EPA CONTRACT NO. 68-W6-0042
EPA WORK ASSIGNMENT NO. 107-RICO-0146

EPA Project Officer: Diana King
EPA Remedial Project Manager: Joseph LeMay

BASELINE HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT REPORT

Wells G&H Superfund Site
Aberjona River Study
Operable Unit 3
Woburn, Massachusetts

Volume IV
Appendix A

September 2004

Prepared By:

Metcalf & Eddy
701 Edgewater Drive
Wakefield, Massachusetts

Metcalf & Eddy

SDMS DocID 000214592

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APPENDIX A

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FIELD INVESTIGATION DATA

A.1 FOSTER WHEELER FIELD INVESTIGATION DATA COMPENDIUM

A.2 METCALF & EDDY SUPPLEMENTAL DATA COMPENDIUM

A.3 INDUSTRI-PLEX FIELD INVESTIGATION WORK PLAN

A.4 TETRA TECH 2000 AND 2001 FIELD SAMPLE LOG SHEETS

A.5 M&E 2001 TRIAD SAMPLING INFORMATION

A.6 EPA 2002 SUMMARY OF FIELD LOG SHEET DATA

A.7 USEPA AND TTNUS FIELD LOG SHEET DATA

A.8 GROUNDWATER USE & VALUE DETERMINATION

Appendix A.1

Foster Wheeler Field Investigation Data Compendium

ARCS I PROGRAM

Remedial Planning Activities at Selected Uncontrolled Hazardous Substance Disposal Sites Within EPA Region I (ME, VT, NH, MA, CT, RI)

PRELIMINARY DATA COMPENDIUM
WELLS G & H RI/FS
OPERABLE UNIT III
ABERJONA RIVER STUDY
SAMPLING PERIOD JULY 31, 1995
TO SEPTEMBER 12, 1995

EPA Contract 68-W9-0034

FOSTER WHEELER
FOSTER WHEELER ENVIRONMENTAL CORPORATION

WELLS G & H ABERJONA RIVER

DATA COMPENDIUM

SAMPLING PERIOD: JULY 31, 1995 TO SEPTEMBER 12, 1995

1. INTRODUCTION

2. FIELD SAMPLING

- 2.1 Site Locations (map showing all station locations)
- 2.2 Station Descriptions (include field drawings)
- 2.3 Sample Reference Tables
- 2.4 Field Chemistries

3. SURFACE WATER ANALYSES

- 3.1 General Water Quality (alkalinity, chloride, nitrate/nitrite, sulfate, TDS, TSS)
- 3.2 VOCs (524.2) *
- 3.3 SVOCs *
- 3.4 PCBs/Pesticides *
- 3.5 Inorganics (metals, CN) *
- 3.6 Total Dissolved Carbon (dissolved organic carbon)

4. SEDIMENT ANALYSES

- 4.1 VOCs *
- 4.2 SVOCs *
- 4.3 PCBs/Pesticides *
- 4.4 Inorganics (metals, CN) *
- 4.5 AVS/SEM
- 4.6 Organic Carbon (total organic carbon or total combustible organics) and percent moisture
- 4.7 Grain Size Distribution

5. FISH TISSUE ANALYSES

- 5.1 Fish Statistics (length, weight, condition)
- 5.2 SVOCs *
- 5.3 PCBs/Pesticides *
- 5.4 Inorganics (metals, CN) *
- 5.5 Percent Moisture and Lipids

6. CRAYFISH ANALYSES

- 6.1 Crayfish Statistics (average length and weight of composites)
- 6.2 SVOCs *
- 6.3 PCBs/Pesticides *
- 6.4 Inorganics (metals, CN) *
- 6.5 Percent Moisture and Lipids

7. PLANT TISSUE ANALYSES

- 7.1 Description of Composite Samples
- 7.2 SVOCs *
- 7.3 PCBs/Pesticides *
- 7.4 Inorganics (metals, CN) *
- 7.5 Percent Moisture

8. SEDIMENT BIOASSAY REPORT

* summary statistics and backup tables

1. INTRODUCTION

1. INTRODUCTION

The field investigations supporting the Wells G & H Aberjona River Risk Assessment were executed over the period July 31 to September 12, 1995. All fish and crayfish sampling, with the exception of two background locations, was performed July 31 to August 4, 1995 under the direction of the Fish and Wildlife Service. The F&W team, led by Kenneth Munney, was supported by two Foster Wheeler personnel who were responsible for packaging, labeling and initiating chain of custody procedures. The fish and crayfish samples were maintained in a freezer until the sampling was completed, at which time, a selection of samples to be submitted for laboratory analysis, was made.

The Field Operations Plan, (July 1995) describes the methods used for the collection of water and sediment samples. These were collected over the period August 15 to September 12, 1995 and were submittted to their respective laboratories by courier on a daily basis.

Plant samples were collected from three sites and one background location on August 29-30, 1995 and September 6, 1995. The methods for collection and for compositing the plant samples is described in the Final Field Operations Plan (Foster Wheeler, July, 1995).

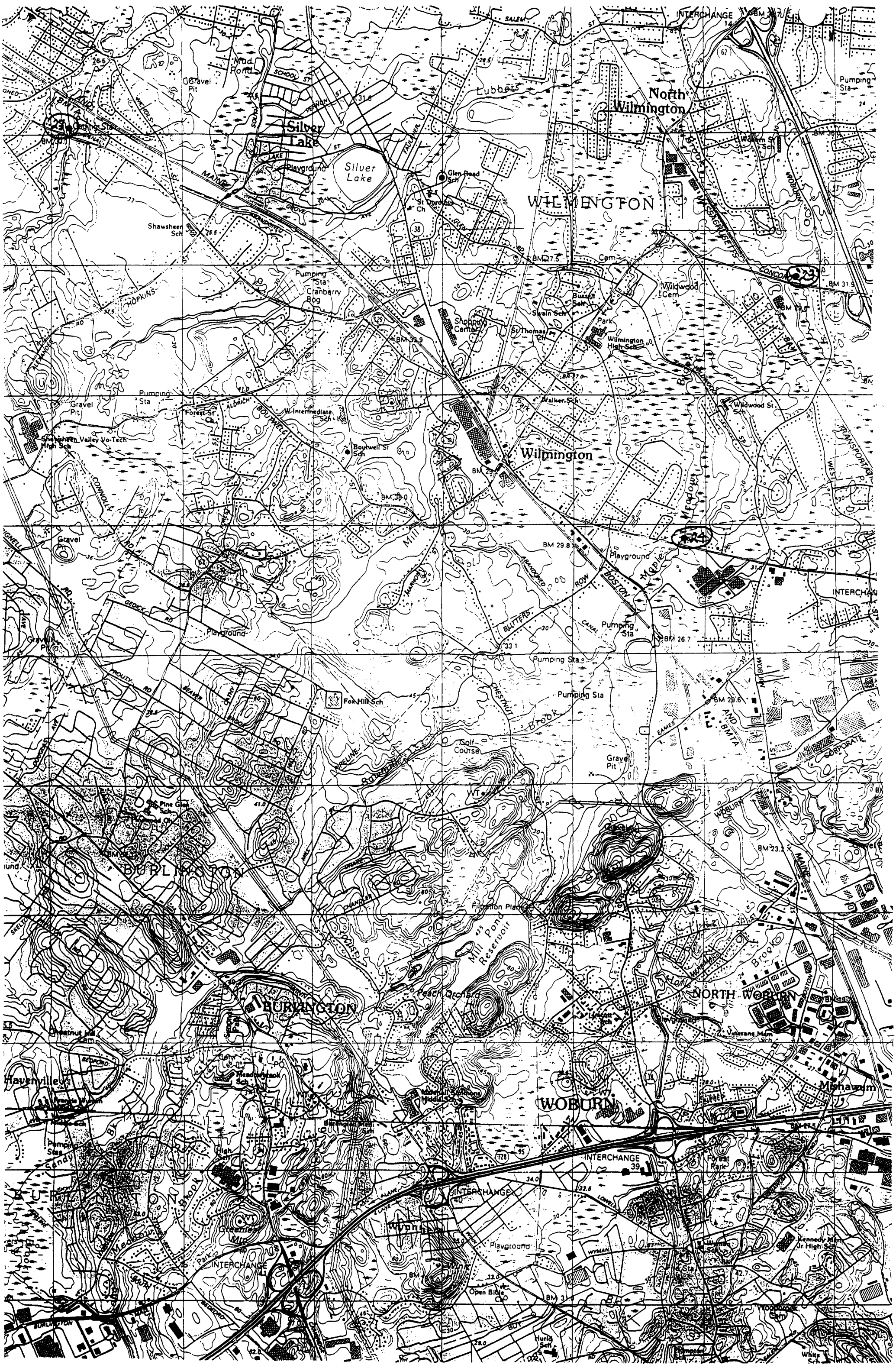
The sediment samples used in the benthic bioassays, were collected from August 29-31, 1995. This sampling was coordinated and overseen by Patti Tyler of the EPA-Environmental Services Division, who also conducted the bioassays, reported in Section 8.

This document is not a report, but a collection of results from the field/laboratory studies. The statistical summaries provided include all data for the class reported, the purpose being, to use the maximum number of data points in the selection of contaminants of concern, or potentially of concern and to provide an objective first presentation of the data. Comparative statistical analyses on smaller data sets, will be executed as needed to support the human health and ecological risk assessments.

This compendium is organized as follows: Section 2 identifies the sampling locations, the specifics of the sampling in the field (where, how analyzed, ID numbers etc) and observations/measurements made at the time of sampling. Sections 3 through 7 present the results of the chemical analyses by matrix. Finally, section 8, presents the reported results of the sediment toxicity tests conducted by EPA's Office of Ecosystem Assessment.

2. FIELD SAMPLING

2.1 Sampling Locations


Silver Lake
Mud Pond
Gravel Pit
Playground
Silver Lake
Glen Road Sch
St Dorothy Ch
WILMINGTON
North Wilmington
Lubbers
Pumping Sta
Cranberry Bog
Shawsheen Sch
Shopping Center
St Thomas Ch
Buzzell Sch
Swain Sch
Wildwood Cem
Park
Wilmington High Sch
Walker Sch
Wildwood St Sch
Woburn St Sch
Pumping Sta
W Intermediate Sch
Forest St Ch
Boutwell St Sch
Shawsheen Valley Vo-Tech High Sch
Wilmington
Meadow
Playground
Pumping Sta
Pumping Sta
Pumping Sta
Fox Hill Sch
Golf Course
Gravel Pit
Pine Glen Sch
BURLINGTON
Filtration Plant
Mill Pond Reservoir
Peach Orchard
Chestnut Hill Cem
Meadowbrook Sch
Burlington High Sch
Burlington Mall
Shawsheen Middle Sch
WOBURN
NORTH WOBURN
Veterans Mem Sch
Mishawum
Forest Park
Greenleaf Mtc
Playground
Open Bible
Hurld Sch
Kennedy Mem Jr High Sch
Woodcock Sch
White Sch
INTERCHANGE 14
INTERCHANGE 39
INTERCHANGE 40
BM 30.0
BM 27.5
BM 31.9
BM 33.9
BM 27.0
BM 29
BM 29.8
BM 26.7
BM 29.6
BM 23.1
BM 30.0
BM 29.5
BM 31.0
BM 28.0
BM 42.7
Boston & Maine R.R.
Mill Brook
Aberjona River
Chestnut Brook
Abandoned ROW
Boston & Maine R.R.
Transportation Center
Maple St
Concord St
Main St
Salem St
Lake St
School St
Vernon St
Nichols St
Glen Rd
Faulkner St
Grove Ave
Abandoned
Hopkins Rd
Alexander Rd
Aldrich Rd
Boutwell
Connolly
Gengell
Rd 41
Geokk Rd
Beaver
Pinehurst
Douglas Ave
Pinehurst
Pinehurst
Pinehurst

NORTH WOBURN
WOBURN
Mishawum
INTERCHANGE 39
INTERCHANGE 40
INTERCHANGE 37
INTERCHANGE 36
INTERCHANGE 9
INTERCHANGE 8
Horn Pond
Spot Pond
Great Island
Porter Cove
Middlesex Fells Reservation
Mystic Lake
Upper Mystic Lake
Lower Mystic Lake
Whitmore Pond
Long Pond
Dike Pond
Quarter Mile Pond
Silver Mine Hill
Bear Hill
Walnut Hill
Wright Park
Golf Course
Playground
Cemetery
Stone Zoo
Robin Hood Sch
Kennedy Mem Jr High Sch
Shamrock Sch
White Sch
Hurld Sch
Reservoir
Pond
Hill
Park
Sch
Ave
St
Rd
Dr
Ln
Pl
Ter
Cir
Bk
Brook
Creek
Lane
Parkway
Boulevard
Terrace
Circle
Place
Drive
Court
Square
Bridge
Crossing
Junction
Center
Plaza
Mall
Building
Tower
Station
Substation
Gravel Pit
Quarry
Dam
Spillway
Fountain
Monument
Memorial
Cemetery
Golf Course
Playground
Park
Forest
Woods
Marsh
Swamp
Meadow
Orchard
Vineyard
Nursery
Greenhouse
Farm
Barn
Silo
Stable
Kennel
Pasture
Field
Lawn
Garden
Yard
Path
Trail
Walk
Steps
Bridge
Tunnel
Overpass
Underpass
Ramp
Loop
Circle
Square
Plaza
Mall
Building
Tower
Station
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Gravel Pit
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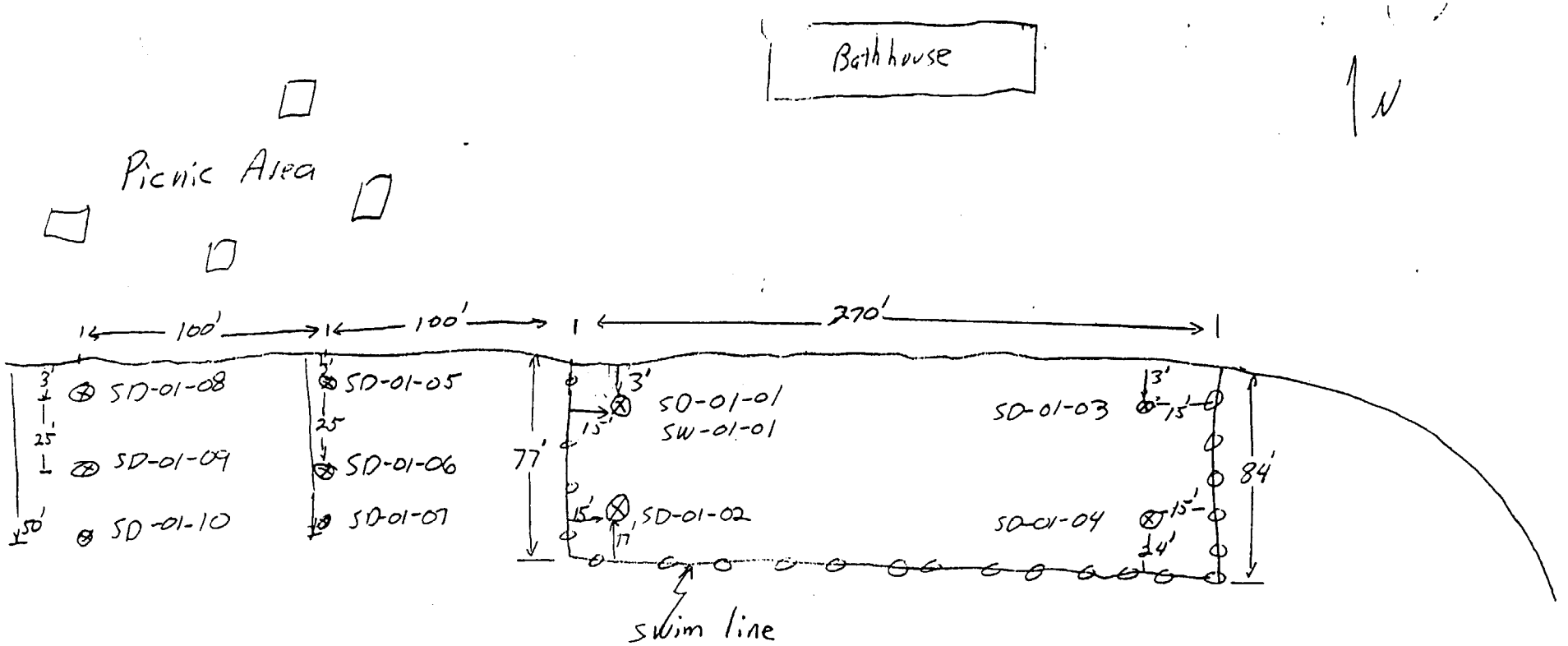
Stable
Kennel
Pasture
Field
Lawn
Garden
Yard
Path
Trail
Walk
Steps
Bridge
Tunnel
Overpass
Underpass
Ramp
Loop

2.2 Station Descriptions

These station descriptions are taken from the final Field Operations Plan, supplemented by mapping and notations made in the field. The exact locations of each sampled site were recorded using a global positioning system supplied by the EPA.

Site 1—*Upper Mystic Lake, Sandy Beach—the adjacent area located near the numerous picnic benches in the park.* This location was chosen as a human health priority site because of its intensive use as a swimming beach, for hiking, wading, fishing, and boating. This area represents the most intensive use of the Aberjona River. Human health exposure scenarios will include swimming and wading (with varying ingestion and dermal contact parameters) and sport fish ingestion. Water and sediment quality here is also a concern for local officials. MIT data indicate high levels of metals in the sediment of the lake. Both Sandy Beach and the adjacent beach area were used for swimming and wading during the site reconnaissance visit. While the adjacent area may be used less intensively than the delineated swimming area, it is not subject to repeated clean sand amendments and therefore is likely to be more representative of actual lake contamination conditions. Four sampling points will be located within the buoys that delineate the swimming beach proper. Two points will be located close to shore (approximately 3 feet), to determine contaminant levels in areas frequented by small children, and two will be approximately 50 feet from shore to capture data from an area of the swimming beach most likely to have the highest contaminant concentrations. The remaining six sampling points will be located along the adjacent area, two close to shore (approximately 3 feet), two approximately 25 feet from shore, and two approximately 50 feet from shore.



Upper Mystic Lake

Aberjona River Study

site # 1 Sandy Beach

note (USEPA GPS location @ SD-01-01)

not to scale

As Sampled

1010 TAKE SW-1 AT SANDY BEACH

pH	T °C	COND.	HARD	DO_2
8.98	26	520	94 mg/L	4.88 mg/l

NOTE: 3 CHILDREN SWIMMING AT TIME OF SAMPLE

note GPS unit not reporting position unit say poor to high only gives old fix check all connections unit starts to store data & then clips at 10 Old Fix.

1100 SAMPLE SD-1 TAKEN @ 1.0 BWS
DARK GRAY: C+F SAND 50-60%
C+F GRAVEL 20-30%
SILT 10-20%
ORGANIC DEBRIS 0-10%
NO ODOR.

1120 COLLECTED SD-3 - (SD-0103)
SAME COMPOSITION AS SD-0101 @ ≈1.0' BWS.

1145 SAMPLE SD-0102 @ ≈4.0' BWS
MOTTLED DARK GRAY, TAN, AND BLACK C+F SAND 80-90%
LEAF FRAGMENTS ~~SILT~~ FINE GRAVEL 10-20%
SILT 0-10%

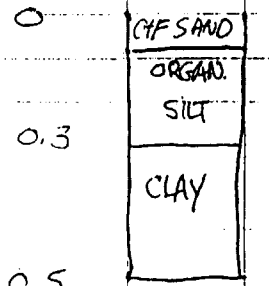
1200: COLLECT SD-0104 @ ≈4.0 BWS
SAME COMPOSITION AS SD-0103

1230: COLLECT SD-01-05 @ ≈ 1.0' BWS
BROWN TO DARK GRAY
C+F SAND 70-80%
C+F GRAVEL 10-20%
SILT 10-20%
COBBLES 0-10%
GLASS AND ALUMINUM CAN FRAGMENTS
NO-ODOR - NUMEROUS COBBLES & GRAVEL REMOVED FROM SAMPLE
ROCKY BOTTOM

1300 COLLECT SD-01-08 @ ≈10' BWS
LIGHT BROWN C+F SAND 80-90%
C+F GRAVEL 5-10%
SILT 5-10%
COBBLES 0-5%
ROCKY BOTTOM (COBBLES - CLEAN SAND BELOW)

1315: COLLECT SD-01-06 @ ≈ 5.0' BWS
DARK BROWN TO BLACK
ORGANIC SILT 80-90%
C+F SAND 10-20%
F GRAVEL 0-10%
CLAY 0-10%
ORGAN FIBERS + DEBRIS H_2S ODOR

1400 COLLECT SD-01-07 @ ≈ 7'
6.0' BWS.
BROWN TO LIGHT GRAY
SILT 70-80%
CLAY 30-40%
C+F SAND 0-10%
F GRAVEL 0-10%



0
0.3
0.5

1415 COLLECT SD-01-09 @ ≈ 5.0' BWS
DARK BROWN:
ORGANIC SILT: 70-80%
C+F SAND 10-20%
F GRAVEL 0-10%
SLIGHT H_2S ODOR, PLASTIC FRAGMENT
1445 COLLECT SD-01-10 @ ≈ 6.0' BWS
BLACK ORGANIC SILT 80-90%
C+F SAND 10-20%
F GRAVEL 0-10%
SLIGHT ODOR, VEGITIVE MATTER

1530: COLLECT FB-(01) 081595
545 begin to pack samples for Fed Ex shipment
845 Done for day off to Fed Ex w/ samples
1900 at 65°F

Site 2—*Upper Mystic Lake, Inlet to Lower Forebay*. The upper and lower forebays are sediment deposition areas and of relatively high ecological importance. In addition, these areas are considered important for human health risk assessment. The sampling site was located in the lower forebay at the mouth of the inlet from the upper forebay. This is a deposition area and the most accessible part of the lower forebay from the Sandy Beach area.

0700 onsite hazy humid 90

HIS level 0 unless noted

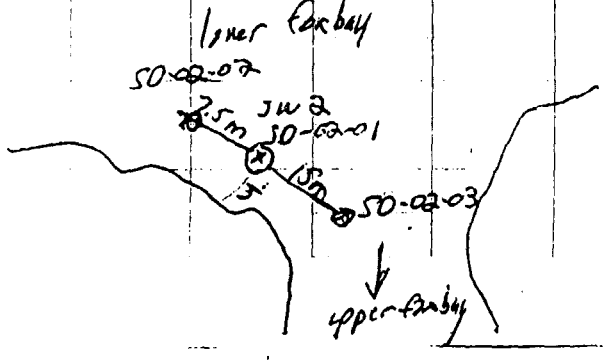
0710 set up @ back of park parking lot between locs SW 2, SW 3

0830: CALIBRATE INSTRUMENTATION
pH: soln 7.0 & 4.0
DO: electronic
COND: 1000 µMHOS soln.

0745 COLLECT SW-02-01 (PARAMETERS)

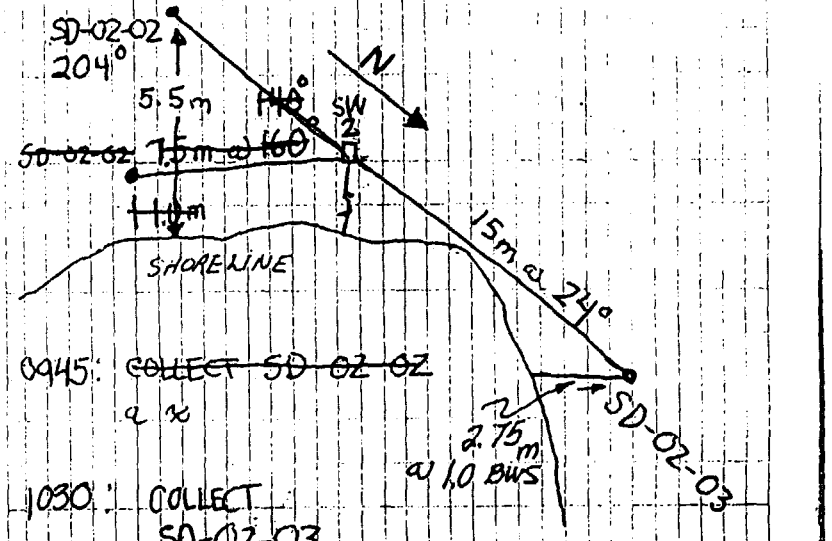
pH	T°(C)	COND(µmhos)	DO_2(mg/L)	HARD(mg/L)
7.78	30	475	4.6	~~100~~ 106 mg/L

0845 collect SW-02 in 1.5' water



0900 collect sediment sample SD-02-01 & SD-02

note: GPS not working think it's poor connection: call T. Bridge @ EPA Lex 9/5 rd in office until 9/17

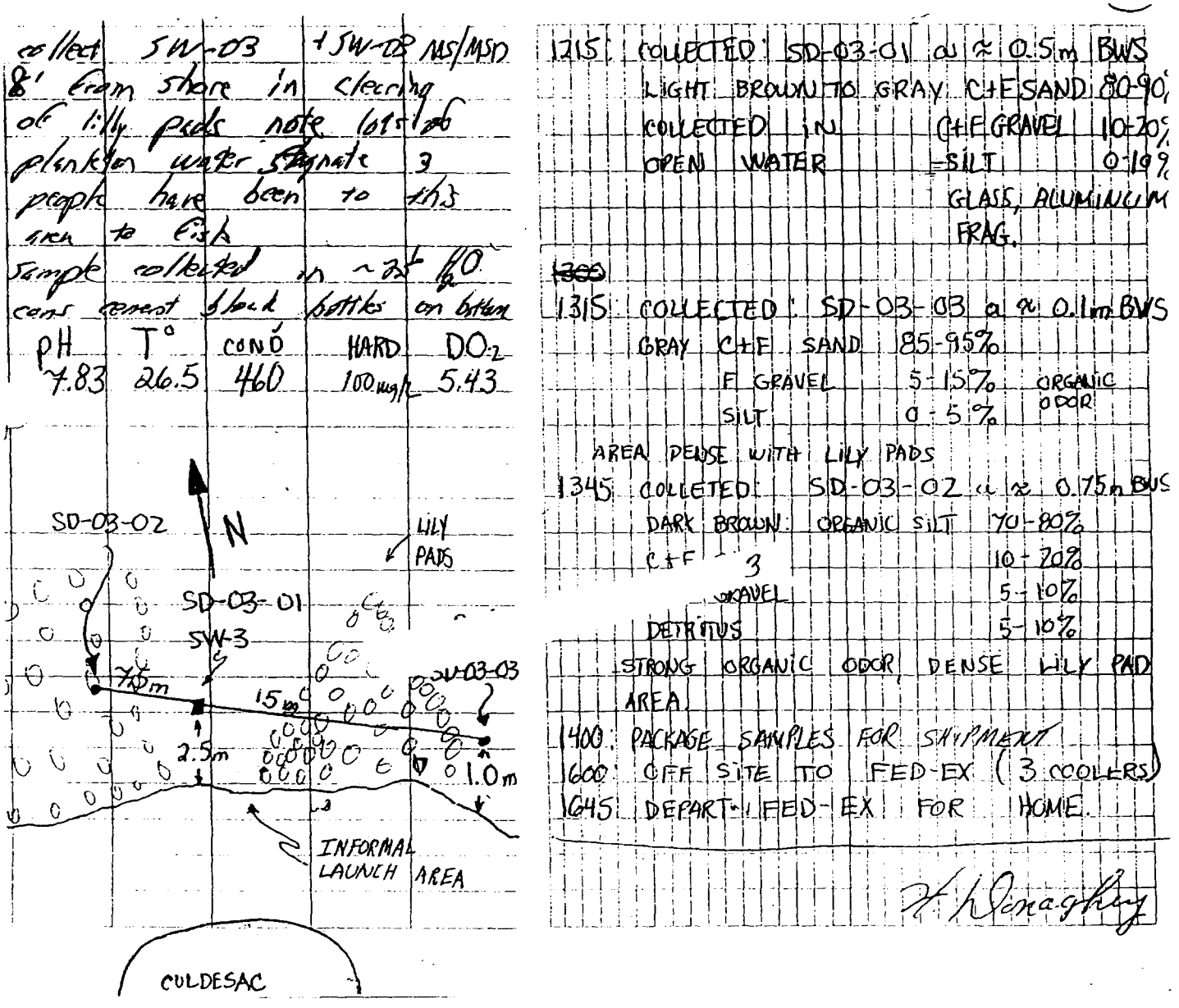


0945: ~~COLLECT SD-02-02~~ @ ∝

1030: COLLECT SD-02-03
DARK BROWN: C+F SAND 70-80% UPPER FOREBAY
FINE GRAVEL 10-20%
SILT 10-20%
ROCKY SHORELINE NUMEROUS LILY PADS

1100: COLLECT SD-02-02 @ ∝ 1.5m BWS
BROWN 70-80% C+F SAND
10-20% C+F GRAVEL (C REMOVED FROM SAMP.
10-20% PEAT

Site 3—*Upper Mystic Lake, Boat Put-In Near Sandy Beach Parking Lot, South End of Upper Forebay.* An area observed at the south end of the upper forebay, at the cul-de-sac at the end of the parking lot, is believed to be used for boat launching. Prow marks from recent launches were visible in the sediment during the June site visit. In addition, a child was observed playing in the water at this location. The area was selected as a sampling site because of the obvious, if somewhat limited, contact point and because this area near the mouth of the river is where the highest sediment contaminant loads are thought to drop out in the lake over time.

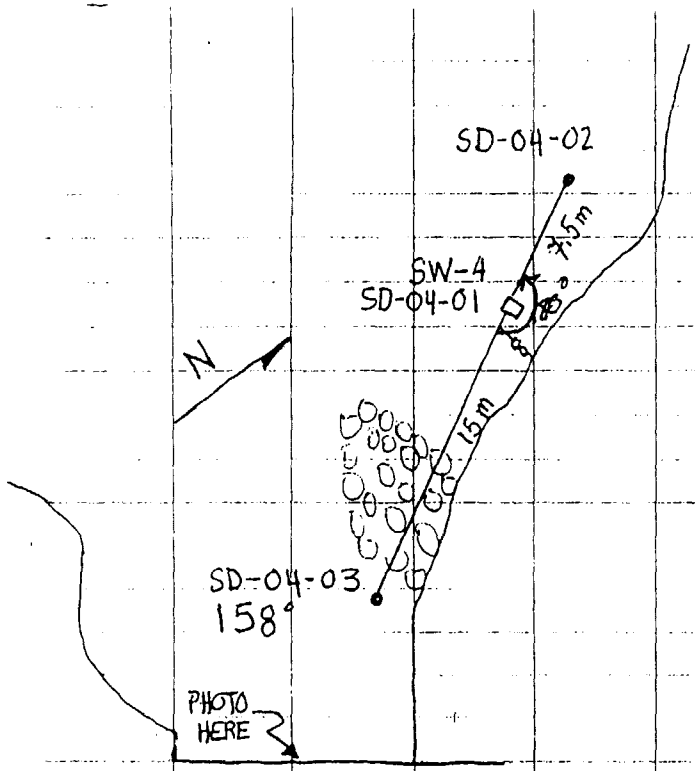


Site 4—*Aberjona River Inlet to Upper Mystic Lake*. This area was selected as a sampling site because it is a sediment deposition area at which fishermen, waterfowl, fish, and other aquatic wildlife were observed.

0700 ON SITE, CLEAR HUMID 80'S
H+S LEVEL D UNLESS NOTED
0730 CALIBRATE INSTRUMENTATION
ⓐ COLE PALMER pH METER MAY HAVE ERRONEOUS READINGS - COMPARED IT TO EPA MODEL 72904. BOTH CALIBRATED PROPERLY WITH EACH MODELS BUFFER SOLUTIONS
ⓑ CONDUCTIVITY SOLN 1000 UMHOS READING 1000 UMOS
ⓒ DO_2: ELECTRONIC @ 0.0 FT. ABOVE S.L + 0.0% SALINITY
0815 COLLECT WATER SAMPLE FROM SW-04 TO DETERMINE PARAMETERS

	pH	T °C	COND. UMHOS	DO_2 mg/l	HARD mg/l
COLE PALMER	6.99	27.1	550	1.03	112
MEASUREMENTS IN	6.18				

0830 COLLECT SW-04 3' FROM SHORE COLLECTION SITE IS DENSELY CHOKED WITH ALGAE, DUCKWEED AND LILY PADS. STAGNENT. SHORELINE IS LITTERED WITH TRASH



0930 COLLECTED SD-04-01 @ ≈ 1.5m BWS
DARK BROWN TO BLACK
ORGANIC SILT ~~80-90%~~
C+F SAND 10-20%
C+F GRAVEL 10-20%
DETRITUS 10-20%
STRONG ORGANIC ODOR, DENSE VEGITATION
3-5' FALSE BOTTOM

1015 COLLECTED SD-04-02 @ ≈ 1.5m BWS
DARK BROWN ORGANIC SILT 70-80%
C+F SAND 10-20%
DETRITUS 10-20%
F. GRAVEL 0-5%
COLLECTION SITE: DENSE AQUATIC VEG. AND ALGAE, FALSE BOTTOM 2-5' THICK, STRONG ORGANIC ODOR.

1100 COLLECTED SD-04-03 @ ≈ 1.0m BWS
DARK BROWN ORGANIC SILT 70-80%
DETRITUS 20-30%
C+F SAND 0-5%
COLLECTION SITE: DENSE AQUATIC VEGITATION, & ALGAE FALSE BOTTOM 3-6', STRONG ORGANIC ODOR.

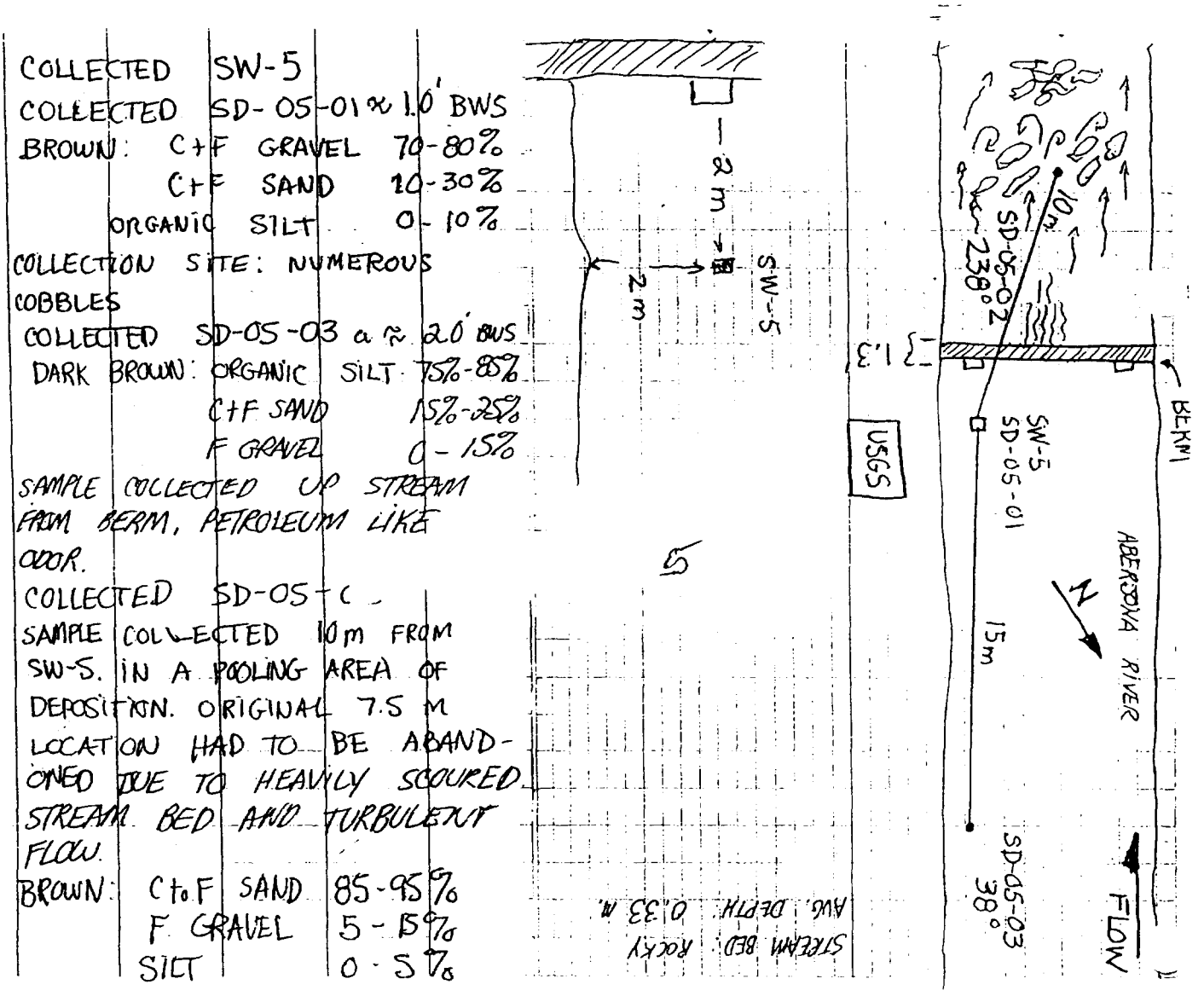
1115 PACK UP + MOVE TO SW-5

1130 embed gage @ SW/SD 5 USGS gage station

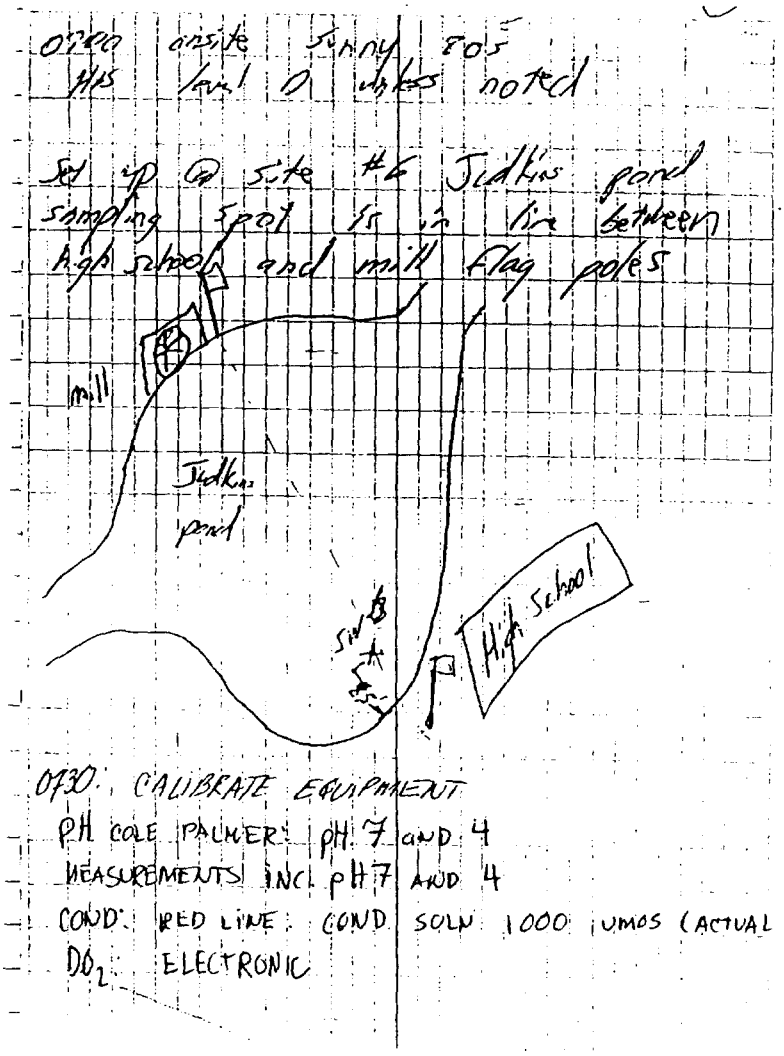
1200 COLLECT SW-05 PARAMETERS

pH	T°	COND	HARD	DO_2
6.42	25.0°	560 UMHOS	136	5.12 mg/l

Site 5—*Gauge Station Off Mystic Valley Parkway.* This is the only identified sampling area within Reach 5 of the Aberjona River, as defined by Susan Siversky in her 7/17/91 memo on Wells G&H site visits to evaluate conditions for fish collection activities. The gauge station was selected to represent Reach 5 because it offers an identifiable landmark, and because it was used previously as a sampling station for the Upper Mystic Lake Watershed Urban Runoff Project.

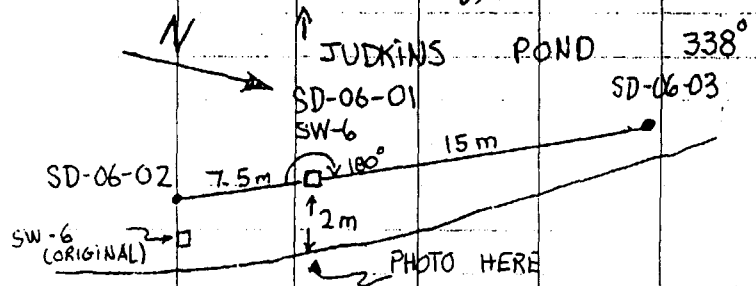


Site 6—*Judkins Pond*. This is the sampling location recommended by Siversky for Reach 4, because it appeared to be the only area in downtown Winchester where fishing could occur without being highly visible or potentially affecting non-target species. The Judkins Pond/Winchester High School area will not be defined as an intensive sampling site for the human health risk assessment, as originally planned. Judkins Pond does not seem to be an actual park and access to the shoreline is limited by a fence. Although this fence does not necessarily prevent contact, because there are portions that are broken, it was noted that on a sunny, 80°F day in June, no one was using this area for recreation. The area adjacent to the Winchester High School playing fields, just south of the Swanton Street bridge, was also reevaluated. It was initially thought that this area might be used as an access point to the river. However, it was not mentioned by any of the Winchester officials as an area of concern. It is isolated from both the high school grounds and adjacent homes due to culverts, riprap, concrete walls, fencing, or overgrown vegetation. No one was in this area during either of the site visits.



SW-6	pH	T °C	UMHOS COND	HARD	DO_2
COLE PALMER	6.68	24.1°	640	142 mg/L	6.85 mg
MEAS. INC.	6.60				

0745 COLLECTED SW-6
water depth - 2' soft bottom
sink ~1' in organic muck
sample collected ~~2.5~~ 2.5' from shore
MILL



0815 COLLECTED SD-06-01 IN ~1.0m BWS
DARK BROWN: ORGANIC SILT 60-70%
C+F SAND 20-30%
DETRITUS 10-20%
FINE GRAVEL 0-10%
COLLECTED IN OPEN WATER, FALSE BOTTOM 2-3' THICK, ORGANIC ODOR

0845 COLLECTED: SD-06-03 AT ~1.0m BWS
SAME COMPOSITION AND CONSISTENCY AS SD-06-01

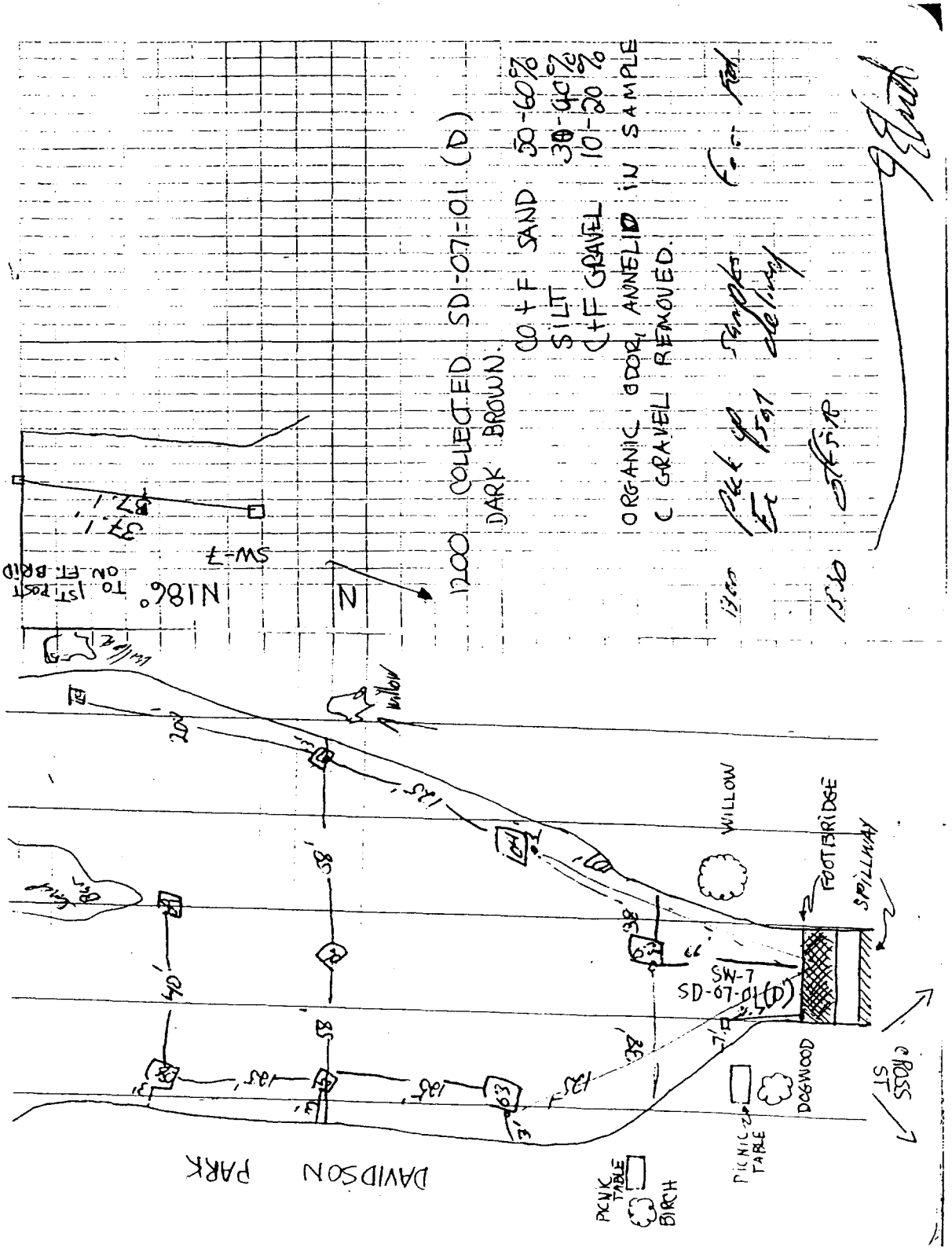
0915: COLLECTED SD-06-02 AT ~1.0m BWS
NOTE: DETECTED ORIGINAL SW-6 STAKE 1m FROM SHORE AT SD-06-02 LOCATION.
DARK BROW: ORGANIC SILT 70-80%
C+F SAND 10-20%
DETRITUS 10-20%
FINE GRAVEL 0-10%
COLLECTED IN OPEN WATER, FALSE BOTTOM 2-3' THICK, STRONG ORGANIC ODOR.

1000: PACK VEHICLE AND MOVE TO SW-7 (DAVIDSON PARK)

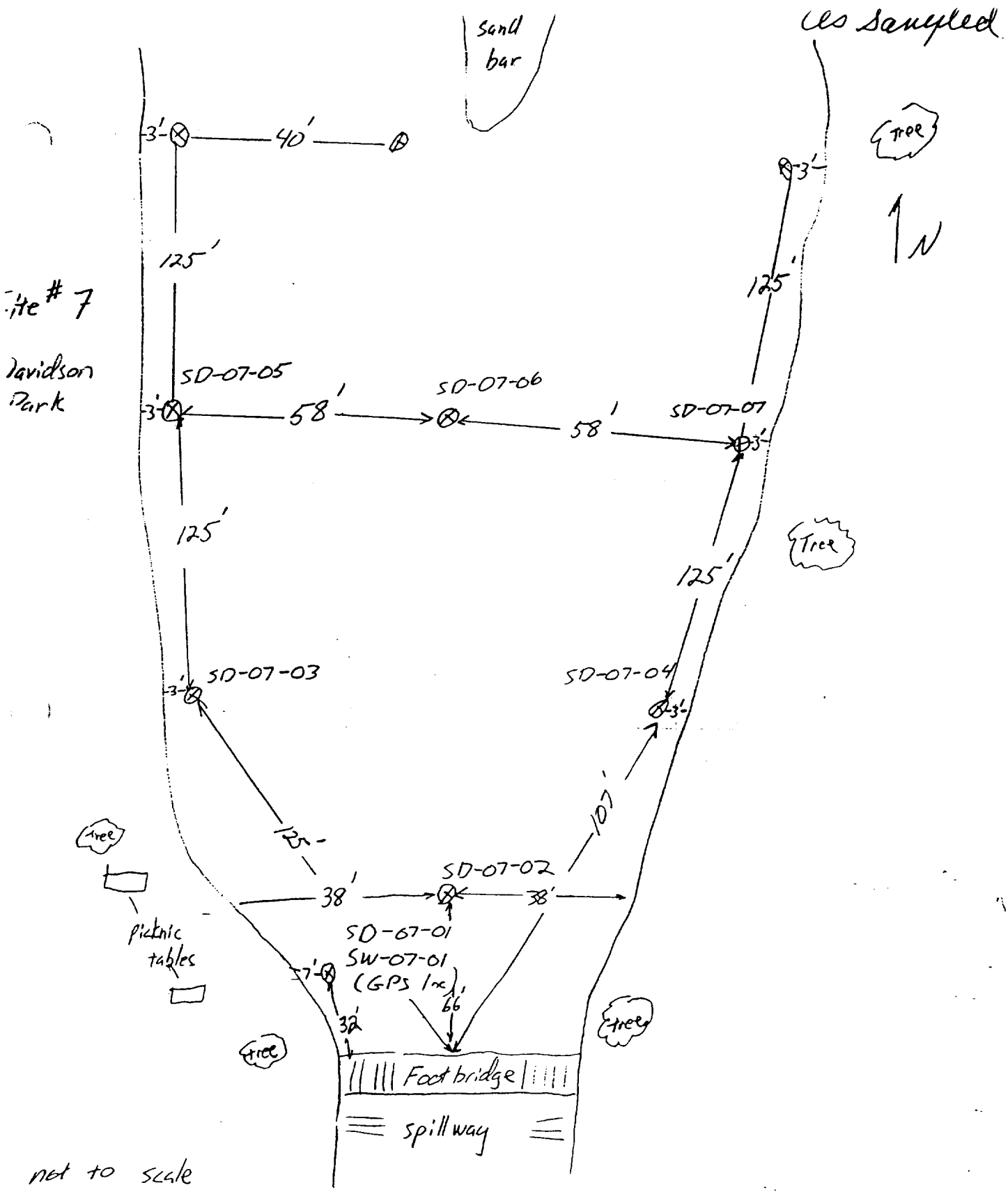
1100: COLLECT SW-7 PARAMETERS

	pH	T°C	COND UMHOS	HARD mg/l	DO_2 mg/L
COLE. P.	6.94				
MEA. INC.	6.80	25.3	465	152	4.44

Site 7—*Davidson Park*. The site was selected as one of the three intensive sampling sites for the human health risk assessment based on use by local residents as well as children playing along the banks. In addition, data from the MIT suggest that Davidson Park, particularly its south end, might be an area of local peak contaminant concentrations. It may also be a localized contamination sink, due to the spillway, sand bar, and



dam in this portion of the river. Davidson Park is located just south of the Woburn/Winchester boundary off Washington and Cross Streets. Both the recreation and health directors in Winchester suggested this park as an area to consider due to its use by local residents and easy access to the river. It is also a concern because residents have requested that the beach located here be reopened for public use. The park consists of picnic tables, grassy areas, and a pond, which is actually an oxbow of the Aberjona, bounded by spillways at the northern and southern ends of this area. There were approximately five people using the park during the June visit. The current human exposure scenarios to be included in the risk assessment are wading (dermal contact and incidental ingestion) and sport fish ingestion. Sampling points will be distributed throughout the pond area, from south of the sand bar to just above the lower spillway (Figure 3-2).



Abergona River Study

0700 onsite Sunny expect 95°
HAS level D
personel SEhret, CFairin, MBergsby

0715 set up to coast w/
14 H samples from loc^ns
Davidson pond

0800 collect SD-07-02
5' water sample is silt
soft org. silt/muck
sample collected 66' from bridge
in center (36') of pond

0830 collect SD-07-03 sample
same consistency as 02 w/
several cobbles on surface
sample collected 3' from W
shore 125' from bridge

note mark SD-07-04 will
collect @ later date
w/ EPA for Biopsy
sample 107' along E bank
from bridge 3' from shore

SEhret

0850 collect SD-07-05 125' N
of SD-07-03 along W bank in
2' water blk organic muck

0910 collect SD-07-07 125' N
of SD-07-04 along ~~W~~ E bank 3'
from shore adjacent to sm willow
same mat ~1.5' H2O

note: 2 children playing in H2O @ bridge

0930 collect SD-07-06 equidistant (116')
58' from each bank @ SD-07-07 willow
water depth - 4' same material

0935 collect SD-07-08 125' N of
SD-07-05 along W bank in
1.5' water same mat.

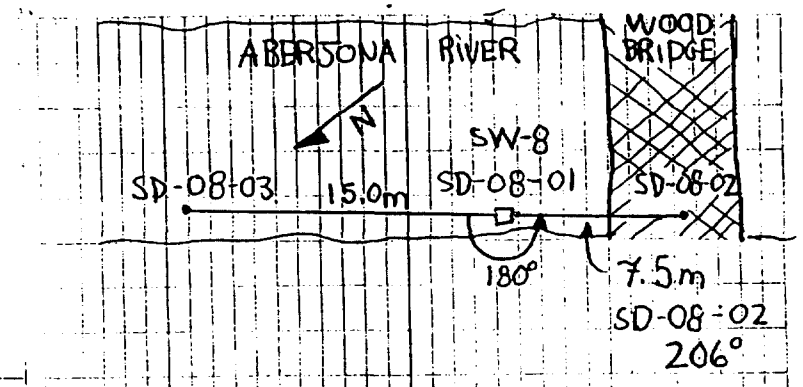
1015 collect SD-07-09 40' ⊥ from
SD-07-08 loc - 1' H2O

note red worms ~2" long look similar
to earthworms in sample, see
turtles + bugs on shore

SEhret

1040	collect SD-07-10 @				
	200 N of SD-07-07,				
	along E bank in 1½O				
	adjacent to willow				
1100	pack up to move to SW508				
	will in to Mgmt report status				

Site 8—*Footbridge Above Washington Crossing—Just Upstream of Davidson Park and Inlet from North Reservoir.* This site was selected to represent the river reach from downstream of Cranberry Bog to Davidson Park because it corresponds closely to the Washington Street sampling station from the Upper Mystic Lake Watershed Urban Runoff Project. The site is situated at a small bridge just upstream from the river bend at the Washington Street crossing.



SW-8 PARAMETERS

pH	T°C	HARD	DO_2	COND
6.84	18.4	163 mg/L	4.75	620

COLLECTED SW-8 1.0m FROM BANK

COLLECTED SD-08-01, 1.0m FROM BANK AT ≈ 1.0' BWS

DARK BROWN C+F SAND 50-60%
C+F GRAVEL 20-30%
ORGANIC SILT 20-30%

COLLECTED SD-08-02, 1.0m FROM BANK AT ≈ 1.5' BWS. SAME COMPOSITION AS SD-08-01

COLLECTED SD-08-03, 10m FROM BANK AT ≈ 1.5' BWS. SAME COMPOSITION AS SD-08-01 AND SD-08-02.

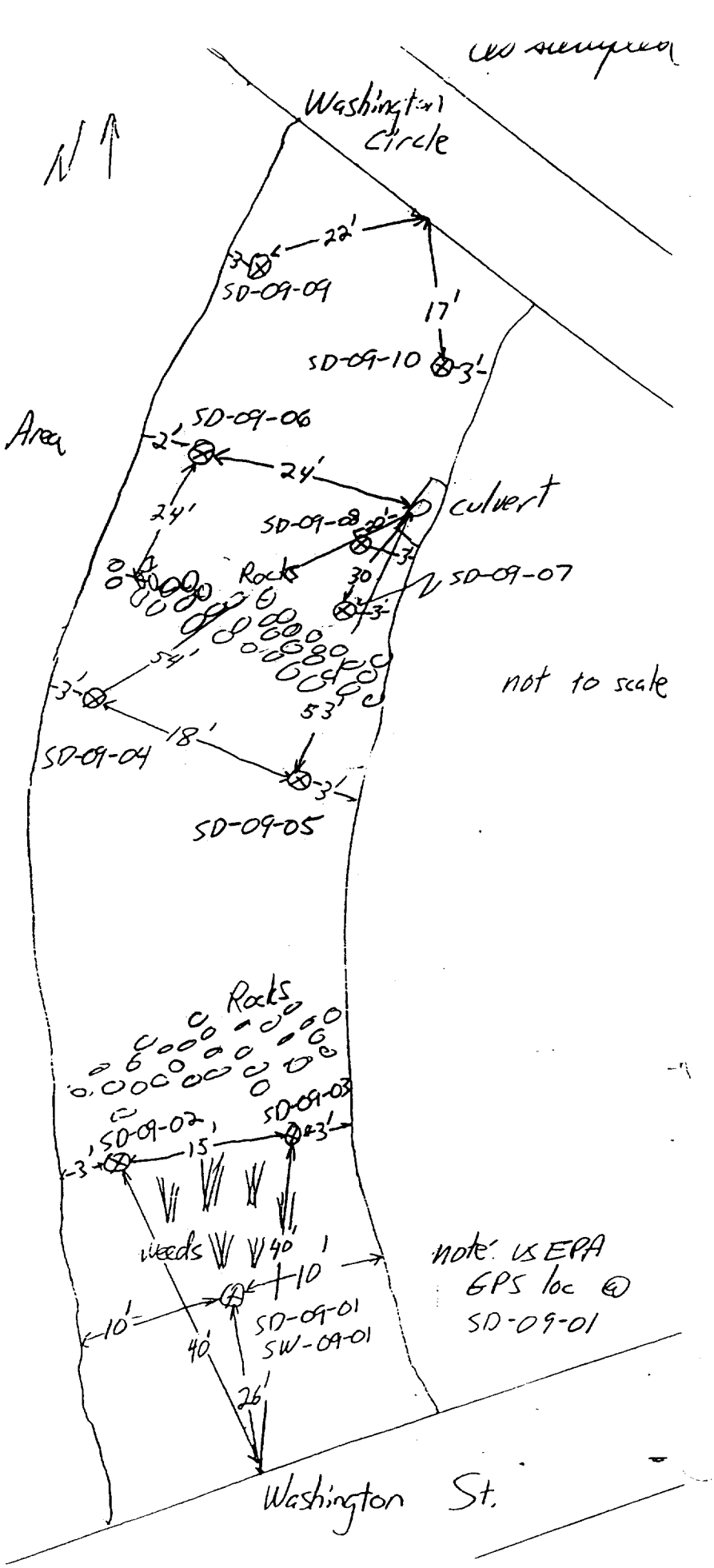
1430 PACK SAMPLES FOR SHIPMENT.

1700 OFF-SITE TO FED-EX
3 COOLERS

Hugh Donaghy

Site 9—*Cranberry Bog Conservation Area—downstream from the bridge at the Cranberry Bog Conservation Area at Washington Street and Washington Circle in Woburn.* This area was identified by Councilman Medeiros, Chair of the town's Recycling and Hazardous Waste Committee, as the only point he is aware of where the Aberjona River and shoreline is used for recreation. He claims the area is used for hiking, picnics, and as an access point for tubing during high water conditions. Hiking also occurs in the area just upstream of the picnic grove. No residents were present during the October or June visit to this area. Wading and swimming (with varying ingestion and dermal contact parameters) and sport (as opposed to subsistence) fish ingestion exposure scenarios will be included for this site. Samples will be taken along the picnic area south of the bridge that transects the area (. The picnic table, grill, and benches, as well as easy access to the river, make it a logical contact point for human receptors. The small rock dams in this area might also trap sediment.

