRIPTION	MATRIX		SAMPL	ED BY		SAMPLED I	SAMPLED DATE RECEIVE				
BBBG-WC01		Solid		CLIEN	r		11/14/9	96	11/15/96		
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD		ANALYZED	BY	NOTES		
Corrosivity as pH	6.6	pH units	1.0	0.10	SW9045		11/19/96	JF	1		
Cyanide, Reactive	<2.0	mg/kg	1.0	2.0	SW7.3		11/20/96	WL	- 2		
Ignitability-Flash Point	>65	degrees C	1.0	25	SW1010		11/18/96	WL			
Solids-Total Residue (TS)	86.	wt %	1.0	0.10	CLP/CIP	SOW	11/20/96	JF	1		
Sulfide, Reactive	27.	mg/kg	1.0	27	SW7.3		11/18/96	CM	. 2		

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect samplespecific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/ejnajc(dw)

⁽¹⁾ Sample Preparation on 11/19/96 by JF

⁽²⁾ Sample Preparation on 11/18/96 by CLM



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SAMPLE DESCRIPTION				SAMPLED	BY	SAMPLED I	ATE	RECEIVED	
BBBG-WC01			Solid			11/14/96		11/15/96	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES	
Total Petroleum Hydrocarbons (TPH)	1300	mg/kgdry	wt 10	2	5 418.1	11/26/96	BG	1	

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect samplespecific reporting limits. Sample-specific limits are indicated by results annotated with '<' values. (1) Sample Preparation on 11/22/96 by KGT

12/06/96

LJO/ejnajc(dw)/bwg/pph



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SAMPLE DESCRIPTION	MATRIX SAMPLED BY				BY	SAMPLED I	ATE	RECEIVED
BBBG-WC01		Solid		CLIENT		11/14/9	6	11/15/96
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
TCL Semivolatile Organics by USEPA 8270B								1,2,3
Phenol	<400.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	IN	
bis(2-Chloroethyl)ether	<400.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	TN	
2-Chlorophenol	<400.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	TN	
1,3-Dichlorobenzene	<400.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	TN	
1,4-Dichlorobenzene	<400.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	IN	
1,2-Dichlorobenzene	<400.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	TN	
2-Methylphenol	<400.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	'IN	
bis (2-Chloroisopropyl) ether	<400.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	IN	
4-Methylphenol	<400.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	IN	
n-Nitroso-dipropylamine	<400.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	IN	
Hexachloroethane	<400.	µg/kgdrywt	1.2	330	EPA 8270B	11/25/96	IN	
Nitrobenzene	<400.	µg/kgdrywt		330	EPA 8270B	11/25/96	IN	

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LJO/jcbajc(dw)/jjc/kwh

⁽¹⁾ Sample Preparation on 11/21/96 by KGT using EPA 3550A

^{(2) &}quot;J" flag denotes an estimated value less than the Laboratory's Practical Quantitation Level.

⁽³⁾ Internal standard area(s) are out of criteria. Reanalysis confirmed matrix interference.



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SAMPLE DESCRIPTION	RIPITION MATRIX SAMPLED BY				MATRIX SAMPLED BY				SAMPLED D	RECEIVED	
BBBG-WC01		Solid		CLIENT		11/15/96					
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES			
Isophorone	<400.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	IN				
2-Nitrophenol	<400.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	TN				
2,4-Dimethylphenol	<400.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	'IN				
bis(2-Chloroethoxy)methane	<400.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	IN				
2,4-Dichlorophenol	<400.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	IN	2			
1,2,4-Trichlorobenzene	<400.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	IN				
Naphthalene	<400.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	TN				
4-Chloroaniline	<400.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	TŊ				
Hexachlorobutadiene	<400.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	TN				
4-Chloro-3-methylphenol	<400.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	IN				
2-Methylnaphthalene	J230	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	IN				
Hexachlorocyclopentadiene	<400.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	IN				
2,4,6-Trichlorophenol	<400.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	'IN				
2,4,5-Trichlorophenol	<980.	μg/kgdrywt		820	EPA 8270B	11/25/96	IN				

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect samplespecific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

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MATRIX SAMPLED BY				SAMPLED I	ATE	RECEIVED
Solid		CLIENT		DD ANALYZED BY 2270B 11/25/96 TN	11/15/96	
T UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	TN	
μg/kgdrywt	1.2	820	EPA 8270B	11/25/96	TN	
μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	TN	
μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	TN	
μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	TN	
μg/kgdrywt	1.2	820	EPA 8270B	11/25/96	TN	
μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	TN	
μg/kgđrywt	1.2	820	EPA 8270B	11/25/96	TN	
μg/kgdrywt	1.2	820	EPA 8270B	11/25/96	TN	
μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	TN	
μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	TN	
μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	TN	
μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	TN	
μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	TN	
	Solid ### UNITS ###################################	Solid	Solid CLIENT ### FOIL #### FOIL ###################################	Solid CLIENT IT UNITS DF *PQL METHOD µg/kgdrywt 1.2 330 EPA 8270B µg/kgdrywt 1.2 820 EPA 8270B µg/kgdrywt 1.2 330 EPA 8270B µg/kgdrywt 1.2 330 EPA 8270B µg/kgdrywt 1.2 330 EPA 8270B µg/kgdrywt 1.2 820 EPA 8270B µg/kgdrywt 1.2 330 EPA 8270B	Solid CLIENT 11/14/9 IT UNITS DF *PQL METHOD ANALYZED µg/kgdrywt 1.2 330 EPA 8270B 11/25/96 µg/kgdrywt 1.2 820 EPA 8270B 11/25/96 µg/kgdrywt 1.2 330 EPA 8270B 11/25/96 µg/kgdrywt 1.2 330 EPA 8270B 11/25/96 µg/kgdrywt 1.2 330 EPA 8270B 11/25/96 µg/kgdrywt 1.2 820 EPA 8270B 11/25/96 µg/kgdrywt 1.2 820 EPA 8270B 11/25/96 µg/kgdrywt 1.2 330 EPA 8270B 11/25/96 µg/kgdrywt 1.2 820 EPA 8270B 11/25/96 µg/kgdrywt 1.2 820 EPA 8270B 11/25/96 µg/kgdrywt 1.2 330 EPA 8270B 11/25/96	Solid CLIENT 11/14/96 IT UNITS DF *PQL METHOD ANALYZED BY µg/kgdrywt 1.2 330 EPA 8270B 11/25/96 TN µg/kgdrywt 1.2 820 EPA 8270B 11/25/96 TN µg/kgdrywt 1.2 820 EPA 8270B 11/25/96 TN µg/kgdrywt 1.2 330 EPA 8270B 11/25/96 TN µg/kgdrywt 1.2 820 EPA 8270B 11/25/96 TN µg/kgdrywt 1.2 820 EPA 8270B 11/25/96 TN µg/kgdrywt 1.2 330 EPA 8270B 11/25/96 TN

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect samplespecific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

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LJO/jcbajc(dw)/jjc/kwh



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SAMPLE DESCRIPTION	MATRIX	SAMPLED	BY	SAMPLED I	DATE	RECEIVED	
BBBG-WC01		Solid	CLIENT		11/14/9	96	11/15/96
PARAMETER	RESULT	UNITS DF	*PQL	METHOD	ANALYZED	BY	NOTES
4-Nitroaniline	<980.	μg/kgdrywt 1.2	820	EPA 8270B	11/25/96	TN	
4,6-Dinitro-2-methylphenol	<980.	μg/kgdrywt 1.2	820	EPA 8270B	11/25/96	'TN	
n-Nitrosodiphenylamine	<400.	μg/kgdrywt 1.2	330	EPA 8270B	11/25/96	TN	
4-Bromophenyl phenyl ether	<400.	μg/kgdrywt 1.2	330	EPA 8270B	11/25/96	$\mathbf{T}\mathbf{N}$	
Hexachlorobenzene	<400.	μg/kgdrywt 1.2	330	EPA 8270B	11/25/96	TN	
Pentachlorophenol	<980.	μg/kgdrywt 1.2	820	EPA 8270B	11/25/96	TN	
Phenanthrene	890.	μg/kgdrywt 1.2	330	EPA 8270B	11/25/96	$\mathbf{T}\mathbf{N}$	
Anthracene	J230	μg/kgdrywt 1.2	330	EPA 8270B	11/25/96	TN	
Carbazole	J55	μg/kgdrywt 1.2	330	EPA 8270B	11/25/96	IN	
Di-n-butylphthalate	J52	μg/kgdrywt 1.2	330	EPA 8270B	11/25/96	TN	
Fluoranthene	860.	μg/kgdrywt 1.2	330	EPA 8270B	11/25/96	IN	
Pyrene	970.	μg/kgdrywt 1.2	330	EPA 8270B	11/25/96	IN	
Butyl benzylphthalate	<400.	μg/kgdrywt 1.2	330	EPA 8270B	11/25/96	'IN	
3,3'-Dichlorobenzidine	<400.	μg/kgdrywt 1.2	330	EPA 8270B	11/25/96	IN	