Aberjona River Study
Site #9
Cranberry Bog Conservation Area



0700	ONSITE	Sunny 80s
	H&S	level D
	personnel	J. Ehret
		H. Donnelly
		C. Fortin
0745	SW-9	PARAMETERS

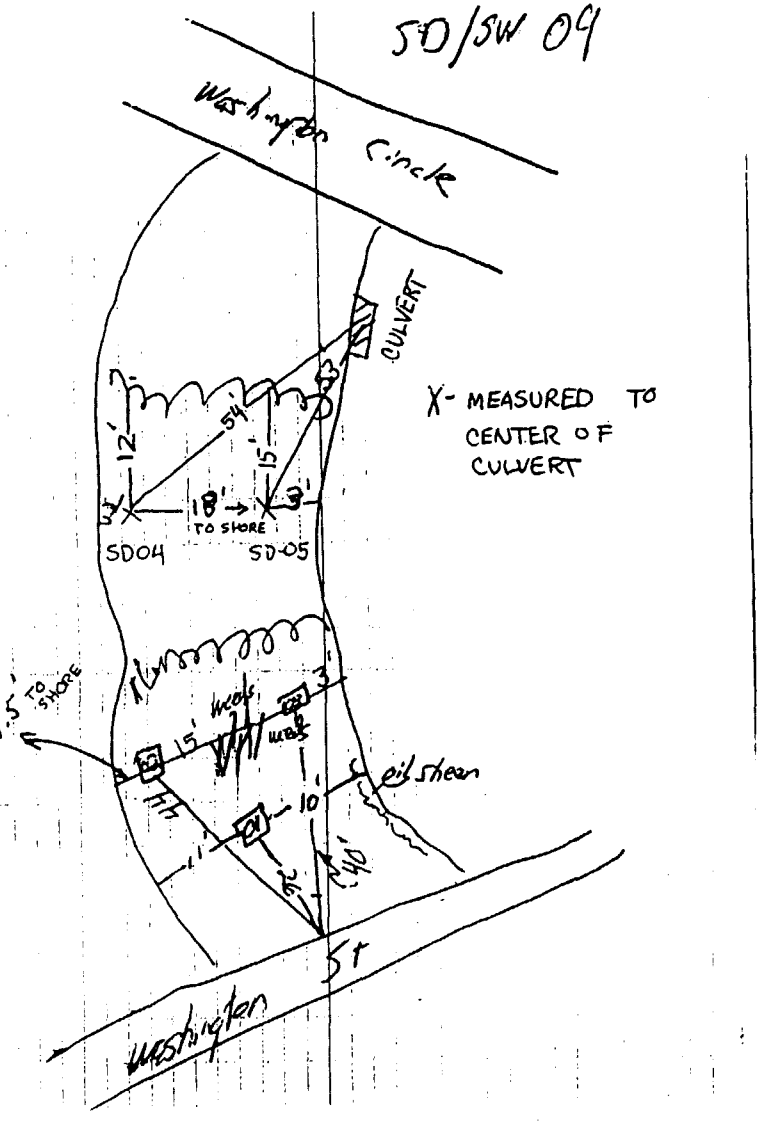
pH	T°	HARD	COND	DO_2
6.93	19.3	125	695	5.21

0815 collect SW-09 sample @ SD-09-01 loc 20' N of Wash 54 bridge - water depth 8" no sheen along E bank

0830 COLLECT SD-09-01 AT 1.0' BWS
DARK BROWN C+F SAND 50-60%
C+F GRAVEL 20-30%
ORGANIC SILT 20-30%

NOTE: GRAVEL IS ANGULAR AND FAIRLY UNIFORM IN SIZE RESEMBLING COMMERCIAL CRUSHED STONE

0900 COLLECT SD-09-02
DARK BROWN PEAT 50-60%
ORG. SILT 20-30%
C+F SAND 10-20%
C+F GRAVEL 10-20%

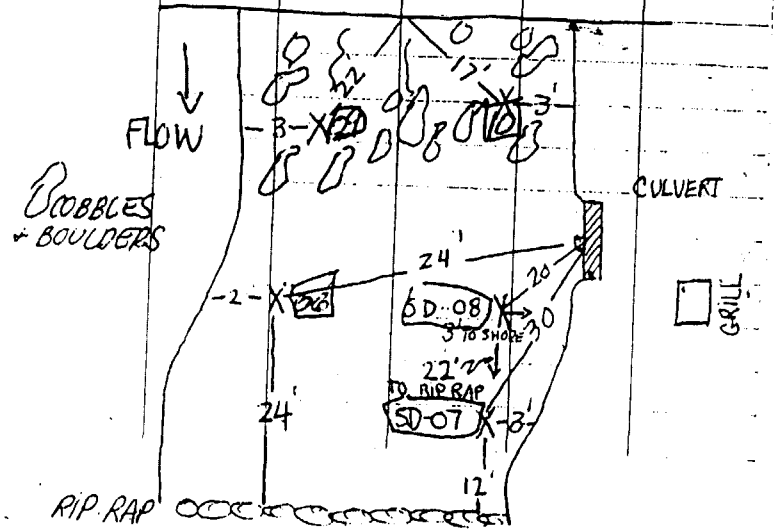


0915 COLLECT SD-09-03 AT 0.5' BWS.
DARK BROWN C+F SAND 60-70%
ORGAN. SILT 20-30%
C+F GRAVEL 10-20%

1015 COLLECT SD-09-05 AT 1.0' BWS
BROWN C+F SAND 60-70%
C+F GRAVEL 20-30%
ORGANIC SILT 10-20%

1100 COLLECT SD-09-04 AT 1.0' BWS
GRAY TO BROWN C+F SAND 80-90%
C+F GRAVEL 10-20%

BRIDGE WASH CIRCLE



COLLECT SD-09-07 AT 2.0' BWS
DARK BROWN C+F SAND 70-80%
C+F GRAVEL 20-30%
ORG. SILT 10-20%
NOTE: POCKETS OF IRON STAINING 0-5%

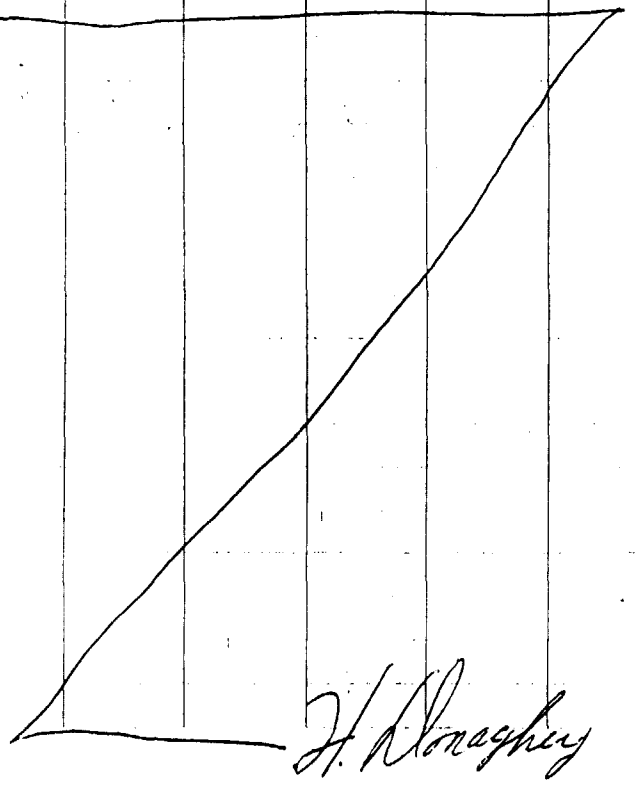
1230 COLLECT SD-09-08 AT 2.0' BWS
BROWN C+F SAND 70-80%
C+F GRAVEL 20-30%
ORGAN. SILT 10-20%
ROCKY BOTTOM, POCKETS IRON STAINING

1300 COLLECT SD-09-06 AT 1.5' BWS
REDISH BROWN C+F SAND 80-90%
C+F GRAVEL 10-20%
VERY ROCKY MANY C. GRAVEL AND COBBLES REMOVED FROM SAMPLE, SOME IRON STAINING

1330 COLLECT SD-09-09 AT 0.5' BWS.
REDISH BROWN C+F SAND 80-90%
C+F GRAVEL 10-20%
ORGAN. SILT 0-10%

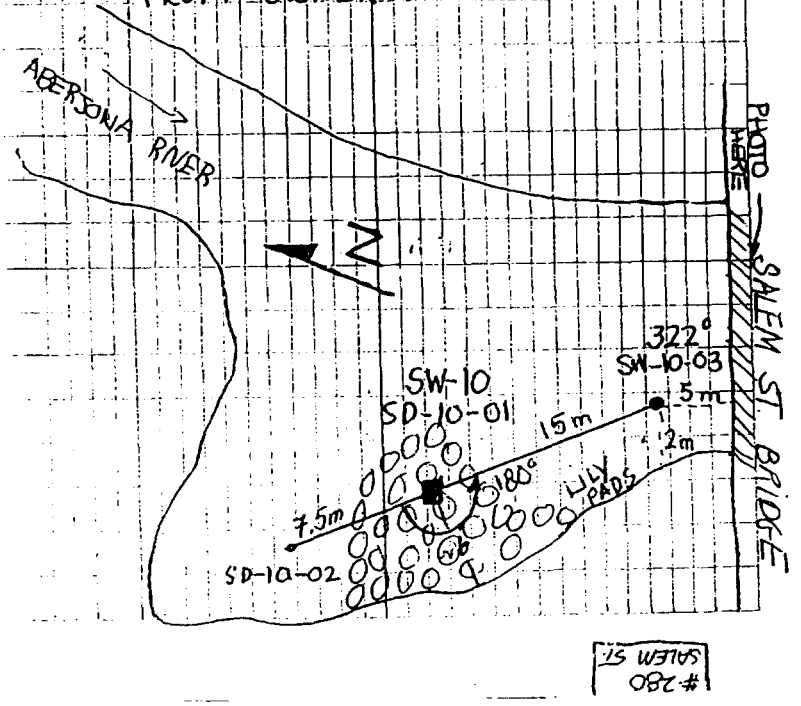
NOTE SAMPLES SD-09 & SD-10 HAD TO BE COLLECTED USING HAND TROWEL. STREAM FLOW WAS TURBULENT, SOME FINES LOST IN CURRENT

1400	COLLECT SD-09-10 AT 0.5' BWS REDISH BROWN C+F SAND 80-90% C+F GRAVEL 10-20% ORGANIC SILT 0-10%
1430	PACK SAMPLES FOR SHIPMENT
1630	DROP 3 SAMPLE COOLERS AT FED-EX



Site 10—*Salem Street Bridge*. The reach between the Cranberry Bog Conservation Area (just downstream of the Salem Street bridge) and Route 128 are within the large wetland that comprises a substantial portion of the Wells G&H site. This wetland is the most important portion of the study area from an ecological perspective, as reflected by the placement of five wetland sampling locations and seven river sampling locations in this reach. The Salem Street bridge sampling location is a slow moving section along the west shore of the river, about 10 yards upstream from the bridge.

0900 PACK UP AND MOVE TO SW-10
0930 SET UP AT SW-10 IN BACK YARD OF RESIDENCE AT 280 SALEM ST. AFTER OBTAINING PERMISSION FROM OWNER



COLLECT SD-10-03 AT 1.5 BWS

DARK BROWN	ORGANIC SILT	70-80
	DETRITUS	20-30
	C+F SAND	0-5%
	C+F GRAVEL	0-5%

STREAM BED ROCKY ON SURFACE
COBBLES REMOVED, SAMPLE VERY FIBEROUS, ORGANIC ODOR
COLLECT SW-10 AND PARAMETERS

pH	T°	COND	HARD	DO_2
7.44	22.3	850	208	7.85

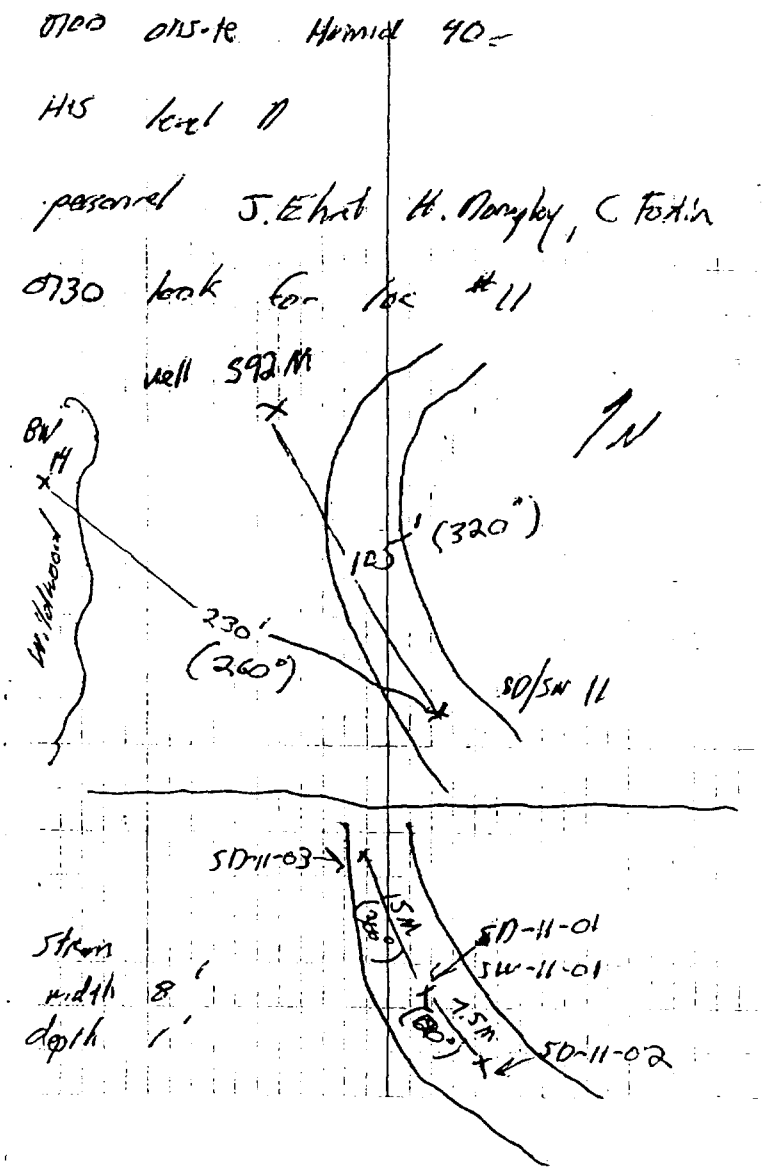
COLLECT SD-10-01 AND DUPLICATE AT 2.0 BWS

DARK BROWN	ORGANIC SILT	60-70%
	PEAT	30-40%
	C+F SAND	0-10%

COLLECT IN LILY PAD AREA
FALSE BOTTOM 2-4' THICK
ORGANIC ODOR
COLLECT SD-10-02

1430 pack up samples
1615 to Fed Ex

Site 11—Well G River and Site 12, **Well H River**—*Bends in River Approximately 45 Yards SW of Site 13 and 35 Yards WNW of Well H, Respectively*. These sites correspond to sampling sites X-15 and X-12, respectively, from the Wells G&H Wetlands Assessment. They were identified in the wetlands assessment report as highly contaminated; no zooplankton found at X-12, few at X-15; sediments appeared contaminated, strikingly so at X-12; a small number of undersized amphipods found at X-12; no fish or evidences of fish found; foul oily smelling material found in X-12 sediments. Use of the same sites as in the Wells G&H Wetlands Assessment will provide a qualitative comparison of 1986 and 1995 conditions.



0830 collect SW-11-01

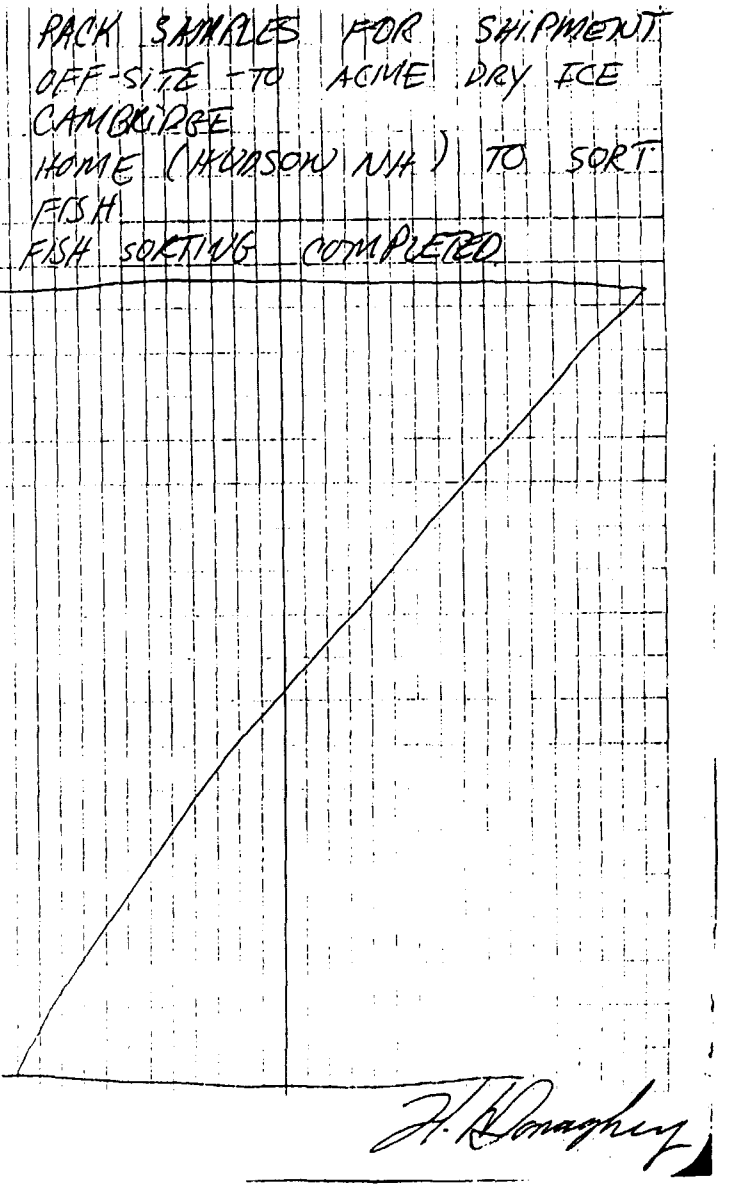
calibration of instrument

pH	T°C	cond	hand	DO
6.8	19.6	820	231	6.3

pH meter not working correctly
pH taken using pH paper and
2nd meter which may also not be
working

0845 COLLECT SD-11-03 AT 2.0' BWS
DARK BROWN: ORGANIC SILT 75-85%
PEAT + DETRITUS 15-25%
NOTE: SHEEN ON SAMPLE FINE SAND 0-5%
ORGANIC ODOR, DETRITUS, FALSE
BOTTOM 1-3' THICK, OPEN WATER
0900 COLLECT SD-11-01 AT 2.0' BWS
DARK BROWN FINE SAND 70-80%
ORGANIC SILT 20-30%
PEAT + DETRITUS 0-10%
SOFT SANDY BOTTOM, ORGANIC ODOR
1000 COLLECT SD-11-03 AT 2.5' BWS
DARK BROWN: ORGANIC SILT 75-85%
PEAT + DETRITUS 15-25%
FINE SAND 0-5%
ORGANIC ODOR FALSE BOTTOM 1-4' THICK

1015 PACK SAMPLES FOR SHIPMENT
1200 OFF-SITE TO ACME DRY ICE
CAMBRIDGE
1345 HOME (HUDSON NH) TO SORT
FISH
1700 FISH SORTING COMPLETED



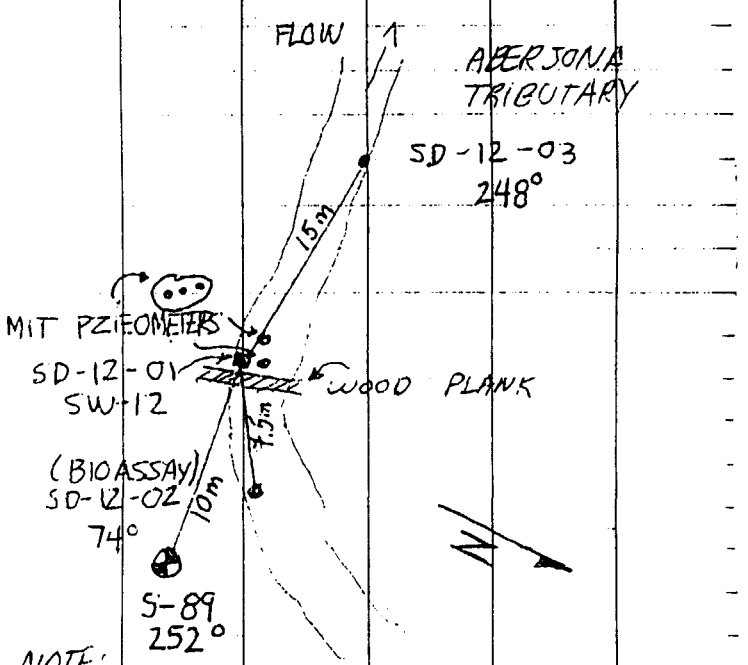
J. Donaghey

0700- ON SITE, PARTLY SUNNY 80's
H+S LEVEL D UNLESS NOTED
0930 COLLECT SW-12
SW-12 PARAMETERS

pH	T°	COND	HARD	DO_2
7.60	16.9	930	270	6.2

0930 CONT COLLECT SW-12 AT 1.0' TO STREAM BED- FLOW WAS LAMINAR, HOUSEHOLD TRASH SCATTERED IN AREA, WATER VISUALLY FREE OF ALGAE,
0945 COLLECT SD-12-03 AT 0.5' BWS.
DARK BROWN
ORGANIC SILT 70-80%
PEAT 20-30%
FINE SAND 0-10%
ORGANIC ODOR
1015 COLLECT SD-12-01 AT 1.0' BWS SAME COMPOSITION AS SD-12-03
1045 COLLECT SD-12-02 (BIOASSAY) SAME COMPOSITION AS SD-12-01, & SD-12-03

1115 PETER ZEEB & ASSISSTANT FROM MIT ON SITE AT SW-12 TO SAMPLE



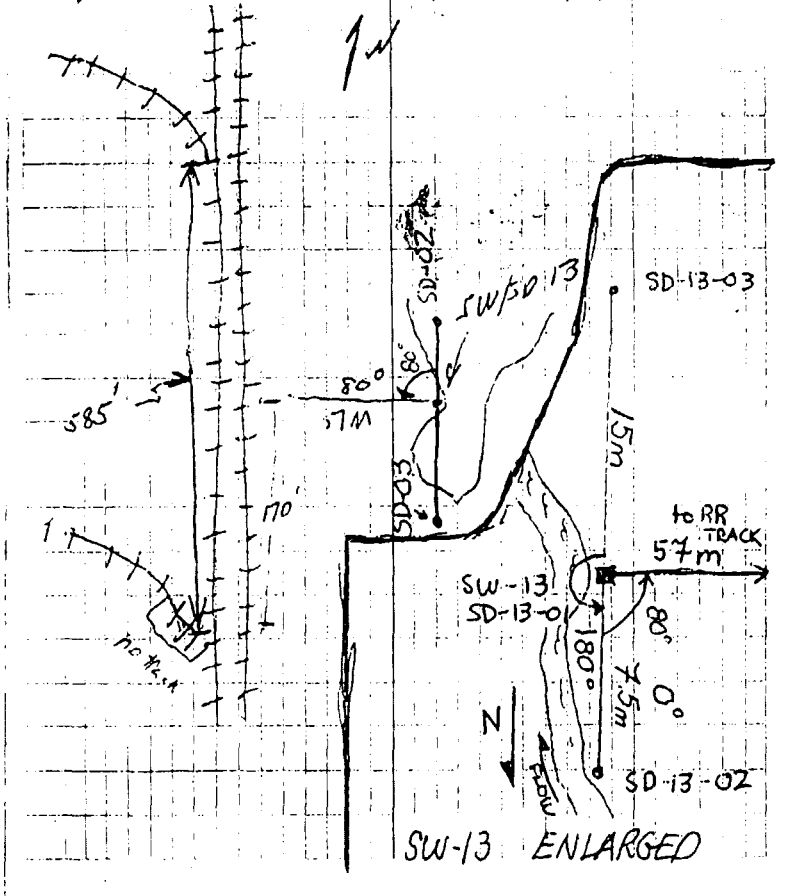
NOTE:
P. ZEEB HAS BEEN MONITORING PH AT SW-12 FOR 3 WEEKS
AVERAGE ≈ 7.3

Site 13—**Sidetrack**—*Blind Side Channel of the Aberjona River About 60 Yards East of B&M Tracks, Approximately Due East of the Sidetrack at the North End of the Wildwood Property.* This site corresponds approximately to sampling site X-7 from the Wells G&H Wetlands Assessment. It was identified in the wetlands assessment report as being near a turtle nesting area, although it was not seen during the field reconnaissance. Again, use of a Wells G&H Wetlands Assessment site will provide a qualitative comparison of 1986 and 1995 conditions.

0730 End access to Loc 13 @ RR tracks

H+S level D

present: J Ehret, K Donaghy, C Fortin



~~1015~~

0945 COLLECT SW-13 AT 0.3' BWS.

pH	T°	HARD	COND	DO_2

1015 COLLECT SD-13-01 AT 0.3' BWS

DARK BROWN ORGAN SILT 70-80%

PEAT 20-30%

F SAND 0-10%

ORGANIC ODOR, VERY FIBEROUS

1030 COLLECT SD-13-02 AT 0.3' BWS

SAME COMPOSITION AS SD-13-01

1045 COLLECT SD-13-03 AT 0' BWS

BROWN "RUSTY"

PEAT 70-80%

ORG. SILT 20-30%

F. SAND 0-10%

VERY FIBEROUS, ORGANIC ODOR

PREDOMINANT VEG TYPE IN AREA WAS JEWELWEED, CATTAIL, LOOSESTRIFE

Site 14—Olympia Road—*Channeled Portion of the River Along the West Boundary of the Olympia Nominee Trust Property Parking Lot.* This site corresponds to sampling sites X-9 and X-11 from the Wells G&H Wetlands Assessment. It was identified in the wetlands assessment report as highly contaminated (no submersed or floating macrophytes except *Lemna*; black sediments appear to be heavily contaminated with oils and other organic compounds; pronounced chemical odor). Use of a Wells G&H Wetlands Assessment site will provide a qualitative comparison of 1986 and 1995 conditions.

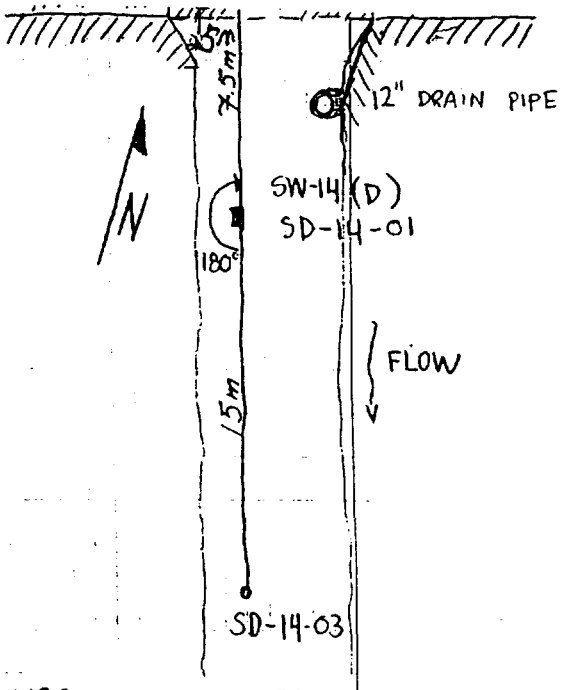
onsite sunny 50s
H+S heat
personnel S. Ehret, M Parsley
C. Fortin
set up to do loc 14
@ Olympia Ave

SW-14 PARAMETERS

pH	T°	HARD	DO_2	COND
7.4	19.6	266	6.4	1000

COLLECT SW-14 LOCATION LITTERED WITH TRASH, TIRES, SHOPPING CARTS BUILDING SUPPLIES. FLOW IS LAMINAR DEPTH TO STREAM BED 1.2'

COLLECT SD-14-01 AT 1.0' BWS. OILY SHEEN PRODUCED ON WATER SURFACE WHEN DRIVING AUGER.
TAN TO BLACK C+F SAND 75-85%
ORGANIC SILT 15-25%
(REMOVED) → C+F GRAVEL 0-10%
PETROLEUM LIKE ODOR.

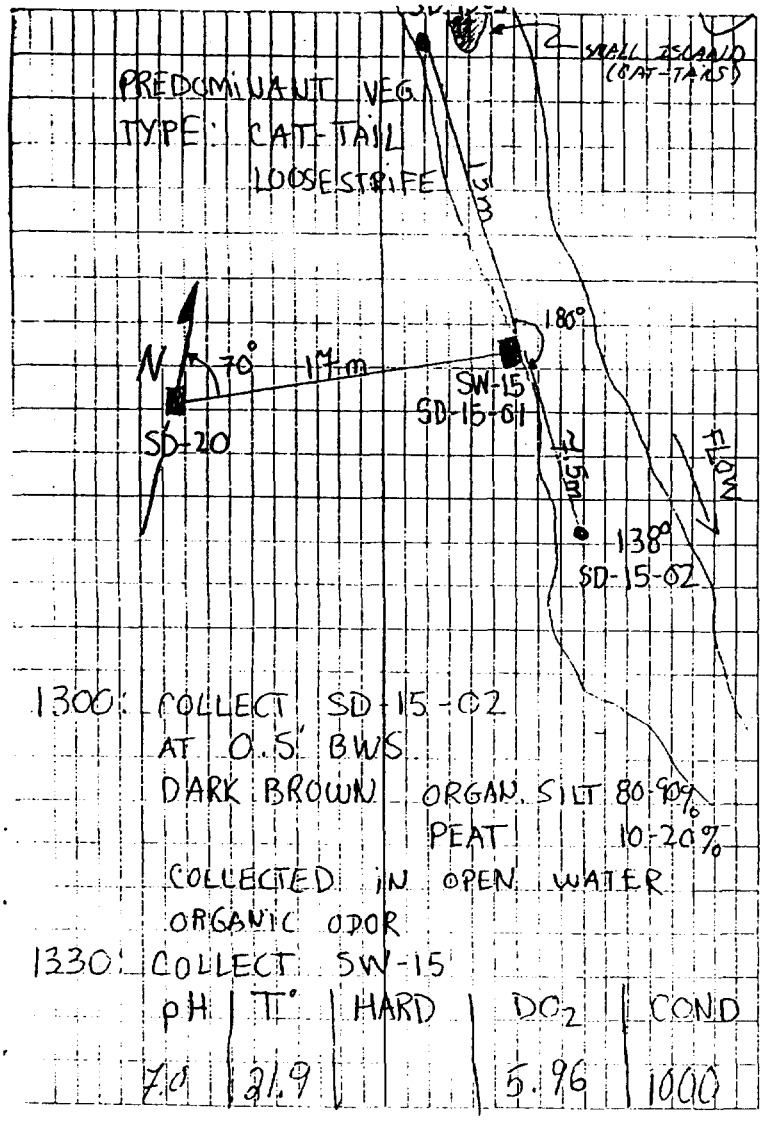


1030 COLLECT SD-14-02 AT 1.0' BWS
BROWN M+F SAND 80-90%
ORGANIC SILT 10-20%
OILY SHEEN ON WATER SURFACE PRODUCED WHEN DRIVING AUGER
FINE SAND OVERLYING COBBLE

1100 COLLECT SD-14-03 AT 1.5' BWS
BLACK C+F SAND 70-80%
ORGAN. SILT 15-25%
(SEE NOTE ON P. 80) DETRITUS 5-15%

0900-1000	5 Ehet meet w K Money of F&W tour dog fishing loc
	Horn Pond brook @ S end of Horn Pond loc is dry crayfish caught between Pond St and Horn Pond
	Horn pond lake loc @ N end of pond along park
	Wrights Pond loc @ public access near wood dock
1100	K Money off S.K to collect more crayfish on Shawsheen R.
NOTE:	CONSIDERABLE SHEENING WITH SMALL GLOBS OF OILY SUBSTANCE ON WATER SURFACE WHEN DRIVING AUGER ON SD-14-03 PETROLEUM ODOR

Site 15—Side Channel—*Wetland Location About 30 Yards East of B&M Tracks, Approximately Due West of Well G.* **This site is located on an east-west line about 20 yards north of the north end of the Wildwood property on a blind side channel. It corresponds approximately to sampling site X-4 from the Wells G&H Wetlands Assessment and was identified as containing distinctly anaerobic sediments and low numbers of invertebrates. Good muskrat habitat and signs of raccoon were observed during the field reconnaissance. Use of a Wells G&H Wetlands Assessment site will provide a qualitative comparison of 1986 and 1995 conditions.**



1300: COLLECT SD-15-02 AT 0.5' BWS.
DARK BROWN ORGAN. SILT 80-90%
PEAT 10-20%
COLLECTED IN OPEN WATER
ORGANIC ODOR

1330: COLLECT SW-15

pH	T°	HARD	DO_2	COND
7.0	21.9		5.96	1000

COLLECT SD-15-01 AT 0.5' BWS
DARK BROWN ORGAN. SILT 50-60%
PEAT 40-50%
COLLECTED IN OPEN WATER
ORGANIC ODOR.
COLLECT SD-15-03 AT 0.5' BWS
SAME COMPOSITION AS SD-15-01
PACK SAMPLES FOR SHIPMENT OFF-SITE TO FLD-LX

Site 16—Cranberry Ecological—*Cranberry Bog Conservation Area, North of Washington Crossing.* **This site is at the downstream end of the wetland area that extends under the Salem Street bridge and through the Wells G&H site to Route 128. It has significant wildlife habitat. Since the bog was created by a historical impoundment, it might be a significant deposition area.**

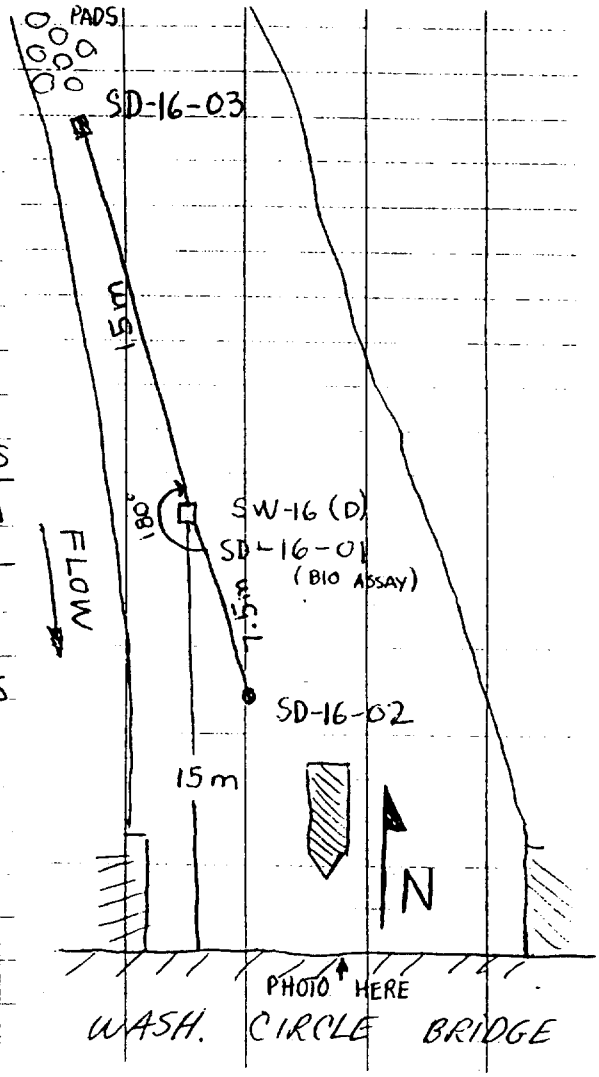
The identifier "Site 17" was not assigned.

0700: ON SITE, SUNNY, DRY, 80's
J. EHRET
C. FORTIN
H. DONAGHEY
H&S LEVEL D UNLESS NOTED

0730: TAKE SW-16 PARAMETERS

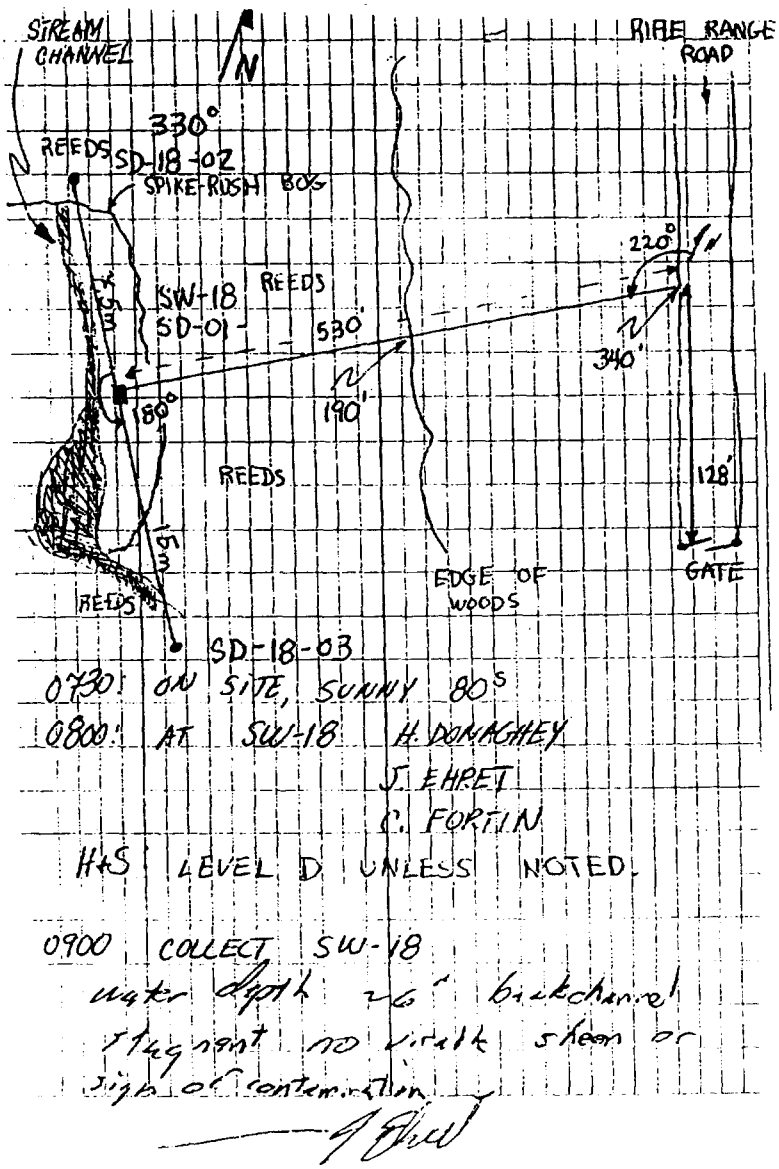
pH	T C°	HARD mg/L	DO_2 mg/L	COND UMHOS
6.95	16.3	181	5.16	650

0800
~~0745~~: COLLECT SW-16 (D)
0800 COLLECT SD-16-02 AT 1.0 BWS
BROWN C+F SAND 75-85%
C+F GRAVEL 15-25%
ORGANIC SILT 0-10%
STREAM BED IS ROCKY WITH COBBLES
NOTE: SD-16-01 IS A BIO-ASSAY AND WILL BE COLLECTED AT A LATER DATE.



0800: COLLECT SW-16 (D) AT 1.0 BWS
BROWN C+F SAND 75-85%
C+F GRAVEL 10-20%
ORGANIC SILT 5-15%
ROCKY STREAM BED, LILY PADS NEAR LOCATION

Site 18—Elephant Grass and Site 19, **Well G Wetland—Wetland** *Location SSW and WSW, Respectively, of Well G.* Site 18 was intended to correspond to sampling site X-17 from the 1986 Wells G&H Wetlands Assessment. However, the site selected might be slightly south of X-17, which apparently falls in an area now overgrown with reeds. Site 19 corresponds to site X-14 from the wetlands assessment. Sites X-14 and X-17 were identified in the wetlands assessment report as highly contaminated sites (definite oily sheen, no aquatic fauna; no benthic invertebrates; foul oily smelling material in X-17 sediments). Selection of locations at or near Wells G&H Assessment sites was intended to provide a qualitative comparison of 1986 and 1995 conditions.



COLLECT SD-18-02 AT 0.2 BWS
DARK BROWN ORGANIC SILT 70-80%
PEAT 20-30%
ORGANIC ODOR, FIBEROUS
COLLECT SD-18-03 AT 0.4 BWS
DARK BROWN ORGAN. SILT 60-70%
PEAT 30-40%
F. SAND 0-10
ORGANIC ODOR, FIBEROUS
PREDOMINANT VEG TYPE IN AREA REED, SPIKE-RUSH
RELOCATE TO LOCATION 20.

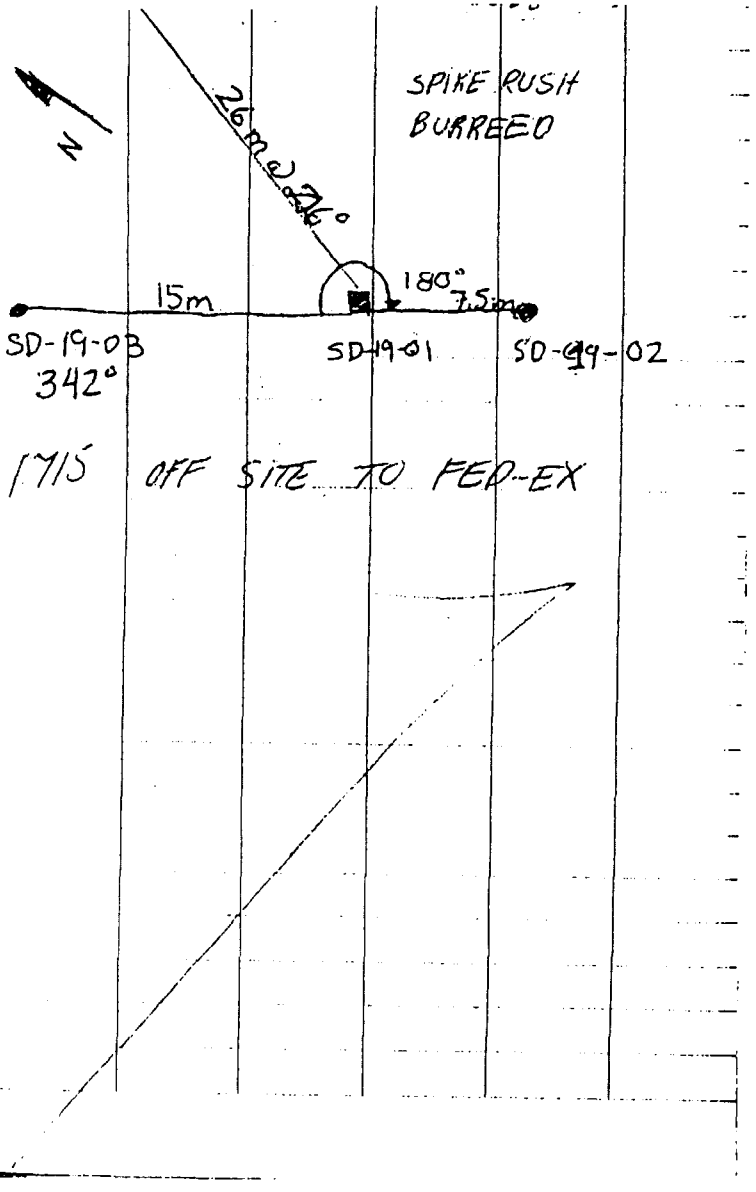
12 45 @ SD 19 location
note: no standing or running surface
water 1/4 15m radius
site is spongy w/
sp. kentish prevalent veg
type

1315 COLLECT SD-19-01 (BIOASSAY AND DUPLICATE)
DARK BROWN
ORGANIC SILT 50-60%
PEAT 40-50%
FINE SAND 0-10%
ORGANIC ODOR

1430 COLLECT SD-19-02 (D)
SAME COMPOSITION AS SD-19-01

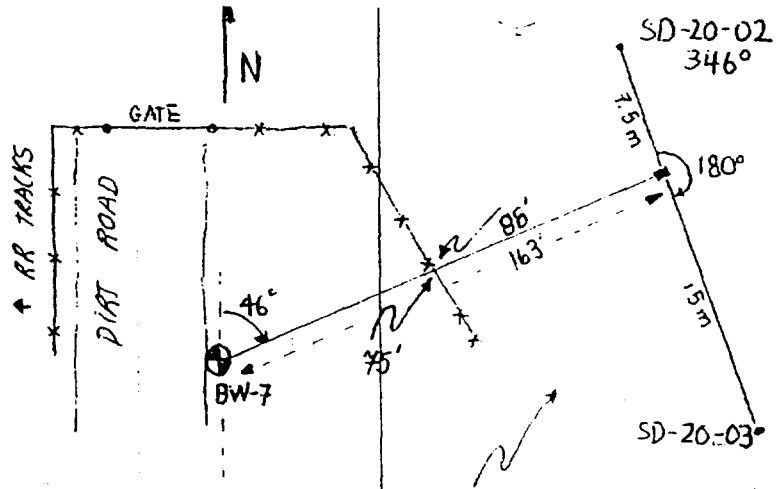
1500 COLLECT SD-19-03
SAME COMPOSITION AS SD 19-01 AND 02

1515 PACK SAMPLES FOR SHIPMENT J EHRET HAND DELIVERS SD-19 + SD-12 BIOASSAY SAMPLES TO EPA IN LEXINGTON



1715 OFF SITE TO FED-EX

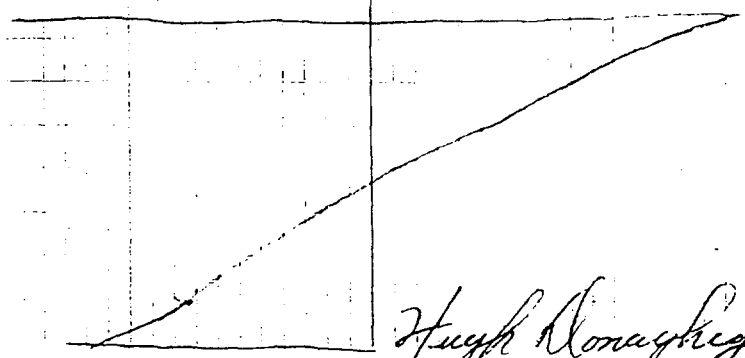
Site 20—*Side Channel Wetland Area Approximately 20 Yards SSE of Site 15.* This site is a nearly stagnant pool that appears to slowly feed into the Aberjona at Site 15. During the site reconnaissance, an oily sheen was observed on the pool and toward Site 15.



NOTE: NO STANDING WATER WITHIN 15m OF SD-20 STAKE.
closest H2O @ SW15

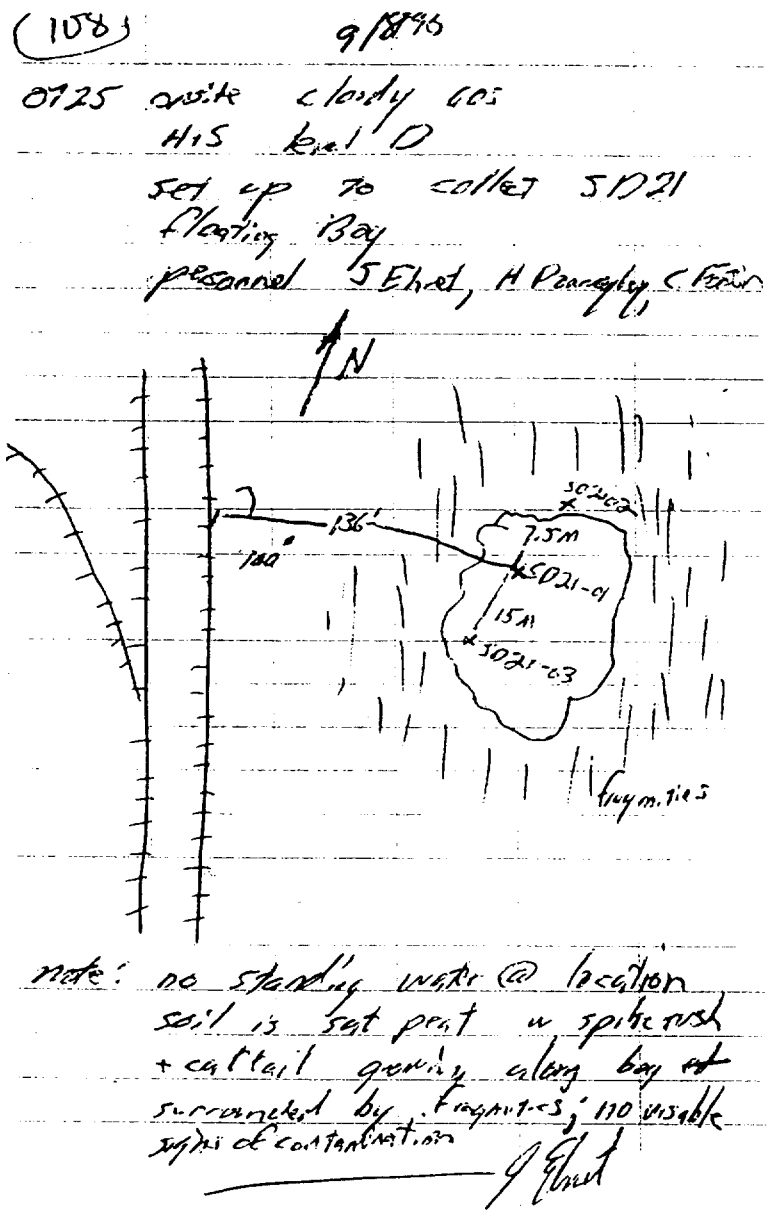
1600: OFF-SITE TO FED-EX

COLLECT SD-20-01
DARK BROWN ORGANIC SILT 60-70%
PEAT 30-40%
ORGANIC ODOR, LIVING ROOT FIBERS
COLLECT SD-20-02
DARK BROWN TO BROWN ORGANIC SILT 50-60%
PEAT 40-50%
COLLECT SD-20-03
SAME COMPOSITION AS SD-20-02
PACK SAMPLES FOR SHIPMENT
COLLECT AUGER RINSATE



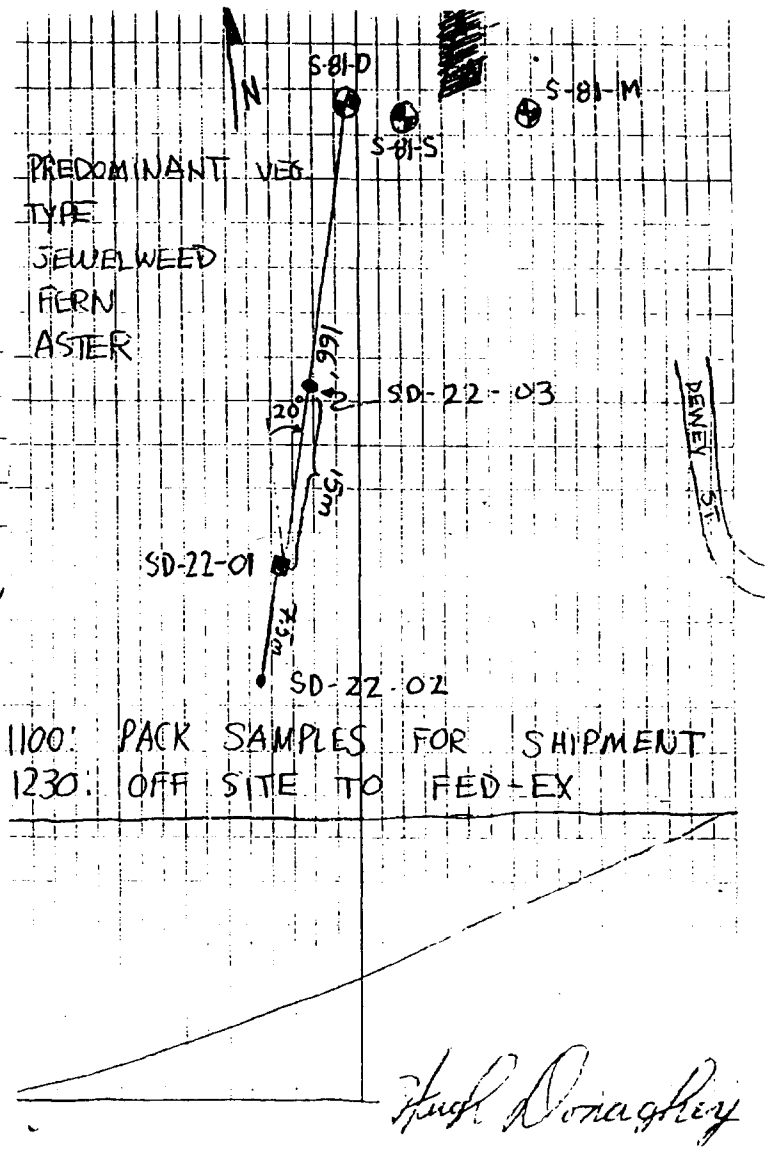
Hugh Monaghey

Site 21—Floating Bog—*Wetland Area About 70 Yards East of the West Boundary of the Olympia Nominee Trust Property Parking Lot and 200 Yards South of Olympia Street.* This site is at a clearing in an area of elephant reed at the northwest portion of the Wells G&H wetland. It corresponds approximately to sampling site X-8 from the Wells G&H Wetlands Assessment. It was identified in the wetlands assessment report as a nearly anoxic pool; shoreline sediments were anaerobic and without abundant macroscopic life; open water had several species of zooplankton that were generally different from other sites; and gastropods, bullfrog tadpoles, turbillaria, water boatmen, nematodes, isopods, and water mites were also observed. Use of a Wells G&H Wetlands Assessment site will provide a qualitative comparison of 1986 and 1995 conditions.



Site 22—*Wooded Wetland East of the Olympia Nominee Trust Property.* This site corresponds to sampling site X-16 from the Wells G&H Wetlands Assessment. It is located about 200 yards west of Dewy Street in a skunk cabbage patch. It is identified in the wetlands assessment report as dominated by trees and shrubs, with abundant birds, particularly warblers; no apparent forms of disturbance or stress were observed. Use of a Wells G&H Wetlands Assessment site will provide a qualitative comparison of 1986 and 1995 conditions.

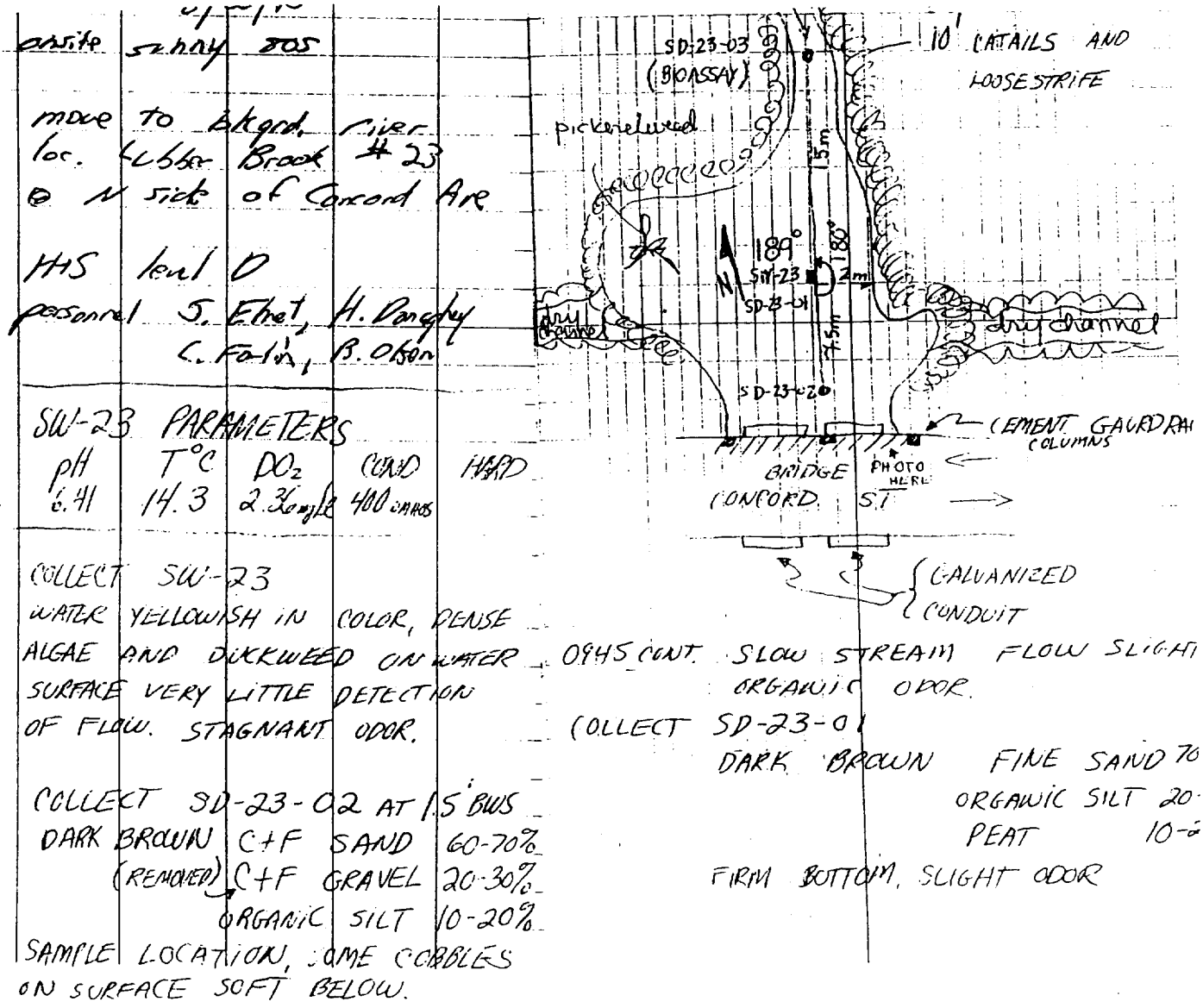
RELOCATE TO SD-22
NO STANDING WATER
WITHIN 5M OF STAKE
COLLECT SD-22-01
DARK BROWN TO BLACK
ORGANIC SILT 70-80%
PEAT 10-20%
F. SAND 10-20%
RICH LOAM LIKE TEXTURE
MOSSY ODOR, DAMP
~~RELOCATE TO SD-22~~
COLLECT SD-22-02
SAME COMPOSITION AND
CHARACTERISTICS AS SD-22-01
COLLECT SD-22-03
SAME COMPOSITION AND
CHARACTERISTICS AS
SD-01 AND SD-02



1100: PACK SAMPLES FOR SHIPMENT
1230: OFF SITE TO FED-EX

Hugh Donaghey

Sites 23, 24, and 25—*River, Wetland, and Lake Reference Sites.* The river site is located on Lubbers Brook at Concord Street, just west of I-93, two exits north of Route 128. The wetland reference site is located on Maple Meadow Brook, at the Route 129 crossing. The lake reference site is the Arlington reservoir pending approval by the FWS.



1130	COLLECT SD-23-03 AT				
	1.0' BGS (BIOASSAY LOCATION)				
	BROWN TO DARK BROWN				
			PEAT	70-80%	
		ORGANIC SILT		10-20%	
			FINE SAND	10-20%	
	FALSE BOTTOM, STRONG				
	ORGANIC ODOR. LAMINAR				
	STREAM FLOW.				

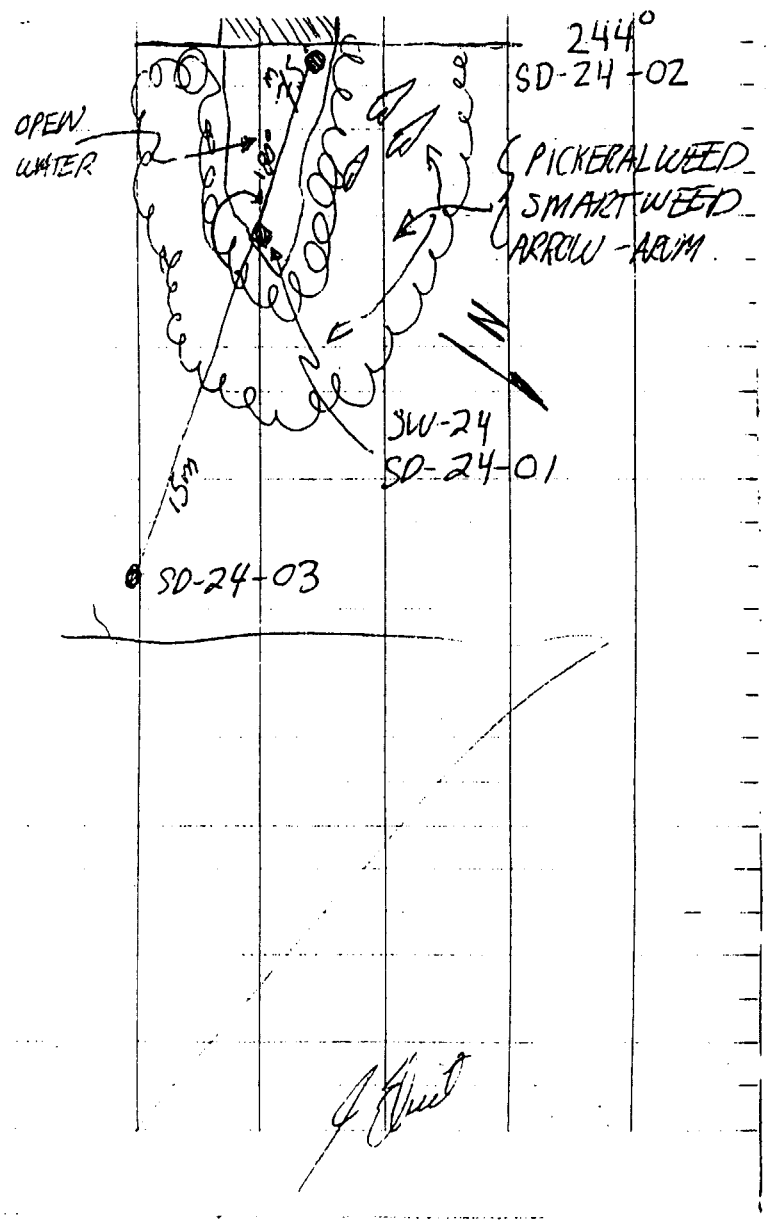
1400 COLLECT SW-24, DEPTH B.W.S. ≈ 0.7' NO NOTICEABLE FLOW HEAVY VEGITATION (PICKERAL WEED) MS/MSD

1415 COLLECT SD-24-02 AT 1.0' BWS

SW-24 PARAMETERS

pH	T	DO_2	HARD	COND
6.80	18.3	4.04		600

DARK BROWN C+F SAND 70-80%
ORGANIC SILT 20-30%
C+F GRAVEL 10-20%
COLLECTED IN OPEN WATER
LARGE COBBLES & BOULDERS NEAR LOCATION, LITTLE ODOR



[illegible] N end of
Main Pond for Lake Retrona
location #25

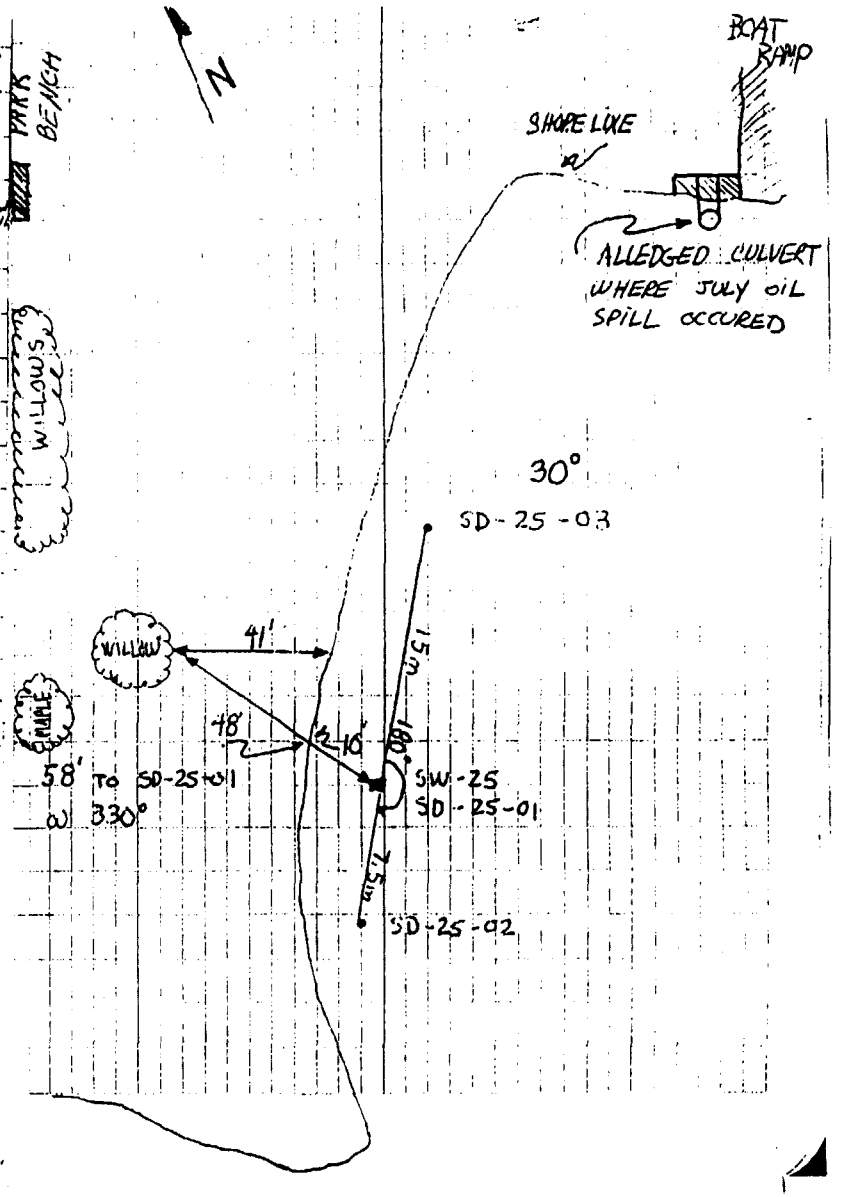
Personnel: J. Ehret, A.D. Conaghan, C. Fortier

HIS level 0

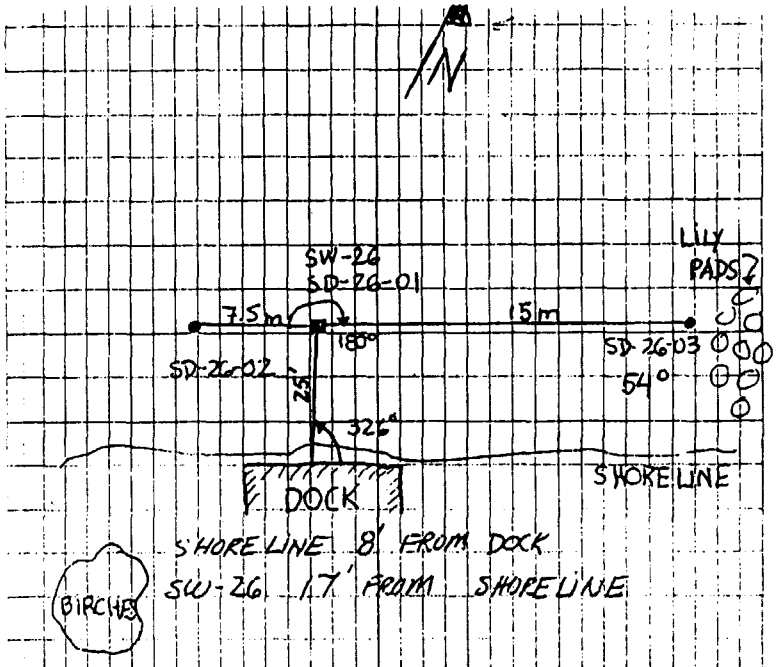
0745 calibrate pH meter - EA 1290
w/ pH 4 + 7 buffers
YSI SCT meter w/
[illegible] conductivity cal.

time	cond (µmhos)	temp (°C)	Hach DO mg/l	DO (mg/l)
7.30	400	18.1	78.0	7.48

0815 COLLECT SW-25 AND DUPLICATE
0915 COLLECT SD-25-01 AT 3.5' BWS
REDDISH BROWN C+F SAND 60-70%
ORGANIC SILT 30-40%
C+F GRAVEL 0-10%
POND BOTTOM IS GRAVELY WITH
COBBLES AND BOULDERS



[illegible]	RESIDENT INFORMED US THAT AN OIL RELEASE OCCURED FROM AN OUTFALL PIPE NEAR SAMPLE LOCATION IN LATE JULY 95'
1000	COLLECT SD-25-02 AT 4.0' BWS
	BROWN ORGANIC SILT 60-70%
	C+F SAND 30-40%
	C+F GRAVEL 0-10%
	ORGANIC ODOR
1015	COLLECT SD-25-03 AT 3.0' BWS
	BROWN C+F SAND 70-80%
	ORGANIC SILT 10-20%
	C+F GRAVEL 10-20%
1330	RELOCATE TO WRIGHTS POND LOCATION #26



1400 SW-26 PARAMETERS

PH	T	DO_2	HARD	COND
6.6	22.9	7.92		620

1430 COLLECT SW-26 25' FROM DOCK IN 3.0 OF WATER, POND BOTTOM COVERED IN 90% - 100% OF WITH SUBMERGED AQUATIC VEG.

1430 CONT. COLLECT SD-26-01 AT 3.0' BWS

BROWN	ORGAN. SILT	70-80%
	C+F SAND	10-20%
	F GRAVEL	10-20%

ORGANIC ODOR, DETRITUS, POND BOTTOM SOFT WITH SPORADIC COBBLES AND BOULDERS

1445	COLLECT SD-26-02 (D) AT 2.5' BWS SAME COMPOSITION AND CHARACTERISTICS AS SD-26-01
1515	COLLECT SD-26-03 AT 2.5' BWS SAME COMPOSITION AND CHARACTERISTICS AS SD-26-01 AND SD-26-02
1530	PACK SAMPLES FOR SHIPMENT
1730	OFF SITE TO FED-EX

Hugh Donaghy

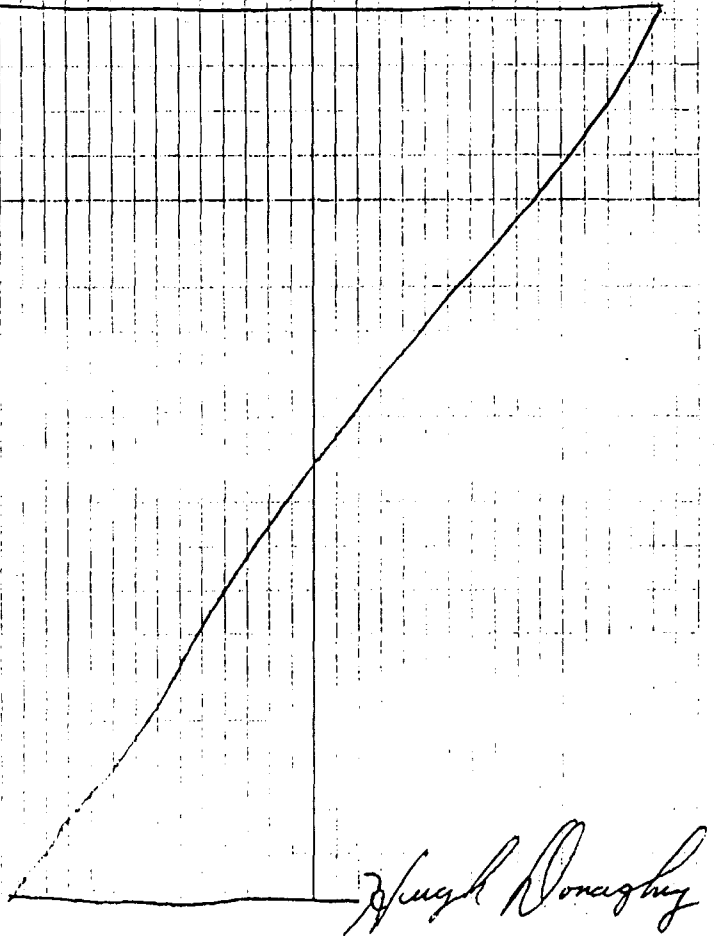
0930 COLLECT SW-27

1000 COLLECT SD-27-01
AT 2.5' BWS
BROWN C+F SAND 70-80%
ORGANIC SILT 10-20%
C+F GRAVEL 10-20%
ORGANIC ODOR, DETRITUS
ON BED SURFACE (REMOVED)

1030 COLLECT, SD-27-02
AT 1.5' BWS.
TAN TO BROWN
C+F SAND 80-90%
C+F GRAVEL 10-20%
ORGANIC SILT 0-10%
STREAM BED VERY ROCKY
WITH ONLY POCKETS OF
FINES.

1045 COLLECT SD-27-03 AT
1.5 BWS.
BROWN C+F SAND 60-70%
ORGANIC SILT 20-30%
C+F GRAVEL 10-20%
ORGANIC ODOR.

1145 COLLECT FIELD BLANK
1200 PACK SAMPLES FOR
SHIPMENT
1400 OFF SITE TO FED-EX



0800 ON SITE AT LOCATION 27
SHAWSHEEN RIVER, SUNNY
80's
H&S LEVEL D UNLESS NOTED
0900 COLLECT SW-27 PARAMETERS

QHS	pH	T°	DO_2	HARD	COND
	7.0	15.5	8.25	72	250

2.3 Sample Reference Tables

ATTACHMENT A

Wells G&H OU III - Aberjona River Study
Cases 0010B and 0011B - Analyses for sediment and surface water samples

SW-01-01	aqueous	8/15/95		ALE01	23918	ALE01	DAB101	0010B	DAB101	DAB250	0010B	DAB250
SD-01-01	sediment	8/15/95		ALE02	23918	ALE02	DAB102	0010B	DAB102	DAB251	0010B	DAB250
SD-01-02	sediment	8/15/95		ALE03	23918	ALE02	DAB103	0010B	DAB102	DAB252	0010B	DAB250
SD-01-03	sediment	8/15/95		ALE04	23918	ALE02	DAB104	0010B	DAB102	DAB253	0010B	DAB250
SD-01-04	sediment	8/15/95		ALE05	23918	ALE02	DAB105	0010B	DAB102	DAB254	0010B	DAB250
SD-01-05	sediment	8/15/95		ALE06	23918	ALE02	DAB106	0010B	DAB102	DAB255	0010B	DAB250
SD-01-06	sediment	8/15/95		ALE07	23918	ALE02	DAB107	0010B	DAB102	DAB256	0010B	DAB250
SD-01-07	sediment	8/15/95		ALE08	23918	ALE02	DAB108	0010B	DAB102	DAB257	0010B	DAB250
SD-01-08	sediment	8/15/95		ALE09	23918	ALE02	DAB109	0010B	DAB102	DAB258	0010B	DAB250
SD-01-09	sediment	8/15/95		ALE10	23918	ALE02	DAB110	0010B	DAB102	DAB259	0010B	DAB250
SD-01-10	sediment	8/15/95		ALE11	23918	ALE02	DAB111	0010B	DAB102	DAB260	0010B	DAB250
FB081595	aqueous	8/15/95	field blank	ALE12	23918	ALE01				DAB261	0010B	DAB250
0023634	aqueous	8/15/95	PE	ALE13	23918	ALE01						
0003845	aqueous	8/15/95	PE	ALE14	23918	ALE01						
PV115	aqueous	8/15/95	PE				DAB113	0010B	DAB101			
PU396	aqueous	8/15/95	PE				DAB114	0010B	DAB101			
0011781	aqueous	8/15/95	PE							DAB262	0010B	DAB250
0029347	aqueous	8/15/95	PE							DAB263	0010B	DAB250
TB081595	aqueous	8/15/95	trip blank	ALE15	23918	ALE01	DAB115	0010B	DAB101			
SW-02-01	aqueous	8/16/95		ALE16	23918	ALE01	DAB116	0010B	DAB101	DAB264	0010B	DAB250
SD-02-01	sediment	8/16/95	dup	ALE17	23918	ALE02	DAB117	0010B	DAB102	DAB265	0010B	DAB250
SD-02-01-02	sediment	8/16/95	dup	ALE18	23918	ALE02	DAB118	0010B	DAB102	DAB266	0010B	DAB250
SD-02-02	sediment	8/16/95	MS/MSD	ALE19	23918	ALE02	DAB119	0010B	DAB102	DAB267	0010B	DAB250
SD-02-03	sediment	8/16/95		ALE20	23918	ALE02	DAB120	0010B	DAB102	DAB268	0010B	DAB250
SW-03-01	aqueous	8/16/95	MS/MSD	ALE21	23918	ALE01	DAB121	0010B	DAB102	DAB269	0010B	DAB269
SD-03-01	sediment	8/16/95		ALE22	23918	ALE02	DAB122	0010B	DAB102	DAB270	0010B	DAB270
SD-03-02	sediment	8/16/95		ALE23	23918	ALE02	DAB123	0010B	DAB102	DAB271	0010B	DAB270
SD-03-03	sediment	8/16/95		ALE24	23918	ALE02	DAB124	0010B	DAB102	DAB272	0010B	DAB270
TB081695	aqueous	8/16/95	trip blank	ALE25	23918	ALE01	DAB125	0010B	DAB101			
SW-04-01	aqueous	8/17/95		ALE26	23918	ALE01	DAB126	0010B	DAB101	DAB273	0010B	DAB270
SD-04-01	sediment	8/17/95		ALE27	23918	ALE02	DAB127	0010B	DAB127	DAB274	0010B	DAB270
SD-04-02	sediment	8/17/95		ALE28	23918	ALE02	DAB128	0010B	DAB127	DAB275	0010B	DAB270
SD-04-03	sediment	8/17/95	MS/MSD	ALE29	23918	ALE29	DAB129	0010B	DAB127	DAB276	0010B	DAB270
SW-05-01	aqueous	8/17/95		ALE30	23918	ALE01	DAB130	0010B	DAB101	DAB277	0010B	DAB270
SD-05-01	sediment	8/17/95		ALE31	23918	ALE29	DAB131	0010B	DAB127	DAB278	0010B	DAB270
SD-05-02	sediment	8/17/95		ALE32	23918	ALE02	DAB132	0010B	DAB127	DAB279	0010B	DAB270
SD-05-03	sediment	8/17/95		ALE33	23918	ALE29	DAB133	0010B	DAB127	DAB280	0010B	DAB270
FB081795	aqueous	8/17/95	field blank	ALE34	23918	ALE01				DAB281	0010B	DAB270
TB081795	aqueous	8/17/95	trip blank	ALE35	23918	ALE01	DAB135	0010B	DAB101			
0015362	aqueous	8/18/95	PE	ALE36	23918	ALE29						
SW-06-01	aqueous	8/18/95		ALE37	23918	ALE01	DAB137	0010B	DAB101	DAB282	0010B	DAB270
SD-06-01	sediment	8/18/95		ALE38	23918	ALE29	DAB138	0010B	DAB127	DAB283	0010B	DAB270
SD-06-02	sediment	8/18/95		ALE39	23918	ALE29	DAB139	0010B	DAB127	DAB284	0010B	DAB270
SD-06-03	sediment	8/18/95		ALE40	23918	ALE29	DAB140	0010B	DAB127	DAB285	0010B	DAB270
SW-07-01	aqueous	8/18/95		ALE41	23918	ALE01	DAB141	0010B	DAB101	DAB286	0010B	DAB270
SD-07-01	sediment	8/18/95	dup	ALE42	23918	ALE29	DAB142	0010B	DAB127	DAB287	0010B	DAB270
SD-07-01-02	sediment	8/18/95	dup	ALE43	23918	ALE29	DAB143	0010B	DAB127	DAB288	0010B	DAB270
TB081895	aqueous	8/18/95	trip blank	ALE44	23918	ALE29	DAB144	0010B	DAB101			
SD-07-02	sediment	8/21/95		ALE45	23944		DAB145	0010B	DAB145	DAB289	0010B	DAB270
SD-07-03	sediment	8/21/95		ALE46	23944		DAB146	0010B	DAB145	DAB290	0010B	DAB290

Wells G&H OU III - Aberjona River Study
Cases 0010B and 0011B - Analyses for sediment and surface water samples

SD-07-05	sediment	8/21/95	MS/MSD	ALE47	23944		DAB147	0010B	DAB145	DAB291	0010B	DAB290
SD-07-06	sediment	8/21/95		ALE48	23944		DAB148	0010B	DAB145	DAB292	0010B	DAB290
SD-07-07	sediment	8/21/95		ALE49	23944		DAB149	0010B	DAB145	DAB293	0010B	DAB290
SD-07-08	sediment	8/21/95		ALE50	23944		DAB150	0010B	DAB145	DAB294	0010B	DAB290
SD-07-09	sediment	8/21/95		ALE51	23944		DAB151	0010B	DAB145	DAB295	0010B	DAB290
SD-07-10	sediment	8/21/95		ALE52	23944		DAB152	0010B	DAB145	DAB296	0010B	DAB290
SW-08-01	aqueous	8/21/95		ALE53	23944		DAB153	0010B	DAB101	DAB297	0010B	DAB290
SD-08-01	sediment	8/21/95		ALE54	23944		DAB154	0010B	DAB145	DAB298	0010B	DAB290
SD-08-02	sediment	8/21/95		ALE55	23944		DAB155	0010B	DAB145	DAB299	0010B	DAB290
SD-08-03	sediment	8/21/95		ALE56	23944		DAB156	0010B	DAB145	DAB350	0010B	DAB290
TB082195	aqueous	8/21/95	trip blank	ALE57	23944		DAB157	0010B	DAB101			
SW-09-01	aqueous	8/22/95		ALE58	23944		DAB158	0010B	DAB101	DAB351	0010B	DAB290
SD-09-01	sediment	8/22/95		ALE59	23944		DAB159	0010B	DAB145	DAB352	0010B	DAB290
SD-09-02	sediment	8/22/95		ALE60	23944		DAB160	0010B	DAB145	DAB353	0010B	DAB290
SD-09-03	sediment	8/22/95		ALE61	23944		DAB161	0010B	DAB145	DAB354	0010B	DAB290
SD-09-04	sediment	8/22/95		ALE62	23944		DAB162	0010B	DAB145	DAB355	0010B	DAB290
SD-09-05	sediment	8/22/95		ALE63	23944		DAB163	0010B	DAB145	DAB356	0010B	DAB290
SD-09-06	sediment	8/22/95		ALE64	23944		DAB164	0010B	DAB145	DAB357	0010B	DAB290
SD-09-07	sediment	8/22/95		ALE65	23944		DAB165	0010B	DAB145	DAB358	0010B	DAB290
SD-09-08	sediment	8/22/95		ALE66	23944		DAB166	0010B	DAB145	DAB359	0010B	DAB290
SD-09-09	sediment	8/22/95		ALE67	23944		DAB167	0010B	DAB145	DAB360	0010B	DAB360
SD-09-10	sediment	8/22/95		ALE68	23944		DAB168	0010B	DAB168	DAB361	0010B	DAB360
FB082295	aqueous	8/22/95	field blank	ALE69	23944	ALE69				DAB362	0010B	DAB362
TB082295	aqueous	8/22/95	trip blank	ALE70	23944	ALE69	DAB169	0010B	DAB101			
SW-16-01	aqueous	8/23/95	dup	ALE71	23944		DAB171	0010B	DAB101	DAB363	0010B	DAB362
SW-16-01-02	aqueous	8/23/95	dup	ALE72	23944		DAB172	0010B	DAB101	DAB364	0010B	DAB362
SD-16-01	sediment	8/23/95		ALE73	23944		DAB173	0010B	DAB168	DAB365	0010B	DAB360
SD-16-02	sediment	8/23/95		ALE74	23944		DAB174	0010B	DAB168	DAB366	0010B	DAB360
SD-16-03	sediment	8/23/95	MS/MSD	ALE75	23944		DAB175	0010B	DAB101	DAB367	0010B	DAB362
SW-10-01	aqueous	8/23/95		ALE76	23944		DAB176	0010B	DAB168	DAB368	0010B	DAB360
SD-10-01	sediment	8/23/95		ALE77	23944		DAB177	0010B	DAB168	DAB369	0010B	DAB360
SD-10-02	sediment	8/23/95		ALE78	23944		DAB178	0010B	DAB168	DAB370	0010B	DAB360
SD-10-03	sediment	8/23/95		ALE79	23944		DAB179	0010B	DAB168	DAB371	0010B	DAB360
TB082295	aqueous	8/23/95	trip blank	ALE80	23944		DAB180	0010B	DAB101			
SW-11-01	aqueous	8/24/95		ALE81	23944		DAB181	0010B	DAB181	DAB372	0010B	DAB362
SD-11-01	sediment	8/24/95		ALE82	23944		DAB182	0010B	DAB168	DAB373	0010B	DAB360
SD-11-02	sediment	8/24/95		ALE83	23944		DAB183	0010B	DAB168	DAB374	0010B	DAB360
SD-11-03	sediment	8/24/95		ALE84	23944		DAB184	0010B	DAB168	DAB375	0010B	DAB360
TB082295	aqueous	8/24/95	trip blank	ALE85	23944		DAB185	0010B	DAB181			
SD-07-04	sediment	8/29/95		ALE86	23944		DAB186	0011B	DAB186	DAB376	0011B	DAB376
SD-16-01	sediment	8/29/95		ALE87	23944		DAB187	0011B	DAB186	DAB377	0011B	DAB376
SD-18-01	sediment	8/29/95		ALE88	23944		DAB188	0011B	DAB186	DAB378	0011B	DAB376
SW-23-01	aqueous	8/30/95		ALE89	23944		DAB189	0011B	DAB189	DAB379	0011B	DAB269
SD-23-01	sediment	8/30/95		ALE90	23944		DAB190	0011B	DAB186	DAB380	0011B	DAB376
SD-23-02	sediment	8/30/95		ALE91	23944		DAB191	0011B	DAB186	DAB381	0011B	DAB376
SD-23-03	sediment	8/30/95		ALE92	23944		DAB192	0011B	DAB186	DAB382	0011B	DAB376
SD-24-01	sediment	8/30/95		ALE93	23944		DAB193	0011B	DAB186	DAB383	0011B	DAB376
SD-24-02	sediment	8/30/95		ALE94	23944		DAB194	0011B	DAB186	DAB384	0011B	DAB376
SD-24-03	sediment	8/30/95	MS/MSD	ALE95	23944		DAB195	0011B	DAB186	DAB385	0011B	DAB376
SW-24-01	aqueous	8/30/95	MS/MSD	ALE96	23944		DAB196	0011B	DAB189	DAB386	0011B	DAB269

Wells G&H OU III - Aberjona River Study
Cases 0010B and 0011B - Analyses for sediment and surface water samples

TB082295	aqueous	8/30/95	trip blank	ALE97	23944		DAB197	0011B	DAB189			
SW-12-01	aqueous	8/31/95		ALE98	23944		DAB198	0011B	DAB189	DAB387	0011B	DAB269
SD-12-01	sediment	8/31/95		ALE99	23944		DAB199	0011B	DAB186	DAB388	0011B	DAB376
SD-12-02	sediment	8/31/95		ALF00	23944		DAB690	0011B	DAB186	DAB389	0011B	DAB376
SD-12-03	sediment	8/31/95		ALF01	23944		DAB691	0011B	DAB186	DAB390	0011B	DAB376
SD-19-01	sediment	8/31/95	dup	ALF02	23944		DAB692	0011B	DAB186	DAB391	0011B	DAB376
SD-19-02	sediment	8/31/95		ALM57	23944		DAB693	0011B	DAB186	DAB392	0011B	DAB376
SD-19-03	sediment	8/31/95		ALM58	23944		DAB694	0011B	DAB186	DAB393	0011B	DAB376
SD-19-01-02	sediment	8/31/95	dup	ALM59	23944		DAB695	0011B	DAB186	DAB394	0011B	DAB376
0010691	aqueous	8/31/95	PE	ALM60	23944	ALE69						
0014240	aqueous	8/31/95	PE	ALM61	23944	ALE69						
0020981	aqueous	8/31/95	PE	ALM62	23944	ALE69						
TB083195	aqueous	8/31/95	trip blank	ALM63	23944	ALE69	DAB696	0011B	DAB189			
SW-13-01	aqueous	9/1/95		ALM64	23944		DAB697	0011B	DAB189	DAB395	0011B	DAB269
SD-13-01	sediment	9/1/95		ALM65	23944		DAB698	0011B	DAB754	DAB396	0011B	DAB330
SD-13-02	sediment	9/1/95		ALM66	23944		DAB699	0011B	DAB754	DAB397	0011B	DAB330
SD-13-03	sediment	9/1/95		ALM67	23944		DAB750	0011B	DAB754	DAB398	0011B	DAB330
FB090195	aqueous	9/1/95	field blank	ALM68	23944	ALE69				DAB399	0011B	DAB269
TB090195	aqueous	9/1/95	trip blank	ALM69	23944	ALE69						
SW-14-01	aqueous	9/5/95	dup	ALM70	23998		DAB752	0011B	DAB189	DAB780	0011B	DAB269
SW-14-01-02	aqueous	9/5/95	dup	ALM71	23998		DAB753	0011B	DAB189	DAB781	0011B	DAB269
SD-14-01	sediment	9/5/95	MS/MSD	ALM72	23998		DAB754	0011B	DAB754	DAB782	0011B	DAB330
SD-14-02	sediment	9/5/95		ALM73	23998		DAB755	0011B	DAB754	DAB783	0011B	DAB376
SD-14-03	sediment	9/5/95		ALM74	23998		DAB756	0011B	DAB754	DAB784	0011B	DAB376
SD-15-01	sediment	9/5/95		ALM75	23998		DAB757	0011B	DAB754	DAB785	0011B	DAB376
SD-15-02	sediment	9/5/95		ALM76	23998		DAB758	0011B	DAB754	DAB786	0011B	DAB376
SD-15-03	sediment	9/5/95		ALM77	23998		DAB759	0011B	DAB754	DAB787	0011B	
SW-15-01	aqueous	9/5/95		ALM78	23998		DAB760	0011B	DAB189	DAB788	0011B	DAB269
TB090195	aqueous	9/5/95	trip blank	ALM79	23998		DAB761	0011B	DAB189			
SW-18-01	aqueous	9/7/95		ALM80	23998		DAB762	0011B	DAB189	DAB789	0011B	DAB269
SD-18-02	sediment	9/7/95		ALM81	23998		DAB763	0011B	DAB754	DAB790	0011B	DAB330
SD-18-03	sediment	9/7/95		ALM82	23998		DAB764	0011B	DAB754	DAB791	0011B	DAB330
SD-20-01	sediment	9/7/95	dup	ALM83	23998		DAB765	0011B	DAB754	DAB792	0011B	DAB330
SD-20-01-02	sediment	9/7/95	dup	ALM84	23998		DAB766	0011B	DAB754	DAB793	0011B	DAB330
SD-20-02	sediment	9/7/95		ALM85	23998		DAB767	0011B	DAB754	DAB794	0011B	DAB330
SD-20-03	sediment	9/7/95		ALM86	23998		DAB768	0011B	DAB768	DAB795	0011B	DAB330
FB090795	aqueous	9/7/95	field blank	ALM87	23998					DAB796	0011B	DAB269
TB090795	aqueous	9/7/95	trip blank	ALM88	23998		DAB769	0011B	DAB189			
SD-21-01	sediment	9/8/95		ALM89	23998		DAB770	0011B	DAB754	DAB797	0011B	DAB330
SD-21-02	sediment	9/8/95		ALM90	23998		DAB771	0011B	DAB754	DAB798	0011B	DAB330
SD-21-03	sediment	9/8/95		ALM91	23998		DAB772	0011B	DAB754	DAB799	0011B	DAB330
SD-22-01	sediment	9/8/95		ALM92	23998		DAB773	0011B	DAB754	DAB330	0011B	DAB330
SD-22-02	sediment	9/8/95		ALM93	23998		DAB774	0011B	DAB754	DAB331	0011B	DAB330
SD-22-03	sediment	9/8/95		ALM94	23998		DAB775	0011B	DAB754	DAB332	0011B	DAB330
TB090895	aqueous	9/8/95	trip blank	ALM95	23998		DAB776	0011B	DAB189			
TT0540	soil	9/8/95	PE							DAB333	0011B	DAB330
SW-25-01	aqueous	9/11/95	dup	ALM96	24014		DAB777	0011B	DAB189	DAB334	0011B	DAB269
SW-25-01-02	aqueous	9/11/95	dup	ALM97	24014		DAB778	0011B	DAB189	DAB335	0011B	DAB269
SD-25-01	sediment	9/11/95	MS/MSD	ALM98	24014		DAB779	0011B	DAB768	DAB336	0011B	DAB336
SD-25-02	sediment	9/11/95		ALM99	24014		DAB230	0011B	DAB768	DAB337	0011B	DAB330

ATTACHMENT A

Wells G&H OU III - Aberjona River Study
Cases 0010B and 0011B - Analyses for sediment and surface water samples

SD-25-03	sediment	9/11/95		ALN00	24014		DAB231	0011B	DAB768	DAB338	0011B	DAB330
SW-26-01	aqueous	9/11/95		ALN01	24014		DAB232	0011B	DAB189	DAB339	0011B	DAB269
SD-26-01	sediment	9/11/95		ALN02	24014		DAB233	0011B	DAB768	DAB340	0011B	DAB336
SD-26-02	sediment	9/11/95	dup	ALN03	24014		DAB234	0011B	DAB768	DAB341	0011B	DAB336
SD-26-03	sediment	9/11/95		ALN04	24014		DAB235	0011B	DAB768	DAB342	0011B	DAB336
SD-26-02-02	sediment	9/11/95	dup	ALN05	24014		DAB236	0011B	DAB768	DAB343	0011B	DAB336
TB091195	aqueous	9/11/95	trip blank	ALN06	24014		DAB237	0011B	DAB189			
SW-27-01	aqueous	9/12/95	MS/MSD	ALN07	24014		DAB238	0011B	DAB189	DAB344	0011B	DAB269
SD-27-01	sediment	9/12/95		ALN08	24014		DAB239	0011B	DAB768	DAB345	0011B	DAB336
SD-27-02	sediment	9/12/95		ALN09	24014		DAB240	0011B	DAB768	DAB346	0011B	DAB336
SD-27-03	sediment	9/12/95		ALN10	24014		DAB241	0011B	DAB768	DAB347	0011B	DAB336
FB091295	aqueous	9/12/95	field blank	ALN11	24014					DAB348	0011B	DAB269
TB091295	aqueous	9/12/95	trip blank	ALN12	24014		DAB242	0011B	DAB189			
0021076	aqueous	9/12/95	PE	ALN13	24014							
0012857	aqueous	9/12/95	PE	ALN14	24014							
0023745	aqueous	9/12/95	PE	ALN15	24014							
0029393	aqueous	9/12/95	PE	ALN16	23998							
0018865	aqueous	9/12/95	PE	ALN17	23998							
0024101	aqueous	9/12/95	PE	ALN18	23998							

Analyses:	CLP Laboratory	soils and field and trip blanks - VOC, SVOC, P/PCB
	CLP Laboratory	waters - P/PCB
	Ceimic	soils - acid volatile sulfide/sequentially extracted metals
	Ceimic	waters and trip blanks - 524.2, LDL-SVOC, DOC
	Aquatec	soils and field blanks - metals, cyanide, TOC, grain size, moisture
	Aquatec	waters - metals, cyanide, water quality

* Notes: Sample DAB696 logged in by Ceimic as DAB697TB

Wells G&H OU III - Aberjona River Study
Case 0009B - Analyses for fish/crayfish samples

DAB900	DAB651	CF-RV-01	tissue	7/31/95	MS/MSD	1	1	1		1
DAB901		CF-RV-02	tissue	7/31/95		1	1	1		1
DAB902		CF-LK-01	tissue	7/31/95		1	1	1		1
DAB903	DAB651	LF-RV-01-F	tissue	7/31/95		1	1	1	1	1
DAB904		LF-RV-01-O	tissue	7/31/95		1	1	1		1
DAB905		LF-RV-03-F	tissue	7/31/95		1	1	1	1	1
DAB906		LF-RV-03-O	tissue	7/31/95		1	1	1		1
DAB907		LF-RV-02-F	tissue	7/31/95		1	1	1	1	1
DAB908		LF-RV-02-O	tissue	7/31/95		1	1	1		1
DAB909		LF-RV-04-F	tissue	7/31/95		1	1	1	1	1
DAB910		LF-RV-04-O	tissue	7/31/95		1	1	1		1
DAB911		LF-LK-01-F	tissue	7/31/95		1	1	1		1
DAB913		LF-LK-02-F	tissue	7/31/95		1	1	1		1
DAB915		LF-LK-03-F	tissue	7/31/95		1	1	1		1
DAB917		LF-LK-04-F	tissue	7/31/95		1	1	1		1
DAB919		LF-LK-05-F	tissue	7/31/95		1	1	1		1
DAB921	DAB651	LF-LK-06-F	tissue	7/31/95		1	1	1	1	1
DAB922		LF-LK-06-O	tissue	7/31/95		1	1	1		1
DAB923		LF-LK-07-F	tissue	7/31/95		1	1	1	1	1
DAB924		LF-LK-07-O	tissue	7/31/95		1	1	1		1
DAB925		LF-LK-08-F	tissue	7/31/95		1	1	1	1	1
DAB926		LF-LK-08-O	tissue	7/31/95		1	1	1		1
DAB927		LF-LK-09-F	tissue	7/31/95	MS/MSD	1	1	1	1	1
DAB928		LF-LK-09-O	tissue	7/31/95		1	1	1		1
DAB929	DAB651	SF-LK-01	tissue	7/31/95		1	1	1		1
DAB930		SF-LK-02	tissue	7/31/95		1	1	1		1
DAB931		SF-LK-03	tissue	7/31/95		1	1	1		1
DAB932		SF-LK-04	tissue	7/31/95		1	1	1		1
DAB933		SF-LK-05	tissue	7/31/95		1	1	1		1
DAB934		LF-LK-10-F	tissue	8/1/95		1	1	1	1	1
DAB935		LF-LK-10-O	tissue	8/1/95		1	1	1		1
DAB936		CF-RV-03	tissue	8/1/95		1	1	1		1
DAB937		CF-RV-04	tissue	8/1/95		1	1	1		1
DAB938		LF-RV-05-F	tissue	8/1/95		1	1	1	1	1
DAB939		LF-RV-05-O	tissue	8/1/95		1	1	1		1
DAB940		LF-RV-06-F	tissue	8/1/95		1	1	1	1	1
DAB941		LF-RV-06-O	tissue	8/1/95		1	1	1		1
DAB942	DAB651	LF-RV-07	tissue	8/1/95		1	1	1		1
DAB943		LF-RV-08	tissue	8/1/95		1	1	1		1
DAB944		LF-RV-09	tissue	8/1/95		1	1	1		1
DAB945		SF-RV-01	tissue	8/1/95		1	1	1		1
DAB946		SF-RV-02	tissue	8/1/95		1	1	1		1
DAB947		SF-RV-03	tissue	8/1/95		1	1	1		1
DAB948		CF-RV-05	tissue	8/1/95		1	1	1		1
DAB949		LF-LK-36-F	tissue	8/1/95		1	1	1	1	1
DAB950		LF-LK-36-O	tissue	8/1/95	MS/MSD	1	1	1		1
DAB951		LF-LK-11-F	tissue	8/1/95		1	1	1	1	1
DAB952		LF-LK-11-O	tissue	8/1/95		1	1	1		1
DAB953		LF-LK-12-F	tissue	8/1/95		1	1	1	1	1
DAB954		LF-LK-12-O	tissue	8/1/95		1	1	1		1
DAB955		LF-LK-13-F	tissue	8/1/95		1	1	1	1	1

Wells G&H OU III - Aberjona River Study
Case 0009B - Analyses for fish/crayfish samples

DAB956		LF-LK-13-O	tissue	8/1/95		1	1	1		1
DAB957		LF-LK-14-F	tissue	8/1/95		1	1	1	1	1
DAB958		LF-LK-14-O	tissue	8/1/95		1	1	1		1
DAB959		LF-LK-15	tissue	8/1/95		1	1	1		1
DAB960		LF-LK-16	tissue	8/1/95		1	1	1		1
DAB961		LF-LK-17	tissue	8/1/95		1	1	1		1
DAB962		LF-LK-18	tissue	8/1/95		1	1	1		1
DAB963		LF-LK-19	tissue	8/1/95	MS/MSD	1	1	1		1
DAB964		SF-LK-06	tissue	8/1/95		1	1	1		1
DAB965		SF-LK-07	tissue	8/1/95		1	1	1		1
DAB966		SF-LK-08	tissue	8/1/95		1	1	1		1
DAB967		SF-LK-09	tissue	8/1/95		1	1	1		1
DAB968		LF-RV-10-F	tissue	8/1/95	dup of DAB974	1	1	1	1	1
DAB969		LF-RV-10-O	tissue	8/1/95		1	1	1		1
DAB970		SF-RV-04	tissue	8/1/95		1	1	1		1
DAB971		SF-RV-05	tissue	8/1/95		1	1	1		1
DAB972		LF-RV-11	tissue	8/1/95		1	1	1		1
DAB973		LF-RV-12	tissue	8/1/95		1	1	1		1
DAB974		LF-RV-10-F	tissue	8/1/95	dup of DAB968	1	1	1	1	1
DAB975		LF-RV-13-F	tissue	8/1/95		1	1	1	1	1
DAB976		LF-RV-13-O	tissue	8/1/95		1	1	1		1
DAB977		LF-RV-14-F	tissue	8/1/95		1	1	1	1	1
DAB978		LF-RV-14-O	tissue	8/1/95		1	1	1		1
DAB979		LF-RV-15-F	tissue	8/1/95		1	1	1	1	1
DAB980		LF-RV-15-O	tissue	8/1/95		1	1	1		1
DAB981		CF-RV-06	tissue	8/2/95		1	1	1		1
DAB982		CF-RV-07	tissue	8/2/95	MS/MSD	1	1	1		1
DAB983		LF-LK-21-F	tissue	8/2/95		1	1	1	1	1
DAB984		LF-RV-21-O	tissue	8/2/95		1	1	1		1
DAB985		LF-LK-20-F	tissue	8/2/95		1	1	1	1	1
DAB986		LF-RV-20-O	tissue	8/2/95		1	1	1		1
DAB987		LF-LK-22-F	tissue	8/2/95	dup of DAB988	1	1	1	1	1
DAB988		LF-LK-22-F	tissue	8/2/95	dup of DAB987	1	1	1	1	1
DAB989		LF-LK-22-O	tissue	8/2/95		1	1	1		1
DAB990		LF-LK-23-F	tissue	8/2/95		1	1	1	1	1
DAB991		LF-RV-23-O	tissue	8/2/95		1	1	1		1
DAB992		LF-LK-24-F	tissue	8/2/95		1	1	1	1	1
DAB993		LF-RV-24-O	tissue	8/2/95		1	1	1		1
DAB994		SF-LK-10	tissue	8/2/95		1	1	1		1
DAB995		SF-LK-11	tissue	8/2/95		1	1	1		1
DAB996		SF-LK-12	tissue	8/2/95		1	1	1		1
DAB997		SF-LK-13	tissue	8/2/95		1	1	1		1
DAB998		LF-RV-16	tissue	8/2/95		1	1	1		1
DAB999		SF-RV-06	tissue	8/2/95		1	1	1		1
DAB550		LF-RV-17	tissue	8/2/95		1	1	1		1
DAB551		SF-RV-07	tissue	8/2/95		1	1	1		1
DAB552		SF-RV-08	tissue	8/2/95		1	1	1		1
DAB553		LF-LB-01-F	tissue	8/3/95	MS/MSD	1	1	1	1	1
DAB554		LF-LB-01-O	tissue	8/3/95		1	1	1		1
DAB555		LF-LB-02-F	tissue	8/3/95		1	1	1	1	1
DAB556		LF-LB-02-O	tissue	8/3/95		1	1	1		1

Wells G&H OU III - Aberjona River Study
Case 0009B - Analyses for fish/crayfish samples

[illegible]	[illegible]	Sample Location	Matrix	Collected	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
DAB557		LF-LB-03-F	tissue	8/3/95		1	1	1	1	1
DAB558		LF-LB-03-O	tissue	8/3/95		1	1	1		1
DAB559		LF-LB-04-F	tissue	8/3/95		1	1	1	1	1
DAB560		LF-LB-04-O	tissue	8/3/95		1	1	1		1
DAB561		LF-LB-05-F	tissue	8/3/95		1	1	1	1	1
DAB562		LF-LB-05-O	tissue	8/3/95		1	1	1		1
DAB563		SF-LB-01	tissue	8/3/95		1	1	1		1
DAB564		SF-LB-02	tissue	8/3/95		1	1	1		1
DAB565		SF-LB-03	tissue	8/3/95		1	1	1		1
DAB566		SF-LB-04	tissue	8/3/95		1	1	1		1
DAB567		LF-LK-25-F	tissue	8/3/95		1	1	1	1	1
DAB568		LF-LK-25-O	tissue	8/3/95		1	1	1		1
DAB569		SF-RV-09	tissue	8/3/95		1	1	1		1
DAB570		SF-RV-10	tissue	8/3/95		1	1	1		1
DAB572		LF-LB-06-F	tissue	8/3/95	MS/MSD	1	1	1	1	1
DAB573		LF-LB-06-O	tissue	8/3/95		1	1	1		1
DAB574		LF-LB-07-F	tissue	8/3/95		1	1	1	1	1
DAB575		LF-LB-07-O	tissue	8/3/95		1	1	1		1
DAB576		LF-LB-08-F	tissue	8/3/95		1	1	1	1	1
DAB577		LF-LB-08-O	tissue	8/3/95		1	1	1		1
DAB578		LF-LB-09-F	tissue	8/3/95		1	1	1	1	1
DAB579		LF-LB-08-O	tissue	8/3/95		1	1	1		1
DAB580		LF-LB-10-F	tissue	8/3/95		1	1	1	1	1
DAB581		LF-LB-10-O	tissue	8/3/95		1	1	1		1
DAB582		LF-LB-11	tissue	8/3/95		1	1	1		1
DAB583		LF-LB-12	tissue	8/3/95		1	1	1		1
DAB584		LF-LB-13	tissue	8/3/95		1	1	1		1
DAB590		LF-RV-18	tissue	8/3/95		1	1	1		1
DAB591		SF-RV-12	tissue	8/3/95		1	1	1		1
DAB592		SF-RV-13	tissue	8/3/95		1	1	1		1
DAB593		LF-LB-14-F	tissue	8/3/95		1	1	1	1	1
DAB594		LF-LB-14-O	tissue	8/3/95		1	1	1		1
DAB595		LF-LB-15-F	tissue	8/3/95		1	1	1	1	1
DAB596		LF-LB-15-O	tissue	8/3/95		1	1	1		1
DAB597		LF-LB-16-F	tissue	8/3/95		1	1	1	1	1
DAB598		LF-LB-16-O	tissue	8/3/95		1	1	1		1
DAB599		SF-LB-05	tissue	8/3/95		1	1	1		1
DAB650		SF-LB-06	tissue	8/3/95		1	1	1		1
DAB651		LF-LK-31	tissue	8/3/95	MS/MSD	1	1	1	1	1
DAB652		LF-LK-32	tissue	8/3/95		1	1	1	1	1
DAB653		LF-LK-33	tissue	8/3/95		1	1	1	1	1
DAB654		LF-LK-34	tissue	8/3/95		1	1	1	1	1
DAB655		LF-LK-35	tissue	8/3/95		1	1	1	1	1
DAB656		LF-LB-17	tissue	8/3/95		1	1	1		1
DAB657		LF-LB-18	tissue	8/3/95		1	1	1		1
DAB658		LF-LB-19	tissue	8/3/95		1	1	1		1
DAB659		LF-LB-20	tissue	8/3/95		1	1	1		1
DAB660		LF-LB-21	tissue	8/3/95		1	1	1		1
DAB661		FB8495	aqueous	8/4/95	field blank	1	1	1	1	
DAB662		CF-RV-08	tissue	8/8/95		1	1	1		1
DAB663		LF-LB-22	tissue	8/10/95		1	1	1		1

Wells G&H OU III - Aberjona River Study
Case 0009B - Analyses for fish/crayfish samples

DAB664		LF-LB-23	tissue	8/10/95		1	1	1		1
DAB665		LF-LB-24	tissue	8/10/95		1	1	1		1
DAB666		LF-LB-25	tissue	8/10/95		1	1	1		1
DAB667		LF-LB-26	tissue	8/10/95		1	1	1		1
DAB669		0020769	aqueous	8/25/95	PE				1	
DAB670		0000700	aqueous	8/25/95	PE			1		
DAB671		TT1205	aqueous	8/25/95	PE	1				
DAB682		CF-RB-02	tissue	9/5/95		1	1	1		1
DAB683		CF-RB-03	tissue	9/5/95		1	1	1		1
DAB684		0011212	aqueous	9/11/95	PE		1			
TOTAL ANALYSES						160	160	160	48	158
Samples not Analyzed										
DAB912		LF-LK-01-O	tissue	7/31/95						
DAB914		LF-LK-02-O	tissue	7/31/95						
DAB916		LF-LK-03-O	tissue	7/31/95						
DAB918		LF-LK-04-O	tissue	7/31/95						
DAB920		LF-LK-05-O	tissue	7/31/95						
DAB571		SF-RV-11	tissue	8/3/95						
DAB585		LF-LK-30	tissue	8/3/95						
DAB586		LF-LK-26	tissue	8/3/95						
DAB587		LF-LK-27	tissue	8/3/95						
DAB588		LF-LK-28	tissue	8/3/95						
DAB589		LF-LK-29	tissue	8/3/95						
DAB668		CF-RB-01	tissue	8/10/95						

ATTACHMENT A

Wells G&H OU III - Aberjona River Study
Case 0011B - Analyses for plant samples

DAB672	DAB672	PL-18-01	plant	8/29/95	MS/MSD	1	1	1	1	1
DAB673	DAB672	PL-18-01	plant	8/29/95		1	1	1	1	1
DAB674	DAB672	PL-20-01	plant	8/29/95		1	1	1	1	1
DAB675	DAB672	PL-20-01	plant	8/29/95		1	1	1	1	1
DAB676	DAB672	PL-23-01	plant	9/6/95	dup of DAB677	1	1	1	1	1
DAB677	DAB672	PL-23-01	plant	9/6/95	dup of DAB676	1	1	1	1	1
DAB678	DAB672	PL-21-01	plant	9/6/95		1	1	1	1	1
DAB679	DAB672	PL-21-01	plant	9/6/95		1	1	1	1	1
DAB680	DAB672	FBPL9695	aqueous	9/6/95	field blank	1	1	1	1	

Wells G&H OU III - Aberjona River Study
Sediment biassay analyses

SD-07-04	sediment	8/29/95	--	bioassay
SD-16-01	sediment	8/29/95	--	bioassay
SD-18-01	sediment	8/29/95	--	bioassay
SD-23-01	sediment	8/30/95	--	bioassay
SD-24-01	sediment	8/30/95	--	bioassay
SD-12-02	sediment	8/31/95	--	bioassay
SD-19-01	sediment	8/31/95	dup	bioassay
SD-19-01-02	sediment	8/31/95	dup	bioassay

2.4 Field Chemistries

Wells G&H OU III
Aberjona River Study
Field Chemistry Results

Location	Date	pH	Temp (°C)	Cond. (µmhos)	DO (mg/L)	Hardness (mg/L)
1	8/15	8.1	26.0	520	4.88	94
2	8/16	7.8	30.0	475	4.60	106
3	8/16	7.8	26.5	460	5.43	100
4	8/17	6.6	27.1	550	1.03	112
5	8/17	6.4	25.0	560	5.12	136
6	8/18	6.6	24.1	640	6.85	142
7	8/18	6.8	25.3	465	4.44	152
8	8/21	6.8	18.4	620	4.75	163
9	8/22	6.9	19.3	695	5.21	175
10	8/23	7.4	22.3	850	7.85	208
11	8/24	6.8	19.6	820	6.30	231
12	8/31	7.6	16.9	930	6.20	270
13	9/1	7.0	22.7	990	6.00	248
14	9/5	7.4	19.6	1000	9.40	266
15	9/5	7.0	21.9	1000	5.96	240
16	8/23	6.9	16.3	650	5.16	181
18	9/7	7.1	18.5	900	7.88	247
19	8/31	NR	NR	NR	NR	NR
20	9/7	NR	NR	NR	NR	NR
21	9/8	NR	NR	NR	NR	NR
22	9/8	NR	NR	NR	NR	NR
23	8/30	6.4	14.3	400	2.36	97
24	8/30	6.8	18.3	600	4.04	111
25	9/11	7.3	18.1	400	7.48	78
26	9/11	6.6	22.9	620	7.92	68
27	9/12	7.0	15.5	250	8.25	72

Notes: 1. NR - not recorded; no surface water at location
2. Hardness was measured as mg/L calcium carbonate

D95-125
09/25/95

3. SURFACE WATER ANALYSES

3.1 General Water Quality

Wells G and H Site, OU III
Surface Water Detected Compounds
General Water Quality (mg/L)

SAMPLE ID	SW-01-01	SW-02-01	SW-03-01	SW-04-01	SW-05-01	SW-06-01	SW-07-01
LAB ID	DAB250	DAB264	DAB269	DAB273	DAB277	DAB282	DAB286
SAMPLE DATE	8/15/95	8/16/95	8/16/95	8/17/95	8/17/95	8/18/95	8/18/95
COMMENTS							
ALKALINITY (AS CACO3)	51	50	52	53	71	67	59
CHLORIDE	95.4	85.1	78.9	86.9	111	102	97.8
NITRATE/NITRITE NITROGE	1.1	0.89	0.9	0.62	2.1	2.2	2.9
SULFATE	40	35	54	49	48	70	88
TOTAL DISSOLVED SOLIDS	935	268	249	467	340	338	358
TOTAL SUSPENDED SOLIDS	3	4.7	9.1	12	2.6	8.1	11.8

Wells G and H Site, OU III
Surface Water Detected Compounds
General Water Quality (mg/L)

SAMPLE ID	SW-08-01	SW-09-01	SW-10-01	SW-11-01	SW-12-01	SW-13-01	SW-14-01
LAB ID	DAB297	DAB351	DAB367	DAB372	DAB387	DAB395	DAB780
SAMPLE DATE	8/21/95	8/22/95	8/23/95	8/24/95	8/31/95	9/6/95	9/5/95
COMMENTS							dup of DAB781
ALKALINITY (AS CACO3)	49	70	81	96	123	120	138
CHLORIDE	99.5	101	106	110	113	111	114
NITRATE/NITRITE NITROGE	5.1	2.8	2.2	2.3	2.6	1.3	1.1
SULFATE	87	123	135	132	244	230	245
TOTAL DISSOLVED SOLIDS	219	430	519	511	598	555	494
TOTAL SUSPENDED SOLIDS	3.4	9.9	104	3.1	4	2.8	4.6

Wells G and H Site, OU III
Surface Water Detected Compounds
General Water Quality (mg/L)

SAMPLE ID	SW-14-01-02	SW-15-01	SW-16-01	SW-16-01-02	SW-18-01	SW-23-01	SW-24-01
LAB ID	DAB781	DAB788	DAB363	DAB364	DAB789	DAB379	DAB386
SAMPLE DATE	9/5/95	9/5/95	8/23/95	8/23/95	9/7/95	8/30/95	8/30/95
COMMENTS	dup of DAB780		dup of DAB364	dup of DAB363			
ALKALINITY (AS CACO3)	138	122	70	70	104	52	53
CHLORIDE	114	111	103	104	114	88.6	114
NITRATE/NITRITE NITROGE	1.2	1.5	3	3.1	1	0.08	0.12
SULFATE	252	228	103	115	203	18	73
TOTAL DISSOLVED SOLIDS	523	491	450	436	552	292	398
TOTAL SUSPENDED SOLIDS	5.2	2.9	17.5	14.9	9.1	5.9	28

Wells G and H Site, OU III
Surface Water Detected Compounds
General Water Quality (mg/L)

SAMPLE ID	SW-25-01	SW-25-01-02	SW-26-01	SW-27-01
LAB ID	DAB334	DAB335	DAB339	DAB344
SAMPLE DATE	9/11/95	9/11/95	9/11/95	9/12/95
COMMENTS	dup of DAB335	dup of DAB334		
ALKALINITY (AS CACO3)	41	46	21	38
CHLORIDE	80.5	80.6	166	75.4
NITRATE/NITRITE NITROGE	0.01	0.02	0.01	0.38
SULFATE	24	22	10	21
TOTAL DISSOLVED SOLIDS	202	208	302	208
TOTAL SUSPENDED SOLIDS	3.8	3.5	1.8	1

3.2 VOCs

Site: Wells G and H, OU III
Surface Water Summary Statistics
Volatile Organics (ug/L)

PARAMETER	NO. DETECTED	NO. SAMPLES	MIN DETECTED	MAX	MEAN	StdDev	UCL MEAN	LOG MEAN	UCL LOG MEAN
cis-1,2-Dichloroethene	4	24	1	4	0.9	1.1	1.3	0.8	1.1
Chloroform	1	24	1	1	0.5	0.1	0.6	0.5	0.5
Trichloroethene	3	24	2	2	0.7	0.5	0.9	0.7	0.8
Tetrachloroethene	1	24	2	2	0.6	0.3	0.7	0.6	0.6

Wells G , Site, OU III
Surface Water Detected Compounds
Volatile Organics (ug/L)

SAMPLE ID	SW-01-01	SW-02-01	SW-03-01	SW-04-01	SW-05-01	SW-06-01	SW-07-01
LAB ID	DAB250	DAB264	DAB269	DAB273	DAB277	DAB282	DAB286
SAMPLE DATE	8/15/95	8/16/95	8/16/95	8/17/95	8/17/95	8/18/95	8/18/95
PERCENT MOISTURE	100	100	100	100	100		100
DILUTION FACTOR	1	1	1	1	1	1	1
COMMENTS							
cis-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	1 U	1 U	1 U	1 U	1 J	1 U	1 U
Trichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	1 U	1 U	1 U	1 U	2	1 U	1 U

Wells G &. . Site, OU III
Surface Water Detected Compounds
Volatile Organics (ug/L)

SAMPLE ID	SW-08-01	SW-09-01	SW-10-01	SW-11-01	SW-12-01	SW-13-01	SW-14-01
LAB ID	DAB297	DAB351	DAB367	DAB372	DAB387	DAB395	DAB780
SAMPLE DATE	8/21/95	8/22/95	8/23/95	8/24/95	8/31/95	9/6/95	9/5/95
PERCENT MOISTURE	100	100	100		100	100	100
DILUTION FACTOR	1	1	1	1	1	1	1
COMMENTS							dup of DAB781
cis-1,2-Dichloroethene	1 U	3	1 U	1	1 U	NA	1 U
Chloroform	1 U	1 U	1 U	1 U	1 U	NA	1 U
Trichloroethene	1 U	2	1 U	1 U	1 U	NA	1 U
Tetrachloroethene	1 U	1 U	1 U	1 U	1 U	NA	1 U

Wells G & Site, OU III
Surface Water Detected Compounds
Volatile Organics (ug/L)

SAMPLE ID	SW-14-01-02		SW-15-01		SW-16-01		SW-16-01-02		SW-18-01		SW-23-01		SW-24-01	
LAB ID	DAB781		DAB788		DAB363		DAB364		DAB789		DAB379		DAB386	
SAMPLE DATE	9/5/95		9/5/95		8/23/95		8/23/95		9/7/95		8/30/95		8/30/95	
PERCENT MOISTURE	100		100		100		100		100		100		100	
DILUTION FACTOR	1		1		1		1		1		1		1	
COMMENTS	dup of DAB780				dup of DAB364		dup of DAB363							
cis-1,2-Dichloroethene	1	U	1	U	4		4		1	U	1	U	1	U
Chloroform	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Trichloroethene	1	U	1	U	2		2		1	U	1	U	1	U
Tetrachloroethene	1	U	1	U	1	U	1	U	1	U	1	U	1	U

Wells G & H Site, OU III
Surface Water Detected Compounds
Volatile Organics (ug/L)

SAMPLE ID	SW-25-01		SW-25-01-02		SW-26-01		SW-27-01	
LAB ID	DAB334		DAB335		DAB339		DAB344	
SAMPLE DATE	9/11/95		9/11/95		9/11/95		9/12/95	
PERCENT MOISTURE	100		100		100		100	
DILUTION FACTOR	1		1		1		1	
COMMENTS	dup of DAB335		dup of DAB334					
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U
Chloroform	1	U	1	U	1	U	1	U
Trichloroethene	1	U	1	U	1	U	1	U
Tetrachloroethene	1	U	1	U	1	U	1	U

3.3 SVOCs

Wells G I Site, OU III
Surface Water Detected Compounds
Semivolatile Organics (ug/L)

No semivolatile organic compounds were detected in the surface water samples.