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SAMPLE DESCRIPTION		MATRIX		SAMPLED	BY	SAMPLED	DATE	RECEIVED
BBBG-WC01		Solid		CLIENT		11/14/	/96	11/15/96
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZEI) BY	NOTES
Benzo (a) anthracene	540.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	IN	
Chrysene	510.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	IN	
bis (2-Ethylhexyl) phthalate	<400.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	TN	
Di-n-octylphthalate	<400.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	TN	
Benzo (b) fluoranthene	710.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	TN	
Benzo(k) fluoranthene	J160	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	IN	
Benzo (a) pyrene	420.	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	TN	
Indeno(1,2,3-cd)pyrene	J290	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	TN	
Dibenzo (a,h) anthracene	J68	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	TN	
Benzo(g,h,i)perylene	J260	μg/kgdrywt	1.2	330	EPA 8270B	11/25/96	IN	9
2-Fluorophenol (% Recovery)	74.	ક	1.2	4	EPA 8270B	11/25/96	TN	
Phenol-d5 (% Recovery)	79.	8	1.2		EPA 8270B	11/25/96	TN	
Nitrobenzene-d5 (% Recovery)	83.	ક	1.2		EPA 8270B	11/25/96	TN	
2-Fluorobiphenyl (% Recovery)	86.	용	1.2		EPA 8270B	11/25/96	TN	

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect samplespecific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

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SAMPLE DESCRIPTION		MATRIX		SAMPLE	D BY	SAMPLED I	RECEIVED	
BBBG-WC01		Solid		CLIENT		11/14/9	6	11/15/96
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
2,4,6-Tribramophenol (% Recovery)	69.	ક	1.2		EPA 8270B	11/25/96	TN	
Terphenyl-d14 (% Recovery)	84.	ક	1.2		EPA 8270B	11/25/96	TN	

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LJO/jcbajc(dw)/jjc/kwh



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SAMPLE DESCRIPTION	MATRIX	SAMPLED	BY	SAMPLED I	11/15/96			
BBBG-WC01		Solid						11/14/96
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
VOAs (8260)								1,2,3,4
Dichlorodifluoromethane	<2.4	μg/kgdrywt	1.2	2	EPA 8260	11/19/96	DP	
Chloromethane	<2.4	μg/kgdrywt	1.2	2	EPA 8260	11/19/96	DΡ	
Vinyl chloride	<2.4	μg/kgdrywt	1.2	2	EPA 8260	11/19/96	DP	
Bromomethane	<2.4	μg/kgdrywt	1.2	2	EPA 8260	11/19/96	DP	
Chloroethane	<2.4	μg/kgdrywt	1.2	2	EPA 8260	11/19/96	DP	
Trichlorofluoromethane	<2.4	μg/kgdrywt	1.2	2	EPA 8260	11/19/96	DP	
1,1-Dichloroethene	<1.2	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	
Methylene chloride	B7	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	
trans-1,2-Dichloroethene	<1.2	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	
1,1-Dichloroethane	<1.2	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	
cis-1,2-Dichlorcethene	<1.2	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	
2,2-Dichloropropane	<1.2	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	

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LJO/jcbajc(dw)/kwh

^{(1) &}quot;J" flag denotes an estimated value less than the Laboratory's Practical Quantitation Level.

^{(2) &}quot;B" flag denotes detection of this analyte in the laboratory method blank analyzed concurrently with the sample.

^{(3) &}quot;\$" flag denotes surrogate compound recovery is out of criteria. Re-extraction or re-analysis confirmed matrix interference.

⁽⁴⁾ Internal standard area(s) are out of criteria. Reanalysis confirmed matrix interference.



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SAMPLE DESCRIPTION		MATRIX	SAMPLED BY	SAMPLED DATE	RECEIVED	
BBBG-WC01		Solid	CLIENT	11/14/96	11/15/96	
PARAMETER	RESULT	UNITS DF	*PQL METHOD	ANALYZED BY	NOTES	
Bromochloromethane	<1.2	μg/kgdrywt 1.2	1 EPA 8260	11/19/96 DP		
Chloroform	<1.2	μg/kgdrywt 1.2	1 EPA 8260	11/19/96 DP		
1,1,1-Trichloroethane	<1.2	μg/kgdrywt 1.2	1 EPA 8260	11/19/96 DP		
1,2-Dichlorcethane	<1.2	μ g/kgdrywt 1.2	1 EPA 8260	11/19/96 DP		
1,1-Dichloropropene	<1.2	μg/kgdrywt 1.2	1 EPA 8260	11/19/96 DP		
Carbon tetrachloride	<1.2	μg/kgdrywt 1.2	1 EPA 8260	11/19/96 DP	×.	
Benzene	<1.2	μg/kgdrywt 1.2	1 EPA 8260	11/19/96 DP		
1,2-Dichloropropane	<1.2	μg/kgdrywt 1.2	1 EPA 8260	11/19/96 DP		
Trichloroethene	<1.2	μg/kgdrywt 1.2	1 EPA 8260	11/19/96 DP		
cis-1,3-Dichloropropene	<1.2	μg/kgdrywt 1.2	1 EPA 8260	11/19/96 DP		
Dibromomethane	<1.2	μg/kgdrywt 1.2	1 EPA 8260	11/19/96 DP		
Bromodichloromethane	<1.2	μg/kgdrywt 1.2	1 EPA 8260	11/19/96 DP		
Toluene	J0.8	μg/kgdrywt 1.2	1 EPA 8260	11/19/96 DP		

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SAMPLE DESCRIPTION	MATRIX		SAMPLED	BY	SAMPLED D	11/15/96		
BBBG-WC01	Solid			CLIENT				11/14/9
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
trans-1,3-Dichloropropene	<1.2	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	
1,1,2-Trichloroethane	<1.2	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	
1,3-Dichloropropane	<1.2	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	
Dibromochloromethane	<1.2	μg/kgđrywt	1.2	1	EPA 8260	11/19/96	DP	
Tetrachloroethene	<1.2	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	
1,2-Dibromoethane	<1.2	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	
Chlorobenzene	<1.2	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	
1,1,1,2-tetrachloroethane	<1.2	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	
Ethylbenzene	2.	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	
m-Xylene/p-Xylene	J0.8	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	
Bromoform	<1.2	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	
o-Xylene	5.	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	
Styrene	<1.2	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	

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LJO/jcbajc(dw)/kwh



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SAMPLE DESCRIPTION		MATRIX		SAMPLED	BY	SAMPLED DATE RECEIV		
BBBG-WC01		Solid		CLIENT		11/14/9	6	11/15/96
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
1,1,2,2-Tetrachloroethane	<1.2	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	
1,2,3-Trichloropropane	<1.2	μg/kgđrywt	1.2	1	EPA 8260	11/19/96	DP	
Isopropylbenzene	3.	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	
Bromobenzene	<1.2	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	
2-Chlorotoluene	<1.2	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	
n-Propylbenzene	6.	μg/kgđrywt	1.2	1	EPA 8260	11/19/96	DP	
4-Chlorotoluene	<1.2	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	
1,3,5-Trimethylbenzene	12.	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	
tert-Butylbenzene	<1.2	μg/kgđrywt	1.2	1	EPA 8260	11/19/96	DP	
1,2,4-Trimethylbenzene	4.	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	
sec-Butylbenzene	6.	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	
1,3-Dichlorobenzene	<1.2	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	
4-Isopropyltoluene	13.	μg/kgdrywt	1.2	1	EPA 8260	11/19/96	DP	

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/jcbajc(dw)/kwh



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number: WM-2580-6
Report Date: 12/06/96
PO No. : 03886-118-004

Project

: FT DEVENS

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION		MATRIX		SAMPLED BY	SAMPLED D	RECEIVED		
BBBG-WC01	Solid			CLIENT	CLIENT			11/15/96
PARAMETER	RESULT	UNITS	DF	*PQL ME	IHOD	ANALYZED	BY	NOTES
1,4-Dichlorobenzene	<1.2	μg/kgdrywt	1.2	1 EP.	A 8260	11/19/96	DP	
1,2-Dichlorobenzene	<1.2	μg/kgdrywt	1.2	1 EP.	A 8260	11/19/96	DP	
n-Butylbenzene	7.	μg/kgdrywt	1.2	1 EP	A 8260	11/19/96	DP	
1,2-Dibromo-3-chloropropane	<1.2	μg/kgdrywt	1.2	1 EP	A 8260	11/19/96	DP	
1,2,4-Trichlorobenzene	<1.2	μg/kgdrywt	1.2	1 EP	A 8260	11/19/96	DP	
Naphthalene	B12	μg/kgdrywt	1.2	1 EP	A 8260	11/19/96	DP	•
Hexachlorobutadiene	<1.2	μg/kgdrywt	1.2	1 EP	A 8260	11/19/96	DP	
1,2,3-Trichlorobenzene	<1.2	μg/kgdrywt	1.2	1 EP	A 8260	11/19/96	DP	
Dibromofluoromethane (Surr.)	118.	*	1.2	EP	A 8260	11/19/96	DP	
Toluene-d8 (%)	95.	ક	1.2	EP	A 8260	11/19/96	DP	
p-Bromofluorobenzene (%)	\$65	*	1.2	EPA	A 8260	11/19/96	DP	
Acetone	JB5	μg/kgdrywt	1.2	5.0 EP	A 8260	11/19/96	DP	
2-Butanone	<6.	μg/kgdrywt	1.2	5.0 EPA	A 8260	11/19/96	DP	

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/jcbajc(dw)/kwh



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number : WM-2580-6 Report Date: 12/06/96

PO No. Project : 03886-118-004 : FT DEVENS

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX		SAMPLED	BY	SAMPLED I	RECEIVED		
BBBG-WC01		Solid		CLIENT		11/14/9	96	11/15/96
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
4-Methyl-2-pentanone 2-Hexanone	<3.6 <4.8	μg/kgđry μg/kgđry				11/19/96 11/19/96		

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect samplespecific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/jcbajc(dw)/kwh



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number: WM-2580-7

Report Date: 12/06/96

PO No. : 03886-118-004

Project : FT DEVENS

REPORT OF ANALYTICAL RESULTS

Page 36 of 40

AMPLE DESCRIPTION MATRIX SAMPLED BY				N MATRIX SAMPLED BY SAMP				SAMPLED I	ATE	RECEIVED	
TRIP BLANK	Aqueous		eous	CLIENT			11/14/96		11/15/96		
PARAMETER			RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES	
VOAs (8260)										1,2	
Dichlorodifluoromethane			<2.	μg/L	1.0	2	EPA 8260	11/20/96	DP		
Chloromethane	0.4		<2.	μg/L	1.0	2	EPA 8260	11/20/96	DP		
Vinyl chloride			<2.	μg/L	1.0	2	EPA 8260	11/20/96	DP		
Bromomethane			<2.	μg/L	1.0	2	EPA 8260	11/20/96	DP		
Chloroethane			<2.	μg/L	1.0	2	EPA 8260	11/20/96	DP		
Trichlorofluoromethane			<2.	μg/L	1.0	2	EPA 8260	11/20/96	DP		
1,1-Dichloroethene			<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
Methylene chloride			B1	μg/L	1.0	1	EPA 8260	11/20/96	DP		
trans-1,2-Dichloroethene			<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
1,1-Dichloroethane			<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
cis-1,2-Dichloroethene			<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
2,2-Dichloropropane		1.41	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
Bromochloromethane			<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
Chloroform			<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect samplespecific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/jcbajc (dw) /kwh

^{(1) &}quot;J" flag denotes an estimated value less than the Laboratory's Practical Quantitation Level.

^{(2) &}quot;B" flag denotes detection of this analyte in the laboratory method blank analyzed concurrently with the sample.



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number: WM-2580-7 Report Date: 12/06/96

PO No. : 03886-118-004 Project

: FT DEVENS

REPORT OF ANALYTICAL RESULTS

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MATRIX SAMPLED BY					BY	SAMPLED I	ATE	RECEIVED
TRIP BLANK	Aqueous			CLIENT	11/14/96		11/15/96	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
1,1,1-Trichloroethane	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP	
1,2-Dichloroethane	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP	
1,1-Dichloropropene	<1.	μ g/L	1.0	1	EPA 8260	11/20/96	DP	
Carbon tetrachloride	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP	
Benzene	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP	
1,2-Dichloropropane	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP	•
Trichloroethene	JO.8	μg/L	1.0	1	EPA 8260	11/20/96	DP	
cis-1,3-Dichloropropene	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP	
Dibromomethane	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP	
Bramodichloromethane	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP	
Toluene	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP	
trans-1,3-Dichloropropene	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP	
1,1,2-Trichloroethane	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP	
1,3-Dichloropropane	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP	
Dibramodhloramethane	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP	

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect samplespecific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/jcbajc(dw)/kwh



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number: WM-2580-7 Report Date: 12/06/96

PO No.

: 03886-118-004

Project : FT DEVENS

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION		MATRIX SAMPLED BY						SAMPLED DATE F		
TRIP BLANK		Aqu	ieous		CLIENT		11/14/96		11/15/96	
PARAMETER		RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES	
Tetrachloroethene		<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
1,2-Dibromoethane		<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
Chlorobenzene		<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
1,1,1,2-tetrachloroethane		<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
Ethylbenzene		<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
m-Xylene/p-Xylene		<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
Bromoform		<1.	μ g/L	1.0	1	EPA 8260	11/20/96	DP		
o-Xylene		<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
Styrene		<1.	μ g/L	1.0	1	EPA 8260	11/20/96	DP		
1,1,2,2-Tetrachloroethane		<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
1,2,3-Trichloropropane		<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
Isopropylbenzene		<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
Bromobenzene	1.00	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
2-Chlorotoluene		<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
n-Propylbenzene		<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect samplespecific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/jcbajc(dw)/kwh



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number: WM-2580-7 Report Date: 12/06/96

PO No. Project : 03886-118-004 : FT DEVENS

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION	MATRIX SAMPLED BY					SAMPLED D	ATE	RECEIVED	
TRIP BLANK	Aqu	Aqueous			CLIENT			11/15/96	
PARAMETER	RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES	
4-Chlorotoluene	<1	μg/L	1.0	1	EPA 8260	11/20/96	DP		
1,3,5-Trimethylbenzene	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
tert-Butylbenzene	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
1,2,4-Trimethylbenzene	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
sec-Butylbenzene	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
1,3-Dichlorobenzene	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
4-Isopropyltoluene	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
1,4-Dichlorobenzene	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
1,2-Dichlorobenzene	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
n-Butylbenzene	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
1,2-Dibromo-3-chloropropane	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
1,2,4-Trichlorobenzene	<1.	μg/L	1.0	. 1	EPA 8260	11/20/96	DP		
Naphthalene	B1	μg/L	1.0	1	EPA 8260	11/20/96	DP		
Hexachlorobutadiene	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		
1,2,3-Trichlorobenzene	<1.	μg/L	1.0	1	EPA 8260	11/20/96	DP		

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect sample-specific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/jcbajc(dw)/kwh



ROY F WESTON P.O. BOX 425 AYER, MA 01432 Lab Number: WM-2580-7 Report Date: 12/06/96

PO No.

: 03886-118-004

Project : FT DEVENS

REPORT OF ANALYTICAL RESULTS

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SAMPLE DESCRIPTION				SAMPLED	SAMPLED D	RECEIVED			
TRIP BLANK				CLIENT		11/14/96		11/15/96	
PARAMETER		RESULT	UNITS	DF	*PQL	METHOD	ANALYZED	BY	NOTES
Dibromofluoromethane ((Surr.)	99.	*	1.0		EPA 8260	11/20/96	DP	
Toluene-d8 (%)		99.	ક	1.0		EPA 8260	11/20/96	DP	
p-Bromofluorobenzene	(왕)	101.	ક	1.0		EPA 8260	11/20/96	DP	
Acetone		<5.	μg/L	1.0	5.0	EPA 8260	11/20/96	DP	
2-Butanone		<5.	μg/L	1.0	5.0	EPA 8260	11/20/96	DP	
4-Methyl-2-pentanone		J2	μg/L	1.0	3.0	EPA 8260	11/20/96	DP	•
2-Hexanone		<4.	μg/L	1.0	4.0	EPA 8260	11/20/96	DP	

^{*} PQL (Practical Quantitation Level) represents laboratory reporting limits and may not reflect samplespecific reporting limits. Sample-specific limits are indicated by results annotated with '<' values.

12/06/96

LJO/jcbajc(dw)/kwh

Katahdin Analytical Services

Volatile Petroleum Hydrocarbon (VPH) Analysis

Client: Roy F. Weston

Date Collected: 11/14/96

Client Sample ID: Trip Blank

Date Recieved: 11/15/96

KAS Sample ID: WM2580 - 7

Date Extracted: NA

Matrix: Water

Date Aliphatics Analyzed: 11/22/96

Percent Moisture: 0 %

Date Aromatics Analyzed: 11/22/96

Date Reported: 12/2/96

VPH Results

Parameter	Results	PQL	Toxicity Multiplier	Equivalent Concentration	Equivalent PQL	Units
C5-C8 Aliphatics*	< 40	40	0.5	0	20	ug/L
C9-C12 Aliphatics**	< 10	10	0.05	0	0.5	ug/L
C9-C10 Aromatics	< 20	20	1	0	20	ug/L
Volatile Petrole	um Hydroca	000	40.5	ug/L		

^{*} Excludes BTEX and MTBE

Surrogate Recovery

Surrogate	% Recovery	Acceptance Range (%)	
2,5-dibromotoluene (FID)	100	80 - 120	
2,5-dibromotoluene (PID)	114	80 - 120	

Targeted VPH Analytes

Analyte	Results	PQL	Units
Methyl-tert-butylether	< 15	15	ug/L
Benzene	< 5	5	ug/L
Toluene	< 15	15	ug/L
Ethylbenzene	< 5	5	ug/L
m,p-Xylene	< 20	20	ug/L
o-Xylene	< 10	10	ug/L
Naphthalene	< 10	10	ug/L

^{**} Excludes Naphthalene and 1,2,4-Trimethylbenzene

Katanum Analytical Services, Inc.

Elements Section

Solid Preparation Blank (P B S)

Client:	Roy F. Weston	
Work Order:	WM2580	
Prep. Date:	11/22/96	
QC Batch ID:	MK22ICS1	

Method 3010 (HCl)	Method	Measured	Analysis	Acceptance	Notes
Elements:		Conc. (mg/Kg) Date		Limit (mg/Kg)	
Arsenic	200.7/6010	<0.8	22-Nov-96	0.8	
Barium	200.7/6010	<0.50	22-Nov-96	0.50	
Cadmium	200.7/6010	<1.00	22-Nov-96	1.00	
Chromium	200.7/6010	<1.50	22-Nov-96	1.50	
Lead	200.7/6010	<0.5	22-Nov-96	0.5	
Selenium	200.7/6010	<1.0	22-Nov-96	1.0	
Silver	200.7/6010	<1.5	22-Nov-96	1.5	

- 1) Blank acceptance limits are equivalent to PQLs unless otherwise indicated.
- 2) Random low level contamination is indicated for this parameter. (if notated)

Katahdin Analytical Services, Inc. Elements Section

Solid Laboratory Control Sample (LCSS)

Client: R	oy F. Weston
Work Order:	WM2580
Prep. Date:	11/22/96
QC Batch ID:	MK22ICS1

Method 3010 (HCI)	Sample Weight (g):				100	Calculation Facto	r 196
Element:	Measured Conc. (mg/L)	Measured Conc. (mg/kg)	Analysis Date	Volume, FV(m Reference Value (mg/kg)	PERCENT RECOVERY	Control Limits(mg/Kg)	Notes
Arsenic	1.18	231	22-Nov-96	228	101%	7.44-109	
Barium	1.64	322	22-Nov-96	320	100%	112-340	
Cadmium	0.270	52.9	22-Nov-96	51.4	103%	41.3-90.8	
Chromium	0.506	99.2	22-Nov-96	91.3	109%	29.1-74.1	
Lead	0.934	183	22-Nov-96	176	104%	48.8-129	
Selenium	0.346	67.8	22-Nov-96	75.5	90%	51.3-137	
Silver	0.898	176	22-Nov-96	170	104%	48.8-129	

- 1) The laboratory uses the published certified value and advisory range, respectively, as the true value and acceptance range for this commercially available solid reference material (trace metals in soil).
- 2) See cover letter for additional information. (if notated)
- 3) Analysis methods are the same as the analysis methods for the prep blank.
- 4) Lot 226 received 10-19-95

Katandin Analytical Services, Inc.