3.4 PCBs/Pesticides

Site: Wells G and H, OU III
Surface Water Summary Statistics
Pesticide-PCB (ug/L)

PARAMETER	NO. DETECTED	NO. SAMPLES	MIN DETECTED	MAX	MEAN	StdDev	UCL MEAN	LOG MEAN	UCL LOG MEAN
Heptachlor epoxide	3	25	0.0011	0.0019	0.0222	0.0061	0.0243	0.0279	0.0453
Endosulfan II	1	25	0.0015	0.0015	0.0481	0.0097	0.0514	0.0556	0.0767
Methoxychlor	1	25	0.015	0.015	0.241	0.047	0.257	0.262	0.331
alpha-Chlordane	1	25	0.0021	0.0021	0.0241	0	0.0241	0.0256	0.0312
gamma-Chlordane	2	25	0.0014	0.0017	0.0231	0.0042	0.0246	0.0269	0.0384

Wells G . . Site, OU III
Surface Water Detected Compounds
Pesticide-PCBs (ug/L)

SAMPLE ID	SW-01-01		SW-02-01		SW-03-01		SW-04-01		SW-05-01		SW-06-01		SW-07-01	
LAB ID	DAB250		DAB264		DAB269		DAB273		DAB277		DAB282		DAB286	
SAMPLE DATE	8/15/95		8/16/95		8/16/95		8/17/95		8/17/95		8/18/95		8/18/95	
PERCENT MOISTURE	100		100		100		100		100				100	
DILUTION FACTOR	1		1		1		1		1		1		1	
COMMENTS														
Heptachlor epoxide	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Endosulfan II	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
Methoxychlor	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ
alpha-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
gamma-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U

Wells G . Site, OU III
Surface Water Detected Compounds
Pesticide-PCBs (ug/L)

SAMPLE ID	SW-08-01		SW-09-01		SW-10-01		SW-11-01		SW-12-01		SW-13-01		SW-14-01	
LAB ID	DAB297		DAB351		DAB367		DAB372		DAB387		DAB395		DAB780	
SAMPLE DATE	8/21/95		8/22/95		8/23/95		8/24/95		8/31/95		9/6/95		9/5/95	
PERCENT MOISTURE	100		100		100				100		100		100	
DILUTION FACTOR	1		1		1		1		1		1		1	
COMMENTS													dup of DAB781	
Heptachlor epoxide	0.05	U	0.05	U	0.05	U	0.0014	J	0.0019	J	0.0011	J	0.05	U
Endosulfan II	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.0015	J	0.1	U
Methoxychlor	0.5	U	0.5	U	0.5	U	0.015	J	0.5	U	0.5	U	0.5	U
alpha-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U	0.0021	J	0.05	U	0.05	U
gamma-Chlordane	0.05	U	0.05	U	0.05	U	0.0014	J	0.05	U	0.05	U	0.05	U

Wells G & Site, OU III
Surface Water Detected Compounds
Pesticide-PCBs (ug/L)

SAMPLE ID	SW-14-01-02		SW-15-01		SW-16-01		SW-16-01-02		SW-18-01		SW-23-01		SW-24-01	
LAB ID	DAB781		DAB788		DAB363		DAB364		DAB789		DAB379		DAB386	
SAMPLE DATE	9/5/95		9/5/95		8/23/95		8/23/95		9/7/95		8/30/95		8/30/95	
PERCENT MOISTURE	100		100		100		100		100		100		100	
DILUTION FACTOR	1		1		1		1		1		1		1	
COMMENTS	dup of DAB780				dup of DAB364		dup of DAB363							
Heptachlor epoxide	0.05	UJ	0.05	U	0.05	U	0.05	U	0.05	UJ	0.05	U	0.05	U
Endosulfan II	0.1	UJ	0.1	U	0.1	U	0.1	U	0.1	UJ	0.1	U	0.1	U
Methoxychlor	0.5	UJ	0.5	U	0.5	U	0.5	U	0.5	UJ	0.5	U	0.5	U
alpha-Chlordane	0.05	UJ	0.05	U	0.05	U	0.05	U	0.05	UJ	0.05	U	0.05	U
gamma-Chlordane	0.05	UJ	0.05	U	0.05	U	0.05	U	0.05	UJ	0.05	U	0.0017	J

Wells G a. . Site, OU III
Surface Water Detected Compounds
Pesticide-PCBs (ug/L)

SAMPLE ID	SW-25-01		SW-25-01-02		SW-26-01		SW-27-01	
LAB ID	DAB334		DAB335		DAB339		DAB344	
SAMPLE DATE	9/11/95		9/11/95		9/11/95		9/12/95	
PERCENT MOISTURE	100		100		100		100	
DILUTION FACTOR	1		1		1		1	
COMMENTS	*dup of DAB335*		*dup of DAB334*					
Heptachlor epoxide	0.05	UJ	0.05	UJ	0.05	U	0.05	U
Endosulfan II	0.1	UJ	0.1	UJ	0.1	U	0.1	U
Methoxychlor	0.5	UJ	0.5	UJ	0.5	U	0.5	U
alpha-Chlordane	0.05	UJ	0.05	UJ	0.05	U	0.05	U
gamma-Chlordane	0.05	UJ	0.05	UJ	0.05	U	0.05	U

3.5 Inorganics

Site: Wells G and H, OU III
Surface Water Summary Statistics
Metals (ug/L)

PARAMETER	NO. DETECTED	NO. SAMPLES	MIN DETECTED	MAX	MEAN	StdDev	UCL MEAN	LOG MEAN	UCL LOG MEAN
Aluminum	20	25	21.3	2180	197.2	431.8	344.5	171.8	401.5
Antimony	2	25	1.3	1.5	0.6	0.2	0.7	0.6	0.7
Arsenic	17	25	2.8	77.1	11.1	15.5	16.4	12.6	29
Barium	25	25	15.4	54.4	34.6	8.7	37.6	34.8	38.5
Beryllium	4	25	0.043	0.18	0.051	0.033	0.062	0.051	0.063
Cadmium	4	25	0.12	2.5	0.23	0.51	0.41	0.17	0.31
Calcium	25	25	17700	87300	49732	23612	57788	50334	62344
Chromium	22	25	0.34	146	9.22	28.77	19.04	7.82	26.06
Cobalt	10	25	0.43	4.8	0.8	0.98	1.13	0.76	1.16
Copper	24	25	0.45	111	9.03	21.65	16.41	7.99	18.08
Iron	25	25	116	8470	1401.2	1635.5	1959.2	1488.4	2661.7
Lead	14	25	0.94	75.9	5.7	14.95	10.8	4.77	12.68
Magnesium	25	25	2050	12100	7638	2971	8652	7752	9284
Manganese	25	25	46.3	812	412	241.2	494.3	472.2	755.5
Mercury	13	25	0.04	0.88	0.13	0.168	0.188	0.121	0.171
Nickel	24	25	0.66	6.2	1.8	1.14	2.18	1.84	2.43
Potassium	25	25	1080	8040	5420	1678	5993	5529	6502
Sodium	25	25	42200	88300	61792	10525	65383	61844	65815
Vanadium	18	25	0.58	7.4	1.16	1.39	1.64	1.12	1.6
Zinc	22	25	2	626	55.3	121.9	96.9	71.6	237.1

Wells G a. . Site, OU III
Surface Water Detected Compounds
Inorganics (ug/L)

SAMPLE ID	SW-01-01		SW-02-01		SW-03-01		SW-04-01		SW-05-01		SW-06-01		SW-07-01	
LAB ID	DAB250		DAB264		DAB269		DAB273		DAB277		DAB282		DAB286	
SAMPLE DATE	8/15/95		8/16/95		8/16/95		8/17/95		8/17/95		8/18/95		8/18/95	
PERCENT MOISTURE	100		100		100		100		100				100	
DILUTION FACTOR	1		1		1		1		1		1		1	
COMMENTS														
Aluminum	426		50.4		298		47.7		27.3		199		129	
Antimony	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U	1.3	
Arsenic	3.1		2.8		5.2		6.5	U	3.4	UJ	6.5	U	13.9	U
Barium	29.6		34.5		41.9		44.4		50.3		32		33.9	
Beryllium	0.035	U	0.035	U	0.035	U	0.11		0.059	UJ	0.097	U	0.1	U
Cadmium	0.099	U	0.1	U	0.099	U	0.099	U	0.099	U	0.099	U	0.099	U
Calcium	28100		28800		28900		32600		41800		42500		45300	
Chromium	1.5		0.72		3.7		0.75		0.85		4.3		3.1	
Cobalt	0.43		0.4	U	0.4	U	0.4	U	0.4	U	0.88	UJ	0.96	UJ
Copper	6.8		2.2		6		2.5		1.7		5.2		3.6	
Iron	703		304		1080		544		376		1180		1920	
Lead	4.1	J	0.85	UJ	7.5	J	1.7		0.84	U	5.7		4.3	
Magnesium	5030		5060		5120		5710		7290		6830		7400	
Manganese	70.9		97.4		221		317		320		504		585	
Mercury	0.04	J	0.062	J	0.069	J	0.2	UJ	0.2	UJ	0.2	UJ	0.22	J
Nickel	2		0.89		1.5		1.1		1.3		1.9		1.7	
Potassium	4160	J	4070	J	4070	J	3850		4560		5180		5050	
Sodium	62600		58900		49000		51200		65900		59800		54500	
Vanadium	1.3		0.58		1.3		0.55	U	0.68		1.5		1.9	
Zinc	45.5		4	U	29.4		12.4		10.8		29.8		18.9	

Wells G & Site, OU III
Surface Water Detected Compounds
Inorganics (ug/L)

SAMPLE ID	SW-08-01		SW-09-01		SW-10-01		SW-11-01		SW-12-01		SW-13-01		SW-14-01	
LAB ID	DAB297		DAB351		DAB367		DAB372		DAB387		DAB395		DAB780	
SAMPLE DATE	8/21/95		8/22/95		8/23/95		8/24/95		8/31/95		9/6/95		9/5/95	
PERCENT MOISTURE	100		100		100				100		100		100	
DILUTION FACTOR	1		1		1		1		1		1		1	
COMMENTS													dup of DAB781	
Aluminum	40.2		55.3		2180		37.9		70.9		279		38.7	U
Antimony	1.2	U	1.2	U	1.5		1.2	U	1.1	U	1.1	U	1.1	U
Arsenic	6.8		11.5		77.1		12.7		22.7		21.5		13.3	
Barium	29.2		31.3		54.4		33.2		35.8		37.9		35.7	
Beryllium	0.095	U	0.093	U	0.18		0.035	U	0.1	U	0.099	U	0.1	U
Cadmium	1.4	U	1.5	UJ	2.5		0.1	U	0.15	U	0.15	U	0.15	U
Calcium	49200		53200		67700		70100		86200		78700		87300	
Chromium	2.2		4.3		146		2.7		5.8		10.9		2.4	
Cobalt	0.61	UJ	1.5	U	4.8		1.5	U	0.79		1		1.1	
Copper	3.3		4.5		111		4.1		5.8		14.1		3.5	
Iron	693		1000		8470		1150		1580		1980		1610	
Lead	0.85	U	1.8		75.9	J	0.85	U	0.93999		9.5		0.75	U
Magnesium	8040		8360		10100		10100		12100		10800		12000	
Manganese	356	J	644	J	691		336		506		493		623	
Mercury	0.2	UJ	0.2	U	0.88		0.095	U	0.08	U	0.26		0.08	U
Nickel	1.3		1.4		6.2		2		2.5		2.4		2.6	
Potassium	5240		5330		6420		5970		8040		7590		7960	
Sodium	58800		61100		66000		67500		73200		68200		74100	
Vanadium	1.1	U	1.2	U	7.4		0.79		0.84		1.4		0.55	U
Zinc	37.7		46.2		626	J	33	J	47.7	J	64.3	J	48.1	J

Wells G & . Site, OU III
Surface Water Detected Compounds
Inorganics (ug/L)

SAMPLE ID	SW-14-01-02		SW-15-01		SW-16-01		SW-16-01-02		SW-18-01		SW-23-01		SW-24-01	
LAB ID	DAB781		DAB788		DAB363		DAB364		DAB789		DAB379		DAB386	
SAMPLE DATE	9/5/95		9/5/95		8/23/95		8/23/95		9/7/95		8/30/95		8/30/95	
PERCENT MOISTURE	100		100		100		100		100		100		100	
DILUTION FACTOR	1		1		1		1		1		1		1	
COMMENTS	dup of DAB780				dup of DAB364		dup of DAB363							
Aluminum	36.9	U	31.1	U	437		214		101		23.5	U	142	
Antimony	1.1	U	1.1	U	1.2	U	1.2	U	1.1	U	1.1	U	1.1	U
Arsenic	13.5		11.6		23.6		15.9		13.1		2.9		3.2	
Barium	35.1		33.5		37.4		34.1		31.2		20.3		45.1	
Beryllium	0.1	U	0.099	U	0.043		0.043		0.1	U	0.099	U	0.1	U
Cadmium	0.15	U	0.15	U	0.34		0.12		0.16		0.15	U	0.15	U
Calcium	87100		80100		57900		55600		76800		24300		37000	
Chromium	2.4		2.2		16.1		8.1		10.5		0.47		0.88	
Cobalt	1.2		0.68999		2.2		1.6		1.1		0.5	U	0.5	U
Copper	3.7		3.7		18.1		9.4		8.5		0.35	U	3.9	
Iron	1580		972		2370		1500		1060		1470		2780	
Lead	0.75	U	0.74	U	10.7	J	4.7	J	4		0.75	U	6.3	
Magnesium	11900		11100		9170		8770		11000		5150		5950	
Manganese	609		316		812		743		330		780		520	
Mercury	0.08	U	0.12		0.24		0.11	U	0.08	U	0.11		0.13	
Nickel	2.4		2.2		2.4		2		2.1		0.66		1.8	
Potassium	7830		7470		5310		4950		7640		4920		6260	
Sodium	70900		69000		63100		60400		68000		48800		69100	
Vanadium	0.71		0.73		2		1.3		1.5		0.89		0.55	U
Zinc	47.7	J	27.4	J	113	J	70.5	J	48.2	J	2.2	J	16.1	J

Wells G Site, OU III
Surface Water Detected Compounds
Inorganics (ug/L)

SAMPLE ID	SW-25-01		SW-25-01-02		SW-26-01		SW-27-01	
LAB ID	DAB334		DAB335		DAB339		DAB344	
SAMPLE DATE	9/11/95		9/11/95		9/11/95		9/12/95	
PERCENT MOISTURE	100		100		100		100	
DILUTION FACTOR	1		1		1		1	
COMMENTS	dup of DAB335		dup of DAB334					
Aluminum	47.6		46.7		29.2	U	21.3	
Antimony	1.1	U	1.1	U	1.1	U	1.1	U
Arsenic	1.4	UJ	1.5	UJ	1	U	1.7	UJ
Barium	24.5		24.6		40.5		15.4	
Beryllium	0.099	U	0.1	U	0.1	U	0.099	U
Cadmium	0.15	U	0.15	U	0.15	U	0.15	U
Calcium	23300		23400		17700		19700	
Chromium	0.25	U	0.25	U	0.25	U	0.34	
Cobalt	0.5	U	0.5	U	0.5	U	0.5	U
Copper	1		1		1.4		0.45	
Iron	116		120		221		251	
Lead	0.74	U	0.96		0.75	U	0.75	U
Magnesium	3820		3830		2050		4280	
Manganese	46.3		46.5		285		47.5	
Mercury	0.12		0.11		0.08	U	0.097	
Nickel	0.84		0.72		0.5	U	0.75	
Potassium	4230		4230		1080		4100	
Sodium	47200		47000		88300		42200	
Vanadium	0.89		0.81		0.55	U	0.55	U
Zinc	2	J	1.5	UJ	2.7	J	1.6	UJ

3.6 Total Disssolved Carbon

Wells G and H Site, OU III
Surface Water Detected Compounds
Dissolved Organic Carbon (mg/L)

SAMPLE ID	SW-01-01	SW-02-01	SW-03-01	SW-04-01	SW-05-01	SW-06-01	SW-07-01
LAB ID	DAB101	DAB116	DAB121	DAB126	DAB130	DAB137	DAB141
SAMPLE DATE	8/15/95	8/16/95	8/16/95	8/17/95	8/17/95	8/18/95	8/18/95
COMMENTS							
Dissolved Organic Carbon	6.8	7.1	8	7.1	5.7	6	7.6

Wells G and H Site, OU III
Surface Water Detected Compounds
Dissolved Organic Carbon (mg/L)

SAMPLE ID	SW-08-01	SW-09-01	SW-10-01	SW-11-01	SW-12-01	SW-13-01	SW-14-01
LAB ID	DAB153	DAB158	DAB175	DAB181	DAB198	DAB697	DAB752
SAMPLE DATE	8/21/95	8/22/95	8/23/95	8/24/95	8/30/95	8/30/95	8/30/95
COMMENTS							dup of DAB753
Dissolved Organic Carbon	4.9	5.6	6.9	7.1	9.3	8.7	8.7

Wells G and H Site, OU III
Surface Water Detected Compounds
Dissolved Organic Carbon (mg/L)

SAMPLE ID	SW-14-01-02	SW-15-01	SW-16-01	SW-16-01-02	SW-18-01	SW-23-01	SW-24-01
LAB ID	DAB753	DAB760	DAB171	DAB172	DAB762	DAB189	DAB196
SAMPLE DATE	8/30/95	8/30/95	8/23/95	8/23/95	8/30/95	8/30/95	8/30/95
COMMENTS	dup of DAB752		dup of DAB172	dup of DAB171			
Dissolved Organic Carbon	9	8.2	5.6	5.2	8.5	8.2	7.8

Wells G and H Site, OU III
Surface Water Detected Compounds
Dissolved Organic Carbon (mg/L)

SAMPLE ID	SW-25-01	SW-25-01-02	SW-26-01	SW-27-01
LAB ID	DAB777	DAB778	DAB232	DAB238
SAMPLE DATE	8/30/95	8/30/95	8/30/95	8/30/95
COMMENTS	dup of DAB778	dup of DAB777		
Dissolved Organic Carbon	5.5	5.2	4.6	4.6

4. SEDIMENT ANALYSES

4.1 VOCs

Site: Wells G and H, OU III
Sediment Summary Statistics
Volatile Organics (ug/Kg)

PARAMETER	NO. DETECTED	NO. SAMPLES	MIN DETECTED	MAX	MEAN	StdDev	UCL MEAN	LOG MEAN	UCL LOG MEAN
Vinyl Chloride	1	76	2	2	8.2	2.8	8.7	8.2	8.8
Methylene Chloride	2	77	28	100	15.3	16.5	18.4	14.4	16.6
Acetone	17	83	23	630	66.2	108.3	86	63.6	92.7
Carbon Disulfide	4	78	3	19	8.4	3.3	9	8.4	9
1,1-Dichloroethane	1	76	3	3	8.2	2.8	8.7	8.2	8.7
1,2-Dichloroethene(total)	8	82	9	59	9.8	7.2	11.2	9.6	10.5
2-Butanone	24	86	9	290	29.6	51.2	38.8	23.9	31.8
Trichloroethene	4	80	21	200	11.5	22.1	15.6	9.9	11.1
Tetrachloroethene	4	79	41	830	25.5	103	44.9	12.9	15.7
Toluene	1	76	3	3	8.2	2.8	8.7	8.2	8.7

Site: Wel[illegible]and H, OU III
Sediment Detected Compounds
Volatile Organics (ug/Kg)

SAMPLE ID	SD-01-01	SD-01-02	SD-01-03	SD-01-04	SD-01-05	SD-01-06	SD-01-07
LAB ID	ALE02	ALE03	ALE04	ALE05	ALE06	ALE07	ALE08
SAMPLE DATE	8/15/95	8/15/95	8/15/95	8/15/95	8/15/95	8/15/95	8/15/95
PERCENT MOISTURE	11	14	13	22	17	62	31
COMMENTS							
Vinyl Chloride	11 UJ	12 UJ	11 UJ	13 UJ	12 UJ	26 UJ	14 UJ
Methylene Chloride	37 UJ	52 UJ	11 UJ	49 UJ	52 UJ	26 UJ	14 UJ
Acetone	43 UJ	77 UJ	23 UJ	120 UJ	120 UJ	57 UJ	24 UJ
Carbon Disulfide	11 UJ	12 UJ	11 UJ	13 UJ	12 UJ	26 UJ	14 UJ
1,1-Dichloroethane	11 UJ	12 UJ	11 UJ	13 UJ	12 UJ	26 UJ	14 UJ
1,2-Dichloroethene(total)	11 UJ	12 UJ	11 UJ	13 UJ	12 UJ	26 UJ	14 UJ
2-Butanone	11 UJ	12 J	11 UJ	20 J	12 UJ	26 UJ	14 UJ
Trichloroethene	11 UJ	12 UJ	11 UJ	13 UJ	12 UJ	26 UJ	14 UJ
Tetrachloroethene	11 UJ	12 UJ	11 UJ	13 UJ	12 UJ	26 UJ	14 UJ
Toluene	11 UJ	12 UJ	11 UJ	13 UJ	12 UJ	26 UJ	14 UJ

Site: Wells .nd H, OU III
Sediment Detected Compounds
Volatile Organics (ug/Kg)

SAMPLE ID	SD-01-08	SD-01-09	SD-01-10	SD-02-01	SD-02-01-02	SD-02-02	SD-02-03
LAB ID	ALE09	ALE10	ALE11	ALE17	ALE18	ALE19	ALE20
SAMPLE DATE	8/15/95	8/15/95	8/15/95	8/16/95	8/16/95	8/16/95	8/16/95
PERCENT MOISTURE	16	22	31	20	19	19	20
COMMENTS				dup of ALE18	dup of ALE17		
Vinyl Chloride	12 UJ	13 UJ	14 UJ	12 U	12 U	12 U	12 U
Methylene Chloride	14 UJ	62 UJ	51 UJ	25 U	32 U	12 U	24 U
Acetone	12 UJ	68 UJ	62 UJ	84 U	52 U	16 U	31 U
Carbon Disulfide	12 UJ	13 UJ	14 UJ	12 U	12 U	12 U	12 U
1,1-Dichloroethane	12 UJ	13 UJ	14 UJ	12 U	12 U	12 U	12 U
1,2-Dichloroethene(total)	12 UJ	13 UJ	14 UJ	12 U	12 U	12 U	12 U
2-Butanone	12 UJ	13 UJ	14 UJ	9 J	12 U	12 U	12 U
Trichloroethene	12 UJ	13 UJ	14 UJ	12 U	12 U	12 U	12 U
Tetrachloroethene	12 UJ	13 UJ	14 UJ	12 U	12 U	12 U	12 U
Toluene	12 UJ	13 UJ	14 UJ	12 U	12 U	12 U	12 U

Site: Wells and H, OU III
Sediment Detected Compounds
Volatile Organics (ug/Kg)

SAMPLE ID	SD-03-01	SD-03-02	SD-03-03	SD-04-01	SD-04-02	SD-04-03	SD-05-01
LAB ID	ALE22	ALE23	ALE24	ALE27	ALE28	ALE29	ALE31
SAMPLE DATE	8/16/95	8/16/95	8/16/95	8/17/95	8/17/95	8/17/95	8/17/95
PERCENT MOISTURE	16	59	18	35	56	62	15
COMMENTS							
Vinyl Chloride	12 U	24 U	12 U	15 UJ	23 UJ	26 UJ	12 UJ
Methylene Chloride	19 U	24 U	12 U	36 UJ	23 UJ	29 UJ	12 UJ
Acetone	30 U	310 U	12 U	64 U	48 U	340 UJ	12 UJ
Carbon Disulfide	12 U	24 U	12 U	15 UJ	23 UJ	26 UJ	12 UJ
1,1-Dichloroethane	12 U	24 U	12 U	15 UJ	23 UJ	26 UJ	12 UJ
1,2-Dichloroethene(total)	12 U	24 U	12 U	15 UJ	23 UJ	26 UJ	12 UJ
2-Butanone	12 U	70	12 U	15 UJ	23 UJ	82 J	12 UJ
Trichloroethene	12 U	24 U	12 U	15 UJ	23 UJ	26 UJ	12 UJ
Tetrachloroethene	12 U	24 U	12 U	15 UJ	23 UJ	26 UJ	12 UJ
Toluene	12 U	24 U	12 U	15 UJ	23 UJ	26 UJ	12 UJ

Site: Wells d H, OU III
Sediment Detected Compounds
Volatile Organics (ug/Kg)

SAMPLE ID	SD-05-02	SD-05-03	SD-06-01	SD-06-02	SD-06-03	SD-07-01	SD-07-01-02
LAB ID	ALE32	ALE33	ALE38	ALE39	ALE40	ALE42	ALE43
SAMPLE DATE	8/17/95	8/17/95	8/18/95	8/18/95	8/18/95	8/18/95	8/18/95
PERCENT MOISTURE	20	49	55	49	66	26	23
COMMENTS						dup of ALE43	dup of ALE42
Vinyl Chloride	12 UJ	20 UJ	22 U	20 U	29 U	14 U	13 U
Methylene Chloride	12 UJ	20 UJ	33 U	20 U	56 U	14 U	17 U
Acetone	12 UJ	180 UJ	280 UJ	200 UJ	170 UJ	78 UJ	29 UJ
Carbon Disulfide	12 UJ	20 UJ	22 U	20 U	29 U	14 U	13 U
1,1-Dichloroethane	12 UJ	20 UJ	22 U	20 U	29 U	14 U	13 U
1,2-Dichloroethene(total)	12 UJ	9 J	22 U	20 U	29 U	14 U	13 U
2-Butanone	12 UJ	39 J	62	45	45	14 J	13 UJ
Trichloroethene	12 UJ	20 UJ	22 U	20 U	29 U	14 U	13 U
Tetrachloroethene	12 UJ	20 UJ	22 U	20 UJ	29 UJ	14 U	13 U
Toluene	12 UJ	20 UJ	22 U	20 UJ	29 UJ	14 U	13 U

Site: Wells ..id H, OU III
Sediment Detected Compounds
Volatile Organics (ug/Kg)

SAMPLE ID	SD-07-02		SD-07-03		SD-07-04		SD-07-05		SD-07-06		SD-07-07		SD-07-08	
LAB ID	ALE45		ALE46		ALE86		ALE47		ALE48		ALE49		ALE50	
SAMPLE DATE	8/21/95		8/21/95		8/29/95		8/21/95		8/21/95		8/21/95		8/21/95	
PERCENT MOISTURE	59		21		63		75		61		64		39	
COMMENTS														
Vinyl Chloride	24	U	13	U	27	U	40	R	26	U	28	U	16	U
Methylene Chloride	44	U	30	U	27	UJ	280	R	180	U	150	U	57	U
Acetone	44	UJ	21	UJ	280	UJ	400	R	140	UJ	100	UJ	62	UJ
Carbon Disulfide	24	U	13	U	27	U	40	R	26	U	28	U	16	U
1,1-Dichloroethane	24	U	13	U	27	U	40	R	26	U	28	U	16	U
1,2-Dichloroethene(total)	24	U	13	U	27	U	40	R	26	U	28	U	16	U
2-Butanone	24	U	13	U	89		47	J	26	U	28	U	16	U
Trichloroethene	24	U	13	U	27	U	40	R	26	U	28	U	16	U
Tetrachloroethene	24	U	13	U	27	U	40	R	26	U	28	U	16	U
Toluene	24	U	13	U	27	U	40	R	26	U	28	U	16	U

Site: Wel[illegible]nd H, OU III
Sediment Detected Compounds
Volatile Organics (ug/Kg)

SAMPLE ID	SD-07-09		SD-07-10		SD-08-01		SD-08-02		SD-08-03		SD-09-01		SD-09-02	
LAB ID	ALE51		ALE52		ALE54		ALE55		ALE56		ALE59		ALE60	
SAMPLE DATE	8/21/95		8/21/95		8/21/95		8/21/95		8/21/95		8/22/95		8/22/95	
PERCENT MOISTURE	64		62		21		33		18		37		37	
COMMENTS														
Vinyl Chloride	28	U	26	U	13	U	15	U	12	U	16	U	16	U
Methylene Chloride	52	U	53	U	39	U	29	U	22	U	23	U	24	U
Acetone	87	UJ	68	UJ	24	UJ	19	UJ	12	UJ	17	UJ	16	UJ
Carbon Disulfide	28	U	26	U	13	U	15	U	12	U	16	U	16	U
1,1-Dichloroethane	28	U	26	U	13	U	15	U	12	U	16	U	16	U
1,2-Dichloroethene(total)	28	U	26	U	13	U	15	U	12	U	16	U	16	U
2-Butanone	28	U	26	U	13	U	15	U	12	U	16	U	16	U
Trichloroethene	28	U	26	U	13	U	15	U	12	U	16	U	16	U
Tetrachloroethene	28	U	26	U	13	U	15	U	12	U	16	U	16	U
Toluene	28	U	26	U	13	U	15	U	12	U	16	U	16	U

Site: Wells ıd H, OU III
Sediment Detected Compounds
Volatile Organics (ug/Kg)

SAMPLE ID	SD-09-03		SD-09-04		SD-09-05		SD-09-06		SD-09-07		SD-09-08		SD-09-09	
LAB ID	ALE61		ALE62		ALE63		ALE64		ALE65		ALE66		ALE67	
SAMPLE DATE	8/22/95		8/22/95		8/22/95		8/22/95		8/22/95		8/22/95		8/22/95	
PERCENT MOISTURE	20		20		16		18		30		15		17	
COMMENTS														
Vinyl Chloride	12	U	12	U	12	U	12	U	14	U	12	U	12	U
Methylene Chloride	15	U	12	U	17	U	15	U	15	U	14	U	20	U
Acetone	12	UJ	21	UJ	16	UJ	14	UJ	14	UJ	12	UJ	12	UJ
Carbon Disulfide	12	U	12	U	12	U	12	U	14	U	12	U	12	U
1,1-Dichloroethane	12	U	12	U	12	U	12	U	14	U	12	U	12	U
1,2-Dichloroethene(total)	12	U	12	U	12	U	12	U	14	U	12	U	12	U
2-Butanone	12	U	12	U	12	U	12	U	14	U	12	U	12	U
Trichloroethene	12	U	12	U	12	U	12	U	14	U	12	U	12	U
Tetrachloroethene	12	U	12	U	12	U	12	U	14	U	12	U	12	U
Toluene	12	U	12	U	12	U	12	U	14	U	12	U	12	U

Site: Wei .nd H, OU III
Sediment Detected Compounds
Volatile Organics (ug/Kg)

SAMPLE ID	SD-09-10		SD-10-01		SD-10-01-02		SD-10-02		SD-10-03		SD-11-01		SD-11-02	
LAB ID	ALE68		ALE76		ALE77		ALE78		ALE79		ALE82		ALE83	
SAMPLE DATE	8/22/95		8/23/95		8/23/95		8/23/95		8/23/95		8/24/95		8/24/95	
PERCENT MOISTURE	25		86		87		90		50		63		79	
COMMENTS			dup of ALE77		dup of ALE76									
Vinyl Chloride	13	U	71	R	77	R	100	R	20	U	27	U	48	R
Methylene Chloride	14	UJ	71	R	77	R	100	R	21	UJ	27	UJ	78	R
Acetone	19	UJ	360	R	430	R	400	R	98	UJ	430	UJ	720	R
Carbon Disulfide	13	U	71	R	77	R	100	R	20	U	27	U	48	R
1,1-Dichloroethane	13	U	71	R	77	R	100	R	20	U	27	U	48	R
1,2-Dichloroethene(total)	13	U	71	R	77	R	100	R	20	U	27	U	48	R
2-Butanone	13	UJ	71	R	77	R	100	R	20	UJ	120	J	200	J
Trichloroethene	13	U	71	R	77	R	100	R	20	U	27	U	48	R
Tetrachloroethene	13	U	71	R	77	R	100	R	20	U	27	U	48	R
Toluene	13	U	71	R	77	R	100	R	20	U	27	U	48	R

Site: Wellk ıd H, OU III
Sediment Detected Compounds
Volatile Organics (ug/Kg)

SAMPLE ID	SD-11-03		SD-12-01		SD-12-02		SD-12-03		SD-13-01		SD-13-02		SD-13-03	
LAB ID	ALE84		ALE99		ALF00		ALF01		ALM65		ALM66		ALM67	
SAMPLE DATE	8/24/95		8/31/95		8/31/95		8/31/95		9/5/95		9/5/95		9/5/95	
PERCENT MOISTURE	64		77		75		55		82		81		72	
COMMENTS														
Vinyl Chloride	28	U	43	R	40	R	22	U	56	R	53	R	36	R
Methylene Chloride	42	UJ	51	R	40	R	22	UJ	110	R	53	R	37	R
Acetone	260	UJ	230	R	160	R	56	UJ	670	R	630	J	100	R
Carbon Disulfide	28	U	43	R	40	R	22	U	56	R	53	R	36	R
1,1-Dichloroethane	28	U	43	R	40	R	22	U	56	R	53	R	36	R
1,2-Dichloroethene(total)	28	U	43	R	40	R	22	U	56	R	53	R	36	R
2-Butanone	28	UJ	43	R	87	J	22	U	190	J	160	J	36	R
Trichloroethene	28	U	43	R	40	R	22	U	56	R	53	R	36	R
Tetrachloroethene	28	U	43	R	40	R	22	U	56	R	53	R	36	R
Toluene	28	U	43	R	40	R	22	U	56	R	53	R	36	R

Site: Wel. and H, OU III
Sediment Detected Compounds
Volatile Organics (ug/Kg)

SAMPLE ID	SD-14-01		SD-14-02		SD-14-03		SD-15-01		SD-15-02		SD-15-03		SD-16-01	
LAB ID	ALM72		ALM73		ALM74		ALM75		ALM76		ALM77		ALE87	
SAMPLE DATE	9/5/95		9/5/95		9/5/95		9/5/95		9/5/95		9/5/95		8/29/95	
PERCENT MOISTURE	20		20		28		88		87		88		61	
COMMENTS														
Vinyl Chloride	12	U	12	U	14	U	83	R	77	R	83	R	26	U
Methylene Chloride	12	U	12	U	14	U	83	R	77	R	83	R	26	UJ
Acetone	140	J	12	U	58	J	210	J	290	J	83	R	26	U
Carbon Disulfide	12	U	12	U	14	U	18	J	77	R	83	R	26	U
1,1-Dichloroethane	12	U	12	U	14	U	83	R	77	R	83	R	26	U
1,2-Dichloroethene(total)	12	U	12	U	14	U	29	J	24	J	29	J	26	U
2-Butanone	12	U	12	U	14	U	83	R	77	R	83	R	26	U
Trichloroethene	12	U	12	U	14	U	83	R	26	J	48	J	26	U
Tetrachloroethene	12	U	12	U	14	U	83	R	77	R	41	J	26	U
Toluene	12	U	12	U	3	J	83	R	77	R	83	R	26	U

Site: Wel. .nd H, OU III
Sediment Detected Compounds
Volatile Organics (ug/Kg)

SAMPLE ID	SD-16-02		SD-16-03		SD-18-01		SD-18-02		SD-18-03		SD-19-01		SD-19-01-02	
LAB ID	ALE73		ALE74		ALE88		ALM81		ALM82		ALF02		ALM59	
SAMPLE DATE	8/23/95		8/23/95		8/29/95		9/7/95		9/7/95		8/31/95		8/31/95	
PERCENT MOISTURE	21		21		46		89		79		81		82	
COMMENTS											dup of ALM59		dup of ALF02	
Vinyl Chloride	13	U	13	U	2	J	91	R	48	R	53	R	56	R
Methylene Chloride	13	UJ	13	UJ	30	UJ	91	R	48	R	210	R	56	R
Acetone	25	UJ	24	UJ	150	UJ	310	J	230	J	1000	R	190	R
Carbon Disulfide	13	U	13	U	18	U	91	R	48	R	53	R	56	R
1,1-Dichloroethane	13	U	13	U	3	J	91	R	48	R	53	R	56	R
1,2-Dichloroethene(total)	13	U	13	U	59		91	R	48	R	53	R	16	J
2-Butanone	13	UJ	13	UJ	18	U	91	R	65	J	290	J	56	R
Trichloroethene	13	U	13	U	18	U	91	R	48	R	53	R	56	R
Tetrachloroethene	13	U	13	U	18	U	91	R	48	R	53	R	56	R
Toluene	13	U	13	U	18	U	91	R	48	R	53	R	56	R

Site: Wel. .nd H, OU III
Sediment Detected Compounds
Volatile Organics (ug/Kg)

SAMPLE ID	SD-19-02		SD-19-03		SD-20-01		SD-20-01-02		SD-20-02		SD-20-03		SD-21-01	
LAB ID	ALM57		ALM58		ALM83		ALM84		ALM85		ALM86		ALM89	
SAMPLE DATE	8/31/95		8/31/95		9/7/95		9/7/95		9/7/95		9/7/95		9/8/95	
PERCENT MOISTURE	80		81		86		87		78		80		79	
COMMENTS					dup of ALM84		dup of ALM83							
Vinyl Chloride	50	R	53	R	71	R	77	R	45	R	50	R	48	R
Methylene Chloride	50	R	53	R	71	R	77	R	45	R	50	R	48	R
Acetone	300	R	260	R	71	R	590	J	94	J	50	R	48	R
Carbon Disulfide	50	R	53	R	71	R	19	J	45	R	50	R	48	R
1,1-Dichloroethane	50	R	53	R	71	R	77	R	45	R	50	R	48	R
1,2-Dichloroethene(total)	18	J	53	R	15	J	77	R	45	R	50	R	48	R
2-Butanone	160	J	53	R	85	J	130	J	45	R	50	R	48	R
Trichloroethene	50	R	53	R	71	R	77	R	45	R	50	R	48	R
Tetrachloroethene	50	R	53	R	71	R	77	R	45	R	50	R	48	R
Toluene	50	R	53	R	71	R	77	R	45	R	50	R	48	R

Site: Wel. ,nd H, OU III
Sediment Detected Compounds
Volatile Organics (ug/Kg)

SAMPLE ID	SD-21-02		SD-21-03		SD-22-01		SD-22-02		SD-22-03		SD-23-01		SD-23-02	
LAB ID	ALM90		ALM91		ALM92		ALM93		ALM94		ALE90		ALE91	
SAMPLE DATE	9/8/95		9/8/95		9/8/95		9/8/95		9/8/95		8/30/95		8/30/95	
PERCENT MOISTURE	83		77		74		62		80		46		29	
COMMENTS														
Vinyl Chloride	59	R	43	R	38	R	26	U	50	R	18	U	14	U
Methylene Chloride	59	R	43	R	38	R	28	J	100	J	20	UJ	14	UJ
Acetone	59	R	43	R	38	R	26	U	50	R	33	UJ	20	UJ
Carbon Disulfide	59	R	43	R	38	R	26	U	50	R	18	U	14	U
1,1-Dichloroethane	59	R	43	R	38	R	26	U	50	R	18	U	14	U
1,2-Dichloroethene(total)	59	R	43	R	38	R	26	U	50	R	18	U	14	U
2-Butanone	59	R	43	R	38	R	26	U	50	R	18	U	14	U
Trichloroethene	59	R	43	R	21	J	26	U	200	J	18	U	14	U
Tetrachloroethene	59	R	43	R	410	J	120		830	J	18	U	14	U
Toluene	59	R	43	R	38	R	26	U	50	R	18	U	14	U

Site: We. and H, OU III
Sediment Detected Compounds
Volatile Organics (ug/Kg)

SAMPLE ID	SD-23-03		SD-24-01		SD-24-02		SD-24-03		SD-25-01		SD-25-02		SD-25-03	
LAB ID	ALE92		ALE93		ALE94		ALE95		ALM98		ALM99		ALN00	
SAMPLE DATE	8/30/95		8/30/95		8/30/95		8/30/95		9/11/95		9/11/95		9/11/95	
PERCENT MOISTURE	79		29		23		22		45		46		22	
COMMENTS														
Vinyl Chloride	48	R	14	U	13	U	13	U	18	U	19	U	13	U
Methylene Chloride	75	R	14	UJ	13	UJ	13	UJ	18	U	19	U	13	U
Acetone	320	R	14	UJ	14	UJ	13	U	23	J	51	J	13	U
Carbon Disulfide	48	R	14	U	13	U	13	U	18	U	19	U	13	U
1,1-Dichloroethane	48	R	14	U	13	U	13	U	18	U	19	U	13	U
1,2-Dichloroethene(total)	48	R	14	U	13	U	13	U	18	U	19	U	13	U
2-Butanone	48	R	14	U	13	U	13	U	18	U	19	U	13	U
Trichloroethene	48	R	14	U	13	U	13	U	18	U	19	U	13	U
Tetrachloroethene	48	R	14	U	13	U	13	U	18	U	19	U	13	U
Toluene	48	R	14	U	13	U	13	U	18	U	19	U	13	U

Site: We ınd H, OU III
Sediment Detected Compounds
Volatile Organics (ug/Kg)

SAMPLE ID	SD-26-01		SD-26-02		SD-26-02-02		SD-26-03		SD-27-01		SD-27-02		SD-27-03	
LAB ID	ALN02		ALN03		ALN05		ALN04		ALN08		ALN09		ALN10	
SAMPLE DATE	9/11/95		9/11/95		9/11/95		9/11/95		9/12/95		9/12/95		9/12/95	
PERCENT MOISTURE	41		29		25		44		30		22		24	
COMMENTS			dup of ALN05		dup of ALN03									
Vinyl Chloride	17	U	14	U	13	U	18	U	14	U	13	U	13	U
Methylene Chloride	17	U	14	U	13	U	18	U	14	U	13	U	13	U
Acetone	45	J	130	J	130	J	67	J	44	J	13	U	57	J
Carbon Disulfide	17	U	3	J	13	U	18	U	14	U	13	U	3	J
1,1-Dichloroethane	17	U	14	U	13	U	18	U	14	U	13	U	13	U
1,2-Dichloroethene(total)	17	U	14	U	13	U	18	U	14	U	13	U	13	U
2-Butanone	17	U	16		19	J	18	U	14	U	13	U	13	U
Trichloroethene	17	U	14	U	13	U	18	U	14	U	13	U	13	U
Tetrachloroethene	17	U	14	U	13	U	18	U	14	U	13	U	13	U
Toluene	17	U	14	U	13	U	18	U	14	U	13	U	13	U

4.2 SVOCs

Site: Wells G and H, OU III
Sediment Summary Statistics
Semivolatile Organics (ug/Kg)

PARAMETER	NO. DETECTED	NO. SAMPLES	MIN DETECTED	MAX	MEAN	StdDev	UCL MEAN	LOG MEAN	UCL LOG MEAN
Naphthalene sv	11	77	41	2500	369.2	392.5	443.9	353.1	418.2
2-Methylnaphthalene	6	76	67	360	349.3	302.4	407.2	335.2	381.3
Acenaphthylene	16	76	56	800	342.5	306.9	401.3	331.9	385.5
Acenaphthene	17	77	65	1400	329.7	295.2	385.9	315.6	358.1
Dibenzofuran	10	76	56	1000	345.6	309.1	404.9	331.6	381.6
Diethylphthalate	4	77	48	240	351.6	299.2	408.5	338.3	383.6
Fluorene	26	77	44	2800	347.1	379.8	419.4	336.6	399.7
N-nitrosodiphenylamine	8	80	58	580	373	305.7	430.1	361.4	410.9
Phenanthrene	62	84	62	12000	1129.6	1862.1	1468.9	1045.3	1452.6
Anthracene	36	77	27	1900	381.2	362.2	450.2	381.7	467.7
Carbazole	25	78	48	990	331.6	289.3	386.4	324.9	378
Di-n-butylphthalate	6	76	150	240	373	322	435	356	405
Fluoranthene	83	95	42	15000	1977.9	3320.9	2546.9	1974	2941.2
Pyrene	76	93	52	12000	1648.7	2581.4	2095.7	1619.9	2365.6
Butylbenzylphthalate	10	78	47	620	335.2	279.1	388	324.4	366.9
Benzo(a)anthracene	66	88	40	6700	960	1442	1217	904	1233
Chrysene	66	88	48	9800	1225.7	1928.8	1569.1	1150.1	1585.3
bis(2-Ethylhexyl)phthalate	49	96	64	13000	1192.6	2174.6	1563.3	1015.9	1387.3
Di-n-octylphthalate	4	77	140	430	359	302	417	343	387
Benzo(b)fluoranthene	75	95	45	12000	1481.3	2351.5	1884.2	1431.4	2051.5
Benzo(k)fluoranthene	63	88	45	14000	1456.9	2578.5	1915.9	1328.7	1933.8
Benzo(a)pyrene	63	88	45	6300	917.9	1345.1	1157.3	874.5	1184.4
Indeno(1,2,3-cd)pyrene	49	84	21	3700	530	617.8	642.6	520.8	652.5
Dibenz(a,h)anthracene	21	78	60	1100	325	263	375	317	364
Benzo(g,h,i)perylene	39	81	44	2300	506.5	537.8	606.3	481.2	578.1

Site: Wells and H, OU III
Sediment Detected Compounds
Semivolatile Organics (ug/Kg)

SAMPLE ID	SD-01-01		SD-01-02		SD-01-03		SD-01-04		SD-01-05		SD-01-06		SD-01-07	
LAB ID	ALE02		ALE03		ALE04		ALE05		ALE06		ALE07		ALE08	
SAMPLE DATE	8/15/95		8/15/95		8/15/95		8/15/95		8/15/95		8/15/95		8/15/95	
PERCENT MOISTURE	11		14		13		22		17		62		31	
COMMENTS														
Naphthalene sv	370	U	380	U	380	U	420	U	400	U	870	UJ	480	U
2-Methylnaphthalene	370	U	380	U	380	U	420	U	400	U	870	UJ	480	U
Acenaphthylene	370	U	380	U	380	U	420	U	400	U	870	UJ	480	U
Acenaphthene	370	U	380	U	65	J	420	U	400	U	870	UJ	480	U
Dibenzofuran	370	U	380	U	380	U	420	U	400	U	870	UJ	480	U
Diethylphthalate	370	U	380	U	380	U	420	U	400	U	870	UJ	480	U
Fluorene	370	U	380	U	54	J	420	U	400	U	870	UJ	480	U
N-nitrosodiphenylamine	370	U	380	U	380	U	420	U	400	U	870	UJ	480	U
Phenanthrene	290	J	100	J	500	J	200	J	400	U	590	J	74	J
Anthracene	43	J	380	U	120	J	27	J	400	U	150	J	480	U
Carbazole	370	U	380	U	74	J	420	U	400	U	870	UJ	480	U
Di-n-butylphthalate	370	U	380	U	380	U	420	U	400	U	870	UJ	480	U
Fluoranthene	300	J	110	J	550	J	240	J	400	U	1500	J	210	J
Pyrene	290	J	130	J	580	J	250	J	400	U	1400	J	260	J
Butylbenzylphthalate	370	U	380	U	380	U	420	U	400	U	870	UJ	480	U
Benzo(a)anthracene	120	J	380	U	250	J	90	J	400	U	650	J	100	J
Chrysene	160	J	380	U	290	J	130	J	400	U	1100	J	150	J
bis(2-Ethylhexyl)phthalate	370	U	380	U	380	U	420	U	400	U	870	UJ	480	U
Di-n-octylphthalate	370	U	380	U	380	U	420	U	400	U	870	UJ	480	U
Benzo(b)fluoranthene	98	J	380	U	170	J	90	J	400	U	1100	J	150	J
Benzo(k)fluoranthene	100	J	380	U	210	J	94	J	400	U	840	J	160	J
Benzo(a)pyrene	93	J	380	U	210	J	89	J	400	U	850	J	130	J
Indeno(1,2,3-cd)pyrene	370	U	380	U	120	J	420	U	400	U	880	J	130	J
Dibenz(a,h)anthracene	370	U	380	U	380	U	420	U	400	U	870	UJ	480	U
Benzo(g,h,i)perylene	370	U	380	U	120	J	420	U	400	U	1000	J	140	J

Site: Wel. .nd H, OU III
Sediment Detected Compounds
Semivolatile Organics (ug/Kg)

SAMPLE ID	SD-01-08		SD-01-09		SD-01-10		SD-02-01		SD-02-01-02		SD-02-02		SD-02-03	
LAB ID	ALE09		ALE10		ALE11		ALE17		ALE18		ALE19		ALE20	
SAMPLE DATE	8/15/95		8/15/95		8/15/95		8/16/95		8/16/95		8/16/95		8/16/95	
PERCENT MOISTURE	16		22		31		20		19		19		20	
COMMENTS							dup of ALE18		dup of ALE17					
Naphthalene sv	390	U	420	U	480	U	410	U	410	U	410	U	410	U
2-Methylnaphthalene	390	U	420	U	480	U	410	U	410	U	410	U	410	U
Acenaphthylene	390	U	420	U	480	U	410	U	410	U	410	U	410	U
Acenaphthene	390	U	420	U	480	U	410	U	410	U	410	U	410	U
Dibenzofuran	390	U	420	U	480	U	410	U	410	U	410	U	410	U
Diethylphthalate	390	U	420	U	480	U	410	U	410	U	410	U	410	U
Fluorene	390	U	420	U	480	U	410	U	410	U	410	U	410	U
N-nitrosodiphenylamine	390	U	420	U	480	U	410	U	410	U	410	U	410	U
Phenanthrene	390	U	420	U	170	J	80	J	340	J	410	U	410	U
Anthracene	390	U	420	U	480	U	410	U	75	J	410	U	410	U
Carbazole	390	U	420	U	480	U	410	U	410	U	410	U	410	U
Di-n-butylphthalate	390	U	420	U	480	U	410	U	410	U	410	U	410	U
Fluoranthene	390	U	420	U	390	J	160	J	470	J	410	U	410	U
Pyrene	390	U	420	U	550	J	250	J	590	J	410	U	410	U
Butylbenzylphthalate	390	U	420	U	480	U	410	U	410	U	410	U	410	U
Benzo(a)anthracene	390	U	420	U	190	J	76	J	260	J	410	U	410	U
Chrysene	390	U	420	U	340	J	140	J	410	J	410	U	410	U
bis(2-Ethylhexyl)phthalate	390	U	420	U	480	U	410	U	410	U	410	U	410	U
Di-n-octylphthalate	390	U	420	U	480	U	410	U	410	U	410	U	410	U
Benzo(b)fluoranthene	390	U	420	U	350	J	110	J	250	J	410	U	410	U
Benzo(k)fluoranthene	390	U	420	U	290	J	110	J	210	J	410	U	410	U
Benzo(a)pyrene	390	U	420	U	280	J	110	J	270	J	410	U	410	U
Indeno(1,2,3-cd)pyrene	390	U	420	U	270	J	91	J	170	J	410	U	410	U
Dibenz(a,h)anthracene	390	U	420	U	480	U	410	U	410	U	410	U	410	U
Benzo(g,h,i)perylene	390	U	420	U	310	J	110	J	200	J	410	U	410	U

Site: Wel. .nd H, OU III
Sediment Detected Compounds
Semivolatile Organics (ug/Kg)

SAMPLE ID	SD-03-01		SD-03-02		SD-03-03		SD-04-01		SD-04-02		SD-04-03		SD-05-01	
LAB ID	ALE22		ALE23		ALE24		ALE27		ALE28		ALE29		ALE31	
SAMPLE DATE	8/16/95		8/16/95		8/16/95		8/17/95		8/17/95		8/17/95		8/17/95	
PERCENT MOISTURE	16		59		18		35		56		62		15	
COMMENTS														
Naphthalene sv	390	U	800	U	400	U	510	U	750	U	160	J	390	UJ
2-Methylnaphthalene	390	U	800	U	400	U	510	U	750	U	870	UJ	390	UJ
Acenaphthylene	390	U	800	U	400	U	510	U	750	U	350	J	390	UJ
Acenaphthene	390	U	800	U	400	U	510	U	140	J	340	J	390	UJ
Dibenzofuran	390	U	800	U	400	U	510	U	750	U	170	J	390	UJ
Diethylphthalate	390	U	800	U	400	U	510	U	750	U	870	UJ	390	UJ
Fluorene	390	U	800	U	400	U	510	U	180	J	470	J	390	UJ
N-nitrosodiphenylamine	390	U	800	U	400	U	510	U	750	U	870	UJ	390	UJ
Phenanthrene	390	U	370	J	400	U	700	J	2100	J	4600	J	190	J
Anthracene	390	U	81	J	400	U	180	J	560	J	960	J	390	UJ
Carbazole	390	U	800	U	400	U	510	U	130	J	400	J	390	UJ
Di-n-butylphthalate	390	U	800	U	400	U	510	U	750	U	870	UJ	390	UJ
Fluoranthene	390	U	740	J	400	U	1400	J	4200	J	7100	J	340	J
Pyrene	390	U	880	J	400	U	1400	J	3800	J	7000	J	310	J
Butylbenzylphthalate	390	U	800	U	400	U	510	U	750	U	870	UJ	390	UJ
Benzo(a)anthracene	390	U	320	J	400	U	610	J	2000	J	3900	J	150	J
Chrysene	390	U	590	J	400	U	750	J	2700	J	5900	J	220	J
bis(2-Ethylhexyl)phthalate	390	U	800	U	400	U	510	U	750	U	930	UJ	390	UJ
Di-n-octylphthalate	390	U	800	U	400	U	510	U	750	U	870	UJ	390	UJ
Benzo(b)fluoranthene	390	U	800	U	400	U	600	J	1800	J	4800	J	390	UJ
Benzo(k)fluoranthene	390	U	800	U	400	U	490	J	1900	J	3500	J	390	UJ
Benzo(a)pyrene	390	U	420	J	400	U	600	J	2000	J	4200	J	170	J
Indeno(1,2,3-cd)pyrene	390	U	330	J	400	U	380	J	1100	J	2100	J	100	J
Dibenz(a,h)anthracene	390	U	800	U	400	U	150	J	490	J	1100	J	390	UJ
Benzo(g,h,i)perylene	390	U	350	J	400	U	460	J	1200	J	2300	J	120	J

Site: Wel, nd H, OU III
Sediment Detected Compounds
Semivolatile Organics (ug/Kg)

SAMPLE ID	SD-05-02		SD-05-03		SD-06-01		SD-06-02		SD-06-03		SD-07-01		SD-07-01-02	
LAB ID	ALE32		ALE33		ALE38		ALE39		ALE40		ALE42		ALE43	
SAMPLE DATE	8/17/95		8/17/95		8/18/95		8/18/95		8/18/95		8/18/95		8/18/95	
PERCENT MOISTURE	20		49		55		49		66		26		23	
COMMENTS											dup of ALE43		dup of ALE42	
Naphthalene sv	410	U	83	J	730	U	650	U	2900	U	450	U	430	U
2-Methylnaphthalene	410	U	650	UJ	730	U	650	U	2900	U	450	U	430	U
Acenaphthylene	410	U	250	J	130	J	110	J	2900	U	450	UJ	430	U
Acenaphthene	410	U	100	J	730	U	650	U	2900	U	450	UJ	430	U
Dibenzofuran	410	U	87	J	730	U	650	U	2900	U	450	UJ	430	U
Diethylphthalate	410	U	650	UJ	730	U	650	U	2900	U	450	UJ	430	U
Fluorene	410	U	230	J	110	J	650	U	430	J	450	UJ	430	U
N-nitrosodiphenylamine	410	U	650	UJ	730	U	650	UJ	2900	U	450	UJ	430	U
Phenanthrene	110	J	2200	J	830		660	J	6300		460	J	340	J
Anthracene	410	U	520	J	260	J	210	J	1300	J	180	J	82	J
Carbazole	410	U	220	J	98	J	650	UJ	2900	UJ	72	J	430	J
Di-n-butylphthalate	410	U	650	UJ	730	U	650	U	2900	U	450	U	430	U
Fluoranthene	260	J	4400	J	1800		1600	J	11000		1400	J	1100	
Pyrene	250	J	4100	J	1600		1100		6100		980	J	700	
Butylbenzylphthalate	410	U	650	UJ	730	U	650	U	2900	U	450	UJ	430	U
Benzo(a)anthracene	130	J	2300	J	790		640	J	3000		480	J	350	J
Chrysene	160	J	2900	J	1200		1100		3800		780	J	560	
bis(2-Ethylhexyl)phthalate	410	U	650	UJ	2800	U	3000		3300	U	1000	UJ	790	U
Di-n-octylphthalate	410	U	650	UJ	730	U	650	U	2900	U	450	U	430	U
Benzo(b)fluoranthene	130	J	3000	J	730	U	960		2400	J	590		520	
Benzo(k)fluoranthene	120	J	1900	J	730	U	690		2400	J	600	J	360	J
Benzo(a)pyrene	130	J	2500	J	980		800		2300	J	560		420	J
Indeno(1,2,3-cd)pyrene	64	J	1200	J	500	J	390	J	1400	J	350	J	230	J
Dibenz(a,h)anthracene	410	U	650	UJ	730	U	650	U	2900	U	450	U	430	U
Benzo(g,h,i)perylene	410	U	1200	J	560	J	460	J	1700	J	390	J	260	J

Site: Wel. ınd H, OU III
Sediment Detected Compounds
Semivolatile Organics (ug/Kg)