Elements Section

Solid Preparation Blank (P B S)

Client: Roy F. Weston
Work Order: WM2580
Prep. Date: 12/03/96
QC Batch ID: ML03ICS1

Method 3010 (HCl)	Method	Measured	Analysis	Acceptance	Notes
Elements:		Conc. (mg/Kg)		Limit (mg/Kg)	
Arsenic	200.7/6010	<0.8	3-Dec-96	0.8	
Barium	200.7/6010	<0.50	3-Dec-96	0.50	
Cadmium	200.7/6010	<1.00	3-Dec-96	1.00	
Chromium	200.7/6010	<1.50	3-Dec-96	1.50	
Lead	200.7/6010	<0.5	3-Dec-96	0.5	
Selenium	200.7/6010	<1.0	3-Dec-96	1.0	
Silver	200.7/6010	<1.5	3-Dec-96	1.5	

- 1) Blank acceptance limits are equivalent to PQLs unless otherwise indicated.
- 2) Random low level contamination is indicated for this parameter. (if notated)

Katahdin Analytical Services, Inc. Elements Section

Solid Laboratory Control Sample (LCSS)

Client: R	oy F. Weston
Work Order:	WM2580
Prep. Date:	12/03/96
QC Batch ID:	ML03ICS1

Method 3010 (HCl) Element:	Sample Weight (g):		0.52		al Calculation Fac	Calculation Factor	192
	Measured Conc. (mg/L)	Measured Conc. (mg/kg)	Analysis Date	Reference Value (mg/kg)	PERCENT RECOVERY	Control Limits(mg/Kg)	Notes
Arsenic	1.22	235	3-Dec-96	228	103%	7.44-109	
Barium	1.69	325	3-Dec-96	320	102%	112-340	
Cadmium	0.279	53.7	3-Dec-96	51.4	104%	41.3-90.8	
Chromium	0.484	93.1	3-Dec-96	91.3	102%	29.1-74.1	
Lead	0.953	183	3-Dec-96	176	104%	48.8-129	
Selenium	0.362	69.6	3-Dec-96	75.5	92%	51.3-137	
Silver	0.911	175	3-Dec-96	170	103%	48.8-129	,

- 1) The laboratory uses the published certified value and advisory range, respectively, as the true value and acceptance range for this commercially available solid reference material (trace metals in soil).
- 2) See cover letter for additional information. (if notated)
- 3) Analysis methods are the same as the analysis methods for the prep blank.
- 4) Lot 226 received 10-19-95

Katahdin Analytical Services, Inc. Elements Section

Mercury

	Client:	Roy l	F. Weston	
	Method:	74	71	
	Work Order:	WN	12580	
	Prepa	ration Blank Soil	(P B S)	
Prep. Date	Analysis Date	QC Batch ID	Measured Conc. (ug/g)	Acceptance Limit (ug/g)
21-Nov-96	21-Nov-96	MK21HGS1	< 0.100	0.100

ä,			Laborator	ry Control Sample	e Soil (LCSS).		£
	Prep. Date	Analysis Date	QC Batch ID	Measured	Ref. Value	Calculated	Control
				Conc. (ug/g)	(ug/g)	Rec. %	Limits (%)
:	21-Nov-96	21-Nov-96	MK21HGS1	3.40	3.30	103%	1.47-5,15

- 1) Blank acceptance limits are equivalent of PQL's unless otherwise indicated.
- 2) Random low level contamination is indicated for this parameter. (if notated)
- 3) See cover letter for additional information. (if notated)
- 4) The laboratory uses the published certified value and advisory range, respectively, as the true value and acceptance range for this commercially available solid reference material (trace metals in soil).

Client: Roy F. Weston
Work Order: WM2580

Method Blank and Laboratory Control Sample Results

METHOD BLANK RESULTS

LABORATORY CONTROL SAMPLE RESULTS

						JIII III III III					TITLE BILL		
	Date	Date		Concent	ration		Practical		True	Measured	Percent	Acceptance	Acceptance
į.	of	of	Units	Measu	red	Acceptance	Quantitation	Units	Value	Value	Recovered	Range	Range
Parameter	Prep	Analysis		in Bla	nk	Range	Level**					(%)	(mg/kg)
Corrosivity - pH	19-Nov-96	19-Nov-96	pH units		NA	NA	NA	pH units	7.00	6.98	99.7	80-120	
Reactivity - Cyanide	18-Nov-96	20-Nov-96	mg/kg	<	2.0 <	2.0	2.0	mg	0.200	0.028	14.0	10-100	
Ignitability (Flash Point)	18-Nov-96	18-Nov-96	С		NA	NA	25	С	27.0	26.0	96	80-120	
TS -Total Residue	19-Nov-96	20-Nov-96	wt %	< 0	10 <	0.10	0.10						
Reactivity - Sulfide	18-Nov-96	18-Nov-96	mg/kg	<	27 <	27	27	mg	7.10	5.62	79.2	50-150	
TPH-Soils	22-Nov-96	26-Nov-96	mg/kg	<	25 <	25	25	mg	2.51	2.97	118	57-137	@

^{**} Practical quantitation level is the lowest concentration measurable for samples with normal chemical and physical composition during routine laboratory operations.

DATA QUALITY COMMENTS:

Results of all quality control measurements are within the laboratory and method specified acceptance range except as noted.

@ The laboratory uses the internally established statistical 99% confidence range as the acceptance range for this LCS.

Maine Laboratory Quality Control Report

Methods, Chronology of Analysis and Method Blank Results

Client: Roy F. Weston Work Order #: WM2580

DRO by GC Method: SW846 8015M

BLANK:	NA
RESULT FILE :	NA
DATE ANALYZED.	NIA

Free Product

CHRONOLOGY

KAS Sample Nos	Date Extracted	Date Analyzed	DF
WM2580-4	11/27/96	12/03/96	10

KAS Sample Nos.	Date Extracted	Date Analyzed	用的复数使用的 用数据图

METHOD BLANK RESULTS*

Compound	Conc. (mg/kg)

- * Blank results listed correspond to the extraction blank prepared with the above samples on date of extraction. Only positive hits have been included. The remaining compounds were below the laboratory Practical Quantitation Levels.
- ~ The Dilution Factor (DF) indicates whether a sample, prepared in accordance with the analytical method protocol, was diluted prior to analysis. The Dilution Factor could also indicate that a smaller aliquot than specified in the method was utilized for sample preparation and analysis. DF does include the correction factor for conversion to dry weight.

Maine Laboratory Quality Control Report

Methods, Chronology of Analysis and Method Blank Results

Client: Roy F. Weston
Work Order #: WM2580

DRO by GC Method: SW846 8015M

Water

BLANK:

BF0227

RESULT FILE :

CNV2355

DATE ANALYZED:

12/03/96

CHRONOLOGY

KAS	Date	Date	1 × × 7	KAS	Date	Date	
Sample Nos.	Extracted	Analyzed	DF~	Sample Nos.	Extracted	Analyzed	DF~
LCF0227	12/02/96	12/03/96	1				
WM2580-5	12/02/96	12/03/96	29000				
			-				
							_
	-		-				
			-				-
			+				

METHOD BLANK RESULTS*

Compound	Conc. (ug/L)
DRO	75

^{*} Blank results listed correspond to the extraction blank prepared with the above samples on date of extraction.

Only positive hits have been included. The remaining compounds were below the laboratory Practical Quantitation Levels.

[~] The Dilution Factor (DF) indicates whether a sample, prepared in accordance with the analytical method protocol, was diluted prior to analysis. The Dilution Factor could also indicate that a smaller aliquot than specified in the method was utilized for sample preparation and analysis.

DF does include the correction factor for conversion to dry weight.

Client: Roy F. Weston W.O. #: WM2580

Laboratory Control Sample Results

DRO by GC Method: SW846 8015M

Water Matrix

Date of Extraction:

12/02/96

LCS number:

LCF0227

Date of Analysis:

12/03/96

		Spike	LCS Measured	LCS Dup.	LCS %	LCS Dup.	Recovery Acceptance	Relative Percent	RPD Acceptance
Compound	Units	Conc	Conc.	Cone	Recovery	Recovery	Range (%)	Difference	Range (%)
DRO Components	ug/L	500	493	NA	99	NA	60-140	NA	0-20
O-terphenyl	ug/ml	20.0	18.2	NA	91	NA	52-124	NA	0-20

NA = Not Applicable

Client: Roy F. Weston
Work Order: WM2580

Methods, Chronology of Analysis and Method Blank Results

Volatile Petroleum Hydrocarbons by GC Method: MA DEP VPH

Instrument: GC09

Soil/Solid Matrix

File: 9NV3055.RST

11/22/96

CHRONOLOGY

		CHRONO			
	le Nos. Date Analyzed	Dilution Factor~	Sample Nos.	Date Analyzed	Dilution Factor~
80-1 11/22	2580-1 11/22/96	1			
80-2 11/22	2580-2 11/22/96	1			
80-3 11/22	580-3 11/22/96	1			
		3			
			14		

METHOD BLANK RESULTS*

Compound * *	Conc. (ug/kg)

- * Only positive hits have been included. The remaining compounds were below the laboratory Practical Quantitation Levels.
- ~ The Dilution Factor (DF) indicates whether a sample, prepared in accordance with the analytical method protocol, was diluted prior to analysis. The Dilution Factor could also indicate that a smaller aliquot than specified in the method was utilized for sample preparation and analysis. For example, a dilution factor of 5 means that the sample was effectivel diluted by a factor of 5 prior to analysis, i.e., the sample was analyzed at 20% its reported concentration. DF does not include the correction factor for conversion to dry weight.

Katahdin Analytical Services **Maine Laboratory Quality Control Report**

Methods, Chronology of Analysis and Method Blank Results

EPH by GC Method: MADEP EPH

Soil

Client: Roy F. Weston

BLANK: BF0218

CHRONOLOGY

Aliphatics						
18-495 Shanjih Piro	Deire Lagranical	11.094000	1917 -			
WM2580 - 1	11/11/96	11/24/96	1			
WM2580 -2	11/11/96	11/24/96	1			
WM2580 -3	11/11/96	11/27/96	2			
	1					

Aromatics

1848 Samilte Sus		Date Santyvei	n Difi
WM2580 -1	11/11/96	. 11/24/96	1
WM2580 -2	11/11/96	11/24/96	1
WM2580 -3	11/11/96	11/24/96	1
		5	
,			

METHOD BLANK RESULTS*

(interpretation)
֡

- * Blank results listed correspond to the extraction blank prepared with the above sample on date of extraction. Only positive hits have been included. The remaining compounds were below the laboratory Practical Quantitation Levels.
- ~ The Dilution Factor (DF) indicates whether a sample, prepared in accordance with the analytical method protocol, was diluted prior to analysis. The Dilution Factor could also indicate that a smaller aliquot than specified in the method was utilized for sample preparation and analysis. For example, a dilution factor of 5 means that the sample was effectively diluted by a factor of 5 prior to analysis, i.e., the sample was analyzed at 20% its reported concentration. DF does not include the correction factor for conversion to dry weight.

Katahdin Analytical Services Quality Control Report Laboratory Control Sample Results

Client:	Roy F. Weston
Client Sample ID:	NA
Laboratory Sample ID:	LCS
Matrix:	Soil
Percent Moisture:	NA

11/22/96
11/22/96
11/22/96
5-Dec-96
MADEP VPH

SURROGATE RECOVERY

Surrogate	Raw	%	Acceptance
	Amount	Recovery	Range
2,5-dibromotoluene (FID)	83.6	106	80-120
2,5-dibromotoluene (PID)	94.4	119	80-120

TARGETED VPH ANALYTES

Analyte	Spike Amount	Results	Percent Recovery	Recovery Limits	Units
Methyl-tert-butylether	19.2	21.6	112	80 - 120	mg/Kg
Benzene	6.2	7.1	115	80 - 120	mg/Kg
Toluene	19.2	21.1	110	80 - 120	mg/Kg
Ethylbenzene	6.2	7.1	114	80 - 120	mg/Kg
m,p-Xylene	25.6	29.0	113	80 - 120	mg/Kg
o-Xylene	12.8	14.2	111	80 - 120	mg/Kg
Napthalene	12.8	15.3	120	80 - 120	mg/Kg

Laboratory Control Sample Results Sheet

Soil

Client: Roy F. Weston

Work Order #: WM2580

KAS LCS ID: LCF 0218

Date Extracted: 11/11/96

Date Aliphatics Analyzed: 11/24/96

Date Aromatics Analyzed: 11/24/96

(сотроний)	Unte	Results	ECSD Resides	ILES Revoyany (%)	Recovery (%)	LCS/D Recovery Range (%)	RPD (%)	RPD Recovery Range (%)
C9-C18 Aliphatics	mg/Kg	12.80619	NA	256	NA	60 - 140	NA	0 - 25
C19-C36 Aliphatics	mg/Kg	14.354309	NA	191	NA	60 - 140	NA	0 - 25
1-Chloro-octadecane	mg/Kg	2.41534	NA	121	NA	60 - 140	NA	0 - 25
Acenaphthene	mg/Kg	1.7229	NA	69	NA	60 - 140	NA	0 - 25
Anthracene	mg/Kg	2.16433	NA	87	NA	60 - 140	NA	0 - 25
Chrysene	mg/Kg	2.90644	NA	116	NA	60 - 140	NA	0 - 25
Naphthalene	mg/Kg	1.60368	NA	64	NA	60 - 140	NA	0 - 25
Pyrene	mg/Kg	2.05027	NA	82	NA	60 - 140	NA	0 - 25
para-Terphenyl	mg/Kg	1.79718	NA	90	NA	60 - 140	NA	0 - 25

Client: Roy F. Weston
Work Order: WM2580

Methods, Chronology of Analysis and Method Blank Results

Semivolatile Organics by GC/MS Method: 8270B
Sample Preparation Technique: 3550

Soil/Solid Matrix

CHRONOLOGY

Sample Nos.	Date	Date	LCS	Dilution		Sample Nos.	Date	Date:	LCS	Dilution
一点,这些种	Extracted	Analyzed	File	Factor ~	THE STATE OF		Extracted	Analyzed	File	Factor ~
WM2580-6	21-Nov-96	25-Nov-96	K1990	1.0						
WM2580-6RE	21-Nov-96	25-Nov-96	K1990	1.0	100					
					臺					
					1		Parameter			
			l l		1					
					8	•				

METHOD BLANK RESULTS*

Compound	Conc. (ug/kg)

- * Only positive hits have been included. The remaining compounds were not detected in the method blank.
- ~ The Dilution Factor (DF) indicates whether a sample, prepared in accordance with the analytical method protocol, was diluted prior to The Dilution Factor could also indicate that a smaller aliquot than specified in the method was utilized for sample preparation and ana For example, a dilution factor of 5 means that the sample was effectively diluted by a factor of 5 prior to analysis, i.e., the sample was at 20% its reported concentration. DF does not include the correction factor for conversion to dry weight.

Client: Roy F. Weston Work Order: WM2580

Laboratory Control Sample Results

TCL Semivolatile Organics by GC/MS Method: 8270B Soil/Solid Matrix

Date of Extraction:

21-Nov-96

Date of Analysis: 21-Nov-96

File: K1990.D

	1. 图 4 图 5	建筑线线	LCS	LCS	Recovery
	古州-白州大学	Spike	Measured	%	Acceptance
Compound	Units	Conc.	Conc.	Recovery	Range (%)*
Phenol	ug/kg	3333	2400	72.0	5-112
bis(2-Chloroethyl)ether	ug/kg	1667	1200	72.0	12-158
2-Chlorophenol	ug/kg	3333	2500	75.0	23-134
1,3-Dichlorobenzene	ug/kg	1667	1200	72.0	0-172
1,4-Dichlorobenzene	ug/kg	1667	1200	72.0	20-124
1,2-Dichlorobenzene	ug/kg	1667	1200	72.0	32-129
2-Methylphenol	ug/kg	3333	2400	72.0	*
bis(2-Chloroisopropyl)ether	ug/kg	1667	1100	66.0	36-166
4-Methylphenol	ug/kg	3333	2400	72.0	*
n-Nitroso-dipropylamine	ug/kg	1667	1200	72.0	0-230
Hexachloroethane	ug/kg	1667	1200	72.0	40-113
Nitrobenzene	ug/kg	1667	1200	72.0	35-180
Isophorone	ug/kg	1667	1200	72.0	21-196
2-Nitrophenol	ug/kg	3333	2400	72.0	29-182
2,4-Dimethylphenol	ug/kg	3333	2500	75.0	32-119
bis(2-Chloroethoxy)methane	ug/kg	1667	1200	72.0	33-184
2,4-Dichlorophenol	ug/kg	3333	2400	72.0	39-135
1,2,4-Trichlorobenzene	ug/kg	1667	1200	72.0	44-142
Naphthalene	ug/kg	1667	1200	72.0	21-133
4-Chloroaniline	ug/kg	1667	130	7.8	*
Hexachlorobutadiene	ug/kg	1667	1200	72.0	24-116
4-Chloro-3-methylphenol	ug/kg	3333	2400	72.0	22-147
2-Methylnaphthalene	ug/kg	1667	1100	66.0	*
Hexachlorocyclopentadiene	ug/kg	1667	1200	72.0	*
2,4,6-Trichlorophenol	ug/kg	3333	2400	72.0	37-144
2,4,5-Trichlorophenol	ug/kg	3333	2400	72.0	*
2-Chloronaphthalene	ug/kg	1667	1300	78.0	60-118
2-Nitroaniline	ug/kg	1667	1100	66.0	*
Dimethylphthalate	ug/kg	1667	1200	72.0	0-112
Acenaphthylene	ug/kg	1667	1200	72.0	33-145
2,6-Dinitrotoluene	ug/kg	1667	1300	78.0	50-158
3-Nitroaniline	ug/kg	1667	460	27.6	*
Acenaphthene	ug/kg	1667	1200	72.0	47-145
2,4-Dinitrophenol	ug/kg	3333	2100	63.0	0-191
4-Nitrophenol	ug/kg	3333	2500	75.0	0-132