SAMPLE ID	SD-07-02		SD-07-03		SD-07-04		SD-07-05		SD-07-06		SD-07-07		SD-07-08	
LAB ID	ALE45		ALE46		ALE86		ALE47		ALE48		ALE49		ALE50	
SAMPLE DATE	8/21/95		8/21/95		8/29/95		8/21/95		8/21/95		8/21/95		8/21/95	
PERCENT MOISTURE	59		21		63		75		61		64		39	
COMMENTS														
Naphthalene sv	1600	U	52	J	86	J	2600	R	1700	U	920	U	540	U
2-Methylnaphthalene	1600	U	120	J	110	J	2600	R	1700	U	920	U	540	U
Acenaphthylene	1600	U	67	J	320	J	2600	R	210	J	920	U	96	J
Acenaphthene	200	J	320	J	240	J	340	J	270	J	110	J	540	U
Dibenzofuran	1600	U	140	J	140	J	2600	R	190	J	920	U	540	U
Diethylphthalate	1600	U	420	U	240	J	2600	R	1700	U	920	U	540	U
Fluorene	360	J	430		330	J	530	J	390	J	160	J	100	J
N-nitrosodiphenylamine	1600	U	420	U	890	U	2600	R	1700	U	920	U	540	U
Phenanthrene	2700		1700		2700		4900	J	5400		1300		800	
Anthracene	450	J	550		470	J	950	J	890	J	270	J	170	J
Carbazole	290	J	90	J	290	J	580	J	640	J	210	J	83	J
Di-n-butylphthalate	1600	U	420	U	2200	U	2600	R	1700	U	920	U	540	UJ
Fluoranthene	4200		2300		6200		15000	J	12000		5300		1000	
Pyrene	7700		1800		4500		12000	J	9000	J	4100		1700	J
Butylbenzylphthalate	340	J	420	U	280	J	620	J	480	J	160	J	540	UJ
Benzo(a)anthracene	2200		1200		2800		6400	J	5300		2400		790	
Chrysene	3000		980		4400		9800	J	6800		3000		1100	
bis(2-Ethylhexyl)phthalate	6000	J	390	J	6500	J	13000	J	8300		3500		1200	J
Di-n-octylphthalate	1600	U	420	U	890	UJ	430	J	290	J	140	J	540	U
Benzo(b)fluoranthene	4400		1400		5800	J	12000	J	9400		4300		1900	
Benzo(k)fluoranthene	4800		1600		5300	J	14000	J	10000		4700		1900	
Benzo(a)pyrene	2300		800		3200	J	6300	J	4600		2000		890	
Indeno(1,2,3-cd)pyrene	1700		220	J	890	UJ	2600	J	1800		900	J	500	J
Dibenz(a,h)anthracene	400	J	82	J	890	UJ	480	J	330	J	160	J	120	J
Benzo(g,h,i)perylene	2000		270	J	890	UJ	2300	J	1600	J	780	J	580	

Site: Wells and H, OU III
Sediment Detected Compounds
Semivolatile Organics (ug/Kg)

SAMPLE ID	SD-07-09		SD-07-10		SD-08-01		SD-08-02		SD-08-03		SD-09-01		SD-09-02	
LAB ID	ALE51		ALE52		ALE54		ALE55		ALE56		ALE59		ALE60	
SAMPLE DATE	8/21/95		8/21/95		8/21/95		8/21/95		8/21/95		8/22/95		8/22/95	
PERCENT MOISTURE	64		62		21		33		18		37		37	
COMMENTS														
Naphthalene sv	2700	U	130	J	54	J	200	J	41	J	520	U	520	U
2-Methylnaphthalene	2700	U	130	J	420	U	490	U	400	U	520	U	520	U
Acenaphthylene	2700	U	480	J	81	J	120	J	400	U	520	U	520	U
Acenaphthene	390	J	130	J	420	U	490	U	400	U	520	U	520	U
Dibenzofuran	2700	U	96	J	420	U	56	J	400	U	520	U	520	U
Diethylphthalate	2700	U	870	U	420	U	490	U	400	U	520	U	520	U
Fluorene	600	J	280	J	50	J	100	J	68	J	520	U	520	U
N-nitrosodiphenylamine	2700	U	870	U	58	J	490	U	400	U	520	U	520	U
Phenanthrene	6200		2400		280	J	610		540		120	J	520	U
Anthracene	1100	J	370	J	56	J	120	J	120	J	520	U	520	U
Carbazole	680	J	270	J	420	U	110	J	63	J	520	U	520	U
Di-n-butylphthalate	2700	U	870	U	420	UJ	490	U	400	UJ	520	U	520	U
Fluoranthene	15000		5600		520		1400		770		250	J	42	J
Pyrene	11000		5100		640	J	2000		810	J	230	J	52	J
Butylbenzylphthalate	430	J	870	U	420	UJ	490	UJ	400	UJ	520	U	520	U
Benzo(a)anthracene	6700		2900		290	J	680		480		120	J	520	U
Chrysene	8700		3900		450		1000		580		120	J	520	U
bis(2-Ethylhexyl)phthalate	7800		2100		84	J	150	J	260	J	95	J	520	U
Di-n-octylphthalate	2700	U	870	U	420	U	490	U	400	U	520	U	520	U
Benzo(b)fluoranthene	11000		5200		950		1900		1000		220	J	520	U
Benzo(k)fluoranthene	12000		5800		960		2000		1100		200	J	520	U
Benzo(a)pyrene	5600		2700		450		940		490		68	J	520	U
Indeno(1,2,3-cd)pyrene	1900	J	710	J	280	J	680		240	J	520	U	520	U
Dibenz(a,h)anthracene	440	J	180	J	60	J	160	J	60	J	520	U	520	U
Benzo(g,h,i)perylene	1900	J	910		280	J	700		260	J	520	U	520	U

Site: Wel nd H, OU III
Sediment Detected Compounds
Semivolatile Organics (ug/Kg)

SAMPLE ID	SD-09-03		SD-09-04		SD-09-05		SD-09-06		SD-09-07		SD-09-08		SD-09-09	
LAB ID	ALE61		ALE62		ALE63		ALE64		ALE65		ALE66		ALE67	
SAMPLE DATE	8/22/95		8/22/95		8/22/95		8/22/95		8/22/95		8/22/95		8/22/95	
PERCENT MOISTURE	20		20		16		18		30		15		17	
COMMENTS														
Naphthalene sv	410	U	410	U	390	UJ	250	J	470	U	390	U	390	U
2-Methylnaphthalene	410	U	410	U	390	UJ	220	J	470	U	390	U	390	U
Acenaphthylene	410	U	410	U	390	UJ	82	J	470	U	390	U	390	U
Acenaphthene	410	U	410	U	390	UJ	520		470	U	390	U	390	U
Dibenzofuran	410	U	410	U	390	UJ	500		470	U	390	U	390	U
Diethylphthalate	410	U	410	U	390	UJ	400	U	470	U	390	U	390	U
Fluorene	45	J	410	U	390	UJ	810		470	U	390	U	390	U
N-nitrosodiphenylamine	410	U	410	U	390	UJ	400	U	470	U	390	U	390	U
Phenanthrene	140	J	410	U	100	J	1900		140	J	64	J	69	J
Anthracene	410	U	410	U	390	UJ	930		470	U	390	U	390	U
Carbazole	410	U	410	U	390	UJ	480		470	U	390	U	390	U
Di-n-butylphthalate	410	U	410	U	390	UJ	400	U	470	U	390	U	390	U
Fluoranthene	210	J	410	U	220	J	1800		260	J	87	J	210	J
Pyrene	210	J	410	U	160	J	2200		230	J	83	J	220	J
Butylbenzylphthalate	410	U	410	U	390	UJ	400	U	470	UJ	390	U	390	U
Benzo(a)anthracene	130	J	410	U	80	J	1000		130	J	40	J	100	J
Chrysene	120	J	410	U	94	J	1400		120	J	48	J	100	J
bis(2-Ethylhexyl)phthalate	64	J	410	U	93	J	110	J	390	J	70	J	390	U
Di-n-octylphthalate	410	U	410	U	390	UJ	400	U	470	U	390	U	390	U
Benzo(b)fluoranthene	200	J	410	U	170	J	2300		270	J	76	J	160	J
Benzo(k)fluoranthene	150	J	410	U	130	J	2100		260	J	69	J	140	J
Benzo(a)pyrene	100	J	410	U	70	J	1100		110	J	45	J	85	J
Indeno(1,2,3-cd)pyrene	62	J	410	U	390	UJ	370	J	470	U	21	J	47	J
Dibenz(a,h)anthracene	410	U	410	U	390	UJ	80	J	470	U	390	U	390	U
Benzo(g,h,i)perylene	44	J	410	U	390	UJ	290	J	470	U	390	U	390	U

Site: Wells ... id H, OU III
Sediment Detected Compounds
Semivolatile Organics (ug/Kg)

SAMPLE ID	SD-09-10		SD-10-01		SD-10-01-02		SD-10-02		SD-10-03		SD-11-01		SD-11-02	
LAB ID	ALE68		ALE76		ALE77		ALE78		ALE79		ALE82		ALE83	
SAMPLE DATE	8/22/95		8/23/95		8/23/95		8/23/95		8/23/95		8/24/95		8/24/95	
PERCENT MOISTURE	25		86		87		90		50		63		79	
COMMENTS			dup of ALE77		dup of ALE76									
Naphthalene sv	440	U	2300	R	2500	R	3300	R	660	U	890	U	1600	R
2-Methylnaphthalene	440	U	2300	R	2500	R	3300	R	660	U	890	U	1600	R
Acenaphthylene	440	U	2300	R	2500	R	3300	R	660	U	890	U	1600	R
Acenaphthene	440	U	2300	R	2500	R	3300	R	660	U	890	U	1600	R
Dibenzofuran	440	U	2300	R	2500	R	3300	R	660	U	890	U	1600	R
Diethylphthalate	440	U	2300	R	2500	R	3300	R	660	U	890	U	1600	R
Fluorene	440	U	2300	R	2500	R	3300	R	660	U	890	U	1600	R
N-nitrosodiphenylamine	440	U	580	J	540	J	450	J	400	J	410	J	540	J
Phenanthrene	62	J	2300	R	2500	R	3300	R	660	U	890	U	230	J
Anthracene	440	U	2300	R	2500	R	3300	R	660	U	890	U	1600	R
Carbazole	440	U	2300	R	2500	R	3300	R	660	U	890	U	1600	R
Di-n-butylphthalate	440	U	2300	R	2500	R	3300	R	660	U	890	U	1600	R
Fluoranthene	100	J	270	J	190	J	410	J	85	J	890	U	710	J
Pyrene	120	J	420	J	290	J	570	J	99	J	100	J	640	J
Butylbenzylphthalate	440	U	2300	R	2500	R	3300	R	660	U	890	UJ	1600	R
Benzo(a)anthracene	57	J	2300	R	2500	R	3300	R	660	U	890	U	310	J
Chrysene	52	J	2300	R	2500	R	3300	R	660	U	890	U	400	J
bis(2-Ethylhexyl)phthalate	66	J	700	J	520	J	730	J	120	J	140	J	8100	J
Di-n-octylphthalate	440	U	2300	R	2500	R	3300	R	660	U	890	U	1600	R
Benzo(b)fluoranthene	100	J	350	J	2500	R	550	J	660	U	120	J	870	J
Benzo(k)fluoranthene	100	J	350	J	2500	R	550	J	660	U	110	J	840	J
Benzo(a)pyrene	47	J	2300	R	2500	R	3300	R	660	U	890	U	220	J
Indeno(1,2,3-cd)pyrene	440	U	2300	R	2500	R	3300	R	660	U	890	U	270	J
Dibenz(a,h)anthracene	440	U	2300	R	2500	R	3300	R	660	U	890	U	1600	R
Benzo(g,h,i)perylene	440	U	2300	R	2500	R	3300	R	660	U	890	U	260	J

Site: Well. ıd H, OU III
Sediment Detected Compounds
Semivolatile Organics (ug/Kg)

SAMPLE ID	SD-11-03		SD-12-01		SD-12-02		SD-12-03		SD-13-01		SD-13-02		SD-13-03	
LAB ID	ALE84		ALE99		ALF00		ALF01		ALM65		ALM66		ALM67	
SAMPLE DATE	8/24/95		8/31/95		8/31/95		8/31/95		9/5/95		9/5/95		9/5/95	
PERCENT MOISTURE	64		77		75		55		82		81		72	
COMMENTS														
Naphthalene sv	910	U	1400	R	1300	R	730	U	1800	R	1700	R	1200	R
2-Methylnaphthalene	910	U	1400	R	1300	R	730	U	1800	R	1700	R	1200	R
Acenaphthylene	910	U	1400	R	1300	R	730	U	1800	R	1700	R	1200	R
Acenaphthene	910	U	1400	R	1300	R	730	U	1800	R	1700	R	1200	R
Dibenzofuran	910	U	1400	R	1300	R	730	U	1800	R	1700	R	1200	R
Diethylphthalate	910	U	1400	R	1300	R	730	U	1800	R	1700	R	1200	R
Fluorene	910	U	1400	R	1300	R	730	U	1800	R	1700	R	1200	R
N-nitrosodiphenylamine	910	U	1400	R	1300	R	100	J	1800	R	1700	R	1200	R
Phenanthrene	120	J	240	J	1300	R	730	U	650	J	450	J	770	J
Anthracene	910	U	1400	R	1300	R	730	U	1800	R	1700	R	1200	R
Carbazole	910	U	1400	R	1300	R	730	U	1800	R	1700	R	170	J
Di-n-butylphthalate	910	U	1400	R	1300	R	730	U	1800	R	1700	R	1200	R
Fluoranthene	300	J	800	J	390	J	260	J	1800	J	1200	J	2400	J
Pyrene	230	J	770	J	420	J	220	J	1300	J	1000	J	1800	J
Butylbenzylphthalate	910	UJ	1400	R	1300	R	730	U	1800	R	1700	R	230	J
Benzo(a)anthracene	120	J	270	J	160	J	140	J	680	J	510	J	1200	J
Chrysene	180	J	450	J	200	J	180	J	1000	J	850	J	1300	J
bis(2-Ethylhexyl)phthalate	450	J	660	J	350	J	500	J	1000	J	1100	J	5100	J
Di-n-octylphthalate	910	U	1400	R	1300	R	730	U	1800	R	1700	R	1200	R
Benzo(b)fluoranthene	350	J	790	J	350	J	410	J	1700	J	1400	J	3600	J
Benzo(k)fluoranthene	330	J	800	J	350	J	390	J	1600	J	1300	J	3400	J
Benzo(a)pyrene	910	U	300	J	160	J	160	J	710	J	700	J	1300	J
Indeno(1,2,3-cd)pyrene	910	U	160	J	1300	R	79	J	760	J	590	J	760	J
Dibenz(a,h)anthracene	910	U	1400	R	1300	R	730	U	330	J	1700	R	1200	R
Benzo(g,h,i)perylene	910	U	1400	R	1300	R	730	U	370	J	260	J	340	J

Site: Well. .nd H, OU III
Sediment Detected Compounds
Semivolatile Organics (ug/Kg)

SAMPLE ID	SD-14-01		SD-14-02		SD-14-03		SD-15-01		SD-15-02		SD-15-03		SD-16-01	
LAB ID	ALM72		ALM73		ALM74		ALM75		ALM76		ALM77		ALE87	
SAMPLE DATE	9/5/95		9/5/95		9/5/95		9/5/95		9/5/95		9/5/95		8/29/95	
PERCENT MOISTURE	20		20		28		88		87		88		61	
COMMENTS														
Naphthalene sv	2100	UJ	2100	UJ	2300	UJ	2700	R	2500	R	2700	R	840	U
2-Methylnaphthalene	2100	UJ	2100	UJ	2300	UJ	2700	R	2500	R	2700	R	840	U
Acenaphthylene	2100	UJ	2100	UJ	2300	UJ	2700	R	2500	R	2700	R	840	U
Acenaphthene	2100	UJ	2100	UJ	2300	UJ	2700	R	2500	R	2700	R	840	U
Dibenzofuran	2100	UJ	2100	UJ	2300	UJ	2700	R	2500	R	2700	R	840	U
Diethylphthalate	2100	UJ	2100	UJ	2300	UJ	2700	R	2500	R	2700	R	840	U
Fluorene	2100	UJ	2100	UJ	2300	UJ	2700	R	2500	R	2700	R	840	U
N-nitrosodiphenylamine	2100	UJ	2100	UJ	2300	UJ	2700	R	2500	R	2700	R	840	U
Phenanthrene	2600	J	810	J	1100	J	2700	R	2500	R	2700	R	840	U
Anthracene	660	J	2100	UJ	2300	UJ	2700	R	2500	R	2700	R	840	U
Carbazole	2100	UJ	2100	UJ	2300	UJ	2700	R	2500	R	2700	R	840	U
Di-n-butylphthalate	2100	UJ	2100	UJ	2300	UJ	2700	R	2500	R	2700	R	840	U
Fluoranthene	2400	J	2200	J	2800	J	2700	R	2500	R	2700	R	88	J
Pyrene	1800	J	1200	J	2000	J	2700	R	2500	R	2700	R	110	J
Butylbenzylphthalate	2100	UJ	2100	UJ	2300	UJ	2700	R	2500	R	2700	R	130	J
Benzo(a)anthracene	1100	J	700	J	1100	J	2700	R	2500	R	2700	R	840	U
Chrysene	1200	J	910	J	1400	J	2700	R	2500	R	2700	R	840	U
bis(2-Ethylhexyl)phthalate	730	J	2100	UJ	1100	J	2700	R	2500	R	2700	R	840	U
Di-n-octylphthalate	2100	UJ	2100	UJ	2300	UJ	2700	R	2500	R	2700	R	840	UJ
Benzo(b)fluoranthene	920	J	1300	J	2100	J	2700	R	2500	R	2700	R	840	U
Benzo(k)fluoranthene	1100	J	2100	UJ	2300	UJ	2700	R	2500	R	2700	R	840	U
Benzo(a)pyrene	2100	UJ	2100	UJ	890	J	2700	R	2500	R	2700	R	840	U
Indeno(1,2,3-cd)pyrene	2100	UJ	2100	UJ	2300	UJ	2700	R	2500	R	2700	R	840	U
Dibenz(a,h)anthracene	2100	UJ	2100	UJ	2300	UJ	2700	R	2500	R	2700	R	840	U
Benzo(g,h,i)perylene	2100	UJ	2100	UJ	2300	UJ	2700	R	2500	R	2700	R	840	U

Site: Well. ,id H, OU III
Sediment Detected Compounds
Semivolatile Organics (ug/Kg)

SAMPLE ID	SD-16-02		SD-16-03		SD-18-01		SD-18-02		SD-18-03		SD-19-01		SD-19-01-02	
LAB ID	ALE73		ALE74		ALE88		ALM81		ALM82		ALF02		ALM59	
SAMPLE DATE	8/23/95		8/23/95		8/29/95		9/7/95		9/7/95		8/31/95		8/31/95	
PERCENT MOISTURE	21		21		46		89		79		81		82	
COMMENTS											dup of ALM59		dup of ALF02	
Naphthalene sv	420	U	420	U	600	U	3000	R	1600	R	1700	R	1800	R
2-Methylnaphthalene	420	U	420	U	600	U	3000	R	1600	R	1700	R	1800	R
Acenaphthylene	420	U	420	U	600	U	3000	R	1600	R	1700	R	1800	R
Acenaphthene	420	U	420	U	600	U	3000	R	1600	R	1700	R	1800	R
Dibenzofuran	420	U	420	U	600	U	3000	R	1600	R	1700	R	1800	R
Diethylphthalate	420	U	420	U	600	U	3000	R	1600	R	1700	R	1800	R
Fluorene	420	U	420	U	600	U	3000	R	1600	R	1700	R	1800	R
N-nitrosodiphenylamine	420	U	420	U	600	U	3000	R	1600	R	1700	R	1800	R
Phenanthrene	420	U	420	U	600	U	3000	R	1600	R	1700	R	1800	R
Anthracene	420	U	420	U	600	U	3000	R	1600	R	1700	R	1800	R
Carbazole	420	U	420	U	600	U	3000	R	1600	R	1700	R	1800	R
Di-n-butylphthalate	420	U	420	U	600	U	3000	R	1600	R	1700	R	1800	R
Fluoranthene	420	U	50	J	600	U	3000	R	1600	R	520	J	500	J
Pyrene	420	U	61	J	600	U	3000	R	1600	R	400	J	430	J
Butylbenzylphthalate	420	U	420	U	600	U	3000	R	1600	R	1700	R	1800	R
Benzo(a)anthracene	420	U	420	U	600	U	3000	R	1600	R	240	J	250	J
Chrysene	420	U	420	U	600	U	3000	R	1600	R	340	J	390	J
bis(2-Ethylhexyl)phthalate	73	J	420	U	600	U	3000	R	1600	R	560	J	580	J
Di-n-octylphthalate	420	U	420	U	600	UJ	3000	R	1600	R	1700	R	1800	R
Benzo(b)fluoranthene	420	U	45	J	600	U	3000	R	1600	R	980	J	890	J
Benzo(k)fluoranthene	420	U	45	J	600	U	3000	R	1600	R	940	J	880	J
Benzo(a)pyrene	420	U	420	U	600	U	3000	R	1600	R	320	J	270	J
Indeno(1,2,3-cd)pyrene	420	U	420	U	600	U	3000	R	1600	R	180	J	1800	R
Dibenz(a,h)anthracene	420	U	420	U	600	U	3000	R	1600	R	1700	R	1800	R
Benzo(g,h,i)perylene	420	U	420	U	600	U	3000	R	1600	R	1700	R	1800	R

Site: Wel. ..nd H, OU III
Sediment Detected Compounds
Semivolatile Organics (ug/Kg)

SAMPLE ID	SD-19-02		SD-19-03		SD-20-01		SD-20-01-02		SD-20-02		SD-20-03		SD-21-01	
LAB ID	ALM57		ALM58		ALM83		ALM84		ALM85		ALM86		ALM89	
SAMPLE DATE	8/31/95		8/31/95		9/7/95		9/7/95		9/7/95		9/7/95		9/8/95	
PERCENT MOISTURE	80		81		86		87		78		80		79	
COMMENTS					dup of ALM84		dup of ALM83							
Naphthalene sv	1600	R	1700	R	2400	R	2500	R	1500	R	1600	R	7900	R
2-Methylnaphthalene	1600	R	1700	R	2400	R	2500	R	1500	R	1600	R	7900	R
Acenaphthylene	1600	R	1700	R	2400	R	2500	R	1500	R	1600	R	7900	R
Acenaphthene	1600	R	1700	R	2400	R	2500	R	1500	R	1600	R	7900	R
Dibenzofuran	1600	R	1700	R	2400	R	2500	R	1500	R	1600	R	7900	R
Diethylphthalate	1600	R	1700	R	2400	R	2500	R	1500	R	1600	R	7900	R
Fluorene	1600	R	1700	R	2400	R	2500	R	1500	R	1600	R	7900	R
N-nitrosodiphenylamine	1600	R	1700	R	2400	R	2500	R	1500	R	1600	R	7900	R
Phenanthrene	1600	R	1700	R	2400	R	2500	R	890	J	650	J	7900	R
Anthracene	1600	R	1700	R	2400	R	2500	R	1500	R	1600	R	7900	R
Carbazole	1600	R	1700	R	2400	R	2500	R	1500	R	1600	R	7900	R
Di-n-butylphthalate	1600	R	1700	R	2400	R	2500	R	1500	R	1600	R	7900	R
Fluoranthene	1600	R	420	J	770	J	2500	R	3000	J	2900	J	2500	J
Pyrene	1600	R	340	J	2400	R	2500	R	2500	J	1400	J	2400	J
Butylbenzylphthalate	1600	R	1700	R	2400	R	2500	R	1500	R	1600	R	7900	R
Benzo(a)anthracene	1600	R	200	J	2400	R	2500	R	1100	J	1000	J	7900	R
Chrysene	1600	R	300	J	2400	R	2500	R	1400	J	1500	J	7900	R
bis(2-Ethylhexyl)phthalate	1600	R	290	J	2000	J	2100	J	5900	J	2500	J	3100	J
Di-n-octylphthalate	1600	R	1700	R	2400	R	2500	R	1500	R	1600	R	7900	R
Benzo(b)fluoranthene	1600	R	700	J	860	J	970	J	3700	J	3700	J	3100	J
Benzo(k)fluoranthene	1600	R	680	J	2400	R	2500	R	1500	R	1600	R	7900	R
Benzo(a)pyrene	1600	R	270	J	2400	R	2500	R	1200	J	730	J	7900	R
Indeno(1,2,3-cd)pyrene	1600	R	1700	R	2400	R	2500	R	830	J	1600	R	7900	R
Dibenz(a,h)anthracene	1600	R	1700	R	2400	R	2500	R	1500	R	1600	R	7900	R
Benzo(g,h,i)perylene	1600	R	1700	R	2400	R	2500	R	1500	R	1600	R	7900	R

Site: Wells ,d H, OU III
Sediment Detected Compounds
Semivolatile Organics (ug/Kg)

SAMPLE ID	SD-21-02		SD-21-03		SD-22-01		SD-22-02		SD-22-03		SD-23-01		SD-23-02	
LAB ID	ALM90		ALM91		ALM92		ALM93		ALM94		ALE90		ALE91	
SAMPLE DATE	9/8/95		9/8/95		9/8/95		9/8/95		9/8/95		8/30/95		8/30/95	
PERCENT MOISTURE	83		77		74		62		80		46		29	
COMMENTS														
Naphthalene sv	2500	J	7200	R	1300	R	870	U	1600	R	600	U	460	U
2-Methylnaphthalene	1900	R	7200	R	1300	R	870	U	1600	R	600	U	67	J
Acenaphthylene	1900	R	7200	R	1300	R	870	U	1600	R	600	U	450	J
Acenaphthene	1900	R	7200	R	1300	R	870	U	1600	R	600	U	120	J
Dibenzofuran	1900	R	7200	R	1300	R	870	U	1600	R	600	U	460	U
Diethylphthalate	1900	R	7200	R	1300	R	870	U	1600	R	600	U	48	J
Fluorene	1900	R	7200	R	1300	R	870	U	1600	R	600	U	340	J
N-nitrosodiphenylamine	1900	R	7200	R	1300	R	870	U	1600	R	600	U	460	U
Phenanthrene	1900	R	7200	R	1300	R	870	U	1600	R	600	U	3000	
Anthracene	1900	R	7200	R	1300	R	870	U	1600	R	600	U	530	
Carbazole	1900	R	7200	R	1300	R	870	U	1600	R	600	U	460	U
Di-n-butylphthalate	1900	R	7200	R	1300	R	870	U	1600	R	600	U	460	U
Fluoranthene	970	J	7200	R	530	J	260	J	1600	R	71	J	3100	
Pyrene	620	J	7200	R	1300	R	870	U	1600	R	81	J	3600	
Butylbenzylphthalate	1900	R	7200	R	1300	R	870	U	1600	R	600	U	460	U
Benzo(a)anthracene	1900	R	7200	R	1300	R	870	U	1600	R	600	U	1800	
Chrysene	1900	R	7200	R	1300	R	870	U	1600	R	600	U	2000	
bis(2-Ethylhexyl)phthalate	990	J	3100	J	1300	R	870	U	1600	R	600	U	120	J
Di-n-octylphthalate	*1900*	*R*	*7200*	*R*	*1300*	*R*	*870*	*U*	*1600*	*R*	*600*	*UJ*	*460*	*UJ*
Benzo(b)fluoranthene	740	J	7200	R	430	J	870	U	1600	R	600	U	2300	
Benzo(k)fluoranthene	1900	R	7200	R	1300	R	870	U	1600	R	600	U	2100	
Benzo(a)pyrene	1900	R	7200	R	1300	R	870	U	1600	R	600	U	1700	
Indeno(1,2,3-cd)pyrene	1900	R	7200	R	1300	R	870	U	1600	R	600	U	460	U
Dibenz(a,h)anthracene	1900	R	7200	R	1300	R	870	U	1600	R	600	U	460	U
Benzo(g,h,i)perylene	1900	R	7200	R	1300	R	870	U	1600	R	600	U	460	U

Site: Wel, ,nd H, OU III
Sediment Detected Compounds
Semivolatile Organics (ug/Kg)

SAMPLE ID	SD-23-03		SD-24-01		SD-24-02		SD-24-03		SD-25-01		SD-25-02		SD-25-03	
LAB ID	ALE92		ALE93		ALE94		ALE95		ALM98		ALM99		ALN00	
SAMPLE DATE	8/30/95		8/30/95		8/30/95		8/30/95		9/11/95		9/11/95		9/11/95	
PERCENT MOISTURE	79		29		23		22		45		46		22	
COMMENTS														
Naphthalene sv	1600	R	460	U	520	J	420	U	600	UJ	3100	UJ	420	UJ
2-Methylnaphthalene	1600	R	460	U	360	J	420	U	600	UJ	3100	UJ	420	UJ
Acenaphthylene	1600	R	56	J	800	J	420	U	600	UJ	3100	UJ	420	UJ
Acenaphthene	1600	R	120	J	1400	J	420	U	600	UJ	3100	UJ	420	UJ
Dibenzofuran	1600	R	460	U	1000	J	420	U	600	UJ	3100	UJ	420	UJ
Diethylphthalate	170	J	460	U	230	J	420	U	600	UJ	3100	UJ	420	UJ
Fluorene	1600	R	91	J	2800		44	J	600	UJ	3100	UJ	420	UJ
N-nitrosodiphenylamine	1600	R	460	U	2100	U	420	U	600	UJ	3100	UJ	420	UJ
Phenanthrene	1600	R	460		12000		290	J	450	J	3100	J	1100	J
Anthracene	1600	R	98	J	1900	J	48	J	600	UJ	3100	UJ	220	J
Carbazole	1600	R	460	U	990	J	48	J	600	UJ	3100	UJ	200	J
Di-n-butylphthalate	1600	R	460	U	2100	U	420	U	180	J	3100	UJ	150	J
Fluoranthene	1600	R	880		15000		840		1000	J	11000	J	1900	J
Pyrene	1600	R	680		11000		870		750	UJ	8100	J	1300	J
Butylbenzylphthalate	1600	R	47	J	2100	U	87	J	600	UJ	3100	UJ	420	UJ
Benzo(a)anthracene	1600	R	440	J	5900		520		510	J	4900	J	990	J
Chrysene	1600	R	550		7300		520		500	J	5400	J	800	J
bis(2-Ethylhexyl)phthalate	1600	R	400	J	2100	U	430	J	600	UJ	3100	UJ	420	UJ
Di-n-octylphthalate	1600	R	460	UJ	2100	UJ	420	U	600	UJ	3100	UJ	420	UJ
Benzo(b)fluoranthene	1600	R	740		10000		1100		480	J	5800	J	920	J
Benzo(k)fluoranthene	1600	R	690		9600		1100		630	J	6700	J	750	J
Benzo(a)pyrene	1600	R	400	J	5500		350	J	410	J	5100	J	710	J
Indeno(1,2,3-cd)pyrene	1600	R	460	U	1700	J	210	J	270	J	3700	J	410	J
Dibenz(a,h)anthracene	1600	R	460	U	500	J	420	U	600	UJ	1100	J	130	J
Benzo(g,h,i)perylene	1600	R	460	U	920	J	210	J	190	J	2200	J	210	J

Site: Wel ıd H, OU III
Sediment Detected Compounds
Semivolatile Organics (ug/Kg)

SAMPLE ID	SD-26-01	SD-26-02	SD-26-02-02	SD-26-03	SD-27-01	SD-27-02	SD-27-03
LAB ID	ALN02	ALN03	ALN05	ALN04	ALN08	ALN09	ALN10
SAMPLE DATE	9/11/95	9/11/95	9/11/95	9/11/95	9/12/95	9/12/95	9/12/95
PERCENT MOISTURE	41	29	25	44	30	22	24
COMMENTS		dup of ALN05	dup of ALN03				
Naphthalene sv	560 UJ	460 UJ	440 UJ	590 UJ	470 UJ	420 UJ	430 UJ
2-Methylnaphthalene	560 UJ	460 UJ	440 UJ	590 UJ	470 UJ	420 UJ	430 UJ
Acenaphthylene	560 UJ	460 UJ	440 UJ	590 UJ	470 UJ	350 J	430 UJ
Acenaphthene	560 UJ	460 UJ	440 UJ	590 UJ	290 J	420 UJ	430 UJ
Dibenzofuran	560 UJ	460 UJ	440 UJ	590 UJ	210 J	420 UJ	430 UJ
Diethylphthalate	560 UJ	460 UJ	440 UJ	590 UJ	470 UJ	420 UJ	430 UJ
Fluorene	560 UJ	460 UJ	440 UJ	590 UJ	620 J	180 J	430 UJ
N-nitrosodiphenylamine	560 UJ	460 UJ	440 UJ	590 UJ	470 UJ	420 UJ	430 UJ
Phenanthrene	560 UJ	460 UJ	440 UJ	590 UJ	4500 J	1500 J	730 J
Anthracene	560 UJ	460 UJ	440 UJ	590 UJ	990 J	300 J	430 UJ
Carbazole	560 UJ	460 UJ	440 UJ	590 UJ	520 J	130 J	430 UJ
Di-n-butylphthalate	180 J	460 UJ	170 J	240 J	470 UJ	160 J	430 UJ
Fluoranthene	250 J	460 UJ	190 J	210 J	5500 J	3400 J	1300 J
Pyrene	560 UJ	460 UJ	440 UJ	590 UJ	3400 J	2400 J	890 UJ
Butylbenzylphthalate	560 UJ	460 UJ	440 UJ	590 UJ	470 UJ	420 UJ	430 UJ
Benzo(a)anthracene	560 UJ	460 UJ	440 UJ	590 UJ	2400 J	1500 J	520 J
Chrysene	560 UJ	460 UJ	440 UJ	590 UJ	2000 J	1400 J	510 J
bis(2-Ethylhexyl)phthalate	620 UJ	460 UJ	440 UJ	590 UJ	470 UJ	420 UJ	430 UJ
Di-n-octylphthalate	560 UJ	460 UJ	220 J	590 UJ	470 UJ	420 UJ	430 UJ
Benzo(b)fluoranthene	190 J	460 UJ	150 J	180 J	1500 J	950 J	370 J
Benzo(k)fluoranthene	560 UJ	460 UJ	440 UJ	590 UJ	1500 J	1400 J	540 J
Benzo(a)pyrene	560 UJ	460 UJ	440 UJ	590 UJ	930 J	830 J	310 J
Indeno(1,2,3-cd)pyrene	560 UJ	460 UJ	440 UJ	590 UJ	450 J	500 J	160 J
Dibenz(a,h)anthracene	560 UJ	460 UJ	440 UJ	590 UJ	210 J	210 J	430 UJ
Benzo(g,h,i)perylene	560 UJ	460 UJ	440 UJ	590 UJ	470 UJ	420 UJ	430 UJ

4.3 PCBs/Pesticides

Site: Wells G and H, OU III
Sediment Summary Statistics
Pesticide - PCBs (ug/Kg)

PARAMETER	NO. DETECTED	NO. SAMPLES	MIN DETECTED	MAX	MEAN	StdDev	UCL MEAN	LOG MEAN	UCL LOG MEAN
alpha-BHC	14	76	0.11	2.7	2.86	2.85	3.4	2.96	3.95
beta-BHC	22	80	0.1	6.6	3.11	2.79	3.63	3.32	4.26
delta-BHC	11	73	0.08	8.8	3.132	2.93	3.704	3.368	4.553
gamma-BHC (Lindane)	3	71	1.4	1.9	3.1	2.8	3.7	3	3.7
Heptachlor	13	72	0.067	1.6	2.891	2.931	3.468	3.192	4.458
Aldrin	23	75	0.12	5.7	2.97	2.92	3.53	3.24	4.46
Heptachlor epoxide	15	74	0.45	4.9	3.08	2.8	3.62	3.07	3.8
Endosulfan I	28	84	0.11	68	7.02	13.4	9.46	6.15	8.99
Dieldrin	43	83	0.19	20	5.4	5.66	6.43	5.87	7.97
4,4'-DDE	72	96	0.089	130	17.801	25.23	22.101	21.333	31.712
Endrin	25	80	0.087	16	5.528	5.657	6.585	7.276	11.099
Endosulfan II	18	74	0.24	9.4	5.67	5.37	6.72	5.95	7.67
4,4'-DDD	59	92	0.46	150	24.52	33.16	30.29	26.5	38.75
Endosulfan sulfate	5	72	2.1	11	6	5.4	7	5.8	7.1
4,4'-DDT	51	84	0.29	130	10.49	17.07	13.6	10.81	15.94
Methoxychlor	3	71	6.3	12	30.4	28.5	36	30.6	38.6
Endrin ketone	8	71	1.8	9.1	5.9	5.4	6.9	5.7	6.9
Endrin aldehyde	15	75	0.47	10	5.83	5.56	6.9	5.85	7.42
alpha-Chlordane	50	92	0.28	62	9.51	13.88	11.93	9.87	14.61
gamma-Chlordane	47	89	0.12	53	6.26	9.4	7.93	7.08	10.73
Aroclor 1260	3	73	17	310	63.4	61.8	75.5	61.6	76.1

Site: Wel. nd H, OU III
Sediment Detected Compounds
Pesticide - PCBs (ug/Kg)

SAMPLE ID	SD-01-01		SD-01-02		SD-01-03		SD-01-04		SD-01-05		SD-01-06		SD-01-07	
LAB ID	ALE02		ALE03		ALE04		ALE05		ALE06		ALE07		ALE08	
SAMPLE DATE	8/15/95		8/15/95		8/15/95		8/15/95		8/15/95		8/15/95		8/15/95	
PERCENT MOISTURE	11		14		13		22		17		62		31	
COMMENTS														
alpha-BHC	9.6	U	2	U	2	U	2.2	U	2	U	22	U	2.5	U
beta-BHC	9.6	U	2	U	2	U	2.2	U	2	U	22	U	2.5	U
delta-BHC	9.6	U	2	U	2	U	2.2	U	2	U	22	U	2.5	U
gamma-BHC (Lindane)	9.6	U	2	U	2	U	2.2	U	2	U	22	U	2.5	U
Heptachlor	9.6	U	2	U	2	U	2.2	U	2	U	22	U	2.5	U
Aldrin	9.6	U	2	U	2	U	2.2	U	2	U	22	U	2.5	U
Heptachlor epoxide	9.6	U	2	U	2	U	2.2	U	2	U	22	U	2.5	U
Endosulfan I	9.6	U	2	U	2	U	2.2	U	2	U	22	U	2.5	U
Dieldrin	19	U	3.8	U	3.8	U	4.2	U	4	U	43	U	4.8	U
4,4'-DDE	19	U	3.8	U	3.8	U	4.2	U	4	U	43	U	4.8	U
Endrin	19	U	3.8	U	3.8	U	4.2	U	4	U	43	U	4.8	U
Endosulfan II	19	U	3.8	U	3.8	U	4.2	U	4	U	43	U	4.8	U
4,4'-DDD	19	U	3.8	U	3.8	U	4.2	U	4	U	43	U	4.8	U
Endosulfan sulfate	19	U	3.8	U	3.8	U	4.2	U	4	U	43	U	4.8	U
4,4'-DDT	19	U	3.8	U	3.8	U	4.2	U	4	U	43	U	4.8	U
Methoxychlor	96	U	20	U	20	U	22	U	20	U	220	U	25	U
Endrin ketone	19	U	3.8	U	3.8	U	4.2	U	4	U	43	U	4.8	U
Endrin aldehyde	19	U	3.8	U	3.8	U	4.2	U	4	U	43	U	4.8	U
alpha-Chlordane	9.6	U	2	U	2	U	2.2	U	2	U	22	U	2.5	U
gamma-Chlordane	9.6	U	2	U	2	U	2.2	U	2	U	22	U	2.5	U
Aroclor 1260	190	U	38	U	38	U	42	U	40	U	430	U	48	U

Site: Well. .nd H, OU III
Sediment Detected Compounds
Pesticide - PCBs (ug/Kg)

SAMPLE ID	SD-01-08		SD-01-09		SD-01-10		SD-02-01		SD-02-01-02		SD-02-02		SD-02-03	
LAB ID	ALE09		ALE10		ALE11		ALE17		ALE18		ALE19		ALE20	
SAMPLE DATE	8/15/95		8/15/95		8/15/95		8/16/95		8/16/95		8/16/95		8/16/95	
PERCENT MOISTURE	16		22		31		20		19		19		20	
COMMENTS							dup of ALE18		dup of ALE17					
alpha-BHC	2	U	2.2	U	2.5	U	2.1	U	2.1	U	2.1	U	2.1	U
beta-BHC	2	U	2.2	U	2.5	U	2.1	U	2.1	U	2.1	U	2.1	U
delta-BHC	2	U	2.2	U	2.5	U	2.1	U	2.1	U	2.1	U	2.1	U
gamma-BHC (Lindane)	2	U	2.2	U	2.5	U	2.1	U	2.1	U	2.1	U	2.1	U
Heptachlor	2	U	2.2	U	2.5	U	2.1	U	2.1	U	2.1	U	2.1	U
Aldrin	2	U	2.2	U	2.5	U	2.1	U	2.1	U	2.1	U	2.1	U
Heptachlor epoxide	2	U	2.2	U	2.5	U	2.1	U	2.1	U	2.1	U	2.1	U
Endosulfan I	2	U	2.2	U	2.5	U	2.1	U	2.1	U	2.1	U	2.1	U
Dieldrin	3.9	U	4.2	U	4.8	U	4.1	U	4.1	U	4.1	U	4.1	U
4,4'-DDE	3.9	U	4.2	U	7.9	J	6.7	J	14	J	4.1	U	4.1	U
Endrin	3.9	U	4.2	U	4.8	U	4.1	U	4.1	U	4.1	U	4.1	U
Endosulfan II	3.9	U	4.2	U	4.8	U	4.1	U	4.1	U	4.1	U	4.1	U
4,4'-DDD	3.9	U	4.2	U	4.8	U	4.1	UJ	5.7	J	4.1	U	4.1	U
Endosulfan sulfate	3.9	U	4.2	U	4.8	U	4.1	U	4.1	U	4.1	U	4.1	U
4,4'-DDT	3.9	U	4.2	U	4.8	U	4.1	U	4.1	U	4.1	U	4.1	U
Methoxychlor	20	U	22	U	25	U	21	U	21	U	21	U	21	U
Endrin ketone	3.9	U	4.2	U	4.8	U	4.1	U	4.1	U	4.1	U	4.1	U
Endrin aldehyde	3.9	U	4.2	U	4.8	U	4.1	U	4.1	U	4.1	U	4.1	U
alpha-Chlordane	2	U	2.2	U	2.5	U	2.1	U	2.1	U	2.1	U	2.1	U
gamma-Chlordane	2	U	2.2	U	2.5	U	2.1	U	2.1	U	2.1	U	2.1	U
Aroclor 1260	39	U	42	U	48	U	41	U	41	U	41	U	41	U

Site: Well. .id H, OU III
Sediment Detected Compounds
Pesticide - PCBs (ug/Kg)

SAMPLE ID	SD-03-01		SD-03-02		SD-03-03		SD-04-01		SD-04-02		SD-04-03		SD-05-01	
LAB ID	ALE22		ALE23		ALE24		ALE27		ALE28		ALE29		ALE31	
SAMPLE DATE	8/16/95		8/16/95		8/16/95		8/17/95		8/17/95		8/17/95		8/17/95	
PERCENT MOISTURE	16		59		18		35		56		62		15	
COMMENTS														
alpha-BHC	2	U	4.1	U	2.1	U	13	U	19	U	22	R	10	R
beta-BHC	2	U	4.1	U	2.1	U	13	U	19	U	22	R	10	R
delta-BHC	2	U	4.1	U	2.1	U	13	U	19	U	22	R	10	R
gamma-BHC (Lindane)	2	U	4.1	U	2.1	U	13	U	19	U	22	R	10	R
Heptachlor	2	U	4.1	U	2.1	U	13	U	19	U	22	R	10	R
Aldrin	2	U	4.1	U	2.1	U	13	U	19	U	22	R	10	R
Heptachlor epoxide	2	U	4.1	U	2.1	U	13	U	19	U	22	R	10	R
Endosulfan I	2	U	4.1	U	2.1	U	13	U	19	U	22	R	10	R
Dieldrin	3.9	U	8	U	4	U	25	U	37	U	43	R	19	R
4,4'-DDE	3.9	U	18	J	4	U	25	U	37	U	56	J	19	R
Endrin	3.9	U	8	U	4	U	25	U	37	U	43	R	19	R
Endosulfan II	3.9	U	8	U	4	U	25	U	37	U	43	R	19	R
4,4'-DDD	3.9	U	21		4	U	25	U	37	U	140	J	19	R
Endosulfan sulfate	3.9	U	8	U	4	U	25	U	37	U	43	R	19	R
4,4'-DDT	3.9	U	8	U	4	U	25	U	37	U	43	R	19	R
Methoxychlor	20	U	41	U	21	U	130	U	190	U	220	R	100	R
Endrin ketone	3.9	U	8	U	4	U	25	U	37	U	43	R	19	R
Endrin aldehyde	3.9	U	8.7	J	4	U	25	U	37	U	43	R	19	R
alpha-Chlordane	2	U	5.2	J	2.1	U	13	U	19	U	22	R	10	R
gamma-Chlordane	2	U	4.1	U	2.1	U	13	U	19	U	22	R	10	R
Aroclor 1260	39	U	80	U	40	U	250	U	370	U	430	R	190	R

Site: Well ,id H, OU III
Sediment Detected Compounds
Pesticide - PCBs (ug/Kg)

SAMPLE ID	SD-05-02		SD-05-03		SD-06-01		SD-06-02		SD-06-03		SD-07-01		SD-07-01-02	
LAB ID	ALE32		ALE33		ALE38		ALE39		ALE40		ALE42		ALE43	
SAMPLE DATE	8/17/95		8/17/95		8/18/95		8/18/95		8/18/95		8/18/95		8/18/95	
PERCENT MOISTURE	20		49		55		49		66		26		23	
COMMENTS											dup of ALE43		dup of ALE42	
alpha-BHC	11	U	17	R	19	U	17	R	25	U	11	U	11	U
beta-BHC	11	U	17	R	19	U	17	R	25	U	11	U	11	U
delta-BHC	11	U	17	R	19	U	17	R	25	U	11	U	11	U
gamma-BHC (Lindane)	11	U	17	R	19	U	17	R	25	U	11	U	11	U
Heptachlor	11	U	17	R	19	U	17	R	25	U	11	U	11	U
Aldrin	11	U	17	R	19	U	17	R	25	U	11	U	11	U
Heptachlor epoxide	11	U	17	R	19	U	17	R	25	U	11	U	11	U
Endosulfan I	11	U	17	R	19	U	17	R	25	U	11	U	11	U
Dieldrin	21	U	32	R	37	U	32	R	49	U	22	U	21	U
4,4'-DDE	21	U	32	R	91	J	92	J	100	J	22	U	21	U
Endrin	21	U	32	R	37	U	32	R	49	U	22	U	21	U
Endosulfan II	21	U	32	R	37	U	32	R	49	U	22	U	21	U
4,4'-DDD	21	U	32	R	94	J	92	J	87	J	22	U	21	U
Endosulfan sulfate	21	U	32	R	37	U	32	R	49	U	22	U	21	U
4,4'-DDT	21	U	32	R	32	J	32	R	49	U	22	U	21	U
Methoxychlor	110	U	170	R	190	U	170	R	250	U	110	U	110	U
Endrin ketone	21	U	32	R	37	U	32	R	49	U	22	U	21	U
Endrin aldehyde	21	U	32	R	37	U	32	R	49	U	22	U	21	U
alpha-Chlordane	11	U	17	R	31	J	32	J	27	J	13	J	11	U
gamma-Chlordane	11	U	17	R	19	U	17	R	25	U	11	U	11	U
Aroclor 1260	210	U	320	R	370	U	320	R	490	U	220	U	210	U

Site: Wells ,d H, OU III
Sediment Detected Compounds
Pesticide - PCBs (ug/Kg)

SAMPLE ID	SD-07-02		SD-07-03		SD-07-04		SD-07-05		SD-07-06		SD-07-07		SD-07-08	
LAB ID	ALE45		ALE46		ALE86		ALE47		ALE48		ALE49		ALE50	
SAMPLE DATE	8/21/95		8/21/95		8/29/95		8/21/95		8/21/95		8/21/95		8/21/95	
PERCENT MOISTURE	59		21		63		75		61		64		39	
COMMENTS														
alpha-BHC	2.7	J	2.2	U	0.45	J	2.5	J	4.4	U	0.31	J	0.46	J
beta-BHC	4.1	U	1.5	J	4.6	U	3.9	J	5.4		6.6		4.1	
delta-BHC	4.2		4.5	J	4.6	U	1.8	J	0.33	J	8.8		1.2	J
gamma-BHC (Lindane)	1.4	J	2.2	U	4.6	UJ	6.8	R	1.4	J	4.7	U	2.8	U
Heptachlor	0.18	J	0.82	J	4.6	UJ	0.29	J	1.6	J	0.77	J	2.8	UJ
Aldrin	4.1	U	0.5	J	4.8	J	6.8	R	5		2.8	J	0.24	J
Heptachlor epoxide	3.3	J	2.4	J	4.6	U	3.7	J	1.9	J	1.6	J	0.45	J
Endosulfan I	4.1	U	2.2	U	4.6	U	6.8	R	4.4	U	4.7	U	2.8	U
Dieldrin	3.9	J	0.59	J	1.8	J	5.7	J	7	J	2	J	0.94	J
4,4'-DDE	42		12	J	37	J	55	J	32		20		19	
Endrin	8	U	3.7	J	8.9	U	13	R	8.5	U	0.6	J	5.4	U
Endosulfan II	5.2	J	5.4	J	8.9	U	3.8	J	2.2	J	1.3	J	2.2	J
4,4'-DDD	42		23	J	64	J	48	J	34		18		32	
Endosulfan sulfate	8	UJ	4.2	UJ	3.9	J	2.1	J	8.5	UJ	9.1	UJ	5.4	UJ
4,4'-DDT	32		3.8	J	24	J	41	J	11		15		9.1	
Methoxychlor	6.3	J	22	U	46	UJ	68	R	8.8	J	47	U	28	U
Endrin ketone	2.3	J	4.2	U	8.9	U	13	R	8.5	U	9.1	U	2.7	J
Endrin aldehyde	5.8	J	0.98	J	8.9	U	13	R	1.9	J	0.94	J	2.4	J
alpha-Chlordane	39		27	J	43	J	45	J	32		19		11	
gamma-Chlordane	21		21	J	53	J	36	J	26		14		9.6	
Aroclor 1260	80	U	42	U	89	U	130	R	85	U	91	U	54	U

Site: We. and H, OU III
Sediment Detected Compounds
Pesticide - PCBs (ug/Kg)

SAMPLE ID	SD-07-09		SD-07-10		SD-08-01		SD-08-02		SD-08-03		SD-09-01		SD-09-02	
LAB ID	ALE51		ALE52		ALE54		ALE55		ALE56		ALE59		ALE60	
SAMPLE DATE	8/21/95		8/21/95		8/21/95		8/21/95		8/21/95		8/22/95		8/22/95	
PERCENT MOISTURE	64		62		21		33		18		37		37	
COMMENTS														
alpha-BHC	1.3	J	4.5	U	2.1	U	0.26	J	2.1	R	2.7	U	0.11	J
beta-BHC	5.6		2.5	J	2.1	U	2.5	U	2.1	R	0.29	J	2.7	U
delta-BHC	4.7	U	4.5	U	2.1	U	2.5	U	0.32	J	2.7	U	2.7	U
gamma-BHC (Lindane)	4.7	U	4.5	U	2.1	U	2.5	U	2.1	R	2.7	U	2.7	U
Heptachlor	4.7	UJ	0.26	J	2.1	UJ	0.13	J	2.1	R	0.31	J	0.067	J
Aldrin	5.7		4.5	U	2.1	U	2.5	U	2.1	R	0.26	J	2	J
Heptachlor epoxide	2.4	J	1	J	0.63	J	1.1	J	0.45	J	2.7	U	2.7	U
Endosulfan I	4.7	U	4.5	U	2.1	U	2.5	U	2.1	R	2.7	U	0.11	J
Dieldrin	2.5	J	8.7	U	4.1	U	0.19	J	4	R	4.3	J	7	
4,4'-DDE	31		69		3.5	J	4.1	J	4.2	J	14		27	
Endrin	1.6	J	4.2	J	4.1	U	2.3	J	4	R	0.22	J	5.2	U
Endosulfan II	8.4	J	8.7	UJ	0.29	J	1.1	J	4	R	5.2	U	5.2	U
4,4'-DDD	33		76		9.8		6.7		3.3	J	19		28	
Endosulfan sulfate	9.2	UJ	8.7	UJ	4.1	UJ	4.9	UJ	4	R	5.2	U	5.2	U
4,4'-DDT	45		47		3	J	0.87	J	4	R	3.7	J	6.4	
Methoxychlor	47	U	12	J	21	U	25	U	21	R	27	U	27	U
Endrin ketone	1.8	J	8.7	U	4.1	U	2.9	J	4	R	5.2	U	5.2	U
Endrin aldehyde	4.9	J	8.7	UJ	4.1	UJ	0.47	J	4	R	5.2	U	0.9	J
alpha-Chlordane	29		14		2.1	U	2.5	U	1.5	J	0.84	J	2.7	U
gamma-Chlordane	20		8.8		0.25	J	0.7	J	1.4	J	0.84	J	0.3	J
Aroclor 1260	92	U	87	U	41	U	49	U	40	R	52	U	52	U

Site: Wells ..nd H, OU III
Sediment Detected Compounds
Pesticide - PCBs (ug/Kg)

SAMPLE ID	SD-09-03		SD-09-04		SD-09-05		SD-09-06		SD-09-07		SD-09-08		SD-09-09	
LAB ID	ALE61		ALE62		ALE63		ALE64		ALE65		ALE66		ALE67	
SAMPLE DATE	8/22/95		8/22/95		8/22/95		8/22/95		8/22/95		8/22/95		8/22/95	
PERCENT MOISTURE	20		20		16		18		30		15		17	
COMMENTS														
alpha-BHC	2.1	U	2.1	U	2	U	2.1	U	0.46	J	2	U	2	U
beta-BHC	0.1	J	2.1	U	2	U	0.23	J	0.92	J	0.17	J	2	U
delta-BHC	2.1	U	2.1	U	2	U	2.1	U	0.08	J	2	U	2	U
gamma-BHC (Lindane)	2.1	U	2.1	U	2	U	2.1	U	2.4	U	2	U	2	U
Heptachlor	2.1	UJ	2.1	UJ	0.34	J	0.27	J	0.25	J	2	UJ	2	UJ
Aldrin	0.25	J	2.1	U	0.49	J	0.28	J	0.39	J	0.19	J	0.12	J
Heptachlor epoxide	2.1	U	2.1	U	2	U	2.1	U	2.4	U	2	U	2	U
Endosulfan I	2.1	U	2.1	U	2	U	2.1	U	0.51	J	2	U	2	U
Dieldrin	2.6	J	0.41	J	0.4	J	1.8	J	6.2		1.1	J	0.59	J
4,4'-DDE	9.8		0.089	J	1.6	J	1.1	J	19		3.9	U	0.3	J
Endrin	0.21	J	4.1	U	3.9	U	0.11	J	1.4	J	0.11	J	0.1	J
Endosulfan II	4.1	U	4.1	U	0.34	J	0.24	J	4.7	U	3.9	U	3.9	U
4,4'-DDD	17		0.46	J	5.4		2.3	J	83		1.8	J	0.93	J
Endosulfan sulfate	4.1	U	4.1	U	3.9	U	4	U	4.7	U	3.9	U	3.9	U
4,4'-DDT	2.5	J	0.29	J	1.6	J	1.4	J	19		1.1	J	0.69	J
Methoxychlor	21	U	21	U	20	U	21	U	24	U	20	U	2	U
Endrin ketone	4.1	U	4.1	U	3.9	U	4	U	4.7	U	3.9	U	3.9	U
Endrin aldehyde	4.1	U	4.1	U	3.9	U	4	U	4.7	U	3.9	U	3.9	U
alpha-Chlordane	0.39	J	2.1	U	0.46	J	0.28	J	1.9	J	0.48	J	2	U
gamma-Chlordane	0.23	J	2.1	U	0.28	J	0.15	J	2.4		2	U	2	U
Aroclor 1260	41	U	41	U	39	U	40	U	47	U	39	U	39	U

Site: Wel. .nd H, OU III
Sediment Detected Compounds
Pesticide - PCBs (ug/Kg)

SAMPLE ID	SD-09-10		SD-10-01		SD-10-01-02		SD-10-02		SD-10-03		SD-11-01		SD-11-02	
LAB ID	ALE68		ALE76		ALE77		ALE78		ALE79		ALE82		ALE83	
SAMPLE DATE	8/22/95		8/23/95		8/23/95		8/23/95		8/23/95		8/24/95		8/24/95	
PERCENT MOISTURE	25		86		87		90		50		63		79	
COMMENTS			dup of ALE77		dup of ALE76									
alpha-BHC	2.3	U	12	R	13	R	17	R	3.4	U	4.6	U	8	R
beta-BHC	2.3	U	12	R	13	R	17	R	3.4	U	4.6	U	8	R
delta-BHC	0.85	J	12	R	13	R	17	R	0.14	J	4.6	U	8	R
gamma-BHC (Lindane)	2.3	U	12	R	13	R	17	R	3.4	U	4.6	U	8	R
Heptachlor	2.3	U	12	R	13	R	17	R	3.4	U	4.6	UJ	8	R
Aldrin	2.3	U	12	R	13	R	17	R	3.4	U	4.6	U	8	R
Heptachlor epoxide	2.3	U	12	R	13	R	17	R	3.4	U	4.6	U	8	R
Endosulfan I	2.3	U	12	R	13	R	17	R	3.4	U	4.6	U	8	R
Dieldrin	0.83	J	5.3	J	4.9	J	2.7	J	0.55	J	8.9	U	16	R
4,4'-DDE	1	J	130	J	120	J	29	J	0.85	J	2.7	J	8.3	J
Endrin	4.4	U	23	R	25	R	33	R	6.6	U	8.9	U	16	R
Endosulfan II	4.4	U	23	R	25	R	33	R	6.6	U	8.9	U	16	R
4,4'-DDD	4.4	U	150	J	130	J	100	J	6.6	U	8.9	U	1.6	R
Endosulfan sulfate	4.4	U	23	R	25	R	33	R	6.6	U	8.9	U	16	R
4,4'-DDT	3.1	J	2.5	J	2.7	J	2.3	J	0.93	J	0.66	J	1.4	J
Methoxychlor	23	U	120	R	130	R	170	R	34	U	46	U	80	R
Endrin ketone	4.4	U	23	R	25	R	33	R	6.6	U	8.9	U	16	R
Endrin aldehyde	4.4	U	23	R	25	R	33	R	6.6	U	8.9	U	16	R
alpha-Chlordane	0.55	J	13	J	14	J	7.2	J	0.92	J	4.6	U	2.7	J
gamma-Chlordane	0.36	J	19	J	18	J	7.4	J	0.43	J	0.34	J	2.7	J
Aroclor 1260	44	U	230	R	250	R	330	R	66	U	17	J	61	J

Site: Wel. and H, OU III
Sediment Detected Compounds
Pesticide - PCBs (ug/Kg)

SAMPLE ID	SD-11-03		SD-12-01		SD-12-02		SD-12-03		SD-13-01		SD-13-02		SD-13-03	
LAB ID	ALE84		ALE99		ALF00		ALF01		ALM65		ALM66		ALM67	
SAMPLE DATE	8/24/95		8/31/95		8/31/95		8/31/95		9/5/95		9/5/95		9/5/95	
PERCENT MOISTURE	64		77		75		55		82		81		72	
COMMENTS														
alpha-BHC	4.7	U	7.4	R	6.8	R	3.8	U	0.32	J	0.91	J	1.7	J
beta-BHC	4.7	U	1.7	J	0.71	J	3.8	U	1.5	J	2.1	J	3.1	J
delta-BHC	4.7	U	7.4	R	6.8	R	3.8	U	9.4	R	8.9	R	6.1	R
gamma-BHC (Lindane)	4.7	U	7.4	R	6.8	R	3.8	U	9.4	R	8.9	R	6.1	R
Heptachlor	4.7	UJ	7.4	R	6.8	R	3.8	U	9.4	R	8.9	R	6.1	R
Aldrin	0.59	J	7.4	R	6.8	R	0.51	J	0.47	J	1.4	J	1.6	J
Heptachlor epoxide	4.7	U	7.4	R	6.8	R	3.8	U	9.4	R	8.9	R	6.1	R
Endosulfan I	4.7	U	7.4	R	6.8	R	0.62	J	9.4	R	8.9	R	6.1	R
Dieldrin	9.2	U	1.3	J	0.42	J	1.5	J	2.2	J	4.3	J	12	R
4,4'-DDE	0.76	J	1.7	J	0.52	J	4.4	J	2.5	J	1.6	J	13	J
Endrin	9.2	U	1.8	J	0.21	J	2.6	J	0.2	J	0.28	J	12	R
Endosulfan II	9.2	U	0.69	J	13	R	7.3	U	18	R	4.7	J	12	R
4,4'-DDD	9.2	U	14	R	13	R	2.4	J	2.3	J	8	J	12	J
Endosulfan sulfate	9.2	U	14	R	13	R	7.3	U	18	R	17	R	12	R
4,4'-DDT	0.5	J	0.53	J	13	R	7.3	U	0.45	J	1.2	J	2.9	J
Methoxychlor	47	U	74	R	68	R	38	U	94	R	89	R	61	R
Endrin ketone	9.2	U	14	R	13	R	7.3	U	18	R	17	R	12	R
Endrin aldehyde	9.2	U	14	R	13	R	1	J	18	R	2.6	J	10	J
alpha-Chlordane	0.62	J	1.6	J	13	R	1.8	J	3.2	J	8.8	J	27	J
gamma-Chlordane	0.51	J	1.4	J	0.34	J	1.7	J	1	J	3.3	J	18	J
Aroclor 1260	92	U	140	R	130	R	73	U	180	R	170	R	310	J

Site: Well. .nd H, OU III
Sediment Detected Compounds
Pesticide - PCBs (ug/Kg)

SAMPLE ID	SD-14-01		SD-14-02		SD-14-03		SD-15-01		SD-15-02		SD-15-03		SD-16-01	
LAB ID	ALM72		ALM73		ALM74		ALM75		ALM76		ALM77		ALE87	
SAMPLE DATE	9/5/95		9/5/95		9/5/95		9/5/95		9/5/95		9/5/95		8/29/95	
PERCENT MOISTURE	20		20		28		88		87		88		61	
COMMENTS														
alpha-BHC	11	UJ	11	UJ	12	UJ	14	R	13	R	14	R	4.3	U
beta-BHC	11	UJ	11	UJ	12	UJ	14	R	13	R	14	R	4.3	U
delta-BHC	11	UJ	11	UJ	12	UJ	14	R	13	R	14	R	4.3	U
gamma-BHC (Lindane)	11	UJ	11	UJ	12	UJ	14	R	13	R	14	R	4.3	U
Heptachlor	11	UJ	11	UJ	12	UJ	14	R	13	R	14	R	4.3	UJ
Aldrin	11	UJ	11	UJ	12	UJ	14	R	13	R	14	R	4.3	U
Heptachlor epoxide	11	UJ	11	UJ	12	UJ	14	R	13	R	14	R	4.3	U
Endosulfan I	8	J	8.2	J	18	J	8.9	J	6	J	15	J	4.3	U
Dieldrin	21	UJ	21	UJ	20	J	27	R	25	R	27	R	1	J
4,4'-DDE	8.2	J	21	UJ	23	UJ	27	R	25	R	27	R	2.9	J
Endrin	21	UJ	21	UJ	23	UJ	27	R	25	R	27	R	8.4	U
Endosulfan II	2.6	J	21	UJ	23	UJ	27	R	25	R	27	R	8.4	U
4,4'-DDD	9.7	J	21	UJ	23	UJ	27	R	25	R	27	R	11	
Endosulfan sulfate	21	UJ	21	UJ	23	UJ	27	R	25	R	27	R	8.4	U
4,4'-DDT	21	UJ	21	UJ	23	UJ	27	R	25	R	27	R	1.8	J
Methoxychlor	110	UJ	110	UJ	120	UJ	140	R	130	R	140	R	43	U
Endrin ketone	21	UJ	21	UJ	23	UJ	27	R	25	R	27	R	8.4	U
Endrin aldehyde	21	UJ	21	UJ	23	UJ	27	R	25	R	27	R	8.4	U
alpha-Chlordane	4.1	J	3.3	J	5	J	14	R	13	R	14	R	0.67	J
gamma-Chlordane	11	UJ	11	UJ	12	UJ	14	R	13	R	14	R	0.72	J
Aroclor 1260	210	UJ	210	UJ	230	UJ	270	R	250	R	270	R	84	U

Site: Wells ,nd H, OU III
Sediment Detected Compounds
Pesticide - PCBs (ug/Kg)

SAMPLE ID	SD-16-02		SD-16-03		SD-18-01		SD-18-02		SD-18-03		SD-19-01		SD-19-01-02	
LAB ID	ALE73		ALE74		ALE88		ALM81		ALM82		ALF02		ALM59	
SAMPLE DATE	8/23/95		8/23/95		8/29/95		9/7/95		9/7/95		8/31/95		8/31/95	
PERCENT MOISTURE	21		21		46		89		79		81		82	
COMMENTS											dup of ALM59		dup of ALF02	
alpha-BHC	2.1	U	2.2	U	3.1	U	15	R	8.1	R	8.9	R	9.4	R
beta-BHC	2.1	U	2.2	U	3.1	U	15	R	8.1	R	1.6	J	3.1	J
delta-BHC	0.29	J	2.2	U	3.1	U	15	R	8.1	R	8.9	R	9.4	R
gamma-BHC (Lindane)	2.1	U	2.2	U	3.1	U	15	R	8.1	R	8.9	R	9.4	R
Heptachlor	2.1	U	2.2	U	3.1	UJ	15	R	8.1	R	8.9	R	9.4	R
Aldrin	2.1	U	2.2	U	3.1	U	15	R	8.1	R	0.67	J	9.4	R
Heptachlor epoxide	2.1	U	2.2	U	3.1	U	15	R	8.1	R	8.9	R	9.4	R
Endosulfan I	2.1	U	2.2	U	3.1	U	15	R	8.1	R	0.93	J	1.2	J
Dieldrin	0.49	J	0.32	J	0.34	J	30	R	16	R	3.5	J	6.2	J
4,4'-DDE	3.6	J	0.32	J	0.83	J	30	R	3.9	J	10	J	12	J
Endrin	4.2	U	4.2	U	0.087	J	30	R	16	R	4.4	J	5.7	J
Endosulfan II	4.2	U	4.2	U	6.1	U	30	R	16	R	17	R	18	R
4,4'-DDD	13		4.2	U	6.1	U	30	R	5.1	J	8	J	7	J
Endosulfan sulfate	4.2	U	4.2	U	6.1	U	30	R	16	R	17	R	18	R
4,4'-DDT	6.8		0.32	J	6.1	U	30	R	16	R	2.2	J	1.7	J
Methoxychlor	21	U	22	U	31	U	150	R	81	R	89	R	94	R
Endrin ketone	4.2	U	4.2	U	6.1	U	30	R	16	R	17	R	18	R
Endrin aldehyde	4.2	U	4.2	U	6.1	U	30	R	16	R	17	R	1.6	J
alpha-Chlordane	0.45	J	4.2	U	6.1	U	15	R	8.1	R	3.9	J	5.4	J
gamma-Chlordane	0.47	J	0.12	J	0.17	J	15	R	8.1	R	3.7	J	5.9	J
Aroclor 1260	42	U	42	U	61	U	300	R	160	R	170	R	180	R

Site: Wel ınd H, OU III
Sediment Detected Compounds
Pesticide - PCBs (ug/Kg)

SAMPLE ID	SD-19-02		SD-19-03		SD-20-01		SD-20-01-02		SD-20-02		SD-20-03		SD-21-01	
LAB ID	ALM57		ALM58		ALM83		ALM84		ALM85		ALM86		ALM89	
SAMPLE DATE	8/31/95		8/31/95		9/7/95		9/7/95		9/7/95		9/7/95		9/8/95	
PERCENT MOISTURE	80		81		86		87		78		80		79	
COMMENTS					dup of ALM84		dup of ALM83							
alpha-BHC	0.47	J	8.9	R	12	R	13	R	39	R	42	R	40	R
beta-BHC	2.2	J	8.9	R	12	R	13	R	39	R	42	R	40	R
delta-BHC	8.4	R	8.9	R	12	R	13	R	39	R	42	R	40	R
gamma-BHC (Lindane)	8.4	R	8.9	R	12	R	13	R	39	R	42	R	40	R
Heptachlor	8.4	R	8.9	R	12	R	13	R	39	R	42	R	40	R
Aldrin	8.4	R	8.9	R	12	R	13	R	39	R	42	R	40	R
Heptachlor epoxide	8.4	R	8.9	R	12	R	13	R	39	R	42	R	40	R
Endosulfan I	0.72	J	8.9	R	12	R	13	R	38	J	42	J	68	J
Dieldrin	1.8	J	3.8	J	24	R	25	R	75	R	82	R	79	R
4,4'-DDE	4.5	J	20	J	15	J	11	J	32	J	30	J	36	J
Endrin	1.4	J	3.5	J	24	R	25	R	75	R	82	R	16	J
Endosulfan II	16	R	17	R	24	R	25	R	75	R	82	R	79	R
4,4'-DDD	2.5	J	11	J	17	J	11	J	32	J	26	J	28	J
Endosulfan sulfate	16	R	17	R	24	R	25	R	75	R	82	R	79	R
4,4'-DDT	3.4	J	2.1	J	24	R	25	R	75	R	82	R	79	R
Methoxychlor	84	R	89	R	120	R	130	R	390	R	420	R	400	R
Endrin ketone	16	R	17	R	24	R	25	R	75	R	82	R	79	R
Endrin aldehyde	16	R	2.4	J	24	R	25	R	75	R	82	R	79	R
alpha-Chlordane	2.1	J	4.6	J	17	J	12	J	42	J	49	J	60	J
gamma-Chlordane	2.7	J	4.6	J	15	J	8.8	J	39	R	42	R	40	R
Aroclor 1260	160	R	170	R	240	R	250	R	750	R	820	R	790	R

Site: We. and H, OU III
Sediment Detected Compounds
Pesticide - PCBs (ug/Kg)

SAMPLE ID	SD-21-02		SD-21-03		SD-22-01		SD-22-02		SD-22-03		SD-23-01		SD-23-02	
LAB ID	ALM90		ALM91		ALM92		ALM93		ALM94		ALE90		ALE91	
SAMPLE DATE	9/8/95		9/8/95		9/8/95		9/8/95		9/8/95		8/30/95		8/30/95	
PERCENT MOISTURE	83		77		74		62		80		46		29	
COMMENTS														
alpha-BHC	50	R	37	R	6.5	R	4.5	UJ	8.5	R	3.1	U	2.4	U
beta-BHC	50	R	37	R	6.5	R	4.5	UJ	8.5	R	0.75	J	2.4	U
delta-BHC	50	R	37	R	6.5	R	4.5	UJ	8.5	R	3.1	U	2.4	U
gamma-BHC (Lindane)	50	R	37	R	6.5	R	4.5	UJ	8.5	R	3.1	U	2.4	U
Heptachlor	50	R	37	R	6.5	R	4.5	UJ	8.5	R	3.1	UJ	2.4	UJ
Aldrin	50	R	37	R	6.5	R	4.5	UJ	8.5	R	3.1	U	2.4	U
Heptachlor epoxide	50	R	37	R	4.9	J	2.3	J	8.5	R	3.1	U	2.4	UJ
Endosulfan I	14	J	59	J	4.3	J	2.5	J	4.4	J	3.1	U	2.4	U
Dieldrin	97	R	72	R	13	R	8.7	UJ	16	R	1.1	J	4.6	U
4,4'-DDE	97	R	35	J	30	J	8.3	J	16	R	11		17	J
Endrin	97	R	72	R	13	R	8.7	UJ	16	R	6	U	1.6	J
Endosulfan II	97	R	72	R	13	R	8.7	UJ	16	R	6	U	4.6	U
4,4'-DDD	97	R	27	J	13	R	8.7	UJ	16	R	60		84	J
Endosulfan sulfate	97	R	72	R	13	R	8.7	UJ	16	R	6	U	4.6	U
4,4'-DDT	97	R	72	R	13	R	8.7	UJ	16	R	6	U	22	J
Methoxychlor	500	R	370	R	65	R	45	UJ	85	R	31	U	24	UJ
Endrin ketone	97	R	72	R	13	R	8.7	UJ	16	R	6	U	4.6	U
Endrin aldehyde	97	R	72	R	13	R	8.7	UJ	16	R	6	U	4.6	U
alpha-Chlordane	50	R	62	J	6.5	R	4.5	UJ	8.5	R	3.1	U	4.6	UJ
gamma-Chlordane	50	R	47	J	6.5	R	4.5	UJ	8.5	R	3.1	U	0.31	J
Aroclor 1260	970	R	720	R	130	R	87	UJ	160	R	60	U	46	U

Site: Wells ...d H, OU III
Sediment Detected Compounds
Pesticide - PCBs (ug/Kg)

SAMPLE ID	SD-23-03		SD-24-01		SD-24-02		SD-24-03		SD-25-01		SD-25-02		SD-25-03	
LAB ID	ALE92		ALE93		ALE94		ALE95		ALM98		ALM99		ALN00	
SAMPLE DATE	8/30/95		8/30/95		8/30/95		8/30/95		9/11/95		9/11/95		9/11/95	
PERCENT MOISTURE	79		29		23		22		45		46		22	
COMMENTS														
alpha-BHC	8.1	R	2.4	U	0.31	J	2.2	U	15	UJ	16	UJ	11	UJ
beta-BHC	8.1	R	0.4	J	2.2	U	2.2	U	15	UJ	16	UJ	11	UJ
delta-BHC	8.1	R	2.4	U	2.2	U	2.2	U	15	UJ	16	UJ	11	UJ
gamma-BHC (Lindane)	8.1	R	2.4	U	1.9	J	2.2	U	15	UJ	16	UJ	11	UJ
Heptachlor	8.1	R	2.4	UJ	0.84	J	2.2	UJ	15	UJ	16	UJ	11	UJ
Aldrin	8.1	R	0.54	J	1.6	J	0.29	J	15	UJ	16	UJ	11	UJ
Heptachlor epoxide	8.1	R	2.4	U	1.4	J	0.48	J	15	UJ	16	UJ	11	UJ
Endosulfan I	8.1	R	2.4	U	2.2	U	0.22	J	8.8	J	66	J	7.2	J
Dieldrin	16	R	1.5	J	18		4.2	U	30	UJ	6.3	J	21	UJ
4,4'-DDE	16	R	5.8		10		17		30	UJ	31	UJ	21	UJ
Endrin	16	R	4.6	U	5.1		0.3	J	30	UJ	31	UJ	21	UJ
Endosulfan II	16	R	4.6	U	7.1		2.3	J	30	UJ	9.4	J	21	UJ
4,4'-DDD	16	R	35		98		39		30	UJ	31	UJ	21	UJ
Endosulfan sulfate	16	R	6.6		4.3	U	4.2	U	30	UJ	11	J	21	UJ
4,4'-DDT	16	R	20		130		27	J	30	UJ	5.8	J	21	UJ
Methoxychlor	81	R	24	U	22	U	22	U	150	UJ	160	UJ	110	UJ
Endrin ketone	23	R	2.7	J	4.3		4.2	U	30	UJ	9.1	J	21	UJ
Endrin aldehyde	16	R	4.6	U	4.3	U	1.1	J	30	UJ	31	UJ	21	UJ
alpha-Chlordane	8.1	R	2.4	U	2.2	U	5.3		15	UJ	8.4	J	11	UJ
gamma-Chlordane	8.1	R	2.4	U	1.5	J	4.6		15	UJ	16	UJ	11	UJ
Aroclor 1260	160	R	46	U	43	U	42	U	300	UJ	310	UJ	210	UJ

Site: Wel, id H, OU III
Sediment Detected Compounds
Pesticide - PCBs (ug/Kg)

SAMPLE ID	SD-26-01	SD-26-02	SD-26-02-02	SD-26-03	SD-27-01	SD-27-02	SD-27-03
LAB ID	ALN02	ALN03	ALN05	ALN04	ALN08	ALN09	ALN10
SAMPLE DATE	9/11/95	9/11/95	9/11/95	9/11/95	9/12/95	9/12/95	9/12/95
PERCENT MOISTURE	41	29	25	44	30	22	24
COMMENTS		dup of ALN05	dup of ALN03				
alpha-BHC	14 UJ	12 UJ	11 UJ	15 UJ	12 UJ	11 UJ	11 UJ
beta-BHC	14 UJ	12 UJ	11 UJ	15 UJ	12 UJ	11 UJ	11 UJ
delta-BHC	14 UJ	12 UJ	11 UJ	15 UJ	12 UJ	11 UJ	11 UJ
gamma-BHC (Lindane)	14 UJ	12 UJ	11 UJ	15 UJ	12 UJ	11 UJ	11 UJ
Heptachlor	14 UJ	12 UJ	11 UJ	15 UJ	12 UJ	11 UJ	11 UJ
Aldrin	14 UJ	12 UJ	11 UJ	15 UJ	12 UJ	11 UJ	11 UJ
Heptachlor epoxide	14 UJ	12 UJ	11 UJ	15 UJ	12 UJ	11 UJ	11 UJ
Endosulfan I	14 UJ	12 UJ	11 UJ	6.9 J	7.2 J	35 J	8.2 J
Dieldrin	28 UJ	23 UJ	22 UJ	29 UJ	24 UJ	4.7 J	2.2 J
4,4'-DDE	51 J	16 J	9.5 J	9.5 J	5.5 J	3.5 J	4.6 J
Endrin	28 UJ	23 UJ	22 UJ	29 UJ	24 UJ	21 UJ	22 UJ
Endosulfan II	28 UJ	23 UJ	22 UJ	29 UJ	24 UJ	5.3 J	22 UJ
4,4'-DDD	59 J	23 J	10 J	17 J	5.7 J	21 UJ	6.2 J
Endosulfan sulfate	28 UJ	23 UJ	22 UJ	29 UJ	24 UJ	9.1 J	22 UJ
4,4'-DDT	30 J	31 J	4.7 J	29 UJ	15 J	14 J	5.6 J
Methoxychlor	140 UJ	120 UJ	110 UJ	150 UJ	120 UJ	110 UJ	110 UJ
Endrin ketone	28 UJ	23 UJ	22 UJ	29 UJ	24 UJ	6.1 J	22 UJ
Endrin aldehyde	28 UJ	23 UJ	22 UJ	29 UJ	24 UJ	21 UJ	22 UJ
alpha-Chlordane	14 UJ	12 UJ	11 UJ	15 UJ	12 UJ	11 UJ	11 UJ
gamma-Chlordane	14 UJ	1 J	11 UJ	15 UJ	12 UJ	11 UJ	11 UJ
Aroclor 1260	280 UJ	230 UJ	220 UJ	290 UJ	240 UJ	210 UJ	220 UJ

4.4 Inorganics

Site: Well[illegible]d H, OU III
Sediment Summary Statistics
Inorganics (mg/Kg)

PARAMETER	NO. DETECTED	NO. SAMPLES	MIN DETECTED	MAX	MEAN	StdDev	UCL MEAN	LOG MEAN	UCL LOG MEAN
Aluminum	105	105	1100	34400	8756	7285	9944	8588	9866
Antimony	74	97	0.41	61	3.51	8.52	4.95	2.74	3.91
Arsenic	102	103	2.4	5510	256.3	771.1	383.2	203.1	366.4
Barium	105	105	5.7	155	40.9	33.9	46.4	41.1	48
Beryllium	68	100	0.12	2	0.5	0.53	0.59	0.55	0.74
Cadmium	72	104	0.045	37.7	5.002	8.183	6.342	10.116	23.235
Calcium	105	105	493	30500	4441.1	5086.5	5270.1	4319.1	5319.2
Chromium	105	105	3.3	2960	298.2	546.7	387.3	316.6	519.7
Cobalt	105	105	0.76	51.1	11.47	10.38	13.16	11.57	13.76
Copper	105	105	1.9	2340	285.4	496.3	366.3	325.2	534.7
Iron	105	105	2040	184000	18825	24790	22866	17668	20926
Lead	105	105	1.9	1270	225.9	292.1	273.5	286.4	447.9
Magnesium	105	105	324	7610	2234.8	1403	2463.5	2233.5	2484.5
Manganese	105	105	12.6	2640	328.8	401	394.2	320.4	395.5
Mercury	75	101	0.021	19.5	1.679	3.618	2.28	2.892	6.825
Nickel	105	105	1.1	57.7	14.3	11.5	16.2	14.3	16.5
Potassium	100	104	126	2570	660.7	487.4	740.5	656.4	742.2
Selenium	37	102	0.61	26.3	2.62	4.44	3.35	2.4	3.44
Silver	7	83	0.51	2.9	0.32	0.43	0.4	0.28	0.33
Sodium	55	105	44.6	1300	301.3	363.8	360.5	334.9	482.4
Thallium	35	82	0.54	4.4	0.99	0.91	1.16	0.96	1.14
Vanadium	105	105	2.5	148	28.5	28	33.1	27.8	32.8
Zinc	105	105	10.4	7670	1003.27	1380.13	1228.2	1309.46	2103.22
Cyanide	3	77	1.4	2.2	0.5	0.3	0.5	0.4	0.5

Site: We. and H, OU III
Sediment Detected Compounds
Inorganics (mg/Kg)

SAMPLE ID	SD-01-01		SD-01-02		SD-01-03		SD-01-04		SD-01-05		SD-01-06		SD-01-07	
LAB ID	DAB251		DAB252		DAB253		DAB254		DAB255		DAB256		DAB257	
SAMPLE DATE	8/15/95		8/15/95		8/15/95		8/15/95		8/15/95		8/15/95		8/15/95	
PERCENT MOISTURE	12.2		14.3		12.6		21.2		13.6		64.4		31.9	
COMMENTS														
Aluminum	2970		3000		3750		3290		3340		19000		6770	
Antimony	0.55	J	0.5	UJ	0.93999	J	0.48	UJ	0.44	UJ	2.2	J	0.53	J
Arsenic	3.1		2.4		5		3		6.2		171		63.3	
Barium	9.5		8.1		10.8		10.7		12.6		53.1		29.6	
Beryllium	0.12	U	0.075	U	0.21	U	0.059	U	0.08599	U	1		0.3	U
Cadmium	0.046	U	0.045		0.18		0.092		0.089		37.7		3.9	
Calcium	972		1040		1230		1050		840		3510		1810	
Chromium	7.2		7.5		9.3		7.1		9.8		95.9		18.3	
Cobalt	2.8		2.9		4.6		3.2		3.8		38.9		14.8	
Copper	6.7		5.8		8.6		8.1		15		1250		155	
Iron	5050		4960		6800		4830		7490		20000		13200	
Lead	9	J	7.9	J	12.2	J	10.4	J	39.9	J	384	J	122	J
Magnesium	1310		1620		1940		1460		1320		3520		2030	
Manganese	72.3		68.9		90.9		74.9		103		327		123	
Mercury	0.022	UJ	0.025	UJ	0.018	U	0.028	U	0.023	U	0.63		0.095	U
Nickel	4.9		5.1		7.2		5.2		7		24.7		10.4	
Potassium	380	J	396	J	436	J	449	J	351	J	937	J	1030	J
Selenium	0.68	UJ	0.62	UJ	0.43	UJ	0.59	UJ	0.55	UJ	2.2	UJ	0.66	UJ
Silver	0.34	U	0.31	U	0.51		0.3	U	0.28	U	0.7	U	0.33	U
Sodium	59.2	U	53.7	U	37.4	U	51.6	U	47.8	U	1080		165	
Thallium	0.8	U	0.72	U	0.54		0.68999	U	0.64	U	2.9		1	
Vanadium	9.4		7.8		11.6		8.5		10.1		34.6		15.8	
Zinc	46.1		53.9		82.9		81.4		127		7380		1470	
Cyanide	0.52	U	0.54	U	0.47	U	0.49	U	0.41	U	1.4	U	0.61	U

Site: Well. .id H, OU III
Sediment Detected Compounds
Inorganics (mg/Kg)

SAMPLE ID	SD-01-08		SD-01-09		SD-01-10		SD-02-01		SD-02-01-02		SD-02-02		SD-02-03	
LAB ID	DAB258		DAB259		DAB260		DAB265		DAB266		DAB267		DAB268	
SAMPLE DATE	8/15/95		8/15/95		8/15/95		8/16/95		8/16/95		8/16/95		8/16/95	
PERCENT MOISTURE	15.7		21.3		29.4		22.6		19.1		15.1		18.1	
COMMENTS							dup of DAB266		dup of DAB265					
Aluminum	4040		3240		5860		6440		5060		5170		3220	
Antimony	0.49	UJ	0.48	UJ	0.63	UJ	0.42	UJ	0.44	J	0.42	UJ	0.68	J
Arsenic	4.2		5.5		14		10.2		7.7		3.6		7.6	
Barium	9.6		8.8		31		35.6		32.8		25.2		14	
Beryllium	0.076	U	0.078	U	0.13	U	0.17	U	0.14	U	0.11	U	0.067	U
Cadmium	0.041	U	0.25		2.8		0.51		0.53		0.035	U	0.23	
Calcium	493		514		1160		1660		1210		1300		739	
Chromium	7		6.9		15		19.6		17.3		7.5		19.8	
Cobalt	2.8		2.6		8.5		8		6.6		5.2		4	
Copper	16.6		28.4		102		32.5		27		10.3		11.7	
Iron	5660		3830		9220		9770		8180		8290		5200	
Lead	14.6	J	19.1	J	33.5	J	226	J	505	J	5.7	J	15.7	J
Magnesium	1360		913		2430		2660		2230		2650		1560	
Manganese	60.4		48.5		116		129		104		92		70.4	
Mercury	0.015	UJ	0.024	U	0.2		0.065		0.061		0.021	U	0.031	U
Nickel	6.4		4.8		8.1		9.2		7.5		6.2		6.9	
Potassium	288	J	224	J	1160	J	634	J	467	J	862	J	390	J
Selenium	0.61	UJ	0.6	UJ	0.79	UJ	0.53	UJ	0.43	UJ	0.53	UJ	0.67	UJ
Silver	0.3	U	0.3	U	0.39	U	0.27	U	0.22	U	0.26	U	0.33	U
Sodium	52.7	U	51.6	U	68.2	U	46	U	37.4	U	45.7	U	57.7	U
Thallium	0.71	U	0.68999	U	0.92	U	0.68999		0.5	U	0.82		0.78	U
Vanadium	7.3		6.5		16.3		18.7		14.3		15.3		9.7	
Zinc	153		158		7670		263		228		34.8		93.9	
Cyanide	0.51	U	0.72	U	0.54	U	0.59	U	0.62	U	0.6	U	0.68	U

Site: Well. .nd H, OU III
Sediment Detected Compounds
Inorganics (mg/Kg)

SAMPLE ID	SD-03-01		SD-03-02		SD-03-03		SD-04-01		SD-04-02		SD-04-03		SD-05-01	
LAB ID	DAB270		DAB271		DAB272		DAB274		DAB275		DAB276		DAB278	
SAMPLE DATE	8/16/95		8/16/95		8/16/95		8/17/95		8/17/95		8/17/95		8/17/95	
PERCENT MOISTURE	14.8		64.9		17		39.5		52.6		63.9		16.6	
COMMENTS														
Aluminum	3540		6050		2730		3190		5780		12800		4770	
Antimony	0.41	J	1.3	J	0.55	UJ	1	J	0.93	UJ	2.6	J	0.44	J
Arsenic	5.4		39.6		7.1		16.5		37.6		58.7		9.8	
Barium	11.4		31.8		9		11.6		18.6		89.8		21.3	
Beryllium	0.15	U	0.42		0.12	U	0.2	U	0.4		0.71		0.18	
Cadmium	0.028	U	3.3		0.045	U	0.8		6.1		4.1		0.03	U
Calcium	1620		3900		1380		1560		1300		3730		1440	
Chromium	9.9		79.7		9.6		27		59.5		148		17.1	
Cobalt	4		15.9		4.1		6.8		11.3		22		5.5	
Copper	7.5		117		6.4		54.8		204		208		21.7	
Iron	5370		12300		4450		7060		6650		20400		14200	
Lead	10.1		128		17.8		75.7		166		465		103	
Magnesium	1720		1740		1330		1200		1170		3490		2580	
Manganese	69.1		294		70.6		85.4		51.9		247		222	
Mercury	0.06	J	0.26	J	0.04	UJ	0.06	J	0.77	J	0.96	J	0.04	UJ
Nickel	5.4		12.1		4.9		5.8		6.4		17.9		10.7	
Potassium	519	J	630	J	530	J	257	UJ	369	UJ	974	J	755	J
Selenium	0.43	U	2	U	0.68	U	1.2	UJ	1.4	UJ	2.7	U	0.46	U
Silver	0.21	U	0.54	U	0.38	UJ	0.38	U	0.58	U	0.64	U	0.23	U
Sodium	37	U	279		59.1	U	103		837		213		39.5	U
Thallium	0.5	U	1.3	U	0.8	U	0.88	U	1.4	U	1.6		0.85	
Vanadium	9.6		19.9		7.9		13.5		12.3		40.6		13.7	
Zinc	90.6		1330		60.4		415		1930		1290		118	
Cyanide	0.64	U	1.5	U	0.63	U	0.67	U	1.2	U	1.6	U	0.61	U

Site: Wel. and H, OU III
Sediment Detected Compounds
Inorganics (mg/Kg)

SAMPLE ID	SD-05-02		SD-05-03		SD-06-01		SD-06-02		SD-06-03		SD-07-01		SD-07-01-02	
LAB ID	DAB279		DAB280		DAB283		DAB284		DAB285		DAB287		DAB288	
SAMPLE DATE	8/17/95		8/17/95		8/18/95		8/18/95		8/18/95		8/18/95		8/18/95	
PERCENT MOISTURE	18.3		47.3		48.6		45.7		60.1		18		22.5	
COMMENTS											dup of DAB288		dup of DAB287	
Aluminum	6470		4470		5560		4780		10300		4540		5780	
Antimony	1	J	1.8	J	1.8	J	1.2	J	2.8	J	0.57	J	1.3	J
Arsenic	5.1		24.8		25.1		21.8		58.1		17.8		18.9	
Barium	43.2		24.4		30.2		28.9		66.7		19.8		22.9	
Beryllium	0.28		0.3		0.32		0.28		0.58		0.21		0.27	
Cadmium	0.043	U	1.6		1.7		1.5		4		0.7		0.59	
Calcium	1850		1480		2080		1740		4020		1520		1740	
Chromium	15		149		196		172		442		60.2		75.2	
Cobalt	7.4		16		9.3		6		13.7		6.7		8.7	
Copper	10.9		80.3		101		83.9		198		42.1		56.7	
Iron	13400		7990		10000		9930		19700		8750		10700	
Lead	39.3		145		193		361		394		77.7		83.7	
Magnesium	4440		1400		1640		1610		2970		2200		2880	
Manganese	952		125		428		296		326		98.1		119	
Mercury	0.05	UJ	1.2	J	0.49	J	0.4	J	0.79	J	0.26	J	0.3	J
Nickel	8.6		6.8		13.8		10.7		21		12.2		16.9	
Potassium	634	J	487	UJ	699	J	551	J	989	J	634	J	770	J
Selenium	0.64	U	2.1	U	1.4	UJ	0.92	UJ	2.1	U	0.68999	UJ	0.52	UJ
Silver	0.32	U	0.54	U	0.51	U	0.39	UJ	0.57	UJ	0.25	U	0.2	U
Sodium	55.9	U	216		684		560		755		44.6		34.2	U
Thallium	0.97		1.3	U	1.2	U	0.89	U	1.2		0.63		1	
Vanadium	19.4		12.5		24.5		25.9		47.6		15		19.4	
Zinc	111		571		420		384		1080		283		312	
Cyanide	0.6	U	0.98	U	1	U	2.2		1.5	U	0.57	U	0.61	U

Site: Well .nd H, OU III
Sediment Detected Compounds
Inorganics (mg/Kg)

SAMPLE ID	SD-07-02		SD-07-03		SD-07-04		SD-07-05		SD-07-06		SD-07-07		SD-07-08	
LAB ID	DAB289		DAB290		DAB376		DAB291		DAB292		DAB293		DAB294	
SAMPLE DATE	8/21/95		8/21/95		8/29/95		8/21/95		8/21/95		8/21/95		8/21/95	
PERCENT MOISTURE	60.1		14.8		65		68.1		61.2		63.6		33	
COMMENTS														
Aluminum	5670		5610	J	10700		9880	J	11100	J	5510	J	10700	J
Antimony	2.1	J	0.72		1.2	J	2.3		2.6		1.9		1.9	
Arsenic	34.6		10.3	J	75.5		61.5	J	84.1	J	27.1	J	30	J
Barium	42.9		21.8		87.3		73.4		83.1		32.4		48.5	
Beryllium	0.32	U	0.23		0.68999		0.56		0.66		0.3	U	0.38	
Cadmium	1.8		0.46	U	5		5.7	U	6.1	U	2	UJ	2.2	U
Calcium	1910		2370		4260		3950		4420		2650		2650	
Chromium	116		31.9	J	207	J	164	J	209	J	79.5	J	174	J
Cobalt	6.7		6.1		16.4		13.4		15.6		8		13.8	
Copper	115		23.4	J	209		162	J	204	J	69.7	J	104	J
Iron	11500		9490	J	22300		20900	J	26800	J	11800	J	19500	J
Lead	257		41.2		480		271		329		116		167	
Magnesium	1790		2550	J	3690		3480	J	3730	J	2500	J	5860	J
Manganese	192		134	J	595	J	397	J	516	J	148	J	201	J
Mercury	2.2	J	0.11	UJ	0.93999	J	0.91	J	0.36	J	0.61	J	0.99	J
Nickel	12.2		8.2		28.3		22.2		26.9		13.8		24.4	
Potassium	610	UJ	574	J	1100		1210	J	1180	J	862	J	1900	J
Selenium	2	UJ	0.49	U	1.9		1.6	U	3.2	U	1.9	UJ	0.7	UJ
Silver	0.67	U	0.24	U	1.1		0.79	U	0.77	U	0.59	U	0.34	U
Sodium	115	U	52.2	UJ	342		257	U	342	U	193	U	185	U
THallium	1.6	U	0.98		1.5		2.8		3.5		1.6		2.1	
Vanadium	23.2		19.5		44.8		39.1		46.2		21.4		37.8	
Zinc	558		106	J	1200		1070	J	1310	J	455	J	506	J
Cyanide	1.3	U	0.72	U	1.2	U	1.8		1.4		1.1	U	0.54	U

Site: Wel. ..nd H, OU III
Sediment Detected Compounds
Inorganics (mg/Kg)

SAMPLE ID	SD-07-09		SD-07-10		SD-08-01		SD-08-02		SD-08-03		SD-09-01		SD-09-02	
LAB ID	DAB295		DAB296		DAB298		DAB299		DAB350		DAB352		DAB353	
SAMPLE DATE	8/21/95		8/21/95		8/21/95		8/21/95		8/21/95		8/22/95		8/22/95	
PERCENT MOISTURE	62.5		61		14.3		21.3		16.7		12.5		42.8	
COMMENTS														
Aluminum	4890	J	22600	J	4590	J	5950	J	5830	J	4020	J	3840	J
Antimony	1.4		3.1		0.75		1.6		0.74		1		0.99	
Arsenic	32.7	J	129	J	10.8	J	28.9	J	16.5	J	36.6	J	48.5	J
Barium	36.9		107		15.7		21.2		19.8		15.2		25.5	
Beryllium	0.29	U	1.3		0.19	U	0.32		0.25		0.22		0.26	U
Cadmium	2.5	U	10.3		0.6	U	1.8	U	1.3	U	1.5	U	0.81	U
Calcium	2220		6080		1630		2330		1910		1420		2590	
Chromium	91.5	J	442	J	17.8	J	119	J	26.4	J	91.8	J	27.7	J
Cobalt	7.9		32.6		5.2		10.6		6.1		5.2		6	
Copper	84.9	J	380	J	28.3	J	133	J	59.7	J	102	J	21	J
Iron	11000	J	27700	J	7110	J	23200	J	9400	J	6360	J	8730	J
Lead	144		474		20		70.7		38.8		86.8		14.1	
Magnesium	1620	J	4770	J	1730	J	2110	J	2180	J	1310	J	1450	J
Manganese	207	J	468	J	99.5	J	228	J	155	J	141	J	66.6	J
Mercury	0.77	J	5.7	J	0.11	J	.1	J	0.26	J	0.19	J	0.21	J
Nickel	11.8		27.1		7		20.2		9.4		5.7		6.2	
Potassium	609	J	1240	J	469	J	464	J	476	J	506	J	509	J
Selenium	0.99	U	2.1	U	0.77	UJ	0.67	UJ	0.9	UJ	0.6	U	2.6	U
Silver	0.49	U	0.52	U	0.32	U	0.27	U	0.32	U	0.3	U	0.43	U
Sodium	215	U	404	U	80.2	U	116	U	157	U	119	U	172	U
Thallium	1.5		3.8		1.5		1.7		1.1		1.1		1	U
Vanadium	22.1		79.2		11.6		17.5		15.6		9.3		11.3	
Zinc	535	J	2490	J	171	J	539	J	340	J	236	J	62.4	J
Cyanide	1.2	U	1.4	U	0.6	U	0.61	U	0.61	U	0.55	U	0.78	U

Site: Wells ...nd H, OU III
Sediment Detected Compounds
Inorganics (mg/Kg)

SAMPLE ID	SD-09-03		SD-09-04		SD-09-05		SD-09-06		SD-09-07		SD-09-08		SD-09-09	
LAB ID	DAB354		DAB355		DAB356		DAB357		DAB358		DAB359		DAB360	
SAMPLE DATE	8/22/95		8/22/95		8/22/95		8/22/95		8/22/95		8/22/95		8/22/95	
PERCENT MOISTURE	15.3		17.2		12.1		14.4		25.7		14.2		14.7	
COMMENTS														
Aluminum	5470	J	2330	J	3670	J	4790	J	2760	J	7270	J	4870	
Antimony	0.93999		0.57	U	0.64		0.74		0.9		1.3		0.51	U
Arsenic	22.2	J	18.1	J	19.7	J	27.7	J	26.4	J	26.3	J	26.8	J
Barium	19.5		6		13.7		15.1		8.8		14		18.3	
Beryllium	0.24		0.081	U	0.14	U	0.2		0.23		0.22		0.14	
Cadmium	0.76	UJ	0.67	U	0.5	UJ	0.78	UJ	0.9	U	1	UJ	0.19	
Calcium	1430		569		848		1440		1110		1880		1610	J
Chromium	43.9	J	9.3	J	44.3	J	47	J	75.4	J	52.8	J	22.1	J
Cobalt	6.6		4.4		4.3		6.2		2.7		6		4.7	
Copper	46.1	J	4.2	J	50.5	J	45.4	J	73.5	J	64.1	J	23.5	
Iron	10200	J	4910	J	6950	J	11700	J	6030	J	13900	J	9810	
Lead	24		2.4		16.7		23		37.2		32.4		21.9	J
Magnesium	2400	J	1080	J	1690	J	2170	J	922	J	4560	J	2420	
Manganese	153	J	64.8	J	75.6	J	88	J	43.2	J	138	J	238	J
Mercury	0.37	J	0.06	UJ	0.53	J	0.28	J	0.68	J	0.24	J	0.049	U
Nickel	8.1		5.9		5.9		10.5		6.3		11.3		12.5	
Potassium	814	J	300	J	507	J	672	J	236	J	553	J	532	
Selenium	0.68	UJ	0.72	U	0.45	U	0.45	U	0.61	UJ	0.64	U	0.63	U
Silver	0.32	U	0.36	U	0.22	U	0.22	U	0.22	U	0.32	U	0.32	U
Sodium	137	U	73.1	UJ	81	U	105	U	105	U	131	U	54.9	U
Thallium	1.2		0.84	U	0.68		0.83		0.52	U	1.4		0.74	U
Vanadium	16.3		6.5		9		11.9		7		19.3		10.1	
Zinc	103	J	57.1	J	126	J	115	J	141	J	142	J	103	J
Cyanide	0.59	U	0.53	U	0.55	U	0.49	U	0.52	U	0.56	U	0.46	R

Site: Well. id H, OU III
Sediment Detected Compounds
Inorganics (mg/Kg)

SAMPLE ID	SD-09-10		SD-10-01		SD-10-01-02		SD-10-02		SD-10-03		SD-11-01		SD-11-02	
LAB ID	DAB361		DAB368		DAB369		DAB370		DAB371		DAB373		DAB374	
SAMPLE DATE	8/22/95		8/23/95		8/23/95		8/23/95		8/23/95		8/24/95		8/24/95	
PERCENT MOISTURE	17.2		84.8		85.2		87.3		59		61.6		54.1	
COMMENTS			dup of DAB369		dup of DAB368									
Aluminum	3450		24200	J	25200	J	29300	J	7690		14800		5090	
Antimony	1.1		4.5	J	4.8	J	12.3	J	3.1		8.4		1.2	
Arsenic	40.4	J	454	J	366	J	833	J	187	J	874	J	268	J
Barium	73.9		72.8	J	70.3	J	41.4	J	32.4		30.5		24.6	
Beryllium	0.14		1.5	J	1.7	J	1.7	J	0.48		1.1		0.38	
Cadmium	1.2	J	22	J	20.3	J	8.6	J	5.9		8.7		3.4	
Calcium	1280	J	10500	J	12000	J	10100	J	5800	J	2680	J	1870	J
Chromium	32.1	J	1750	J	1310	J	670	J	114	J	791	J	900	J
Cobalt	13.3		26.7	J	16	J	14.2	J	11.2		14.5		8.1	
Copper	36.8		1820	J	1480	J	2080	J	298		619		283	
Iron	30600		35800	J	26800	J	27000	J	10800		49900		23800	
Lead	43.6	J	558	J	410	J	646	J	130	J	175	J	118	J
Magnesium	1700		1780	J	1710	J	1490	J	2140		844		561	
Manganese	2640	J	595	J	627	J	388	J	389	J	139	J	221	J
Mercury	0.054	U	7.7	J	5.8	J	11.7	J	0.54		4.5		3.7	
Nickel	7.7		35.3	J	42.1	J	20	J	13.3		11.2		9.3	
Potassium	428		589	J	503	J	361	J	256		337		233	
Selenium	0.62		6.7	J	6.6	J	8.8	J	2.7		4.4		3.1	
Silver	0.3	U	1.7	R	1.7	R	1.8	R	0.57	U	0.63	U	0.63	U
Sodium	74	UJ	916	J	862	J	738	J	282		430		211	
Thallium	2.4		4	R	4	R	4.2	R	1.3	U	1.5	U	1.5	U
Vanadium	12.7		61.2	J	51.9	J	44.8	J	21.4		29.1		16.3	
Zinc	479	J	2470	J	2120	J	1410	J	1430	J	2850	J	830	J
Cyanide	0.55	R	3.4	R	3.6	R	3.4	R	0.91	U	1.1	U	0.97	U

Site: We nd H, OU III
Sediment Detected Compounds
Inorganics (mg/Kg)

SAMPLE ID	SD-11-03		SD-12-01		SD-12-02		SD-12-03		SD-13-01		SD-13-02		SD-13-03	
LAB ID	DAB375		DAB388		DAB389		DAB390		DAB396		DAB397		DAB398	
SAMPLE DATE	8/24/95		8/31/95		8/31/95		8/31/95		9/6/95		9/6/95		9/6/95	
PERCENT MOISTURE	79.8		76.4		56.5		53.6		81.7		85.3		73.4	
COMMENTS														
Aluminum	10200		10300	J	4560		6820		30200	J	34400	J	27000	J
Antimony	2.7		1.8	R	0.95	UJ	22.4	J	61	J	43.5	J	4.5	R
Arsenic	473	J	101	J	38.4		1540		4210	J	2480	J	356	J
Barium	62.9		42	J	19.6		27.1		78.8	J	85.3	J	155	J
Beryllium	0.52		1	R	0.49	U	0.55		1.6	J	2	J	1.5	J
Cadmium	3.3		1.8	J	1.3		4.2	J	13.8	J	10.5	J	10.6	J
Calcium	5700	J	5900	J	3590		2230		12700	J	17000	J	5890	J
Chromium	317	J	151	J	42.1	J	522	J	525	J	725	J	710	J
Cobalt	19.8		26.1	J	11		15.8		19	J	15.4	J	40.7	J
Copper	172		76.6	J	40.5		398		2340	J	2030	J	685	J
Iron	35800		19000	J	7530		53900		54700	J	54100	J	54600	J
Lead	100	J	44.9	J	16.8		192		1270	J	911	J	1180	J
Magnesium	1590		1550	J	610		715		2310	J	1970	J	7610	J
Manganese	1630	J	385	J	195	J	249	J	921	J	1050	J	953	J
Mercury	1.1		0.74	J	0.15	J	4.6	J	19.5	J	7	J	3.3	J
Nickel	13.9		12.6	J	5.4		11.7		22.8	J	19	J	53.4	J
Potassium	526		344	J	160		267		640	J	477	J	2030	J
Selenium	2.4		3.9	J	1.3		7.6		26.3	J	23	J	5.9	J
Silver	0.85	U	1.1	R	0.59	U	0.47	U	2	J	2	UJ	1.4	J
Sodium	486		436	J	200		141		1080	J	1270	J	710	J
Thallium	2	U	2.6	R	1.4	U	1.4		3.7	J	4.6	R	3.2	J
Vanadium	23.2		24.7	J	10.8		30.6		108	J	78.1	J	120	J
Zinc	1350	J	2240	J	1390		1370		2660	J	2250	J	2670	J
Cyanide	2	U	1.8	R	1.2	U	1.1	U	2.8	R	2.8	R	1.7	R

Site: Wel .nd H, OU III
Sediment Detected Compounds
Inorganics (mg/Kg)

SAMPLE ID	SD-14-01		SD-14-02		SD-14-03		SD-15-01		SD-15-02		SD-15-03		SD-16-01	
LAB ID	DAB782		DAB783		DAB784		DAB785		DAB786		DAB787		DAB377	
SAMPLE DATE	9/5/95		9/5/95		9/5/95		9/5/95		9/5/95		9/5/95		8/29/95	
PERCENT MOISTURE	24.6		24.1		28.7		88.6		86.8		87.9		22.3	
COMMENTS														
Aluminum	4030		3830		3200		4810	J	6670	J	6260	J	2800	
Antimony	0.99	J	0.89	J	0.85	J	4	J	6	J	3.4	R	0.56	J
Arsenic	49.1		61.1		73.4		193	J	185	J	104	J	13.6	
Barium	15.9		13.4		18.4		52.8	J	62.5	J	48.9	J	10.6	
Beryllium	0.21		0.19	U	0.2	U	1	R	1.1	R	1.1	J	0.12	U
Cadmium	0.4		0.53		1		37.4	J	23.3	J	34.1	J	0.18	
Calcium	1760		1020		1320		15000	J	15700	J	13200	J	772	
Chromium	216		53.1	J	43	J	147	J	229	J	158	J	20.9	J
Cobalt	5		2.9		4.4		14.1	J	17.9	J	16.1	J	2.9	
Copper	60.1		64.9		46		181	J	453	J	469	J	24.8	
Iron	19400	J	9030		13600		22200	J	18500	J	11800	J	5110	
Lead	130	J	34.5		40.5		55.4	J	104	J	84.7	J	10.1	
Magnesium	1750		1270		1200		1280	J	1650	J	1140	J	1300	
Manganese	141	J	84.9	J	172	J	1400	J	959	J	1130	J	93.3	J
Mercury	0.16	J	1.4	J	0.2	J	0.68	J	0.71	J	0.15	R	0.37	J
Nickel	10.4		5.4		6.2		9.6	J	17.5	J	20.5	J	4.2	
Potassium	586		455		485		259	J	390	J	282	J	299	
Selenium	0.73	J	0.61	U	0.61		4.7	R	8.6	J	6.5	J	0.54	U
Silver	0.26	U	0.3	U	0.26	U	2.3	R	2.2	R	2.2	R	0.27	U
Sodium	57.2		75.6		74.4		859	J	811	J	962	J	92	
Thallium	0.81		0.71	U	0.61	U	5.4	R	5.1	R	5	R	0.63	U
Vanadium	13.3		8.9		12.2		14.2	J	22.9	J	19.3	J	6.7	
Zinc	220		170		273		3350	J	2660	J	1990	J	78.5	
Cyanide	0.51	U	0.62	U	0.61	U	3.6	R	3.2	R	3.6	R	0.6	U

Site: Wel .nd H, OU III
Sediment Detected Compounds
Inorganics (mg/Kg)

SAMPLE ID	SD-16-02		SD-16-03		SD-18-01		SD-18-02		SD-18-03		SD-19-01		SD-19-01-02	
LAB ID	DAB365		DAB366		DAB378		DAB790		DAB791		DAB391		DAB394	
SAMPLE DATE	8/23/95		8/23/95		8/29/95		9/7/95		9/7/95		8/31/95		8/31/95	
PERCENT MOISTURE	19.8		17.7		66.6		87.4		80.6		82.9		81.6	
COMMENTS											dup of DAB394		dup of DAB392	
Aluminum	3690		2480		3970		9650	J	11200	J	19900	J	19600	J
Antimony	0.34	U	0.56	U	1.1	J	11	J	8.3	J	14	J	32.3	J
Arsenic	12.7	J	6.4	J	34.9		279	J	351	J	2070	J	5510	J
Barium	12.4		21.2		12.3		24.8	J	45.8	J	150	J	96.2	J
Beryllium	0.12		0.016	U	0.44	U	0.67	J	1.3	J	1.7	R	1.7	J
Cadmium	0.34		0.1		1.9		13.8	J	9.1	J	11.6	J	14.1	J
Calcium	1190	J	3680	J	2960		8900	J	12700	J	7330	J	7560	J
Chromium	38.4	J	3.3	J	109	J	340	J	423	J	2960	J	1710	J
Cobalt	4		5.2		3.5		14.2	J	16.7	J	51.1	J	39	J
Copper	32.5		7.1		158		1130	J	787	J	1170	J	1490	J
Iron	6850		4860		4460		12200	J	18500	J	143000	J	184000	J
Lead	15.4	J	1.9	J	55.4		429	J	230	J	609	J	669	J
Magnesium	1870		931		711		934	J	1150	J	2440	J	1450	J
Manganese	158	J	84	J	93	J	270	J	472	J	1140	J	1180	J
Mercury	0.13		0.046	U	0.68999	J	5.7	J	1.9	J	9.5	J	4.7	J
Nickel	5.7		1.6		4.6		13	J	16	J	37.7	J	29.4	J
Potassium	519		515		197		152	R	195	J	765	J	536	J
Selenium	0.43	U	0.7	U	1.8		5.3	R	8.7	J	10	J	16.1	J
Silver	0.21	U	0.35	U	0.66	U	2.2	R	1.5	R	1.7	R	1.6	R
Sodium	37.3	U	60.8	U	290		929	J	1300	J	355	J	381	J
Thallium	0.5	U	0.82	U	1.5	U	5.1	R	3.6	R	4	R	3.8	R
Vanadium	10.3		4.2		8.9		29.1	J	27.1	J	98.6	J	86.7	J
Zinc	155	J	36.4	J	420		1240	J	2040	J	2880	J	3040	J
Cyanide	0.41	U	0.51	U	1.3	U	3.9	R	2.2	R	2.6	R	2.7	R

Site: Wel.. and H, OU III
Sediment Detected Compounds
Inorganics (mg/Kg)

SAMPLE ID	SD-19-02		SD-19-03		SD-20-01		SD-20-01-02		SD-20-02		SD-20-03		SD-21-01	
LAB ID	DAB392		DAB393		DAB792		DAB793		DAB794		DAB795		DAB797	
SAMPLE DATE	8/31/95		8/31/95		9/7/95		9/7/95		9/7/95		9/7/95		9/5/95	
PERCENT MOISTURE	82.4		82.8		88		88.2		79.5		81.3		80	
COMMENTS					dup of DAB793		dup of DAB792							
Aluminum	6240	J	12800	J	15900	J	21000	J	26800	J	29700	J	18400	J
Antimony	3.9	J	9.2	J	4.4	J	4.1	J	4	J	5.4	J	2.3	R
Arsenic	180	J	1850	J	226	J	303	J	321	J	311	J	187	J
Barium	40.1	J	55.4	J	49	J	65.5	J	151	J	112	J	150	J
Beryllium	1	R	1.3	J	1.4	J	1.7	J	1.8	J	2	J	1.1	J
Cadmium	11.3	J	18.9	J	12.6	J	13.7	J	17.3	J	18.5	J	17.3	J
Calcium	13400	J	7760	J	12600	J	13700	J	9870	J	10100	J	7640	J
Chromium	93.7	J	1540	J	1230	J	1670	J	1860	J	1450	J	2200	J
Cobalt	12.8	J	16.6	J	24.3	J	27.5	J	41.4	J	46.3	J	29.9	J
Copper	98.6	J	841	J	960	J	1190	J	888	J	1030	J	481	J
Iron	14400	J	89400	J	21000	J	27200	J	43800	J	34900	J	28000	J
Lead	35.8	J	326	J	376	J	523	J	980	J	1200	J	722	J
Magnesium	850	J	1270	J	2030	J	2570	J	6030	J	6720	J	4710	J
Manganese	412	J	679	J	820	J	983	J	793	J	511	J	247	J
Mercury	0.48	J	1.6	J	1	J	1	J	2.6	J	3.3	J	17.5	J
Nickel	11.1	J	20.3	J	31.4	J	36.7	J	51.2	J	57.7	J	46.8	J
Potassium	275	J	434	J	475	J	663	J	1680	J	2000	J	1330	J
Selenium	2.5	J	9.1	J	11.5	J	10.7	J	6.9	J	7	J	3.5	J
Silver	1.2	R	1.2	R	2.1	R	1.7	R	1.6	J	1.6	R	1.4	R
Sodium	458	J	384	J	830	J	970	J	979	J	922	J	1240	J
Thallium	2.8	R	2.9	R	4.9	R	3.9	R	3	R	4.4	J	3.3	R
Vanadium	10.5	J	50.9	J	45	J	54.6	J	106	J	115	J	77.3	J
Zinc	1690	J	2260	J	1650	J	1690	J	3470	J	3380	J	3830	J
Cyanide	2.8	R	2.9	R	3.9	R	4.3	R	1.9	R	2.4	R	1.9	R

Site: Wel. ınd H, OU III
Sediment Detected Compounds
Inorganics (mg/Kg)

SAMPLE ID	SD-21-02		SD-21-03		SD-22-01		SD-22-02		SD-22-03		SD-23-01		SD-23-02	
LAB ID	DAB798		DAB799		DAB330		DAB331		DAB332		DAB380		DAB381	
SAMPLE DATE	9/5/95		9/5/95		9/5/95		9/5/95		9/5/95		8/30/95		8/30/95	
PERCENT MOISTURE	83.4		76.4		77.2		63.2		80.4		38.6		21.6	
COMMENTS														
Aluminum	8890	J	16000	J	6030	J	3560		3520	J	1100		5110	
Antimony	4.3	R	1.8	R	2.6	R	2.1	U	3.1	R	0.74	J	0.45	UJ
Arsenic	121	J	135	J	6.6	R	3.7	U	2	R	5.2		17.8	
Barium	55.3	J	124	J	50	J	29.8		51.4	J	5.7		21.3	
Beryllium	0.68	J	0.89	J	1.1	J	0.48		0.4	J	0.19	U	0.31	
Cadmium	20.5	J	18.8	J	0.62	J	0.2		0.28	R	0.08699		0.1	
Calcium	4920	J	4990	J	20000	J	13600		30500	J	622		925	
Chromium	489	J	1320	J	35.3	J	12		10.7	J	29.1	J	22.4	J
Cobalt	12.8	J	22.9	J	3.2	J	1.4		2	J	0.76		3.2	
Copper	324	J	410	J	22.1	J	12.2		17.1	J	1.9		9.5	
Iron	11300	J	27700	J	4700	J	2310	J	3430	J	2040		9220	
Lead	187	J	652	J	601	J	967	J	383	J	6.5		19.7	
Magnesium	1250	J	4330	J	1390	J	861		1790	J	324		2230	
Manganese	101	J	215	J	100	J	34.4	J	74.1	J	12.6	J	91.1	J
Mercury	2.3	J	18.2	J	0.15	R	0.1	UJ	0.1	R	0.07	J	0.068	J
Nickel	17.9	J	36.3	J	8	J	4.4		6.3	J	1.1		8.3	
Potassium	245	J	1050	J	467	J	388		287	J	126		780	
Selenium	3.4	R	3	J	7.5	J	2.3		5.9	J	0.89	U	0.56	U
Silver	1.4	R	1.1	R	1.1	R	0.87		1.4	R	0.44	U	0.28	U
Sodium	1010	J	978	J	567	J	204		420	J	66.5		123	
Thallium	3.2	R	2.6	R	2.6	R	1.2	U	3.3	R	1	U	0.65	U
Vanadium	26.6	J	64.4	J	35.3	J	12.6		29.4	J	2.5		12.8	
Zinc	2350	J	3130	J	59.8	J	23		34.5	J	11.5		30.6	
Cyanide	2.8	R	2	R	2.2	R	1.3	U	2.4	R	0.82	U	0.56	U

Site: We. and H, OU III
Sediment Detected Compounds
Inorganics (mg/Kg)

SAMPLE ID	SD-23-03		SD-24-01		SD-24-02		SD-24-03		SD-25-01		SD-25-02		SD-25-03	
LAB ID	DAB382		DAB383		DAB384		DAB385		DAB336		DAB337		DAB338	
SAMPLE DATE	8/30/95		8/30/95		8/30/95		8/30/95		9/11/95		9/11/95		9/11/95	
PERCENT MOISTURE	79		25.9		21.8		67.1		49.7		56.4		19.2	
COMMENTS														
Aluminum	5860	J	2560		4020		13700		11600		13400		8360	
Antimony	1.7	J	0.48	UJ	0.5	J	1.4	UJ	0.84	UJ	1.7		0.84	
Arsenic	14.8	J	3.8		4.8		40.6		6		16.2		2.5	
Barium	25.8	J	13.3		16.2		67.3		27.1		50.5		18	
Beryllium	1	J	0.19	U	0.22	U	1.2		0.35		0.52		0.23	
Cadmium	0.9	J	0.24		0.22		0.96		0.07	U	0.8		0.048	U
Calcium	6410	J	610		1010		3030		3210		4680		1180	
Chromium	13.7	J	10.3	J	16.8	J	277	J	22.8		60.6		13.4	
Cobalt	1.9	J	1.9		2.6		8.2		7.6		9.9		6.1	
Copper	9	J	19.8		11.6		84.5		34.9		93.7		18.4	
Iron	3500	J	4790		6720		20900		16400		19000	J	11200	J
Lead	5.6	J	81.3		73.9		581		328	J	755	J	55	J
Magnesium	858	J	1140		1850		4370		3920		5350		3000	
Manganese	133	J	50.4	J	68.4	J	230	J	115		175	J	87.1	J
Mercury	0.038	R	0.033	J	0.021	J	0.7	J	0.2		0.55	J	0.081	J
Nickel	3.6	J	6		7.2		26.1		12.8		17.1		8.7	
Potassium	173	J	424		592		822		964		1690		804	
Selenium	3	J	0.6	U	0.48	U	2.1		1.1	UJ	3.2	J	0.59	U
Silver	0.95	R	0.3	U	0.24	U	2.9		0.53	U	0.68	U	0.24	U
Sodium	264	J	102		106		382		91.5	U	118	U	41.5	U
Thallium	2.2	R	0.7	U	0.56	U	2	U	1.2	U	2.2		1	
Vanadium	18	J	7.1		12.7		148		29.1		39.5		20.4	
Zinc	10.4	J	47.6		47		129		62.6		307		35	
Cyanide	2.8	R	0.52	U	0.68999	U	1.4	U	0.98	U	1.1	U	0.65	U