Client: Roy F. Weston

Work Order: WM2580

Laboratory Control Sample Results

TCL Semivolatile Organics by GC/MS Method: 8270B Soil/Solid Matrix

Date of Extraction:

21-Nov-96

Date of Analysis: 21-Nov-96

File: K1990.D

	公司总计划 高铁	145 Table 1	LCS	LCS	Recovery
		Spike	Measured	%	Acceptance
Compound	Units	Conc.	Conc.	Recovery	Range (%)*
Dibenzofuran	ug/kg	1667	1100	66.0	*
2,4-Dinitrotoluene	ug/kg	1667	1200	72.0	39-139
Diethylphthalate	ug/kg	1667	1200	72.0	0-114
4-Chlorophenyl phenyl ether	ug/kg	1667	1200	72.0	25-158
Fluorene	ug/kg	1667	1200	72.0	59-121
4-Nitroaniline	ug/kg	1667	1100	66.0	*
4,6-Dinitro-2-methylphenol	ug/kg	3333	2400	72.0	0-181
n-Nitrosodiphenylamine	ug/kg	1667	1300	78.0	*
4-Bromophenyl phenyl ether	ug/kg	1667	1300	78.0	53-127
Hexachlorobenzene	ug/kg	1667	1300	78.0	0-152
Pentachlorophenol	ug/kg	3333	2500	75.0	14-176
Phenanthrene	ug/kg	1667	1200	72.0	54-120
Anthracene	ug/kg	1667	1200	72.0	27-133
Carbazole	ug/kg	1667	1500	90.0	*
Di-n-butylphthalate	ug/kg	1667	1300	78.0	1-118
Fluoranthene	ug/kg	1667	1300	78.0	26-137
Pyrene	ug/kg	1667	1200	72.0	52-115
Butyl benzylphthalate	ug/kg	1667	1300	78.0	0-152
3,3'-Dichlorobenzidine	ug/kg	1667	550	33.0	0-262
Benzo(a)anthracene	ug/kg	1667	1200	72.0	33-143
Chrysene	ug/kg	1667	1200	72.0	17-168
bis(2-Ethylhexyl)phthalate	ug/kg	1667	1300	78.0	8-158
Di-n-octylphthalate	ug/kg	1667	1400	84.0	4-146
Benzo(b)fluoranthene	ug/kg	1667	1200	72.0	24-159
Benzo(k)fluoranthene	ug/kg	1667	1300	78.0	11-162
Benzo(a)pyrene	ug/kg	1667	1300	78.0	17-163
Indeno(1,2,3-cd)pyrene	ug/kg	1667	1200	72.0	0-171
Dibenzo(a,h)anthracene	ug/kg	1667	1300	78.0	0-227
Benzo(g,h,i)perylene	ug/kg	1667	1200	72.0	0-219

Accuracy criteria derived from data specified in Table 6, Method 8270 unless otherwise noted. The % recovery measure accuracy windows are method specified. Compounds with a * have no method specified recovery windows.

Client: Roy F. Weston	
Work Order: WM2580	

Methods, Chronology of Analysis and Method Blank Results

Volatile Analysis by GC/MS Method: 8260

Free Product - Medium Level

CHRONOLOGY

Sample Nos.	Date	Date	Instrument	LCS	2000年	Sample Nos.	Date -	Date	Instrument	LCS	Name of
水型基础	Extracted	Analyzed	Blank^	File	DF~	Charles of the same	Extracted	Analyzed	Blank^	File	DF~
WM2580-4	19-Nov-96	19-Nov-96	I5664.D	I5661.D	1.0						
WM2580-5	19-Nov-96	19-Nov-96	I5664.D	I5661.D	1.0						
								*			

EXTRACTION BLANK RESULTS*

Date of Analysis: 11-Nov-96

Compound	Cone (ug/kg)
Methylene Chloride	310

- * Blank results listed correspond to the extraction blank prepared with the above samples on date of extraction. Only positive hits have been included; the remaining compounds were not detected in the extraction blank.
- ^ Instrument blank results are tabulated on a separate form immediately following the volatile soil chronology of analyses.
- The Dilution Factor (DF) indicates whether a sample, prepared in accordance with the analytical method protocol, was diluted prior to analysis. The Dilution Factor could also indicate that a smaller aliquot than specified in the method was utilized for sample preparation and analysis. For example, a dilution factor of 5 means that the sample was effectively diluted by a factor of 5 prior to analysis, i.e., the sample was analyzed at 20% its reported concentration. DF does not include the correction factor for conversion to dry weight.

NOTE: All "B" notations on the Report of Analysis correspond to either the extraction method blank results listed above or the instrument blank results listed separately.

QUALITY CONTROL REPORT

Laboratory Control Sample (LCS) Results

Volatile Organics by GC/MS Method 8260A

Work Order: Wm2580

Client: Roy F. Weston

Data File:

15661.D

Water Matrix

Date of Analysis:

11/18/96 11:05:00 PM

		Spike	LCS	%	Acceptance	
Compound:	Units	Concentration	Concentration	Recovery	Range	
Ethylbenzene	UG/L	50	36.41	73	60-140	
Styrene	UG/L	50	36.44	73	60-140	
n+p-Xylene	UG/L	100	72.19	72	60-140	
>-Xylene	UG/L	50	35.13	70	60-140	
Bromoform	UG/L	50	36,53	73	60-140	
sopropylbenzene	UG/L	50	34.01	68	60-140	
,1,2,2-Tetrachloroethane	UG/L	50	39.90	80	60-140	
,2,3-Trichloropropane	UG/L	50	46.54	93	60-140	
Bromobenzene	UG/L	50	38.98	78	60-140	
-Chlorotoluene	UG/L	50	36.47	73	60-140	
-Propylbenzene	UG/L	50	34.44	69	60-140	
-Chlorotoluene	UG/L	50	36,69	73	60-140	
,3,5-Trimethylbenzene	UG/L	50	36.21	72	60-140	
ert-Butylbenzene	UG/L	50	33.72	67	60-140	
,2,4-Trimethylbenzene	UG/L	50	36.06	72	60-140	
Sec-Butylbenzene	UG/L	50	32.26	65	60-140	
,3-Dichlorobenzene	UG/L	50	32.62	65	60-140	
-Isopropyltoluene	UG/L	50	32.24	64	60-140	
,4-Dichlorobenzene	UG/L	50	32.63	65	60-140	
-Butylbenzene	UG/L	50	32.77	66	60-140	
,2-Dichlorobenzene	UG/L	50	32.87	66	60-140	
,2-Dibromo-3-Chloropropane	UG/L	50	40.40	81	60-140	
,2,4-Trichlorobenzene	UG/L	50	33.98	68	60-140	
lexachlorobutadiene	UG/L	50	34.69	69	60-140	
laphthalene	UG/L	50	37.07	74	60-140	
,2,3-Trichiorobenzene	UG/L	50	34.18	68	60-140	

Client: Roy F. Weston	
Work Order: WM2580	

Method Blank Results

Volatile Analysis by GC/MS Method	8260

Soil/Solid Matrix

Instrument Blank:	I5664.D	Instrument Blank:	
Date of Analysis:	19-Nov-96	Date of Analysis:	
Compound	Conc. (ug/L)	Compound Conc. (ug/	L)
Methylene Chloride	J0.7		
Instrument Blank:		Instrument Blank:	
Date of Analysis:		Date of Analysis:	
Compound	Conc (ug/L)	Compound Conc. (ug/	D) 11 1 1
Instrument Blank:	9	Instrument Blank:	
Date of Analysis:		Date of Analysis:	
Compound	Conc. (ug/L)	Compound Conc. (ug/	
instrument Blank:		Instrument Blank:	
		Date of Analysis:	
Date of Analysis:		The state of the s	AND MARKS
Date of Analysis:	Conc. (ug/L)	Compound Conc. (ug/	
	Conc. (ug/L)	Compound Conc. (ug/	
	Conc (ug/L)	Compound Conc. (ug/	5)
	Conc (ug/L)	Compound Conc. (ug/	

^{**} Blank results listed correspond to the instrument blanks analyzed concurrently with the samples listed on the soil chronology forms. Only positive hits have been included; the remaining compounds were not detected in the instrument blank.

VOABLKS

Client: Roy F. Weston Work Order: WM2580

Methods, Chronology of Analysis and Method Blank Results

Volatile Analysis by GC/MS Method: 8260

Soil Matrix

CHRONOLOGY

Sample Nos.	Date	LCS	Dilution	编	Sample Nos.	Date	LCS	Dilution
"一点是是这种	Analyzed	File,	Factor ~	99		Analyzed	File	Factor
WM2580-6	19-Nov-96	Q4153.D	1.0					
WM2580-6RE	19-Nov-96	Q4153.D	1.0					
					•			+
				0.14				
		-		-				-
				後漢				
				1000				
				経済				
				1000				
				譜				

METHOD BLANK RESULTS*

Compound Compound	Conc. (ug/Kg)
Acetone	J3
Methylene Chloride	2
Naphthalene	J0.6

- * Only positive hits have been included. The remaining compounds were not detected in the method blank.
- ~ The Dilution Factor (DF) indicates whether a sample, prepared in accordance with the analytical method protocol, diluted prior to analysis. The Dilution Factor could also indicate that a smaller aliquot than specified in the method was utilized for sample preparation and analysis. For example, a dilution factor of 5 means that the sample was effectively diluted by a factor of 5 prior to analysis, i.e., the sample was analyzed at 20% its reported concentration. DF does not include the correction factor for conversion to dry weight.

F1-VOA-W

QUALITY CONTROL REPORT

Laboratory Control Sample (LCS) Results

Volatile Organics by GC/MS Method 8260A

Work Order: Wm2580

Client: Roy F. Weston

Data File:

Q4153.D

Water Matrix

Date of Analysis:

11/19/96 8:13:00 AM

		Spike		%	Acceptan
Compound:	Units		Concentration	Recovery	Range
Dichlorodifluoromethane	UG/L	50	49.59	99	60-140
Chioromethane	UG/L	50	44.33	89	60-140
Bromomethane	UG/L	50	52.88	106	60-140
Vinyl Chloride	UG/L	50	49.69	99	60-140
Chloroethane	UG/L	50	49.32	99	60-140
Trichlorofluoromethane	UG/L	50	55.65	111	60-140
Acetone	UG/L	50	38.92	78	60-200
Methylene Chloride	UG/L	50	50.36	101	60-200
,1-Dichloroethene	UG/L	50	51.50	103	60-140
ATBE .	UG/L	50	49.08	98	60-140
,2-Dichloroethene (trans)	UG/L	50	51.81	104	60-140
,1-Dichloroethane	UG/L	50	52.85	106	60-140
,2-Dichloroethene (cis)	UG/L	50	50.62	101	60-140
,2-Dichloropropane	UG/L	50	51.10	102	60-140
2-Butanone	UG/L	50	40.51	81	60-200
Iromochloromethane	UG/L	50	49.18	98	60-140
etrahydrofuran	UG/L	50	51.56	103	60-140
Chloroform	UG/L	50	50.58	101	60-140
,1,1-Trichloroethane	UG/L	50	50.72	101	60-140
,1-Dichloropropene	UG/L	50	50.72	101	60-140
Carbon Tetrachloride	UG/L	50	49.01	98	60-140
,2-Dichloroethane	UG/L	50	49.84	100	60-140
Bromodichloromethane	UG/L	50	48.63	97	60-140
,2-Dichloropropane	UG/L	50	50.36	101	60-140
Olbromomethane	UG/L	50	49.70	99	60-140
ls-1,3-Dichloropropene	UG/L	50	50.66	101	60-140
richloroethene	UG/L	50	50.95	102	60-140
enzene	UG/L	50	52.22	104	60-140
ans-1,3-Dichloropropene	UG/L	50	48.56	97	60-140
,1,2-Trichtoroethane	UG/L	50	49.13	98	60-140
-methyl-2-pentanone	UG/L	50	36.65	73	60-140
oluene	UG/L	50	50.68	101	60-140
2-Dibromoethane	UG/L	50	44.47	89	60-140
-Hexanone	UG/L	50	47.00	94	60-140
3-Dichloropropane	UG/L	50	52.17	104	60-140
etrachloroethene	UG/L	50	50.58	101	60-140
ibromochloromethane	UG/L	50	49.30	99	60-140
Chlorobenzene	UG/L	50	50.16	100	60-140
.1.1.2-Tetrachloroethane	UG/L	50	51.07	102	60-140

QUALITY CONTROL REPORT

Laboratory Control Sample (LCS) Results
Volatile Organics by GC/MS Method 8260A

Work Order: Wm2580

Client: Roy F. Weston

Data File:

Q4153.D

Water Matrix

Date of Analysis:

11/19/96 8:13:00 AM

		Spike	LCS	%	Acceptance	
Compound:	Units	Concentration	Concentration	Recovery	Range	
Ethylbenzene	UG/L	50	50.68	101	60-140	
Styrene	UG/L	50	49.72	99	60-140	
m+p-Xylene	UG/L	100	101.72	102	60-140	
o-Xylene	UG/L	50	49.05	98	60-140	
Bromoform	UG/L	50	47.88	96	60-140	
Isopropylbenzene	UG/L	50	44.70	89	60-140	
1,1,2,2-Tetrachloroethane	UG/L	50	47.46	95	60-140	
1,2,3-Trichloropropane	UG/L	50	50.15	100	60-140	
Bromobenzene	UG/L	50	48.31	97	60-140	
2-Chlorotoluene	UG/L	50	51.64	103	60-140	
n-Propylbenzene	UG/L	50	47.87	96	60-140 .	
4-Chlorotoluene	UG/L	50	46.38	93	60-140	
1,3,5-Trimethylbenzene	UG/L	50	49.30	99	60-140	
tert-Butylbenzene	UG/L	50	49.39	99	60-140	
1,2,4-Trimethylbenzene	UG/L	50	49.49	99	60-140	
Sec-Butylbenzene	UG/L	50	48.01	96	60-140	
1,3-Dichlorobenzene	UG/L	50	50.13	100	60-140	
p-isopropyttoluene	UG/L	50	49.22	98	60-140	
1,4-Dichlorobenzene	UG/L	50	50.06	100	60-140	
n-Butylbenzene	UG/L	50	51.72	103	60-140	
1,2-Dichlorobenzene	UG/L	50	50,51	101	60-140	
1,2-Dibromo-3-Chloropropane	UG/L	50	49.98	100	60-140	
1,2,4-Trichlorobenzene	UG/L	50	51.62	103	60-140	
Hexachlorobutadiene	UG/L	50	50.63	101	60-140	
Naphthalene	UG/L	50	51.76	104	60-140	
1,2,3-Trichlorobenzene	UG/L	50	49.06	98	60-140	
Carbon Disulfide	UG/L	50	108.69	217	60-140	

Client: Roy F. Weston Work Order: WM2580

Methods, Chronology of Analysis and Method Blank Results

Volatile Analysis by GC/MS Method: 8260

Soil Matrix

CHRONOLOGY

Sample Nos.	Date Analyzed	LCS File	Dilution Factor ~	Sample Nos.	Date Analyzed	LCS File	Dilution Factor
WM2580-7	20-Nov-96	I5696.D	1.0		On Control of Assessment		
			1				
181							
			18				
			E.				

METHOD BLANK RESULTS*

Compound a +	Conc. (ug/Kg)
Acetone	J3
Methylene Chloride	2
Naphthalene	J0.8

- * Only positive hits have been included. The remaining compounds were not detected in the method blank.
- ~ The Dilution Factor (DF) indicates whether a sample, prepared in accordance with the analytical method protocol, diluted prior to analysis. The Dilution Factor could also indicate that a smaller aliquot than specified in the method was utilized for sample preparation and analysis. For example, a dilution factor of 5 means that the sample was effectively diluted by a factor of 5 prior to analysis, i.e., the sample was analyzed at 20% its reported concentration. DF does not include the correction factor for conversion to dry weight.

F1-VOA-W

QUALITY CONTROL REPORT

Laboratory Control Sample (LCS) Results

Volatile Organics by GC/MS Method 8260A

Work Order: Wm2580

Client: Roy F. Weston

Data File:

15696.D

Water Matrix

Date of Analysis:

11/20/96 7:29:00 AM

		Spike	LCS	%	Acceptant
Compound:	Units		Concentration	Recovery	Range
Dichlorodifluoromethane	UG/L	50	20.45	41	60-140
nloromethane UG/L		50	31.84	64	60-140
Promomethane	UG/L	50	43,14	86	60-140
/inyl Chloride	UG/L	50	36.67	73	60-140
Chloroethane	UG/L	50	40,58	81	60-140
richlorofluoromethane	UG/L	50	48,17	96	60-140
cetone	UG/L	50	37.07	74	60-200
lethylene Chloride	UG/L	50	44.57	89	60-200
,1-Dichloroethene	UG/L	50	43,31	87	60-140
ITBE	UG/L	50	45.59	91	60-140
,2-Dichloroethene (trans)	UG/L	50	45.76	92	60-140
1-Dichloroethane	UG/L	50	45.56	91	60-140
,2-Dichloroethene (cis)	UG/L	50	42.88	86	60-140
2-Dichloropropane	UG/L	50	45.63	91	60-140
-Butanone	UG/L	50	49,41	99	60-200
romochloromethane	UG/L	50	46.73	93	60-140
etrahydrofuran	UG/L	50	36.17	72	60-140
hloroform	UG/L	50	45.81	92	60-140
1,1-Trichloroethane	UG/L	50	46.25	93	60-140
,1-Dichloropropene	UG/L	50	43.63	87	60-140
arbon Tetrachloride	UG/L	50	44.70	89	60-140
2-Dichloroethane	UG/L	50	47.45	95	60-140
romodichloromethane	UG/L	50	44.88	90	60-140
,2-Dichloropropane	UG/L	50	45.50	91	60-140
ibromomethane	UG/L	50	45.33	91	60-140
is-1,3-Dichloropropene	UG/L	50	45.02	90	60-140
richloroethene	UG/L	50	44.30	89	60-140
enzene	UG/L	50	45.60	91	60-140
ans-1,3-Dichloropropene	UG/L	50	46.56	93	60-140
1,2-Trichloroethane	UG/L	50	45.98	92	60-140
-methyl-2-pentanone	UG/L	50	35.17	70	60-140
oluene	UG/L	50	44.46	89	60-140
2-Dibromoethane	UG/L	50	46,45	93	60-140
Hexanone	UG/L	50	42.29	85	60-140
3-Dichloropropane	UG/L	50	46.44	93	60-140
etrachloroethene	UG/L	50	44.24	88	60-140
ibromochloromethane	UG/L	50	46.50	93	60-140
hlorobenzene	UG/L	50	45.18	90	60-140
,1,1,2-Tetrachloroethane	UG/L	50	47.54	95	60-140