Site: Wel. nd H, OU III
Sediment Detected Compounds
Inorganics (mg/Kg)

SAMPLE ID	SD-26-01		SD-26-02		SD-26-02-02		SD-26-03		SD-27-01		SD-27-02		SD-27-03	
LAB ID	DAB340		DAB341		DAB343		DAB342		DAB345		DAB346		DAB347	
SAMPLE DATE	9/11/95		9/11/95		9/11/95		9/11/95		9/12/95		9/12/95		9/12/95	
PERCENT MOISTURE	47.1		34.5		33.9		51.8		36.9		17.2		21.5	
COMMENTS			dup of DAB343		dup of DAB341									
Aluminum	13500		7300		9390		8380		3690		4300		5050	
Antimony	0.79	UJ	0.82	J	0.8	J	0.7	J	0.64	UJ	0.43	UJ	0.56	J
Arsenic	9.4		4		5.5		5		6.8		5.1		4.1	
Barium	73.1		40.1		48.7		35.7		30.9		16.6		21.8	
Beryllium	0.51		0.25		0.26		0.33		0.21		0.2		0.15	
Cadmium	0.23	U	0.058	U	0.04	U	0.082	UJ	0.4		0.053	UJ	0.16	U
Calcium	1860		1120		1290		1300		1310		1020		1160	
Chromium	32.6		18.1		23.5		8.9		9		13.4		15.1	
Cobalt	8		5.3		6.6		3.7		5.8		3.5		4.9	
Copper	42.9		13.9		19.2		10		8.1		7.1		6.8	
Iron	17100		11000		14000		8810		7640		7990		7710	
Lead	103	J	22	J	28.6	J	42.5	J	17.9	J	28	J	21	J
Magnesium	5100		3630		4630		1430		1500		2090		2390	
Manganese	315		204		244		134		297		247		183	
Mercury	0.018	UJ	0.014	UJ	0.014	U	0.08	U	0.016	U	0.0095	U	0.011	U
Nickel	18.9		10.8		14.6		5.9		6.6		8.8		10.3	
Potassium	2410		2050		2570		249		516		711		636	
Selenium	0.99	UJ	0.86	UJ	0.59	UJ	0.8	UJ	0.8	UJ	0.53	UJ	0.57	UJ
Silver	0.49	U	0.43	U	0.3	U	0.4	U	0.4	U	0.27	U	0.29	U
Sodium	85.5	U	74.9	U	51.4	U	69.6	U	69.3	U	46.2	U	49.5	U
Thallium	1.2	U	1	U	0.89	UJ	0.93999	U	0.93	U	0.62	U	0.67	U
Vanadium	37.6		20.4		25.4		18.8		9.3		11.3		10.2	
Zinc	82.8		40.4		47.8		44.9		59.8		33		112	
Cyanide	0.84	U	0.72	U	0.66	U	0.87	U	0.76	U	0.6	U	0.59	U

4.5 AVS/SEM

Wells G and H, OU III
Sediment Detected Compounds
AVS-SEM Analysis (umol/g)

SAMPLE ID	SD-01-01		SD-01-02		SD-01-03		SD-01-04		SD-01-05		SD-01-06		SD-01-07	
LAB ID	DAB102		DAB103		DAB104		DAB105		DAB106		DAB107		DAB108	
SAMPLE DATE	8/15/95		8/15/95		8/15/95		8/15/95		8/15/95		8/15/95		8/15/95	
PERCENT MOISTURE	20		23		16		35		19		64		34	
COMMENTS														
Acid Volatile Sulfides (AVS)	2.20	J	0.29	J	1.22	J	0.87	J	16.40	J	221.00	J	41.30	J
Cadmium	0.0066		0.0018	U	0.0012	UJ	0.0025	U	0.0019	U	0.2989		0.0338	
Copper	0.0425	U	0.0692	U	0.1416	U	0.2298	U	0.5304	U	9.9937	J	1.3251	U
Lead	0.0386		0.0333		0.0569		0.1597		0.1496		1.7954		0.2703	
Mercury	0.0000	U	0.0000	U	0.0001		0.0007		0.0002		0.0000	U	0.0000	U
Nickel	0.0256	U	0.0681	U	0.4123	U	0.9182	U	0.8859	U	1.5060	U	0.0971	U
Zinc	0.5550		0.9102		1.0662		1.5909		1.8051		98.3632		22.0285	
Ratio - SEM/AVS	0.2728		3.2535		0.9207		2.0131		0.1192		0.4998		0.5407	

Wells G and H, OU III
Sediment Detected Compounds
AVS-SEM Analysis (umol/g)

SAMPLE ID	SD-01-08		SD-01-09		SD-01-10		SD-02-01		SD-02-01-02		SD-02-02		SD-02-03	
LAB ID	DAB109		DAB110		DAB111		DAB117		DAB118		DAB119		DAB120	
SAMPLE DATE	8/15/95		8/15/95		8/15/95		8/16/95		8/16/95		8/16/95		8/16/95	
PERCENT MOISTURE	23		31		36		34		28		25		26	
COMMENTS							dup of DAB118		dup of DAB117					
Acid Volatile Sulfides (AVS)	0.40	J	0.60	J	29.30	J	5.08	J	0.20	J	0.62	J	18.50	J
Cadmium	0.0160		0.0039	U	0.0516		0.0060		0.0098		0.0009	U	0.0038	U
Copper	0.1511	U	0.2251	U	1.4778	U	0.1936	U	0.3510	U	0.2235	U	1.3377	U
Lead	0.0719		0.0946		0.2664		0.9942		1.2548		0.0357		0.0970	
Mercury	0.0000		0.0000	U	0.0000	U	0.0000	U	0.0000	U	0.0000	U	0.0001	
Nickel	0.0307	U	0.0375	U	0.0681	U	0.0392	U	0.5571	U	0.4532	U	0.6542	U
Zinc	1.4196		2.1264		20.4987		3.5949		5.3694		0.3947		1.5909	
Ratio - SEM/AVS	3.7690		3.7016		0.7105		0.9046		33.1702		0.6942		0.0912	

Wells G and H, OU III
Sediment Detected Compounds
AVS-SEM Analysis (umol/g)

SAMPLE ID	SD-03-01		SD-03-02		SD-03-03		SD-04-01		SD-04-02		SD-04-03		SD-05-01	
LAB ID	DAB122		DAB123		DAB124		DAB127		DAB128		DAB129		DAB131	
SAMPLE DATE	8/16/95		8/16/95		8/16/95		8/17/95		8/17/95		8/17/95		8/17/95	
PERCENT MOISTURE	24		63		19		69		58		68		22	
COMMENTS														
Acid Volatile Sulfides (AVS)	3.66	J	62.40	J	1.74	J	37.60	J	127.00	J	43.10	J	0.24	J
Cadmium	0.0027	U	0.0391		0.0021	U	0.0187		0.0667		0.0534		0.0025	J
Copper	0.1889	U	0.9805	U	0.0582	U	0.8577	U	3.1476	J	0.6374	U	0.1873	U
Lead	0.0825		0.5647		0.0569		0.8060		0.7867		2.2490		0.1752	
Mercury	0.0001		0.0000	U	0.0000	U	0.0000	U	0.0000	U	0.0000	U	0.0000	U
Nickel	1.1482	U	0.1312	U	0.1227	U	0.8177	U	1.7206	J	1.6917	J	0.0375	U
Zinc	1.3905		22.9463		1.0081		10.5400		35.3373		19.7338		1.1412	
Ratio - SEM/AVS	0.4025		0.3774		0.6121		0.3023		0.3233		0.5505		5.4953	

Wells G and H, OU III
Sediment Detected Compounds
AVS-SEM Analysis (umol/g)

SAMPLE ID	SD-05-02		SD-05-03		SD-06-01		SD-06-02		SD-06-03		SD-07-01		SD-07-01-02	
LAB ID	DAB132		DAB133		DAB138		DAB139		DAB140		DAB142		DAB143	
SAMPLE DATE	8/17/95		8/17/95		8/18/95		8/18/95		8/18/95		8/18/95		8/18/95	
PERCENT MOISTURE	12		20		61		58		73		24		42	
COMMENTS											dup of DAB143		dup of DAB142	
Acid Volatile Sulfides (AVS)	0.39	J	47.60	J	66.20	J	268.00	J	415.00	J	23.90	J	22.30	J
Cadmium	0.0019	J	0.0436		0.0276		0.0258		0.0472		0.0089		0.0107	
Copper	0.2093	U	3.0689		2.4866	J	2.6125	J	2.3292	J	0.4029	U	0.4139	U
Lead	0.1004		1.6120		1.1969		2.1959		2.0125		0.3142		0.4064	
Mercury	0.0000	U	0.0000	UJ	0.0000	U	0.0000	U	0.0000	U	0.0000	U	0.0000	U
Nickel	0.5809	U	0.8484	U	2.0443	J	1.6371	J	1.6831	J	0.0954	U	0.2760	U
Zinc	1.2972		22.3344		9.2703		9.9893		16.3684		4.0385		5.2624	
Ratio - SEM/AVS	3.5884		0.5685		0.2270		0.0614		0.0541		0.1825		0.2547	

Wells G and H, OU III
Sediment Detected Compounds
AVS-SEM Analysis (umol/g)

SAMPLE ID	SD-07-02		SD-07-03		SD-07-04		SD-07-05		SD-07-06		SD-07-07		SD-07-08	
LAB ID	DAB145		DAB146		DAB186		DAB147		DAB148		DAB149		DAB150	
SAMPLE DATE	8/21/95		8/21/95		8/29/95		8/21/95		8/21/95		8/21/95		8/21/95	
PERCENT MOISTURE	68		28		57		76		69		69		40	
COMMENTS														
Acid Volatile Sulfides (AVS)	50.80	J	12.20	J	88.50		420.00	J	6.50	J	94.10	J	51.50	J
Cadmium	0.0534	J	0.0037	UJ	0.0454		0.0712	J	0.0445		0.0160	U	0.0142	U
Copper	3.3365		0.2833		2.7542	J	4.1234		2.7227		0.7066		1.2386	
Lead	3.1467		0.2732		2.0898	J	2.3938		1.8098		0.7384		0.8398	
Mercury	0.0000	U	0.0000	U	0.0000	U	0.0000	U	0.0000	U	0.0000	U	0.0000	U
Nickel	0.6593	J	0.0494	U	1.4123	U	1.5196	J	0.8620	J	1.1601	J	0.2164	J
Zinc	21.4166		1.6980		18.6630	J	26.6177		20.3457		7.9547		7.3734	
Ratio - SEM/AVS	0.5632		0.1848		0.2661		0.0827		3.9669		0.1122		0.1877	

Wells G and H, OU III
Sediment Detected Compounds
AVS-SEM Analysis (umol/g)

SAMPLE ID	SD-07-09		SD-07-10		SD-08-01		SD-08-02		SD-08-03		SD-09-01		SD-09-02	
LAB ID	DAB151		DAB152		DAB154		DAB155		DAB156		DAB159		DAB160	
SAMPLE DATE	8/21/95		8/21/95		8/21/95		8/21/95		8/21/95		8/22/95		8/22/95	
PERCENT MOISTURE	72		61		33		34		30		27		40	
COMMENTS														
Acid Volatile Sulfides (AVS)	29.00	J	83.70	J	4.94	J	2.89	J	4.54	J	2.58	J	0.63	J
Cadmium	0.0347	U	0.0033	UJ	0.0338		0.0070	U	0.0142	U	0.0080	U	0.0012	UJ
Copper	1.3362		1.1741		2.0145		0.9899		1.8414		0.7743		0.3022	
Lead	1.3514		0.1713		1.4189		0.2326		0.3181		0.1776		0.0859	
Mercury	0.0000	U	0.0000	U	0.0000	U	0.0000		0.0001		0.0000		0.0000	U
Nickel	0.2862	J	2.6576	J	0.2385	J	0.1056	J	0.6286	J	0.7802	J	0.1090	J
Zinc	14.4409		2.6159		13.7525		7.7711		8.2454		3.2431		0.7633	
Ratio - SEM/AVS	0.6005		0.0791		3.5340		3.1486		2.4303		1.9284		2.0007	

Wells G and H, OU III
Sediment Detected Compounds
AVS-SEM Analysis (umol/g)

SAMPLE ID	SD-09-03		SD-09-04		SD-09-05		SD-09-06		SD-09-07		SD-09-08		SD-09-09	
LAB ID	DAB161		DAB162		DAB163		DAB164		DAB165		DAB166		DAB167	
SAMPLE DATE	8/22/95		8/22/95		8/22/95		8/22/95		8/22/95		8/22/95		8/22/95	
PERCENT MOISTURE	22		29		18		17		41		20		18	
COMMENTS														
Acid Volatile Sulfides (AVS)	17.50	J	2.97	J	16.10	J	9.14	J	1.36	J	0.77	J	0.05	U
Cadmium	0.0020	UJ	0.0030	UJ	0.0025	UJ	0.0015	UJ	0.0116	U	0.0019	UJ	0.0020	UJ
Copper	0.6154		0.7476		0.4029		0.6405		1.8414		0.7633		0.4611	
Lead	0.1052		0.1308		0.0647		0.1134		0.2886		0.1284		0.0550	
Mercury	0.0000	U	0.0000	U	0.0000		0.0000		0.0001		0.0000	U	0.0001	
Nickel	0.4480	J	0.1022	J	0.0562	U	0.0460	J	0.5264	J	1.4463	J	0.0477	U
Zinc	1.0877		1.3875		1.2544		1.2972		3.1360		1.0555		1.1075	
Ratio - SEM/AVS	0.1289		0.7973		0.1070		0.2295		4.2592		4.4072		#DIV/0!	

Wells G and H, OU III
Sediment Detected Compounds
AVS-SEM Analysis (umol/g)

SAMPLE ID	SD-09-10		SD-10-01		SD-10-01-02		SD-10-02		SD-10-03		SD-11-01		SD-11-02	
LAB ID	DAB168		DAB176		DAB177		DAB178		DAB179		DAB182		DAB183	
SAMPLE DATE	8/22/95		8/23/95		8/23/95		8/23/95		8/23/95		8/24/95		8/24/95	
PERCENT MOISTURE	20		84		84		86		67		65		84	
COMMENTS			dup of DAB177		dup of DAB176									
Acid Volatile Sulfides (AVS)	0.08		162.00		265.00		87.20		23.80		98.60		840.00	
Cadmium	0.0032	J	0.2464	J	0.2313	J	0.1014	J	0.0738		0.2633		0.1859	J
Copper	0.8404		10.6547		7.3812		18.0988		3.8401		5.0992		19.9874	
Lead	0.2688		3.7066		2.9923		4.3726		0.6708		0.7239	J	3.1853	
Mercury	0.0000	U	0.0001	U	0.0001	U	0.0001	U	0.0000	U	0.0001	UJ	0.0001	U
Nickel	2.0443		2.9131	U	1.9250	U	3.2879	U	1.8569		0.4514	U	1.1738	U
Zinc	4.1150		58.5896		52.9295		29.8302		39.3147		180.5109		88.7257	
Ratio - SEM/AVS	90.8971		0.4518		0.2398		0.6010		1.9225		1.8925		0.1334	

Wells G and H, OU III
Sediment Detected Compounds
AVS-SEM Analysis (umol/g)

SAMPLE ID	SD-11-03		SD-12-01		SD-12-02		SD-12-03		SD-13-01		SD-13-02		SD-13-03	
LAB ID	DAB184		DAB199		DAB690		DAB691		DAB698		DAB699		DAB750	
SAMPLE DATE	8/24/95		8/31/95		8/31/95		8/31/95		9/8/95		9/8/95		9/8/95	
PERCENT MOISTURE	60		76		79		54		82		83.3		74.1	
COMMENTS														
Acid Volatile Sulfides (AVS)	14.60	J	82.70		72.30		91.10		87.90	J	87.90	J	0.40	J
Cadmium	0.0151		0.0285		0.0222		0.0294		0.1077	J	0.0178	J	0.0178	J
Copper	1.1772		1.1568	J	0.8609	J	4.2336	J	35.7255	J	8.9235	J	5.3667	J
Lead	0.2847	J	0.2572	J	0.1597	J	0.8929	J	7.6737	J	3.6004	J	4.3967	J
Mercury	0.0000	UJ	0.0000	U	0.0000	U	0.0000	U	0.0000	U	0.0001	U	0.0027	J
Nickel	0.1840	U	1.3339	U	2.7598	U	1.3237	U	3.7649	U	0.8245	U	0.6371	U
Zinc	12.9876		46.6575	J	36.8671	J	17.5922	J	26.0058	J	16.2154	J	13.6454	J
Ratio - SEM/AVS	0.9907		0.5816		0.5243		0.2497		0.7908		0.3272		58.5734	

Wells G and H, OU III
Sediment Detected Compounds
AVS-SEM Analysis (umol/g)

SAMPLE ID	SD-14-01		SD-14-02		SD-14-03		SD-15-01		SD-15-02		SD-15-03		SD-16-01	
LAB ID	DAB754		DAB755		DAB756		DAB757		DAB758		DAB759		DAB187	
SAMPLE DATE	9/5/95		9/5/95		9/5/95		9/5/95		9/5/95		9/5/95		8/29/95	
PERCENT MOISTURE	28		23.8		31.5		87.6		86.5		89.4		20	
COMMENTS														
Acid Volatile Sulfides (AVS)	24.00		2.30		6.60		107.00	J	42.10		14.70		0.43	
Cadmium	0.0073	J	0.0045	J	0.0078	J	0.3016	J	0.2109	J	0.5329	J	0.0222	
Copper	0.5681	J	1.5628	J	0.5902	J	2.1719	U	5.9805	J	5.4454	J	0.4596	J
Lead	0.2775	J	0.1839	J	0.2297	J	0.1641	U	0.3441	J	0.3152	J	0.0526	J
Mercury	0.0000	U	0.0001	J	0.0000	U	0.0001	U	0.0001	U	0.0001	U	0.0000	U
Nickel	0.7888	U	1.6099	J	0.0835	U	0.5468	U	2.8790	U	5.7922	U	0.0290	U
Zinc	3.4266	J	3.1360	J	18.2041	J	40.8444	J	30.5951	J	38.3968	J	1.1458	J
Ratio - SEM/AVS	0.1783		2.8249		2.8836		0.3845		0.8820		3.0402		3.9074	

Wells G and H, OU III
Sediment Detected Compounds
AVS-SEM Analysis (umol/g)

SAMPLE ID	SD-16-02		SD-16-03		SD-18-01		SD-18-02		SD-18-03		SD-19-01		SD-19-01-02	
LAB ID	DAB173		DAB174		DAB188		DAB763		DAB764		DAB692		DAB695	
SAMPLE DATE	8/23/95		8/23/95		8/29/95		9/7/95		9/7/95		8/31/95		8/31/95	
PERCENT MOISTURE	14		24		65		87.9		80.7		82		85	
COMMENTS											dup of DAB695		dup of DAB692	
Acid Volatile Sulfides (AVS)	1.06		0.64		7.70		62.60	J	212.00	J	61.70		55.90	
Cadmium	0.0053		0.0020	J	0.0205		0.0970	J	0.1432	J	0.0472		0.1228	
Copper	0.8687		0.2943	U	1.4904	J	6.8146	J	3.5411	J	8.4514	J	16.6824	J
Lead	0.1202		0.0560		0.2717	J	1.8726	J	0.8784	J	1.5203	J	2.8330	J
Mercury	0.0000	U	0.0000	U	0.0000	U	0.0001	U	0.0000	U	0.0000	U	0.0001	U
Nickel	0.0767	U	0.0443	U	1.6184	U	1.9591	U	1.3101	U	0.4974	U	8.5349	J
Zinc	3.3961		1.9581		7.1745	J	24.0171	J	35.0314	J	28.9123	J	31.8189	J
Ratio - SEM/AVS	4.1418		3.1500		1.1633		0.5240		0.1868		0.6310		1.0732	

Wells G and H, OU III
Sediment Detected Compounds
AVS-SEM Analysis (umol/g)

SAMPLE ID	SD-19-02		SD-19-03		SD-20-01		SD-20-01-02		SD-20-02		SD-20-03		SD-21-01	
LAB ID	DAB693		DAB694		DAB765		DAB766		DAB767		DAB768		DAB770	
SAMPLE DATE	8/31/95		8/31/95		9/7/95		9/7/95		9/7/95		9/7/95		9/8/95	
PERCENT MOISTURE	83		81		88.7		87.4		78.6		81.1		80.5	
COMMENTS					dup of DAB766		dup of DAB765							
Acid Volatile Sulfides (AVS)	53.80		18.40		21.20	J	29.90	J	26.50	J	1.30		5.30	J
Cadmium	0.0827		0.1628		0.1895	J	0.1059	J	0.1317	J	0.1174		0.1237	J
Copper	12.5433	J	24.2367	J	9.5058	J	7.8218	J	9.3484	J	9.7419	J	5.4769	J
Lead	2.2056	J	2.6448	J	1.8678	J	1.8292	J	3.5376	J	3.8417		2.6448	J
Mercury	0.0000	U	0.0002	J	0.0001	U	0.0001	U	0.0000	U	0.0002		0.0009	J
Nickel	5.6899	J	3.7479	U	2.3339	U	4.5315	U	3.4412	U	0.7053	U	0.5945	U
Zinc	33.8076	J	30.1361	J	25.0880	J	23.8642	J	43.2920	J	35.7962		48.1872	J
Ratio - SEM/AVS	1.0098		3.1076		1.7288		1.1244		2.1249		38.0750		10.6478	

Wells G and H, OU III
Sediment Detected Compounds
AVS-SEM Analysis (umol/g)

SAMPLE ID	SD-21-02		SD-21-03		SD-22-01		SD-22-02		SD-22-03		SD-23-01		SD-23-02	
LAB ID	DAB771		DAB772		DAB773		DAB774		DAB775		DAB190		DAB191	
SAMPLE DATE	9/8/95		9/8/95		9/8/95		9/8/95		9/8/95		8/29/95		8/29/95	
PERCENT MOISTURE	81.8		76.8		77.4		63.5		80.2		45		26	
COMMENTS														
Acid Volatile Sulfides (AVS)	15.00	J	1.80	J	5.40	J	3.00	J	1.40	J	0.92		4.38	
Cadmium	0.1308	J	0.0783	J	0.0050	J	0.0020	J	0.0033	U	0.0012	U	0.0009	U
Copper	5.0047	J	3.5568	J	0.2691	U	0.6563	J	0.6956	U	0.0151	U	0.2014	J
Lead	1.3320	J	2.0319	J	2.5338	J	4.8166	J	1.2452	J	0.0087	U	0.0536	J
Mercury	0.0004	J	0.0004	J	0.0000	U	0.0000	U	0.0000	U	0.0000	U	0.0000	U
Nickel	0.3850	U	0.3646	U	0.3390	U	2.5043	J	1.2470	U	0.0204	U	1.0937	U
Zinc	55.3771	J	26.9237	J	0.9439	J	0.3687	J	0.5538	J	0.0658	U	0.2677	U
Ratio - SEM/AVS	4.1230		18.1061		0.6449		2.7826		1.2850		0.0000		0.0582	

Wells G and H, OU III
Sediment Detected Compounds
AVS-SEM Analysis (umol/g)

SAMPLE ID	SD-23-03		SD-24-01		SD-24-02		SD-24-03		SD-25-01		SD-25-02		SD-25-03	
LAB ID	DAB192		DAB193		DAB194		DAB195		DAB779		DAB230		DAB231	
SAMPLE DATE	8/29/95		8/29/95		8/29/95		8/29/95		9/11/95		9/11/95		9/11/95	
PERCENT MOISTURE	76		32		26		69		41.7		59.2		27.8	
COMMENTS														
Acid Volatile Sulfides (AVS)	0.30		3.76		27.40		0.90		0.70		1.30		0.30	
Cadmium	0.0029		0.0012		0.0534		0.0098		0.0012	U	0.0074		0.0009	U
Copper	0.3415	U	0.1904	J	0.1133	J	1.4715	J	0.4895	U	1.1095	U	0.9049	U
Lead	0.0960	J	0.4184	J	0.3914	J	2.5193	J	1.4768		3.3977		0.1810	
Mercury	0.0000	U	0.0000	U	0.0000	U	0.0000	U	0.0000	U	0.0000	U	0.0001	
Nickel	3.9693	U	0.5928	U	0.0409	U	1.8569	U	1.6014	U	2.5043	U	2.5724	U
Zinc	0.6700	U	0.5874	J	0.5844	J	2.2487	J	0.2448		2.0958		0.1713	
Ratio - SEM/AVS	0.3299		0.3185		0.0417		6.9437		2.4594		4.2314		1.1749	

Wells G and H, OU III
Sediment Detected Compounds
AVS-SEM Analysis (umol/g)

SAMPLE ID	SD-26-01		SD-26-02		SD-26-02-02		SD-26-03		SD-27-01		SD-27-02		SD-27-03	
LAB ID	DAB233		DAB234		DAB236		DAB235		DAB239		DAB240		DAB241	
SAMPLE DATE	9/11/95		9/11/95		9/11/95		9/11/95		9/11/95		9/11/95		9/11/95	
PERCENT MOISTURE	48.1		28.4		47.3		49.9		48		18.7		33.5	
COMMENTS			dup of DAB236		dup of DAB234									
Acid Volatile Sulfides (AVS)	13.60		6.60		9.40		6.40		13.90		0.60		16.40	
Cadmium	0.0018		0.0010		0.0011	U	0.0020		0.0035		0.0008	U	0.0015	
Copper	0.4517	U	0.4470	U	0.5445	U	0.2613	U	0.2707	U	0.6327	U	0.0755	U
Lead	0.3909		0.1559		0.1438		0.3156		0.0758		0.0845		0.0854	
Mercury	0.0000	U	0.0000	U	0.0000		0.0000	U	0.0000	U	0.0000	U	0.0000	U
Nickel	0.1670	U	1.5809	U	1.8739	U	0.4361	U	0.8671	U	1.5111	U	0.0579	U
Zinc	0.9683		0.5369		0.5874		0.7649		0.9071		0.2738		1.1290	
Ratio - SEM/AVS	0.1001		0.1051		0.0778		0.1691		0.0710		0.5971		0.0741	

4.6 Organic Carbon

Site: Wells G and H, OU III
Sediment Data
Organic Carbon (mg/Kg)

SAMPLE ID	SD-01-01	SD-01-02	SD-01-03	SD-01-04	SD-01-05	SD-01-06	SD-01-07
LAB ID	DAB251	DAB252	DAB253	DAB254	DAB255	DAB256	DAB257
SAMPLE DATE	8/15/95	8/15/95	8/15/95	8/15/95	8/15/95	8/15/95	8/15/95
PERCENT MOISTURE	12	14	13	21	14	64	32
COMMENTS							
TOTAL COMBUSTIBLE ORGANIC	NA	NA	NA	NA	NA	NA	NA
TOTAL ORGANIC CARBON	114 U	2100	114 U	17000	116 U	65700	9100

Site: Wells G and H, OU III
Sediment Data
Organic Carbon (mg/Kg)

SAMPLE ID	SD-01-08	SD-01-09	SD-01-10	SD-02-01	SD-02-01-02	SD-02-02	SD-02-03
LAB ID	DAB258	DAB259	DAB260	DAB265	DAB266	DAB267	DAB268
SAMPLE DATE	8/15/95	8/15/95	8/15/95	8/16/95	8/16/95	8/16/95	8/16/95
PERCENT MOISTURE	16	21	29	23	19	15	18
COMMENTS				dup of DAB266	dup of DAB265		
TOTAL COMBUSTIBLE ORGANIC	NA	NA	NA	NA	NA	NA	NA
TOTAL ORGANIC CARBON	830	2410	11000	7490	5560	9420	2690

Site: Wells G and H, OU III
Sediment Data
Organic Carbon (mg/Kg)

SAMPLE ID	SD-03-01	SD-03-02	SD-03-03	SD-04-01	SD-04-02	SD-04-03	SD-05-01
LAB ID	DAB270	DAB271	DAB272	DAB274	DAB275	DAB276	DAB278
SAMPLE DATE	8/16/95	8/16/95	8/16/95	8/17/95	8/17/95	8/17/95	8/17/95
PERCENT MOISTURE	15	65	17	40	53	64	17
COMMENTS							
TOTAL COMBUSTIBLE ORGANIC	NA	NA	NA	21500	54400	93400	3840
TOTAL ORGANIC CARBON	1170	55000	602	NA	NA	NA	NA

Site: Wells G and H, OU III
Sediment Data
Organic Carbon (mg/Kg)

SAMPLE ID	SD-05-02	SD-05-03	SD-06-01	SD-06-02	SD-06-03	SD-07-01	SD-07-01-02
LAB ID	DAB279	DAB280	DAB283	DAB284	DAB285	DAB287	DAB288
SAMPLE DATE	8/17/95	8/17/95	8/18/95	8/18/95	8/18/95	8/18/95	8/18/95
PERCENT MOISTURE	18	47	49	46	60	18	23
COMMENTS						dup of DAB288	dup of DAB287
TOTAL COMBUSTIBLE ORGANIC	1840	56000	46700	41600	69900	13400	16900
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA

Site: Wells G and H, OU III
Sediment Data
Organic Carbon (mg/Kg)

SAMPLE ID	SD-07-02	SD-07-03	SD-07-04	SD-07-05	SD-07-06	SD-07-07	SD-07-08
LAB ID	DAB289	DAB290	DAB376	DAB291	DAB292	DAB293	DAB294
SAMPLE DATE	8/21/95	8/21/95	8/29/95	8/21/95	8/21/95	8/21/95	8/21/95
PERCENT MOISTURE	60	15	65	68	61	64	33
COMMENTS							
TOTAL COMBUSTIBLE ORGANIC	93000	13800	83600	88700	70100	52700	25500
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA

Site: Wells G and H, OU III
Sediment Data
Organic Carbon (mg/Kg)

SAMPLE ID	SD-07-09	SD-07-10	SD-08-01	SD-08-02	SD-08-03	SD-09-01	SD-09-02
LAB ID	DAB295	DAB296	DAB298	DAB299	DAB350	DAB352	DAB353
SAMPLE DATE	8/21/95	8/21/95	8/21/95	8/21/95	8/21/95	8/22/95	8/22/95
PERCENT MOISTURE	62	61	14	21	17	12	43
COMMENTS							
TOTAL COMBUSTIBLE ORGANIC	82700	99000	117 U	17900	7560	NA	NA
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	4230	46200

Site: Wells G and H, OU III
Sediment Data
Organic Carbon (mg/Kg)

SAMPLE ID	SD-09-03	SD-09-04	SD-09-05	SD-09-06	SD-09-07	SD-09-08	SD-09-09
LAB ID	DAB354	DAB355	DAB356	DAB357	DAB358	DAB359	DAB360
SAMPLE DATE	8/22/95	8/22/95	8/22/95	8/22/95	8/22/95	8/22/95	8/22/95
PERCENT MOISTURE	15	17	12	14	26	14	15
COMMENTS							
TOTAL COMBUSTIBLE ORGANIC	NA	NA	NA	NA	NA	NA	117 U
TOTAL ORGANIC CARBON	7320	121 U	114 U	1050	10900	117 U	NA

Site: Wells G and H, OU III
Sediment Data
Organic Carbon (mg/Kg)

SAMPLE ID	SD-09-10	SD-10-01	SD-10-01-02	SD-10-02	SD-10-03	SD-11-01	SD-11-02
LAB ID	DAB361	DAB368	DAB369	DAB370	DAB371	DAB373	DAB374
SAMPLE DATE	8/22/95	8/23/95	8/23/95	8/23/95	8/23/95	8/24/95	8/24/95
PERCENT MOISTURE	17	85	85	87	59	62	85
COMMENTS		dup of DAB369	dup of DAB368				
TOTAL COMBUSTIBLE ORGANIC	3860	208000	251000	262000	97300	36700	49900
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA

Site: Wells G and H, OU III
Sediment Data
Organic Carbon (mg/Kg)

SAMPLE ID	SD-11-03	SD-12-01	SD-12-02	SD-12-03	SD-13-01	SD-13-02	SD-13-03
LAB ID	DAB375	DAB388	DAB389	DAB390	DAB396	DAB397	DAB398
SAMPLE DATE	8/24/95	8/31/95	8/31/95	8/31/95	9/6/95	9/6/95	9/6/95
PERCENT MOISTURE	55	76	57	54	82	85	73
COMMENTS							
TOTAL COMBUSTIBLE ORGANIC	121000	173000	105000	42200	234000	385000	229000
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA

Site: Wells G and H, OU III
Sediment Data
Organic Carbon (mg/Kg)

SAMPLE ID	SD-14-01	SD-14-02	SD-14-03	SD-15-01	SD-15-02	SD-15-03	SD-16-01
LAB ID	DAB782	DAB783	DAB784	DAB785	DAB786	DAB787	DAB377
SAMPLE DATE	9/5/95	9/5/95	9/5/95	9/5/95	9/5/95	9/5/95	8/29/95
PERCENT MOISTURE	25	24	29	89	87	88	22
COMMENTS							
TOTAL COMBUSTIBLE ORGANIC	11000	4480	12300	432000	381000	450000	1390
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	NA	NA

Site: Wells G and H, OU III
Sediment Data
Organic Carbon (mg/Kg)

SAMPLE ID	SD-16-02		SD-16-03		SD-18-01		SD-18-02		SD-18-03		SD-19-01		SD-19-02	
LAB ID	DAB365		DAB366		DAB378		DAB790		DAB791		DAB391		DAB392	
SAMPLE DATE	8/23/95		8/23/95		8/29/95		9/7/95		9/7/95		8/31/95		8/31/95	
PERCENT MOISTURE	20		18		67		87		81		83		82	
COMMENTS													dup of DAB394	
TOTAL COMBUSTIBLE ORGANIC	125	U	3040		61100		259000		262000		267000		380000	
TOTAL ORGANIC CARBON	NA		NA		NA		NA		NA		NA		NA	

Site: Wells G and H, OU III
Sediment Data
Organic Carbon (mg/Kg)

SAMPLE ID	SD-19-02-02	SD-19-03	SD-20-01	SD-20-02	SD-20-03	SD-21-01	SD-21-02
LAB ID	DAB394	DAB393	DAB792	DAB794	DAB795	DAB797	DAB798
SAMPLE DATE	8/31/95	8/31/95	9/7/95	9/7/95	9/7/95	9/5/95	9/5/95
PERCENT MOISTURE	82	83	88	80	81	80	83
COMMENTS	dup of DAB392		dup of DAB793				
TOTAL COMBUSTIBLE ORGANIC	380000	363000	362000	234000	247000	NA	NA
TOTAL ORGANIC CARBON	NA	NA	NA	NA	NA	288000	441000

Site: Wells G and H, OU III
Sediment Data
Organic Carbon (mg/Kg)

SAMPLE ID	SD-21-03	SD-22-01	SD-22-02	SD-22-03	SD-23-01	SD-23-02	SD-23-03
LAB ID	DAB799	DAB330	DAB331	DAB332	DAB380	DAB381	DAB382
SAMPLE DATE	9/5/95	9/5/95	9/5/95	9/5/95	8/30/95	8/30/95	8/30/95
PERCENT MOISTURE	24	77	63	80	39	22	49
COMMENTS							
TOTAL COMBUSTIBLE ORGANIC	NA	NA	NA	NA	24300	4800	427000
TOTAL ORGANIC CARBON	244000	371000	198000	514000	NA	NA	NA

Site: Wells G and H, OU III
Sediment Data
Organic Carbon (mg/Kg)

SAMPLE ID	SD-24-01	SD-24-02	SD-24-03	SD-25-01	SD-25-02	SD-25-03	SD-26-01
LAB ID	DAB383	DAB384	DAB385	DAB336	DAB337	DAB338	DAB340
SAMPLE DATE	8/30/95	8/30/95	8/30/95	9/11/95	9/11/95	9/11/95	9/11/95
PERCENT MOISTURE	26	22	67	50	56	19	47
COMMENTS							
TOTAL COMBUSTIBLE ORGANIC	2810	17900	183000	NA	NA	NA	NA
TOTAL ORGANIC CARBON	NA	NA	NA	52600	71600	12000	36800

Site: Wells G and H, OU III
Sediment Data
Organic Carbon (mg/Kg)

SAMPLE ID	SD-26-02	SD-26-02-02	SD-26-03	SD-27-01	SD-27-02	SD-27-03
LAB ID	DAB341	DAB343	DAB342	DAB345	DAB346	DAB347
SAMPLE DATE	9/11/95	9/11/95	9/11/95	9/12/95	9/12/95	9/12/95
PERCENT MOISTURE	35	34	52	37	17	22
COMMENTS	dup of DAB343	dup of DAB341				
TOTAL COMBUSTIBLE ORGANIC	NA	NA	NA	NA	NA	NA
TOTAL ORGANIC CARBON	12300	11800	47200	13400	7650	10000

4.7 Grain Size Distribution

Site: Wells G and H, OU III
Sediment Results
Grain Size Analysis

SAMPLE ID	SD-01-01		SD-01-02		SD-01-03		SD-01-04		SD-01-05		SD-01-06		SD-01-07	
LAB ID	DAB251		DAB252		DAB253		DAB254		DAB255		DAB256		DAB257	
SAMPLE DATE	8/15/95		8/15/95		8/15/95		8/15/95		8/15/95		8/15/95		8/15/95	
COMMENTS														
75.0 um to 150.0 um	8.9	%	3.2	%	12.5	%	15.2	%	0.2	%	4	%	2.9	%
150.0 um to 180.0 um	3.8	%	2.5	%	5	%	6.7	%	0.7	%	1	%	0.8	%
180.0 um to 250.0 um	7.1	%	7.5	%	9.5	%	14.4	%	3.3	%	1.5	%	1.7	%
250.0 um to 425.0 um	9.5	%	17.1	%	11.6	%	18.5	%	11.5	%	2.9	%	3.9	%
425.0 um to 850.0 um	11.7	%	22.4	%	10.6	%	14.3	%	19.9	%	5.1	%	12	%
850.0 um to 2.00 mm	10	%	15.9	%	7.6	%	6.9	%	23.9	%	4.1	%	11.1	%
2.00 mm to 4.75 mm	6.8	%	10.6	%	9.4	%	4.6	%	12.7	%	1.8	%	3.5	%
4.75 mm to 9.50 mm	12.8	%	13.1	%	13.1	%	10.2	%	13.8	%	0	%	3.3	%
9.50 mm to 19.00 mm	26.6	%	5.7	%	17.4	%	4.6	%	11.2	%	43.2	%	6	%
19.00 mm to 25.00 mm	0	%	0	%	0	%	0	%	0	%	0	%	0	%

Site: Wells G and H, OU III
Sediment Results
Grain Size Analysis

SAMPLE ID	SD-01-08		SD-01-09		SD-01-10		SD-02-01		SD-02-01-02		SD-02-02		SD-03-01	
LAB ID	DAB258		DAB259		DAB260		DAB265		DAB266		DAB267		DAB270	
SAMPLE DATE	8/15/95		8/15/95		8/15/95		8/16/95		8/16/95		8/16/95		8/16/95	
COMMENTS							dup of DAB266		dup of DAB265					
75.0 um to 150.0 um	0	%	4.3	%	5.3	%	9.7	%	9	%	4.4	%	1.6	%
150.0 um to 180.0 um	0.5	%	4.1	%	2.1	%	2.8	%	2.6	%	1.5	%	1.1	%
180.0 um to 250.0 um	2.6	%	11.1	%	4.2	%	5.9	%	5.3	%	4.2	%	4.1	%
250.0 um to 425.0 um	15.8	%	23.6	%	6.6	%	11.8	%	10.3	%	12.8	%	15.2	%
425.0 um to 850.0 um	30.5	%	25.1	%	11.3	%	16.8	%	14.6	%	20	%	27.2	%
850.0 um to 2.00 mm	26.8	%	12.9	%	12	%	13.1	%	13.2	%	14.3	%	14.8	%
2.00 mm to 4.75 mm	10.1	%	6.3	%	14.1	%	11.2	%	9.9	%	10	%	11.9	%
4.75 mm to 9.50 mm	6	%	1.7	%	12.2	%	12.6	%	10.3	%	13.1	%	10.7	%
9.50 mm to 19.00 mm	2.5	%	4.8	%	13.3	%	0	%	14.6	%	10.5	%	10.7	%
19.00 mm to 25.00 mm	0	%	0	%	0	%	0	%	0	%	0	%	0	%

Site: Wells G and H, OU III
Sediment Results
Grain Size Analysis

SAMPLE ID	SD-03-02		SD-03-03		SD-04-01		SD-04-02		SD-04-03		SD-05-01		SD-05-02	
LAB ID	DAB271		DAB272		DAB274		DAB275		DAB276		DAB278		DAB279	
SAMPLE DATE	8/16/95		8/16/95		8/17/95		8/17/95		8/17/95		8/17/95		8/17/95	
COMMENTS														
75.0 um to 150.0 um	4.6	%	0.9	%	3.5	%	11	%	16.1	%	0.7	%	0.2	%
150.0 um to 180.0 um	1.6	%	1.5	%	1.4	%	3.4	%	2.6	%	0.3	%	0.1	%
180.0 um to 250.0 um	4.7	%	7.7	%	3.7	%	6.4	%	3.5	%	1.3	%	0.3	%
250.0 um to 425.0 um	13.1	%	27.2	%	8.5	%	9.2	%	3.7	%	3.6	%	2	%
425.0 um to 850.0 um	24.5	%	37.1	%	14.4	%	11	%	3.2	%	11.8	%	13.8	%
850.0 um to 2.00 mm	15	%	16.2	%	13.9	%	9.3	%	2.2	%	19.7	%	32.4	%
2.00 mm to 4.75 mm	4.7	%	4.9	%	0	%	7.2	%	0.9	%	21.7	%	32.1	%
4.75 mm to 9.50 mm	1.7	%	2	%	25.2	%	5.3	%	0	%	25.4	%	11.1	%
9.50 mm to 19.00 mm	0	%	0	%	18.3	%	4	%	0	%	12.7	%	4	%
19.00 mm to 25.00 mm	0	%	0	%	0	%	0	%	0	%	0	%	0	%

Site: Wells G and H, OU III
Sediment Results
Grain Size Analysis

SAMPLE ID	SD-05-03		SD-06-01		SD-06-02		SD-06-03		SD-07-01		SD-07-01-02		SD-07-02	
LAB ID	DAB280		DAB283		DAB284		DAB285		DAB287		DAB288		DAB289	
SAMPLE DATE	8/17/95		8/18/95		8/18/95		8/18/95		8/18/95		8/18/95		8/21/95	
COMMENTS									dup of DAB288		dup of DAB287			
75.0 um to 150.0 um	8.9	%	4.2	%	5.1	%	10	%	6.5	%	6.6	%	6	%
150.0 um to 180.0 um	3.6	%	2.4	%	2.4	%	3	%	3.1	%	3.3	%	0.3	%
180.0 um to 250.0 um	9	%	6.8	%	6.1	%	6.4	%	7.7	%	8.5	%	0.3	%
250.0 um to 425.0 um	12.8	%	12.2	%	10.7	%	9.9	%	13.9	%	15.1	%	0.3	%
425.0 um to 850.0 um	10.4	%	13.1	%	12.6	%	9.9	%	11.9	%	12.9	%	0.3	%
850.0 um to 2.00 mm	6.7	%	8.9	%	9.2	%	5.7	%	8.3	%	9.1	%	0.3	%
2.00 mm to 4.75 mm	6	%	6.8	%	5.7	%	4.1	%	12.3	%	12.8	%	0	%
4.75 mm to 9.50 mm	5	%	8.4	%	3.4	%	7.4	%	13.7	%	14.5	%	0	%
9.50 mm to 19.00 mm	1.2	%	2.7	%	4.2	%	5.4	%	6.3	%	9.9	%	0	%
19.00 mm to 25.00 mm	0	%	0	%	0	%	0	%	0	%	0	%	0	%

Site: Wells G and H, OU III
Sediment Results
Grain Size Analysis

SAMPLE ID	SD-07-03		SD-07-04		SD-07-05		SD-07-06		SD-07-07		SD-07-08		SD-07-09	
LAB ID	DAB290		DAB376		DAB291		DAB292		DAB293		DAB294		DAB295	
SAMPLE DATE	8/21/95		8/29/95		8/21/95		8/21/95		8/21/95		8/21/95		8/21/95	
COMMENTS														
75.0 um to 150.0 um	5.7	%	14.1	%	9.1	%	13.1	%	20.2	%	14.4	%	30.8	%
150.0 um to 180.0 um	2.2	%	0.9	%	0.6	%	0.6	%	4.5	%	2.5	%	3	%
180.0 um to 250.0 um	5.5	%	1.4	%	0.8	%	0.6	%	9.5	%	4.4	%	2.4	%
250.0 um to 425.0 um	10.9	%	1.3	%	0.9	%	0.4	%	13.5	%	7.4	%	1.7	%
425.0 um to 850.0 um	13.4	%	0.8	%	0.6	%	0.3	%	8.3	%	8	%	1.2	%
850.0 um to 2.00 mm	12.7	%	0.2	%	0.4	%	0.2	%	2.2	%	5.9	%	0.4	%
2.00 mm to 4.75 mm	10.4	%	0.6	%	0	%	0	%	0	%	9.4	%	0	%
4.75 mm to 9.50 mm	15.4	%	1.9	%	0	%	0	%	0	%	11.2	%	0	%
9.50 mm to 19.00 mm	11.9	%	11.6	%	0	%	0	%	0	%	5.6	%	0	%
19.00 mm to 25.00 mm	0	%	10	%	0	%	0	%	0	%	6.2	%	0	%

Site: Wells G and H, OU III
Sediment Results
Grain Size Analysis

SAMPLE ID	SD-07-10		SD-08-01		SD-08-02		SD-08-03		SD-09-01		SD-09-02		SD-09-03	
LAB ID	DAB296		DAB298		DAB299		DAB350		DAB352		DAB353		DAB354	
SAMPLE DATE	8/21/95		8/21/95		8/21/95		8/21/95		8/22/95		8/22/95		8/22/95	
COMMENTS														
75.0 um to 150.0 um	9	%	5.9	%	3.8	%	5.7	%	5.8	%	5.8	%	6.2	%
150.0 um to 180.0 um	0.9	%	3.2	%	2	%	3.1	%	1.7	%	2.8	%	2.3	%
180.0 um to 250.0 um	2	%	8.6	%	5.2	%	7.3	%	4.7	%	6.2	%	5.5	%
250.0 um to 425.0 um	3.2	%	13.7	%	11.1	%	10.9	%	10.2	%	6.5	%	9.9	%
425.0 um to 850.0 um	2.5	%	14.2	%	13.6	%	14	%	11.8	%	3.6	%	13	%
850.0 um to 2.00 mm	1	%	13.5	%	14.4	%	15.2	%	8.1	%	2.1	%	12.3	%
2.00 mm to 4.75 mm	1	%	12.4	%	14.4	%	12.1	%	8.8	%	5.2	%	12.3	%
4.75 mm to 9.50 mm	1.1	%	14.7	%	15.2	%	14.2	%	5.1	%	9.8	%	10.4	%
9.50 mm to 19.00 mm	3.4	%	9.6	%	14.9	%	12.4	%	35.2	%	45.9	%	11.5	%
19.00 mm to 25.00 mm	0	%	0	%	0	%	0	%	0	%	0	%	3.6	%

Site: Wells G and H, OU III
Sediment Results
Grain Size Analysis

SAMPLE ID	SD-09-04		SD-09-05		SD-09-06		SD-09-07		SD-09-08		SD-09-09		SD-09-10	
LAB ID	DAB355		DAB356		DAB357		DAB358		DAB359		DAB360		DAB361	
SAMPLE DATE	8/22/95		8/22/95		8/22/95		8/22/95		8/22/95		8/22/95		8/22/95	
COMMENTS														
75.0 um to 150.0 um	3.5	%	2	%	0.3	%	3.1	%	0.6	%	0.2	%	0.2	%
150.0 um to 180.0 um	2.2	%	1.2	%	0.4	%	1.4	%	0.3	%	0.4	%	0.4	%
180.0 um to 250.0 um	8	%	3.8	%	1.9	%	4	%	1.4	%	2.8	%	1.8	%
250.0 um to 425.0 um	26.2	%	10.1	%	6.3	%	10.8	%	5.2	%	11.2	%	6.2	%
425.0 um to 850.0 um	29	%	20	%	15.2	%	26	%	19.3	%	21.6	%	17.7	%
850.0 um to 2.00 mm	13.4	%	17.9	%	25.5	%	20.4	%	30.9	%	20.8	%	27	%
2.00 mm to 4.75 mm	8.2	%	8.7	%	26.1	%	12.1	%	22.2	%	26	%	25.3	%
4.75 mm to 9.50 mm	1.4	%	9.2	%	17.9	%	10.5	%	14.2	%	9.4	%	15.2	%
9.50 mm to 19.00 mm	1.5	%	24.7	%	5.1	%	5.4	%	4.8	%	5.4	%	2.7	%
19.00 mm to 25.00 mm	0	%	0	%	0	%	0	%	0	%	0	%	0	%

Site: Wells G and H, OU III
Sediment Results
Grain Size Analysis

SAMPLE ID	SD-10-01		SD-10-01-02		SD-10-02		SD-10-03		SD-11-01		SD-11-02		SD-11-03	
LAB ID	DAB368		DAB369		DAB370		DAB371		DAB373		DAB374		DAB375	
SAMPLE DATE	8/23/95		8/23/95		8/23/95		8/23/95		8/24/95		8/24/95		8/24/95	
COMMENTS	dup of DAB369		dup of DAB368											
75.0 um to 150.0 um	5.4	%	5.4	%	4.9	%	5.4	%	7.4	%	9.8	%	14.7	%
150.0 um to 180.0 um	1.1	%	1.1	%	0.9	%	1.4	%	4.1	%	5.7	%	8.7	%
180.0 um to 250.0 um	2.4	%	2.3	%	2	%	3.3	%	11.8	%	10.8	%	24.1	%
250.0 um to 425.0 um	2.9	%	2.5	%	2.2	%	5.1	%	23.8	%	10.2	%	27.9	%
425.0 um to 850.0 um	1.9	%	0.5	%	0.6	%	6.8	%	24	%	7	%	6.3	%
850.0 um to 2.00 mm	0.1	%	0	%	0	%	4.8	%	4.8	%	1.9	%	0.6	%
2.00 mm to 4.75 mm	0	%	0	%	0	%	8.7	%	0	%	0	%	0	%
4.75 mm to 9.50 mm	0	%	0	%	0	%	16.5	%	0	%	0	%	0	%
9.50 mm to 19.00 mm	0	%	0	%	0	%	4.6	%	0	%	0	%	0	%
19.00 mm to 25.00 mm	0	%	0	%	0	%	0	%	0	%	0	%	0	%

Site: Wells G and H, OU III
Sediment Results
Grain Size Analysis

SAMPLE ID	SD-12-01		SD-12-02		SD-12-03		SD-13-01		SD-13-02		SD-13-03		SD-14-01	
LAB ID	DAB388		DAB389		DAB390		DAB396		DAB397		DAB398		DAB782	
SAMPLE DATE	8/31/95		8/31/95		8/31/95		9/6/95		9/6/95		9/6/95		9/5/95	
COMMENTS														
75.0 um to 150.0 um	14.3	%	8.7	%	11.8	%	9.3	%	5.9	%	4	%	5.6	%
150.0 um to 180.0 um	3.8	%	4.2	%	7	%	2.3	%	1.3	%	0.9	%	3.2	%
180.0 um to 250.0 um	5.7	%	10.7	%	17.1	%	3.7	%	2.7	%	1.8	%	9.3	%
250.0 um to 425.0 um	3.9	%	22.8	%	24.3	%	2.6	%	2.2	%	2.1	%	20	%
425.0 um to 850.0 um	1.9	%	19.4	%	14.3	%	1.1	%	0.8	%	0	%	24.6	%
850.0 um to 2.00 mm	0.1	%	3.2	%	1.2	%	0	%	0	%	0	%	15.4	%
2.00 mm to 4.75 mm	0	%	0	%	0	%	0	%	0	%	0	%	8.3	%
4.75 mm to 9.50 mm	0	%	0	%	0	%	0	%	0	%	0	%	7.8	%
9.50 mm to 19.00 mm	0	%	0	%	0	%	0	%	0	%	0	%	0	%
19.00 mm to 25.00 mm	0	%	0	%	0	%	0	%	0	%	0	%	0	%

Site: Wells G and H, OU III
Sediment Results
Grain Size Analysis

SAMPLE ID	SD-14-02		SD-14-03		SD-15-01		SD-15-02		SD-15-03		SD-16-01		SD-16-02	
LAB ID	DAB783		DAB784		DAB785		DAB786		DAB787		DAB377		DAB365	
SAMPLE DATE	9/5/95		9/5/95		9/5/95		9/5/95		9/5/95		8/29/95		8/23/95	
COMMENTS														
75.0 um to 150.0 um	4.3	%	5.3	%	10.4	%	6.7	%	6.8	%	3.7	%	2.2	%
150.0 um to 180.0 um	3.3	%	2.9	%	3	%	1.5	%	1.7	%	3.7	%	2	%
180.0 um to 250.0 um	11.7	%	9	%	7	%	3	%	4.6	%	12.9	%	7.1	%
250.0 um to 425.0 um	35.6	%	24	%	4.2	%	3.6	%	4.4	%	23.5	%	15.8	%
425.0 um to 850.0 um	29.3	%	26.2	%	0.3	%	1.4	%	1.2	%	26.6	%	20.6	%
850.0 um to 2.00 mm	12.3	%	13.2	%	0	%	0	%	0	%	13.5	%	14	%
2.00 mm to 4.75 mm	1.4	%	6.9	%	0	%	0	%	0	%	6.7	%	12.8	%
4.75 mm to 9.50 mm	0.1	%	2.2	%	0	%	0	%	0	%	5	%	10.6	%
9.50 mm to 19.00 mm	0	%	0.8	%	0	%	0	%	0	%	1.8	%	9.9	%
19.00 mm to 25.00 mm	0	%	0	%	0	%	0	%	0	%	0	%	0	%

Site: Wells G and H, OU III
Sediment Results
Grain Size Analysis

SAMPLE ID	SD-16-03		SD-18-01		SD-18-02		SD-18-03		SD-19-01		SD-19-02		SD-19-02-02	
LAB ID	DAB366		DAB378		DAB790		DAB791		DAB391		DAB392		DAB394	
SAMPLE DATE	8/23/95		8/29/95		9/7/95		9/7/95		8/31/95		8/31/95		8/31/95	
COMMENTS											dup of DAB394		dup of DAB392	
75.0 um to 150.0 um	5.4	%	12.6	%	3.9	%	5.1	%	5.2	%	6.4	%	5.7	%
150.0 um to 180.0 um	5.2	%	6.4	%	0.9	%	1.7	%	1.2	%	1.4	%	1.1	%
180.0 um to 250.0 um	18.2	%	10.3	%	2.1	%	4.2	%	2.6	%	3.2	%	2.4	%
250.0 um to 425.0 um	21.3	%	12.1	%	2.6	%	6	%	3.3	%	4.8	%	3.5	%
425.0 um to 850.0 um	8	%	6.4	%	0.3	%	2.7	%	2.6	%	1.5	%	0.7	%
850.0 um to 2.00 mm	5.8	%	0.7	%	0	%	0.1	%	0.8	%	0.1	%	0	%
2.00 mm to 4.75 mm	10	%	0	%	0	%	0	%	0	%	0	%	0	%
4.75 mm to 9.50 mm	11.7	%	0	%	0	%	0	%	0	%	0	%	0	%
9.50 mm to 19.00 mm	13.5	%	0	%	0	%	0	%	0	%	0	%	0	%
19.00 mm to 25.00 mm	0	%	0	%	0	%	0	%	0	%	0	%	0	%

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Sediment Results
Grain Size Analysis

SAMPLE ID	SD-19-03		SD-20-01		SD-20-01-02		SD-20-02		SD-20-03		SD-21-01		SD-21-02	
LAB ID	DAB393		DAB792		DAB793		DAB794		DAB795		DAB797		DAB798	
SAMPLE DATE	8/31/95		9/7/95		9/7/95		9/7/95		9/7/95		9/5/95		9/5/95	
COMMENTS			dup of DAB793		dup of DAB792									
75.0 um to 150.0 um	5.9	%	5.4	%	6.1	%	4.3	%	3.2	%	4.2	%	8.2	%
150.0 um to 180.0 um	1.1	%	1.3	%	1.8	%	1	%	0.8	%	1	%	1.7	%
180.0 um to 250.0 um	2.4	%	2.9	%	3.6	%	1.8	%	1.6	%	2.2	%	3.4	%
250.0 um to 425.0 um	3.4	%	3.4	%	5	%	2.7	%	2.7	%	2.7	%	3.4	%
425.0 um to 850.0 um	0.6	%	1.9	%	4	%	0.5	%	2	%	2.2	%	0.5	%
850.0 um to 2.00 mm	0.1	%	0	%	0.3	%	0.1	%	0.1	%	0.1	%	0	%
2.00 mm to 4.75 mm	0	%	0	%	0	%	0	%	0	%	0	%	0	%
4.75 mm to 9.50 mm	0	%	0	%	0	%	0	%	0	%	0	%	0	%
9.50 mm to 19.00 mm	0	%	0	%	0	%	0	%	0	%	0	%	0	%
19.00 mm to 25.00 mm	0	%	0	%	0	%	0	%	0	%	0	%	0	%

Site: Wells G and H, OU III
Sediment Results
Grain Size Analysis

SAMPLE ID	SD-21-03		SD-22-01		SD-22-02		SD-22-03		SD-23-01		SD-23-02		SD-23-03	
LAB ID	DAB799		DAB330		DAB331		DAB332		DAB380		DAB381		DAB382	
SAMPLE DATE	9/5/95		9/5/95		9/5/95		9/5/95		8/30/95		8/30/95		8/30/95	
COMMENTS														
75.0 um to 150.0 um	4.3	%	8.9	%	6.3	%	9.3	%	9.8	%	6	%	14.3	%
150.0 um to 180.0 um	0.8	%	2.6	%	3.2	%	2.4	%	7.8	%	2	%	5.2	%
180.0 um to 250.0 um	1.9	%	6	%	10.6	%	4.6	%	26.6	%	5.4	%	12.1	%
250.0 um to 425.0 um	2.4	%	9.3	%	18.2	%	5.3	%	25.5	%	11.8	%	11	%
425.0 um to 850.0 um	0.5	%	3.5	%	8.3	%	0.6	%	5.7	%	17.1	%	3.8	%
850.0 um to 2.00 mm	0	%	0.2	%	0.7	%	0.1	%	2.8	%	15.6	%	0.5	%
2.00 mm to 4.75 mm	0	%	0	%	0	%	0	%	2.5	%	16.4	%	0	%
4.75 mm to 9.50 mm	0	%	0	%	0	%	0	%	3	%	10.7	%	0	%
9.50 mm to 19.00 mm	0	%	0	%	0	%	0	%	6.1	%	8.7	%	0	%
19.00 mm to 25.00 mm	0	%	0	%	0	%	0	%	0	%	0	%	0	%