QUALITY CONTROL REPORT

Laboratory Control Sample (LCS) Results

Volatile Organics by GC/MS Method 8260A

Work Order: Wm2580

Client: Roy F. Weston

Data File:

15696.D

Water Matrix

Date of Analysis:

11/20/96 7:29:00 AM

		Spike	LCS	%	Acceptance	
Compound:	Units	Concentration	Concentration	Recovery	Range	
Ethylbenzene	UG/L	50	47.38	95	60-140	
Styrene	UG/L	50	46.35	93	60-140	
m+p-Xylene	UG/L	100	91.01	91	60-140	
o-Xylene	UG/L	50	46.04	92	60-140	
Bromoform	UG/L	50	46.75	94	60-140	
Isopropylbenzene	· UG/L	50	43.61	87	60-140	
1,1,2,2-Tetrachloroethane	UG/L	50	48.37	97	60-140	
1,2,3-Trichloropropane	UG/L	50	52.04	104	60-140	
Bromobenzene	UG/L	50	46.78	94	60-140	
2-Chlorotoluene	UG/L	50	52.02	104	60-140	
n-Propylbenzene	UG/L	50	45.67	91	60-140	
4-Chlorotoluene	UG/L	50	38.64	77	60-140	
1,3,5-Trimethylbenzene	UG/L	50	46.12	92	60-140	
lert-Butylbenzene	UG/L	50	44.58	89	60-140	
1,2,4-Trimethylbenzene	UG/L	50	46.83	94	60-140	
Sec-Butylbenzene	UG/L	50	43.69	87	60-140	
1,3-Dichlorobenzene	UG/L	50	44.05	88	60-140	
p-Isopropyttoluene	UG/L	50	43.76	88	60-140	
,4-Dichlorobenzene	UG/L	50	44.62	89	60-140	
n-Butylbenzene	UG/L	50	44.03	88	60-140	
1,2-Dichlorobenzene	UG/L	50	44.29	89	60-140	
,2-Dibromo-3-Chloropropane	UG/L	50	49.06	98	60-140	
1,2,4-Trichlorobenzene	UG/L	50	43,91	88	60-140	
Hexachlorobutadiene	UG/L	50	45.69	91	60-140	
Naphthalene	UG/L	50	46.02	92	60-140	
1,2,3-Trichlorobenzene	UG/L	50	45.75	92	60-140	

KATAHDIN ANALYTICAL SERVICES, INCORPORATED New England-ME Laboratory (207) 874-2400 CONFIRMATION

Page 1

ORDER NO WM-2580

INVOICE:

Project Manager: Andrea J. Colby

ORDER DATE: 11/15/96 PHONE: 508/772-7190

REPORT TO: MIKE WAGNER

ROY F WESTON

FAX: 508/772-7251

P.O. BOX 425 AYER, MA 01432 DUE: 02 DEC

ACCOUNTS PAYABLE

ROY F. WESTON, INC. PO: 03886-118-004

1 WESTON WAY

WEST CHESTER, PA 19380-1499

PROJECT: FT DEVENS

SAMPLED BY: CLIENT

DELIVERED BY: FED EX DISPOSE: AFTER 15 DEC

HIDD DI. CHIMI	-		DIOL	002	DIC 13 DEC
EM LOG NUMBER SAMPLE DESCRIPTION		SAMPLED DATE	/TIME	RECEIVE	D MATRIX
L WM2580-1 BB-W19-01		14 NOV	1330	15 NO	
WM2580-2 BG-ZZ24-02		14 NOV	1320		
WM2580-3 BG-ZZ24-01		14 NOV	1320		
DETERMINATION		METHOD	QTY	PRICE	AMOUNT
Extractable Petroleum HC		MADEP EPH	3	265.00	795.00
Volatile Petroleum Hydrocarbons		MADEP VPH	3	110.00	330.00
Solids-Total Residue (TS)		CLP/CIP SO	3	0.00	0.00
TOTALS			3	375.00	1125.00
LOG NUMBER SAMPLE DESCRIPTION		SAMPLED DATE			
2 WM2580-4 BB-W19-D1		11 NOV		15 NO	V F
WM2580-5 BG-B25-D1		12 NOV	1200		
DETERMINATION		METHOD	QTY	PRICE	AMOUNT
VOAs (8260)		EPA 8260	2	105.00	210.00
RCRA Metals, Total			2	75.00	150.00
Diesel Range Organics		8015M-DRO	2	45.00	90.00
Ignitability-Flash Point		SW1010	2	70.00	140.00
Corrosivity as pH		SW9045	2	0.00	0.00
Cyanide, Reactive		SW7.3	2	0.00	0.00
Sulfide, Reactive		SW7.3	2	0.00	0.00
TOTALS			2	295.00	590.00

KATAHDIN ANALYTICAL SERVICES, INCORPORATED New England-ME Laboratory (207) 874-2400 CONFIRMATION

Page 2

ORDER NO WM-2580

Project Manager: Andrea J. Colby

ORDER DATE: 11/15/96

REPORT TO: MIKE WAGNER

PHONE: 508/772-7190

ROY F WESTON P.O. BOX 425

FAX: 508/772-7251

AYER, MA 01432

DUE: 02 DEC

INVOICE:

ACCOUNTS PAYABLE

ROY F. WESTON, INC.

PO: 03886-118-004

1 WESTON WAY

WEST CHESTER, PA 19380-1499

PROJECT: FT DEVENS

SAMPLED BY: CLIENT

DELIVERED BY: FED EX

DISPOSE: AFTER 15 DEC

LOG NI	LOG NUMBER SAMPLE DESCRIPTION S		/TIME	RECEIVED	MATRIX
3 WM2580	-6 BBBG-WC01	14 NOV	1400	15 NOV	SL
DETERM	NATION	METHOD	QTY	PRICE	AMOUNT
VOAs (8	260)	EPA 8260	1	105.00	105.00
RCRA Me	tals, Total		1	75.00	75.00
Total I	etroleum Hydrocarbons (TPH)	E418.1	1	45.00	45.00
Corrosi	vity as pH	SW9045	1	70.00	70.00
Ignital	ility-Flash Point	SW1010	1	0.00	0.00
TCL Ser	ivolatile Organics by USEPA 827	OB EPA 8270B	1	260.00	260.00
Solids-	Total Residue (TS)	CLP/CIP SO	1	0.00	0.00
Cyanide	, Reactive	SW7.3	1	0.00	0.00
Sulfide	, Reactive	SW7.3	1	0.00	0.00
TOTALS	·		1	555.00	555.00

LOG NUMBER SAMPLE DESCRIPTION		SAMPLED DATE/TIME					
4 WM2580-7 TRIP BLANK	14 NOV	14 NOV					
DETERMINATION	METHOD	QTY	PRICE	AMOUNT			
Volatile Petroleum Hydrocarbons	MADEP VPH	1	110.00	110.00			
VOAs (8260)	EPA 8260	1	0.00	0.00			
TOTALS		1	110.00	110.00			

ORDER NOTE: QC-II

REPORT COPY: 603/228-1334*JOHN LOVELY

ROY F. WESTON, INC. 7 EAGLE SQUARE

CONCORD, NH 03301-4991

PHONE: 603/228-1334 FAX: 603/228-3440

INVOICE: With Report

TOTAL ORDER AMOUNT \$2,380.00

This is NOT an Invoice

AJC/RLW/SM/WEST.AJC(dw)/WEST.RLW(dw)

12-02Please contact KATAHDIN ANALYTICAL SERVICES promptly if you have any questi



340 County Road No. 5 P.O. Box 720 Westbrook, ME 04098 Tel: (207) 874-2400

CHAIN of CUSTODY

* PLEASE PRINT IN PEN												Pa	ge /	of 1
Roy F. Weston In	Weston Inc. / ACOE Milke Wagner din 3701 City Ager			Phone # 1772 -7190			fax # 1772 7290							
Address Brilding 3707 City Ager State A					M	4		Z	p Code	019	133			
P.O. # 425 Ayer, MA	Proj. Name/t	No.												
Bill (if different than above)			Addre	355										
Sample (Print/Sign)		8							Сор	ies To:				
WORK OFFER #. (LIMING &A				ANALYSIS AND CONTAINER TYPE PRESERVATIVES										
LAB USE ONLY WORK ORDER #: WW2580 KATAHDIN PROJECT MANAGER						.4								
REMARKS:				_		÷.	5		:		+		3.00	
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* Sample Description	Date/Time coll'd	Matrix	Filt. Y/N	No. of Cntrs.	104	RUPA 1	101	SVOC	EP	HAN	Peace,			14
1 88-425-01	11/14/94/1330	soil	N	3					1	2				
3 BG- ZZ 24-01	11/14/96/1320	soil	N	3					1	2				
2 BG-ZZ24-02	11/14/96/1320	5.1	N	3					1	2				
6 BBBG-WCOI	11/14/90/1400	1:02	N	5	1	1	1				L			
4 BB-W19-D1	11/1/96/1340	0:1	N	4	1	1	1							
5 BG-825-DI	11/12/96/1200	liquid	N	5	2	1	1				1			
7 Trip Blank		water	- ~	4	2					2				
Tamp. Black		water	. ~	1										
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COMMENTS Sample B4-	BAS-DI Should	l be L	omo	geni	zed	Prid	r to	Maa	175	NA		PA	GE	3
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