Site: Wells G and H, OU III
Sediment Results
Grain Size Analysis

SAMPLE ID	SD-24-01		SD-24-02		SD-24-03		SD-25-01		SD-25-02		SD-25-03		SD-26-01	
LAB ID	DAB383		DAB384		DAB385		DAB336		DAB337		DAB338		DAB340	
SAMPLE DATE	8/30/95		8/30/95		8/30/95		9/11/95		9/11/95		9/11/95		9/11/95	
COMMENTS														
75.0 um to 150.0 um	2.5	%	3.5	%	12	%	6.7	%	6.2	%	5.3	%	11.5	%
150.0 um to 180.0 um	1.4	%	1.4	%	3.2	%	2	%	1.3	%	1.9	%	2	%
180.0 um to 250.0 um	6	%	5.5	%	6.4	%	5	%	2.9	%	4.6	%	3.5	%
250.0 um to 425.0 um	22.5	%	14.2	%	3.2	%	9.4	%	4.6	%	8.1	%	5.1	%
425.0 um to 850.0 um	35.4	%	20.4	%	1	%	12.1	%	6.1	%	11.2	%	5.5	%
850.0 um to 2.00 mm	21.6	%	17.1	%	0.2	%	8.7	%	6.5	%	12.1	%	4.4	%
2.00 mm to 4.75 mm	5.9	%	13.4	%	0	%	8.8	%	9	%	17.1	%	4.1	%
4.75 mm to 9.50 mm	1.3	%	9.5	%	0	%	8.2	%	12.2	%	19.8	%	0.8	%
9.50 mm to 19.00 mm	0	%	10.6	%	0	%	20.4	%	11.6	%	8.3	%	6.6	%
19.00 mm to 25.00 mm	0	%	0	%	0	%	0	%	0	%	0	%	0	%

Site: Wells G and H, OU III
Sediment Results
Grain Size Analysis

SAMPLE ID	SD-26-02		SD-26-02-02		SD-26-03		SD-27-01		SD-27-02		SD-27-03	
LAB ID	DAB341		DAB343		DAB342		DAB345		DAB346		DAB347	
SAMPLE DATE	9/11/95		9/11/95		9/11/95		9/12/95		9/12/95		9/12/95	
COMMENTS	dup of DAB343		dup of DAB341									
75.0 um to 150.0 um	32.7	%	30.9	%	10.2	%	6.5	%	0.7	%	6.5	%
150.0 um to 180.0 um	7.8	%	7.6	%	2.5	%	2.4	%	0.2	%	2.4	%
180.0 um to 250.0 um	10.3	%	10	%	4.4	%	5.3	%	1.1	%	5.1	%
250.0 um to 425.0 um	9.1	%	8.8	%	5.8	%	7.2	%	5.5	%	9.2	%
425.0 um to 850.0 um	8.1	%	7.1	%	6.4	%	12.3	%	16.9	%	25.6	%
850.0 um to 2.00 mm	6.5	%	5.6	%	4.7	%	26.2	%	14.8	%	33.2	%
2.00 mm to 4.75 mm	4.6	%	4.4	%	5.1	%	24.8	%	19.6	%	8.9	%
4.75 mm to 9.50 mm	2.3	%	1.2	%	5.3	%	4.8	%	19	%	3.3	%
9.50 mm to 19.00 mm	0	%	0	%	6.1	%	1.4	%	15.1	%	0	%
19.00 mm to 25.00 mm	0	%	0	%	0	%	0	%	0	%	0	%

5. FISH TISSUE ANALYSES

5.1 Fish Statistics

DESCRIPTION OF FISH SAMPLING LOCATIONS

WELLS G&H SUPERFUND SITE OU3

Reach	Location of Fish Samples	Species Collected	Number of Individuals
Reach 1	North of Olympia Ave	white sucker	18
	nr	brown bullhead	1
	nr	pumpkinseed	7
Reach 2	Near Station 8	white sucker	9
	North of Washington Circle	white sucker	4
	North of Washington Circle	redfin pickerel	2
Reach 3	South of Swanton Road	largemouth bass	4
	Davidson Pond and south of pond	white sucker	5
	Davidson Pond	yellow perch	5
	Davidson Pond	brown bullhead	5
	nr	pumpkinseed	19
Reach 4	Judkins Pond	largemouth bass	5
	Judkins Pond	white sucker	8
	Judkins Pond	pumpkinseed	15
Reach 5	nr	white sucker	3
	nr	pumpkinseed	21
	Everett	largemouth bass	2
	North or guaging station	largemouth bass	2
	nr	white sucker	3
	Near guaging station	white sucker	4
	nr	largemouth bass	1
	nr	white sucker	1
	Above bridge at Mystic Valley Parkway	largemouth bass	2
Reach 6	Upper Mystic Lake	largemouth bass	4
	Upper Mystic Lake	pumpkinseed	21
	Upper Mystic Lake	brown bullhead	1
	Upper Mystic Lake	carp	5
	Upper Mystic Lake	eel	5
Reach 7 (Reference)	Wright's Pond	largemouth bass	10
	Wright's Pond	pumpkinseed	20
	Wright's Pond	eel	8
	Wright's Pond	brown bullhead	11

nr = not recorded

Species	Tissue	Reach	Category	Specific Sampling Location	# Individuals in sample	Sample Length (in)	Sample Weight (g)	Average Weight (g)	Sample Label	Sample ID	Analyses	Notes
crayfish	hole bod	1	crayfish	S of Olympia Rd	13	2.8	124.5	9.6	CF-RV-06	DAB-981	metals, pesticides/PCBs	
crayfish	hole bod	1	crayfish	N of Olympia Rd	24	2.8	273.1	11.4	CF-RV-07	DAB-982	metals, pesticides/PCBs	
rown bullhea	hole bod	1	small fish	n/a	1	4.7	19.0		SF-RV-09	DAB-569	metals only	
pumpkin see	hole bod	1	small fish	n/a	7	3.2	67.8	9.7	SF-RV-10	DAB-570	metals, pesticides/PCBs	
shiner	hole bod	1	small fish	n/a	1	3.6	8.2		SF-RV-11	DAB-571	insufficient mass	
white sucker	hole bod	1	small fish	cent to Charette's- N of Oly	1	7.8	81.0		LF-RV-18	DAB-590	metals, pesticides/PCBs	
white sucker	hole bod	1	small fish	cent to Charette's- N of Oly	3	5.7	99.1	33.0	SF-RV-12	DAB-591	metals, pesticides/PCBs	
white sucker	hole bod	1	small fish	N of Olympia	14	2.8	91.7	6.6	SF-RV-13	DAB-592	metals, pesticides/PCBs	
crayfish	hole bod	2	crayfish	Washington Circle	10	2.5	105.2	10.5	CF-RV-03	DAB-936	metals, pesticides/PCBs	
crayfish	hole bod	2	crayfish	North Montvale	8	3.2	141.4	17.7	CF-RV-04	DAB-937	metals, pesticides/PCBs	
white sucker	hole bod	2	large fish	N of Textron	1	13.8	469.2		LF-RV-16	DAB-998	metals, pesticides/PCBs	
white sucker	hole bod	2	small fish	N of Textron	8	4.2	99.7	12.5	SF-RV-06	DAB-999	metals, pesticides/PCBs	
white sucker	hole bod	2	small fish	N of Washington Circle	1	7.6	76.3		LF-RV-17	DAB-550	metals, pesticides/PCBs	
white sucker	hole bod	2	small fish	N of Washington Circle	3	3.1	16.0	5.3	SF-RV-07	DAB-551	metals only	
redfin pickere	hole bod	2	small fish	N of Washington Circle	2	5.1	30.4	15.2	SF-RV-08	DAB-552	metals only	
crayfish	hole bod	3	crayfish	Adjacent to Textron	14	3.4	323.4	23.1	CF-RV-01	DAB-900	metals, pesticides/PCBs	
crayfish	hole bod	3	crayfish	South Davidson Pond	13	2.6	122.1	9.4	CF-RV-02	DAB-901	metals, pesticides/PCBs	
crayfish	hole bod	3	crayfish	Davidson Pond	11	3.1	169.2	15.4	CF-LK-01	DAB-902	metals, pesticides/PCBs	
rgemouth ba	fillet	3	large fish	S of Swanton Rd	1	12.2	86.0		F-RV-01-	DAB-903	tals, pesticides/PCBs, SVOCs	
rgemouth ba	offal	3	large fish	S of Swanton Rd	1	12.2	252.0		F-RV-01-	DAB-904	metals, pesticides/PCBs	
rgemouth ba	fillet	3	large fish	S of Swanton Rd	1	13.0	148.5		F-RV-02-	DAB-907	tals, pesticides/PCBs, SVOCs	
rgemouth ba	offal	3	large fish	S of Swanton Rd	1	13.0	367.8		F-RV-02-	DAB-908	metals, pesticides/PCBs	
rgemouth ba	fillet	3	large fish	S of Swanton Rd	1	10.2	106.5		F-RV-03-	DAB-905	tals, pesticides/PCBs, SVOCs	
rgemouth ba	offal	3	large fish	S of Swanton Rd	1	10.2	193.1		F-RV-03-	DAB-906	metals, pesticides/PCBs	
rgemouth ba	fillet	3	large fish	S of Swanton Rd	1	9.1	63.6		F-RV-04-	DAB-909	metals, pesticides/PCBs	
rgemouth ba	offal	3	large fish	S of Swanton Rd	1	9.1	138.7		F-RV-04-	DAB-910	metals, pesticides/PCBs	
white sucker	hole bod	3	small fish	Davidson Pond & S of Pond	5	5.3	130.7	26.1	SF-LK-04	DAB-932	metals, pesticides/PCBs	combine w/ DAB-933
white sucker	hole bod	3	small fish	Davidson Pond & S of Pond	5	5.2	125.2	25.0	SF-LK-05	DAB-933	metals, pesticides/PCBs	combine w/ DAB-932
yellow perch	fillet	3	small fish	Davidson Pond	1	8.9	73.6		LF-LK-01-	DAB-911	tals, pesticides/PCBs, SV	combine w/ DAB-912
yellow perch	offal	3	small fish	Davidson Pond	1	8.9	76.7		F-LK-01-	DAB-912	metals, pesticides/PCBs	combine w/ DAB-911
yellow perch	fillet	3	small fish	Davidson Pond	1	8.5	63.1		LF-LK-02-	DAB-913	metals, pesticides/PCBs	combine w/ DAB-914
yellow perch	offal	3	small fish	Davidson Pond	1	8.5	76.1		F-LK-02-	DAB-914	metals, pesticides/PCBs	combine w/ DAB-913
yellow perch	fillet	3	small fish	Davidson Pond	1	8.6	58.7		LF-LK-03-	DAB-915	metals, pesticides/PCBs	combine w/ DAB-916
yellow perch	offal	3	small fish	Davidson Pond	1	8.6	71.4		F-LK-03-	DAB-916	metals, pesticides/PCBs	combine w/ DAB-915
yellow perch	fillet	3	small fish	Davidson Pond	1	8.9	72.8		LF-LK-04-	DAB-917	tals, pesticides/PCBs, SV	combine w/ DAB-918
yellow perch	offal	3	small fish	Davidson Pond	1	8.9	85.2		F-LK-04-	DAB-918	metals, pesticides/PCBs	combine w/ DAB-917
yellow perch	fillet	3	small fish	Davidson Pond	1	8.8	66.1		LF-LK-05-	DAB-919	metals, pesticides/PCBs	combine w/ DAB-920
yellow perch	offal	3	small fish	Davidson Pond	1	8.8	74.9		F-LK-05-	DAB-920	metals, pesticides/PCBs	combine w/ DAB-919
rown bullhea	fillet	3	large fish	Davidson Pond	1	13.3	175.4		LF-LK-06-	DAB-921	tals, pesticides/PCBs, SV	gross external tumors
rown bullhea	offal	3	large fish	Davidson Pond	1	13.3	376.6		F-LK-06-	DAB-922	metals, pesticides/PCBs	gross external tumors
rown bullhea	fillet	3	large fish	Davidson Pond	1	9.9	61.9		LF-LK-07-	DAB-923	metals, pesticides/PCBs	
rown bullhea	offal	3	large fish	Davidson Pond	1	9.9	136.7		F-LK-07-	DAB-924	metals, pesticides/PCBs	
rown bullhea	fillet	3	large fish	Davidson Pond	1	11.9	138.9		LF-LK-08-	DAB-925	tals, pesticides/PCBs, SVOCs	
rown bullhea	offal	3	large fish	Davidson Pond	1	11.9	201.1		F-LK-08-	DAB-926	metals, pesticides/PCBs	
rown bullhea	fillet	3	large fish	Davidson Pond	1	13.9	242.3		LF-LK-09-	DAB-927	tals, pesticides/PCBs, SV	tumor on lower lip
rown bullhea	offal	3	large fish	Davidson Pond	1	13.9	377.4		F-LK-09-	DAB-928	metals, pesticides/PCBs	tumor on lower lip
pumpkin see	hole bod	3	small fish	n/a	5	4.4	168.9	33.8	SF-LK-01	DAB-929	metals, pesticides/PCBs	
pumpkin see	hole bod	3	small fish	n/a	6	3.7	104.0	17.3	SF-LK-02	DAB-930	metals, pesticides/PCBs	
pumpkin see	hole bod	3	small fish	n/a	8	3.4	105.1	13.1	SF-LK-03	DAB-931	metals, pesticides/PCBs	
rown bullhea	fillet	3	large fish	Davidson Pond	1	10.3	103.2		LF-LK-10-	DAB-934	tals, pesticides/PCBs, SV	tumor on lower lip
rown bullhea	offal	3	large fish	Davidson Pond	1	10.3	146.8		F-LK-10-	DAB-935	metals, pesticides/PCBs	tumor on lower lip
rgemouth ba	fillet	4	large fish	Judkins Pond	1	13.7	203.0		F-LK-10A-	DAB-949	tals, pesticides/PCBs, SVOCs	
rgemouth ba	offal	4	large fish	Judkins Pond	1	13.7	417.0		F-LK-10A-	DAB-950	metals, pesticides/PCBs	
rgemouth ba	fillet	4	large fish	Judkins Pond	1	13.4	169.5		LF-LK-11-	DAB-951	tals, pesticides/PCBs, SVOCs	
rgemouth ba	offal	4	large fish	Judkins Pond	1	13.4	352.5		F-LK-11-	DAB-952	metals, pesticides/PCBs	
rgemouth ba	fillet	4	large fish	Judkins Pond	1	11.4	100.0		LF-LK-12-	DAB-953	tals, pesticides/PCBs, SVOCs	
rgemouth ba	offal	4	large fish	Judkins Pond	1	11.4	205.3		F-LK-12-	DAB-954	metals, pesticides/PCBs	
rgemouth ba	fillet	4	large fish	Judkins Pond	1	13.3	153.6		LF-LK-13-	DAB-955	tals, pesticides/PCBs, SVOCs	
rgemouth ba	offal	4	large fish	Judkins Pond	1	13.3	318.1		F-LK-13-	DAB-956	metals, pesticides/PCBs	
rgemouth ba	fillet	4	large fish	Judkins Pond	1	12.9	161.5		LF-LK-14-	DAB-957	tals, pesticides/PCBs, SVOCs	
rgemouth ba	offal	4	large fish	Judkins Pond	1	12.9	293.5		F-LK-14-	DAB-958	metals, pesticides/PCBs	
white sucker	hole bod	4	large fish	Judkins Pond	1	16.2	706.0		LF-LK-15	DAB-959	metals, pesticides/PCBs	
white sucker	hole bod	4	large fish	Judkins Pond	1	14.4	574.0		LF-LK-16	DAB-960	metals, pesticides/PCBs	
white sucker	hole bod	4	large fish	Judkins Pond	1	14.3	572.0		LF-LK-17	DAB-961	metals, pesticides/PCBs	
white sucker	hole bod	4	large fish	Judkins Pond	1	14.6	601.0		LF-LK-18	DAB-962	metals, pesticides/PCBs	
white sucker	hole bod	4	large fish	Judkins Pond	1	15.8	680.0		LF-LK-19	DAB-963	metals, pesticides/PCBs	
white sucker	hole bod	4	small fish	Judkins Pond	3	8.0	264.4	88.1	SF-LK-06	DAB-964	metals, pesticides/PCBs	
pumpkin see	hole bod	4	small fish	Judkins Pond	5	4.5	175.5	35.1	SF-LK-07	DAB-965	metals, pesticides/PCBs	
pumpkin see	hole bod	4	small fish	Judkins Pond	5	5.1	236.3	47.3	SF-LK-08	DAB-966	metals, pesticides/PCBs	

Species	Tissue	Reach	Category	Specific Sampling Location	# individuals in sample	Sample Length (in)	Sample Weight (g)	Average Weight (g)	Sample Label	Sample ID	Analyses	Notes
pumpkin see	hole bod	4	small fish	Judkins Pond	5	4.4	159.2	31.8	SF-LK-09	DAB-967	metals, pesticides/PCBs	
white sucker	hole bod	5	small fish	n/a	1	3.8	186.0		LF-RV-07	DAB-942	metals, pesticides/PCBs	
white sucker	hole bod	5	large fish	n/a	1	9.4	144.5		LF-RV-08	DAB-943	metals, pesticides/PCBs	large black spots on body--subdermal
white sucker	hole bod	5	large fish	n/a	1	9.5	169.1		LF-RV-09	DAB-944	metals, pesticides/PCBs	
pumpkin see	hole bod	5	small fish	n/a	7	3.7	112.4	16.1	SF-RV-01	DAB-945	metals, pesticides/PCBs	
pumpkin see	hole bod	5	small fish	n/a	6	3.8	109.9	18.3	SF-RV-02	DAB-946	metals, pesticides/PCBs	
pumpkin see	hole bod	5	small fish	n/a	8	3.5	124.5	15.6	SF-RV-03	DAB-947	metals, pesticides/PCBs	
crayfish	hole bod	5	crayfish	n/a	9	2.7	83.3	9.3	CF-RV-05	DAB-948	metals, pesticides/PCBs	
rgemouth ba	fillet	5	large fish	Everett	1	12.0	96.0		F-RV-05-	DAB-938	tals, pesticides/PCBs, SV	internal parasites along backbone
rgemouth ba	offal	5	large fish	Everett	1	12.0	243.7		F-RV-05-	DAB-939	metals, pesticides/PCBs	internal parasites along backbone
rgemouth ba	fillet	5	large fish	Everett	1	12.5	152.2		F-RV-06-	DAB-940	tals, pesticides/PCBs, SVOCs	
rgemouth ba	offal	5	large fish	Everett	1	12.5	291.0		F-RV-06-	DAB-941	metals, pesticides/PCBs	
rgemouth ba	fillet	5	large fish	N of gauging station	1	19.6	133.0		F-RV-10-F	DAB-968	tals, pesticides/PCBs, SV	parasitic intestinal worms
rgemouth ba	fillet	5	large fish	N of gauging station	1	19.6	153.6		F-RV-10-F	DAB-974	tals, pesticides/PCBs, SV	duplicate fillet
rgemouth ba	offal	5	large fish	N of gauging station	1	19.6	930.4		F-RV-10-	DAB-969	metals, pesticides/PCBs	parasitic intestinal worms
white sucker	hole bod	5	small fish	n/a	3	8.7	324.4	108.1	SF-RV-04	DAB-970	metals, pesticides/PCBs	
white sucker	hole bod	5	small fish	near gauging station	3	8.3	308.9	103.0	SF-RV-05	DAB-971	metals, pesticides/PCBs	
white sucker	hole bod	5	large fish	near gauging station	1	10.7	223.8		LF-RV-11	DAB-972	metals, pesticides/PCBs	
white sucker	hole bod	5	large fish	n/a	1	9.2	148.2		LF-RV-12	DAB-973	metals, pesticides/PCBs	
rgemouth ba	fillet	5	large fish	n/a	1	15.1	233.7		F-RV-13-	DAB-975	tals, pesticides/PCBs, SV	ulcerated lower jaw
rgemouth ba	offal	5	large fish	n/a	1	15.1	508.3		F-RV-13-	DAB-976	metals, pesticides/PCBs	ulcerated lower jaw
rgemouth ba	fillet	5	large fish	ove bridge at Mystic Parkw	1	13.3	144.2		F-RV-14-	DAB-977	tals, pesticides/PCBs, SVOCs	
rgemouth ba	offal	5	large fish	ove bridge at Mystic Parkw	1	13.3	333.8		F-RV-14-	DAB-978	metals, pesticides/PCBs	
rgemouth ba	fillet	5	large fish	ove bridge at Mystic Parkw	1	12.2	117.2		F-RV-15-	DAB-979	tals, pesticides/PCBs, SVOCs	
rgemouth ba	offal	5	large fish	ove bridge at Mystic Parkw	1	12.2	243.8		F-RV-15-	DAB-980	metals, pesticides/PCBs	
rgemouth ba	fillet	6	large fish	n/a	1	15.9	607.9		LF-LK-20-	DAB-985	tals, pesticides/PCBs, SVOCs	
rgemouth ba	offal	6	large fish	n/a	1	15.9	-246.9		F-RV-20-	DAB-986	insufficient mass	
rgemouth ba	fillet	6	large fish	n/a	1	16.1	276.5		LF-LK-21-	DAB-983	tals, pesticides/PCBs, SVOCs	
rgemouth ba	offal	6	large fish	n/a	1	16.1	653.0		F-RV-21-	DAB-984	metals, pesticides/PCBs	
rgemouth ba	fillet	6	large fish	n/a	1	16.9	196.5		F-LK-22-F	DAB-987	tals, pesticides/PCBs, SVOCs	
rgemouth ba	fillet	6	large fish	n/a	1	16.9	185.9		F-LK-22-F	DAB-988	tals, pesticides/PCBs, SV	duplicate fillet
rgemouth ba	offal	6	large fish	n/a	1	16.9	769.6		F-LK-22-	DAB-989	metals, pesticides/PCBs	
rgemouth ba	fillet	6	large fish	n/a	1	14.9	212.4		LF-LK-23-	DAB-990	tals, pesticides/PCBs, SVOCs	
rgemouth ba	offal	6	large fish	n/a	1	14.9	511.6		F-RV-23-	DAB-991	metals, pesticides/PCBs	
rgemouth ba	fillet	6	large fish	n/a	1	13.6	222.8		LF-LK-24-	DAB-992	tals, pesticides/PCBs, SVOCs	
rgemouth ba	offal	6	large fish	n/a	1	13.6	377.8		F-RV-24-	DAB-993	metals, pesticides/PCBs	
pumpkin see	hole bod	6	small fish	n/a	5	4.3	134.1	26.8	SF-LK-10	DAB-994	metals, pesticides/PCBs	
pumpkin see	hole bod	6	small fish	n/a	6	3.9	110.7	18.5	SF-LK-11	DAB-995	metals, pesticides/PCBs	
pumpkin see	hole bod	6	small fish	n/a	5	4.5	152.7	30.5	SF-LK-12	DAB-996	metals, pesticides/PCBs	
pumpkin see	hole bod	6	small fish	n/a	5	4.9	196.7	39.3	SF-LK-13	DAB-997	metals, pesticides/PCBs	
rown bullhea	fillet	6	large fish	n/a	1	13.1	142.2		LF-LK-25-	DAB-567	tals, pesticides/PCBs, SVOCs	
rown bullhea	offal	6	large fish	n/a	1	13.1	387.8		F-LK-25-	DAB-568	metals, pesticides/PCBs	
carp	hole bod	6	large fish	n/a	1	19.4	1587.0		LF-LK-30	DAB-585	metals, pesticides/PCBs	
carp	hole bod	6	large fish	n/a	1	24.0	2650.0		LF-LK-26	DAB-586	metals, pesticides/PCBs	
carp	hole bod	6	large fish	n/a	1	18.8	1445.0		LF-LK-27	DAB-587	metals, pesticides/PCBs	
carp	hole bod	6	large fish	n/a	1	24.6	3000.0		LF-LK-28	DAB-588	metals, pesticides/PCBs	
carp	hole bod	6	large fish	n/a	1	19.7	1614.0		LF-LK-29	DAB-589	metals, pesticides/PCBs	
eel	hole bod	6	large fish	n/a	1	29.9	1036.0		LF-LK-31	DAB-651	tals, pesticides/PCBs, SV	dead, time of death unknown
eel	hole bod	6	large fish	n/a	1	26.4	454.0		LF-LK-32	DAB-652	tals, pesticides/PCBs, SV	dead
eel	hole bod	6	large fish	n/a	1	23.3	412.7		LF-LK-33	DAB-653	tals, pesticides/PCBs, SV	dead
eel	hole bod	6	large fish	n/a	1	17.4	161.1		LF-LK-34	DAB-654	tals, pesticides/PCBs, SV	dead
eel	hole bod	6	large fish	n/a	1	28.3	735.0		LF-LK-35	DAB-655	tals, pesticides/PCBs, SV	live
rgemouth ba	fillet	7	large fish	Wright's Pond	1	14.7	213.9		LF-LB-01-	DAB-553	tals, pesticides/PCBs, SVOCs	
rgemouth ba	offal	7	large fish	Wright's Pond	1	14.7	434.1		F-LB-01-	DAB-554	metals, pesticides/PCBs	
rgemouth ba	fillet	7	large fish	Wright's Pond	1	14.1	159.9		LF-LB-02-	DAB-555	tals, pesticides/PCBs, SVOCs	
rgemouth ba	offal	7	large fish	Wright's Pond	1	14.1	405.1		F-LB-02-	DAB-556	metals, pesticides/PCBs	
rgemouth ba	fillet	7	large fish	Wright's Pond	1	13.1	168.5		LF-LB-03-	DAB-557	tals, pesticides/PCBs, SV	worms observed in flesh
rgemouth ba	offal	7	large fish	Wright's Pond	1	13.1	366.5		F-LB-03-	DAB-558	metals, pesticides/PCBs	worms observed in flesh
rgemouth ba	fillet	7	large fish	Wright's Pond	1	12.0	125.8		LF-LB-04-	DAB-559	tals, pesticides/PCBs, SVOCs	
rgemouth ba	offal	7	large fish	Wright's Pond	1	12.0	270.2		F-LB-04-	DAB-560	metals, pesticides/PCBs	
rgemouth ba	fillet	7	large fish	Wright's Pond	1	13.0	163.0		LF-LB-05-	DAB-561	tals, pesticides/PCBs, SVOCs	
rgemouth ba	offal	7	large fish	Wright's Pond	1	13.0	313.0		F-LB-05-	DAB-562	metals, pesticides/PCBs	
pumpkin see	hole bod	7	small fish	Wright's Pond	3	4.9	108.2	36.1	SF-LB-01	DAB-563	metals, pesticides/PCBs	
pumpkin see	hole bod	7	small fish	Wright's Pond	4	4.5	113.7	28.4	SF-LB-02	DAB-564	metals, pesticides/PCBs	
pumpkin see	hole bod	7	small fish	Wright's Pond	4	4.4	103.0	25.8	SF-LB-03	DAB-565	metals, pesticides/PCBs	
pumpkin see	hole bod	7	small fish	Wright's Pond	9	3.9	162.0	18.0	SF-LB-04	DAB-566	metals, pesticides/PCBs	
rgemouth ba	fillet	7	large fish	Wright's Pond	1	17.2	361.0		LF-LB-06-	DAB-572	tals, pesticides/PCBs, SVOCs	
rgemouth ba	offal	7	large fish	Wright's Pond	1	17.2	825.0		F-LB-06-	DAB-573	metals, pesticides/PCBs	

Species	Tissue	Reach	Category	Specific Sampling Location	# individuals in sample	Sample Length (in)	Sample Weight (g)	Average Weight (g)	Sample Label	Sample ID	Analyses	Notes
rgemouth ba	fillet	7	large fish	Wright's Pond	1	16.2	268.0		LF-LB-07-	DAB-574	tals, pesticides/PCBs, SVOCs	
rgemouth ba	offal	7	large fish	Wright's Pond	1	16.2	754.0		F-LB-07-	DAB-575	metals, pesticides/PCBs	
rgemouth ba	fillet	7	large fish	Wright's Pond	1	15.6	227.0		LF-LB-08-	DAB-576	tals, pesticides/PCBs, SVOCs	
rgemouth ba	offal	7	large fish	Wright's Pond	1	15.6	596.0		F-LB-08-	DAB-577	metals, pesticides/PCBs	
rgemouth ba	fillet	7	large fish	Wright's Pond	1	17.5	242.0		LF-LB-09-	DAB-578	tals, pesticides/PCBs, SVOCs	
rgemouth ba	offal	7	large fish	Wright's Pond	1	17.5	643.0		F-LB-08-	DAB-579	metals, pesticides/PCBs	
rgemouth ba	fillet	7	large fish	Wright's Pond	1	11.3	90.0		LF-LB-10-	DAB-580	tals, pesticides/PCBs, SVOCs	
rgemouth ba	offal	7	large fish	Wright's Pond	1	11.3	218.0		F-LB-10-	DAB-581	metals, pesticides/PCBs	
eel	hole bod	7	large fish	Wright's Pond	1	22.4	300.0		LF-LB-11	DAB-582	tals, pesticides/PCBs, SVOCs	
eel	hole bod	7	large fish	Wright's Pond	1	22.7	437.0		LF-LB-12	DAB-583	tals, pesticides/PCBs, SVOCs	
eel	hole bod	7	large fish	Wright's Pond	1	23.6	360.0		LF-LB-13	DAB-584	tals, pesticides/PCBs, SVOCs	
rown bullhea	fillet	7	large fish	Wright's Pond	1	9.1	52.9		LF-LB-14-	DAB-593	metals, pesticides/PCBs	
rown bullhea	offal	7	large fish	Wright's Pond	1	9.1	78.8		F-LB-14-	DAB-594	metals, pesticides/PCBs	
rown bullhea	fillet	7	large fish	Wright's Pond	1	14.3	141.3		LF-LB-15-	DAB-595	tals, pesticides/PCBs, SV	missing right pectoral fins
rown bullhea	offal	7	large fish	Wright's Pond	1	14.3	391.7		F-LB-15-	DAB-596	metals, pesticides/PCBs	missing right pectoral fins
rown bullhea	fillet	7	small fish	Wright's Pond	1	8.6	82.1		LF-LB-16-	DAB-597	tals, pesticides/PCBs, SVOCs	
rown bullhea	offal	7	small fish	Wright's Pond	1	8.6	72.7		F-LB-16-	DAB-598	metals, pesticides/PCBs	
rown bullhea	hole bod	7	small fish	Wright's Pond	2	6.6	114.9	57.5	SF-LB-05	DAB-599	metals, pesticides/PCBs	
rown bullhea	hole bod	7	small fish	Wright's Pond	6	4.4	99.4	16.6	SF-LB-06	DAB-650	metals, pesticides/PCBs	
eel	hole bod	7	large fish	Wright's Pond	1	19.3	195.0		LF-LB-17	DAB-656	tals, pesticides/PCBs, SV	live
eel	hole bod	7	large fish	Wright's Pond	1	13.4	72.0		LF-LB-18	DAB-657	tals, pesticides/PCBs, SV	live
eel	hole bod	7	large fish	Wright's Pond	1	22.8	351.0		LF-LB-19	DAB-658	tals, pesticides/PCBs, SV	recently deceased
eel	hole bod	7	large fish	Wright's Pond	1	23.2	390.0		LF-LB-20	DAB-659	tals, pesticides/PCBs, SV	live
eel	hole bod	7	large fish	Wright's Pond	1	25.6	520.0		LF-LB-21	DAB-660	tals, pesticides/PCBs, SV	live
equipment bl	QA										metals, pesticides/PCBs, SVOCs	

5.2 SVOCs

Wells G ,H, OU III
Large Fish Summary Statistics
Semivolatile Organics (ug/Kg)

PARAMETER	NO. DETECTED	NO. SAMPLES	MIN DETECTED	MAX	MEAN	StdDev	UCL MEAN	LOG MEAN	UCL LOG MEAN
Hexachlorocyclopentadiene	1	51	1600	1600	977	822	1169	946	1139
2,4,6-Trichlorophenol	1	51	1600	1600	977	822	1169	946	1139
2,4,5-Trichlorophenol	1	51	4000	4000	2371	1988	2835	2298	2764
2-Chloronaphthalene	1	51	1600	1600	977	822	1169	946	1139
2-Nitroaniline	1	51	4000	4000	2371	1988	2835	2298	2764
Dimethylphthalate	1	51	1600	1600	977	822	1169	946	1139
Acenaphthylene	1	51	1600	1600	977	822	1169	946	1139
2,6-Dinitrotoluene	1	51	1600	1600	977	822	1169	946	1139
3-Nitroaniline	1	51	4000	4000	2371	1988	2835	2298	2764
Acenaphthene	1	51	1600	1600	977	822	1169	946	1139
2,4-Dinitrophenol	1	49	4000	4000	2358	2010	2838	2281	2756
4-Nitrophenol	1	51	4000	4000	2371	1988	2835	2298	2764
Dibenzofuran	1	51	1600	1600	977	822	1169	946	1139
2,4-Dinitrotoluene	1	51	1600	1600	977	822	1169	946	1139
Diethylphthalate	2	51	410	1600	969	826	1162	938	1130
4-Chlorophenyl-phenylether	1	51	1600	1600	977	822	1169	946	1139
Fluorene	1	51	1600	1600	977	822	1169	946	1139
4-Nitroaniline	1	51	4000	4000	2371	1988	2835	2298	2764
Benzo(g,h,i)perylene	1	51	400	400	958	819	1150	925	1112

Wells G a. Site, OU III
Large Fish Detected Compounds
Semivolatile Organics (ug/Kg - wet weight)

SAMPLE ID	LF-LB-01-F		LF-LB-01-O		LF-LB-02-F		LF-LB-02-O		LF-LB-03-F		LF-LB-03-O		LF-LB-04-F	
LAB ID	DAB553		DAB554		DAB555		DAB556		DAB557		DAB558		DAB559	
SAMPLE DATE	8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95	
COMMENTS														
Hexachlorocyclopentadiene	1100	U	NA		1100	U	NA		1100	U	NA		1100	U
2,4,6-Trichlorophenol	1100	U	NA		1100	U	NA		1100	U	NA		1100	U
2,4,5-Trichlorophenol	2700	U	NA		2700	U	NA		2700	U	NA		2700	U
2-Chloronaphthalene	1100	U	NA		1100	U	NA		1100	U	NA		1100	U
2-Nitroaniline	2700	U	NA		2700	U	NA		2700	U	NA		2700	U
Dimethylphthalate	1100	U	NA		1100	U	NA		1100	U	NA		1100	U
Acenaphthylene	1100	U	NA		1100	U	NA		1100	U	NA		1100	U
2,6-Dinitrotoluene	1100	U	NA		1100	U	NA		1100	U	NA		1100	U
3-Nitroaniline	2700	U	NA		2700	U	NA		2700	U	NA		2700	U
Acenaphthene	1100	U	NA		1100	U	NA		1100	U	NA		1100	U
2,4-Dinitrophenol	2700	U	NA		2700	U	NA		2700	U	NA		2700	U
4-Nitrophenol	2700	U	NA		2700	U	NA		2700	U	NA		2700	U
Dibenzofuran	1100	U	NA		1100	U	NA		1100	U	NA		1100	U
2,4-Dinitrotoluene	1100	U	NA		1100	U	NA		1100	U	NA		1100	U
Diethylphthalate	1100	U	NA		1100	U	NA		1100	U	NA		1100	U
4-Chlorophenyl-phenylether	1100	U	NA		1100	U	NA		1100	U	NA		1100	U
Fluorene	1100	U	NA		1100	U	NA		1100	U	NA		1100	U
4-Nitroaniline	2700	UJ	NA		2700	UJ	NA		2700	UJ	NA		2700	UJ
Benzo(g,h,i)perylene	1100	U	NA		1100	U	NA		1100	U	NA		1100	U

Wells G & Site, OU III
Large Fish Detected Compounds
Semivolatile Organics (ug/Kg - wet weight)

SAMPLE ID	LF-LB-04-O		LF-LB-05-F		LF-LB-05-O		LF-LB-06-F		LF-LB-06-O		LF-LB-07-F		LF-LB-07-O	
LAB ID	DAB560		DAB561		DAB562		DAB572		DAB573		DAB574		DAB575	
SAMPLE DATE	8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95	
COMMENTS														
Hexachlorocyclopentadiene	NA		1100	U	NA		1100	U	NA		1100	U	NA	
2,4,6-Trichlorophenol	NA		1100	U	NA		1100	U	NA		1100	U	NA	
2,4,5-Trichlorophenol	NA		2700	U	NA		2700	U	NA		2700	U	NA	
2-Chloronaphthalene	NA		1100	U	NA		1100	U	NA		1100	U	NA	
2-Nitroaniline	NA		2700	U	NA		2700	U	NA		2700	U	NA	
Dimethylphthalate	NA		1100	U	NA		1100	U	NA		1100	U	NA	
Acenaphthylene	NA		1100	U	NA		1100	U	NA		1100	U	NA	
2,6-Dinitrotoluene	NA		1100	U	NA		1100	U	NA		1100	U	NA	
3-Nitroaniline	NA		2700	U	NA		2700	U	NA		2700	U	NA	
Acenaphthene	NA		1100	U	NA		1100	U	NA		1100	U	NA	
2,4-Dinitrophenol	NA		2700	U	NA		2700	U	NA		2700	U	NA	
4-Nitrophenol	NA		2700	U	NA		2700	U	NA		2700	U	NA	
Dibenzofuran	NA		1100	U	NA		1100	U	NA		1100	U	NA	
2,4-Dinitrotoluene	NA		1100	U	NA		1100	U	NA		1100	U	NA	
Diethylphthalate	NA		1100	U	NA		1100	U	NA		1100	U	NA	
4-Chlorophenyl-phenylether	NA		1100	U	NA		1100	U	NA		1100	U	NA	
Fluorene	NA		1100	U	NA		1100	U	NA		1100	U	NA	
4-Nitroaniline	NA		2700	UJ	NA		2700	U	NA		2700	U	NA	
Benzo(g,h,i)perylene	NA		1100	U	NA		1100	U	NA		1100	U	NA	

Wells G a Site, OU III
Large Fish Detected Compounds
Semivolatile Organics (ug/Kg - wet weight)

SAMPLE ID	LF-LB-08-F		LF-LB-08-O		LF-LB-09-F		LF-LB-09-O		LF-LB-10-F		LF-LB-10-O		LF-LB-11	
LAB ID	DAB576		DAB577		DAB578		DAB579		DAB580		DAB581		DAB582	
SAMPLE DATE	8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95	
COMMENTS														
Hexachlorocyclopentadiene	1100	U	NA		820	U	NA		1100	U	NA		2200	U
2,4,6-Trichlorophenol	1100	U	NA		820	U	NA		1100	U	NA		2200	U
2,4,5-Trichlorophenol	2600	U	NA		2000	U	NA		2700	U	NA		5300	U
2-Chloronaphthalene	1100	U	NA		820	U	NA		1100	U	NA		2200	U
2-Nitroaniline	2600	U	NA		2000	U	NA		2700	U	NA		5300	U
Dimethylphthalate	1100	U	NA		820	U	NA		1100	U	NA		2200	U
Acenaphthylene	1100	U	NA		820	U	NA		1100	U	NA		2200	U
2,6-Dinitrotoluene	1100	U	NA		820	U	NA		1100	U	NA		2200	U
3-Nitroaniline	2600	U	NA		2000	U	NA		2700	U	NA		5300	U
Acenaphthene	1100	U	NA		820	U	NA		1100	U	NA		2200	U
2,4-Dinitrophenol	2600	U	NA		2000	U	NA		2700	U	NA		5300	U
4-Nitrophenol	2600	U	NA		2000	U	NA		2700	U	NA		5300	U
Dibenzofuran	1100	U	NA		820	U	NA		1100	U	NA		2200	U
2,4-Dinitrotoluene	1100	U	NA		820	U	NA		1100	U	NA		2200	U
Diethylphthalate	1100	U	NA		820	U	NA		1100	U	NA		2200	U
4-Chlorophenyl-phenylether	1100	U	NA		820	U	NA		1100	U	NA		2200	U
Fluorene	1100	U	NA		820	U	NA		1100	U	NA		2200	U
4-Nitroaniline	2600	U	NA		2000	U	NA		2700	U	NA		5300	U
Benzo(g,h,i)perylene	400	J	NA		820	U	NA		1100	U	NA		2200	U

Wells G & ; Site, OU III
Large Fish Detected Compounds
Semivolatile Organics (ug/Kg - wet weight)

SAMPLE ID	LF-LB-12		LF-LB-13		LF-LB-14-F		LF-LB-14-O		LF-LB-15-F		LF-LB-15-O		LF-LB-16-F	
LAB ID	DAB583		DAB584		DAB593		DAB594		DAB595		DAB596		DAB597	
SAMPLE DATE	8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95	
COMMENTS														
Hexachlorocyclopentadiene	2200	U	2200	U	NA		NA		1100	U	NA		3300	U
2,4,6-Trichlorophenol	2200	U	2200	U	NA		NA		1100	U	NA		3300	U
2,4,5-Trichlorophenol	5300	U	5300	U	NA		NA		2700	U	NA		8000	U
2-Chloronaphthalene	2200	U	2200	U	NA		NA		1100	U	NA		3300	U
2-Nitroaniline	5300	U	5300	U	NA		NA		2700	U	NA		8000	U
Dimethylphthalate	2200	U	2200	U	NA		NA		1100	U	NA		3300	U
Acenaphthylene	2200	U	2200	U	NA		NA		1100	U	NA		3300	U
2,6-Dinitrotoluene	2200	U	2200	U	NA		NA		1100	U	NA		3300	U
3-Nitroaniline	5300	U	5300	U	NA		NA		2700	U	NA		8000	U
Acenaphthene	2200	U	2200	U	NA		NA		1100	U	NA		3300	U
2,4-Dinitrophenol	5300	U	5300	U	NA		NA		2700	R	NA		8000	R
4-Nitrophenol	5300	U	5300	U	NA		NA		2700	U	NA		8000	U
Dibenzofuran	2200	U	2200	U	NA		NA		1100	U	NA		3300	U
2,4-Dinitrotoluene	2200	U	2200	U	NA		NA		1100	U	NA		3300	U
Diethylphthalate	2200	U	2200	U	NA		NA		1100	U	NA		3300	U
4-Chlorophenyl-phenylether	2200	U	2200	U	NA		NA		1100	U	NA		3300	U
Fluorene	2200	U	2200	U	NA		NA		1100	U	NA		3300	U
4-Nitroaniline	5300	U	5300	U	NA		NA		2700	U	NA		8000	U
Benzo(g,h,i)perylene	2200	U	2200	U	NA		NA		1100	U	NA		3300	U

Wells G & Site, OU III
Large Fish Detected Compounds
Semivolatile Organics (ug/Kg - wet weight)

SAMPLE ID	LF-LB-16-O	LF-LB-17	LF-LB-18	LF-LB-19	LF-LB-20	LF-LB-21	LF-LB-22
LAB ID	DAB598	DAB656	DAB657	DAB658	DAB659	DAB660	DAB663
SAMPLE DATE	8/3/95	8/3/95	8/3/95	8/3/95	8/3/95	8/3/95	8/10/95
COMMENTS							
Hexachlorocyclopentadiene	NA	6600 U	5000 U	6600 U	3300 U	6600 U	NA
2,4,6-Trichlorophenol	NA	6600 U	5000 U	6600 U	3300 U	6600 U	NA
2,4,5-Trichlorophenol	NA	16000 U	12000 U	16000 U	7900 U	16000 U	NA
2-Chloronaphthalene	NA	6600 U	5000 U	6600 U	3300 U	6600 U	NA
2-Nitroaniline	NA	16000 U	12000 U	16000 U	7900 U	16000 U	NA
Dimethylphthalate	NA	6600 U	5000 U	6600 U	3300 U	6600 U	NA
Acenaphthylene	NA	6600 U	5000 U	6600 U	3300 U	6600 U	NA
2,6-Dinitrotoluene	NA	6600 U	5000 U	6600 U	3300 U	6600 U	NA
3-Nitroaniline	NA	16000 U	12000 U	16000 U	7900 U	16000 U	NA
Acenaphthene	NA	6600 U	5000 U	6600 U	3300 U	6600 U	NA
2,4-Dinitrophenol	NA	16000 U	12000 U	16000 U	7900 U	16000 U	NA
4-Nitrophenol	NA	16000 U	12000 U	16000 U	7900 U	16000 U	NA
Dibenzofuran	NA	6600 U	5000 U	6600 U	3300 U	6600 U	NA
2,4-Dinitrotoluene	NA	6600 U	5000 U	6600 U	3300 U	6600 U	NA
Diethylphthalate	NA	6600 U	5000 U	6600 U	3300 U	6600 U	NA
4-Chlorophenyl-phenylether	NA	6600 U	5000 U	6600 U	3300 U	6600 U	NA
Fluorene	NA	6600 U	5000 U	6600 U	3300 U	6600 U	NA
4-Nitroaniline	NA	16000 U	12000 U	16000 U	7900 U	16000 U	NA
Benzo(g,h,i)perylene	NA	6600 UJ	5000 U	6600 U	3300 U	6600 U	NA

Wells G ai. Site, OU III
Large Fish Detected Compounds
Semivolatile Organics (ug/Kg - wet weight)

SAMPLE ID	LF-LB-23	LF-LB-24	LF-LB-25	LF-LB-26	LF-LK-01	LF-LK-02	LF-LK-03
LAB ID	DAB664	DAB665	DAB666	DAB667	DAB911	DAB913	DAB915
SAMPLE DATE	8/10/95	8/10/95	8/10/95	8/10/95	7/31/95	7/31/95	7/31/95
COMMENTS							
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
Dimethylphthalate	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl-phenylether	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA

Wells G a... Site, OU III
Large Fish Detected Compounds
Semivolatile Organics (ug/Kg - wet weight)

SAMPLE ID	LF-LK-04	LF-LK-05	LF-LK-06-F		LF-LK-06-O	LF-LK-07-F	LF-LK-07-O	LF-LK-08-F	
LAB ID	DAB917	DAB919	DAB921		DAB922	DAB923	DAB924	DAB925	
SAMPLE DATE	7/31/95	7/31/95	7/31/95		7/31/95	7/31/95	7/31/95	7/31/95	
COMMENTS									
Hexachlorocyclopentadiene	NA	NA	660	U	NA	NA	NA	1100	U
2,4,6-Trichlorophenol	NA	NA	660	U	NA	NA	NA	1100	U
2,4,5-Trichlorophenol	NA	NA	1600	U	NA	NA	NA	2700	U
2-Chloronaphthalene	NA	NA	660	U	NA	NA	NA	1100	U
2-Nitroaniline	NA	NA	1600	U	NA	NA	NA	2700	U
Dimethylphthalate	NA	NA	660	U	NA	NA	NA	1100	U
Acenaphthylene	NA	NA	660	U	NA	NA	NA	1100	U
2,6-Dinitrotoluene	NA	NA	660	U	NA	NA	NA	1100	U
3-Nitroaniline	NA	NA	1600	U	NA	NA	NA	2700	U
Acenaphthene	NA	NA	660	U	NA	NA	NA	1100	U
2,4-Dinitrophenol	NA	NA	1600	U	NA	NA	NA	2700	U
4-Nitrophenol	NA	NA	1600	U	NA	NA	NA	2700	U
Dibenzofuran	NA	NA	660	U	NA	NA	NA	1100	U
2,4-Dinitrotoluene	NA	NA	660	U	NA	NA	NA	1100	U
Diethylphthalate	NA	NA	660	U	NA	NA	NA	1100	U
4-Chlorophenyl-phenylether	NA	NA	660	U	NA	NA	NA	1100	U
Fluorene	NA	NA	660	U	NA	NA	NA	1100	U
4-Nitroaniline	NA	NA	1600	U	NA	NA	NA	2700	U
Benzo(g,h,i)perylene	NA	NA	660	U	NA	NA	NA	1100	U

Wells G a. , Site, OU III
Large Fish Detected Compounds
Semivolatile Organics (ug/Kg - wet weight)

SAMPLE ID	LF-LK-08-O		LF-LK-09-F		LF-LK-09-O		LF-LK-10-F		LF-LK-10-O		LF-LK-11-F		LF-LK-11-O	
LAB ID	DAB926		DAB927		DAB928		DAB934		DAB935		DAB951		DAB952	
SAMPLE DATE	7/31/95		7/31/95		7/31/95		8/1/95		8/1/95		8/1/95		8/1/95	
COMMENTS														
Hexachlorocyclopentadiene	NA		1100	U	NA		1400	U	NA		1100	U	NA	
2,4,6-Trichlorophenol	NA		1100	U	NA		1400	U	NA		1100	U	NA	
2,4,5-Trichlorophenol	NA		2700	U	NA		3400	U	NA		2600	U	NA	
2-Chloronaphthalene	NA		1100	U	NA		1400	U	NA		1100	U	NA	
2-Nitroaniline	NA		2700	U	NA		3400	U	NA		2600	U	NA	
Dimethylphthalate	NA		1100	U	NA		1400	U	NA		1100	U	NA	
Acenaphthylene	NA		1100	U	NA		1400	U	NA		1100	U	NA	
2,6-Dinitrotoluene	NA		1100	U	NA		1400	U	NA		1100	U	NA	
3-Nitroaniline	NA		2700	U	NA		3400	U	NA		2600	U	NA	
Acenaphthene	NA		1100	U	NA		1400	U	NA		1100	U	NA	
2,4-Dinitrophenol	NA		2700	U	NA		3400	U	NA		2600	U	NA	
4-Nitrophenol	NA		2700	U	NA		3400	U	NA		2600	U	NA	
Dibenzofuran	NA		1100	U	NA		1400	U	NA		1100	U	NA	
2,4-Dinitrotoluene	NA		1100	U	NA		1400	U	NA		1100	U	NA	
Diethylphthalate	NA		1100	U	NA		1400	U	NA		1100	U	NA	
4-Chlorophenyl-phenylether	NA		1100	U	NA		1400	U	NA		1100	U	NA	
Fluorene	NA		1100	U	NA		1400	U	NA		1100	U	NA	
4-Nitroaniline	NA		2700	U	NA		3400	U	NA		2600	U	NA	
Benzo(g,h,i)perylene	NA		1100	U	NA		1400	U	NA		1100	U	NA	

Wells G a. Site, OU III
Large Fish Detected Compounds
Semivolatile Organics (ug/Kg - wet weight)

SAMPLE ID	LF-LK-12-F		LF-LK-12-O		LF-LK-13-F		LF-LK-13-O		LF-LK-14-F		LF-LK-14-O		LF-LK-15	
LAB ID	DAB953		DAB954		DAB955		DAB956		DAB957		DAB958		DAB959	
SAMPLE DATE	8/1/95		8/1/95		8/1/95		8/1/95		8/1/95		8/1/95		8/1/95	
COMMENTS														
Hexachlorocyclopentadiene	1600	J	NA		1200	U	NA		1600	U	NA		NA	
2,4,6-Trichlorophenol	1600	J	NA		1200	U	NA		1600	U	NA		NA	
2,4,5-Trichlorophenol	4000	J	NA		3000	U	NA		4000	U	NA		NA	
2-Chloronaphthalene	1600	J	NA		1200	U	NA		1600	U	NA		NA	
2-Nitroaniline	4000	J	NA		3000	U	NA		4000	U	NA		NA	
Dimethylphthalate	1600	J	NA		1200	U	NA		1600	U	NA		NA	
Acenaphthylene	1600	J	NA		1200	U	NA		1600	U	NA		NA	
2,6-Dinitrotoluene	1600	J	NA		1200	U	NA		1600	U	NA		NA	
3-Nitroaniline	4000	J	NA		3000	U	NA		4000	U	NA		NA	
Acenaphthene	1600	J	NA		1200	U	NA		1600	U	NA		NA	
2,4-Dinitrophenol	4000	J	NA		3000	U	NA		4000	U	NA		NA	
4-Nitrophenol	4000	J	NA		3000	U	NA		4000	U	NA		NA	
Dibenzofuran	1600	J	NA		1200	U	NA		1600	U	NA		NA	
2,4-Dinitrotoluene	1600	J	NA		1200	U	NA		1600	U	NA		NA	
Diethylphthalate	1600	J	NA		1200	U	NA		410	J	NA		NA	
4-Chlorophenyl-phenylether	1600	J	NA		1200	U	NA		1600	U	NA		NA	
Fluorene	1600	J	NA		1200	U	NA		1600	U	NA		NA	
4-Nitroaniline	4000	J	NA		3000	U	NA		4000	U	NA		NA	
Benzo(g,h,i)perylene	1600	U	NA		1200	U	NA		1600	U	NA		NA	

Wells G a. Site, OU III
Large Fish Detected Compounds
Semivolatile Organics (ug/Kg - wet weight)

SAMPLE ID	LF-LK-16	LF-LK-17	LF-LK-18	LF-LK-19	LF-LK-20-F		LF-LK-21-F		LF-LK-22-F1	
LAB ID	DAB960	DAB961	DAB962	DAB963	DAB985		DAB983		DAB987	
SAMPLE DATE	8/1/95	8/1/95	8/1/95	8/1/95	8/2/95		8/2/95		8/2/95	
COMMENTS									dup of DAB988	
Hexachlorocyclopentadiene	NA	NA	NA	NA	1100	U	1100	U	1100	U
2,4,6-Trichlorophenol	NA	NA	NA	NA	1100	U	1100	U	1100	U
2,4,5-Trichlorophenol	NA	NA	NA	NA	2700	U	2600	U	2700	U
2-Chloronaphthalene	NA	NA	NA	NA	1100	U	1100	U	1100	U
2-Nitroaniline	NA	NA	NA	NA	2700	U	2600	U	2700	U
Dimethylphthalate	NA	NA	NA	NA	1100	U	1100	U	1100	U
Acenaphthylene	NA	NA	NA	NA	1100	U	1100	U	1100	U
2,6-Dinitrotoluene	NA	NA	NA	NA	1100	U	1100	U	1100	U
3-Nitroaniline	NA	NA	NA	NA	2700	U	2600	U	2700	U
Acenaphthene	NA	NA	NA	NA	1100	U	1100	U	1100	U
2,4-Dinitrophenol	NA	NA	NA	NA	2700	U	2600	U	2700	U
4-Nitrophenol	NA	NA	NA	NA	2700	U	2600	U	2700	U
Dibenzofuran	NA	NA	NA	NA	1100	U	1100	U	1100	U
2,4-Dinitrotoluene	NA	NA	NA	NA	1100	U	1100	U	1100	U
Diethylphthalate	NA	NA	NA	NA	1100	U	1100	U	1100	U
4-Chlorophenyl-phenylether	NA	NA	NA	NA	1100	U	1100	U	1100	U
Fluorene	NA	NA	NA	NA	1100	U	1100	U	1100	U
4-Nitroaniline	NA	NA	NA	NA	2700	U	2600	U	2700	U
Benzo(g,h,i)perylene	NA	NA	NA	NA	1100	U	1100	U	1100	U

Wells G a Site, OU III
Large Fish Detected Compounds
Semivolatile Organics (ug/Kg - wet weight)

SAMPLE ID	LF-LK-22-F2		LF-LK-22-O		LF-LK-23-F		LF-LK-24-F		LF-LK-25-F		LF-LK-25-O		LF-LK-31	
LAB ID	DAB988		DAB989		DAB990		DAB992		DAB567		DAB568		DAB651	
SAMPLE DATE	8/2/95		8/2/95		8/2/95		8/2/95		8/3/95		8/3/95		8/3/95	
COMMENTS	dup of DAB987													
Hexachlorocyclopentadiene	1100	U	NA		1100	U	1100	U	1100	U	NA		2200	U
2,4,6-Trichlorophenol	1100	U	NA		1100	U	1100	U	1100	U	NA		2200	U
2,4,5-Trichlorophenol	2700	U	NA		2700	U	2700	U	2700	U	NA		5300	U
2-Chloronaphthalene	1100	U	NA		1100	U	1100	U	1100	U	NA		2200	U
2-Nitroaniline	2700	U	NA		2700	U	2700	U	2700	U	NA		5300	U
Dimethylphthalate	1100	U	NA		1100	U	1100	U	1100	U	NA		2200	U
Acenaphthylene	1100	U	NA		1100	U	1100	U	1100	U	NA		2200	U
2,6-Dinitrotoluene	1100	U	NA		1100	U	1100	U	1100	U	NA		2200	U
3-Nitroaniline	2700	U	NA		2700	U	2700	U	2700	U	NA		5300	U
Acenaphthene	1100	U	NA		1100	U	1100	U	1100	U	NA		2200	U
2,4-Dinitrophenol	2700	U	NA		2700	U	2700	U	2700	U	NA		5300	U
4-Nitrophenol	2700	U	NA		2700	U	2700	U	2700	U	NA		5300	U
Dibenzofuran	1100	U	NA		1100	U	1100	U	1100	U	NA		2200	U
2,4-Dinitrotoluene	1100	U	NA		1100	U	1100	U	1100	U	NA		2200	U
Diethylphthalate	1100	U	NA		1100	U	1100	U	1100	U	NA		2200	U
4-Chlorophenyl-phenylether	1100	U	NA		1100	U	1100	U	1100	U	NA		2200	U
Fluorene	1100	U	NA		1100	U	1100	U	1100	U	NA		2200	U
4-Nitroaniline	2700	U	NA		2700	U	2700	U	2700	U	NA		5300	U
Benzo(g,h,i)perylene	1100	U	NA		1100	U	1100	U	1100	U	NA		2200	U

Wells G . . Site, OU III
Large Fish Detected Compounds
Semivolatile Organics (ug/Kg - wet weight)

SAMPLE ID	LF-LK-32		LF-LK-33		LF-LK-34		LF-LK-35		LF-LK-36-F		LF-LK-36-O	LF-RV-01-F	
LAB ID	DAB652		DAB653		DAB654		DAB655		DAB949		DAB950	DAB903	
SAMPLE DATE	8/3/95		8/3/95		8/3/95		8/3/95		8/1/95		8/1/95	7/31/95	
COMMENTS											MS/MSD		
Hexachlorocyclopentadiene	3300	U	6600	U	3300	U	3300	U	2200	U	NA	550	U
2,4,6-Trichlorophenol	3300	U	6600	U	3300	U	3300	U	2200	U	NA	550	U
2,4,5-Trichlorophenol	7900	U	16000	U	8000	U	7900	U	5300	U	NA	1300	U
2-Chloronaphthalene	3300	U	6600	U	3300	U	3300	U	2200	U	NA	550	U
2-Nitroaniline	7900	U	16000	U	8000	U	7900	U	5300	U	NA	1300	U
Dimethylphthalate	3300	U	6600	U	3300	U	3300	U	2200	U	NA	550	U
Acenaphthylene	3300	U	6600	U	3300	U	3300	U	2200	U	NA	550	U
2,6-Dinitrotoluene	3300	U	6600	U	3300	U	3300	U	2200	U	NA	550	U
3-Nitroaniline	7900	U	16000	U	8000	U	7900	U	5300	U	NA	1300	U
Acenaphthene	3300	U	6600	U	3300	U	3300	U	2200	U	NA	550	U
2,4-Dinitrophenol	7900	U	16000	U	8000	U	7900	U	5300	U	NA	1300	U
4-Nitrophenol	7900	U	16000	U	8000	U	7900	U	5300	U	NA	1300	U
Dibenzofuran	3300	U	6600	U	3300	U	3300	U	2200	U	NA	550	U
2,4-Dinitrotoluene	3300	U	6600	U	3300	U	3300	U	2200	U	NA	550	U
Diethylphthalate	3300	U	6600	U	3300	U	3300	U	2200	U	NA	550	U
4-Chlorophenyl-phenylether	3300	U	6600	U	3300	U	3300	U	2200	U	NA	550	U
Fluorene	3300	U	6600	U	3300	U	3300	U	2200	U	NA	550	U
4-Nitroaniline	7900	U	16000	U	8000	U	7900	U	5300	U	NA	1300	U
Benzo(g,h,i)perylene	3300	UJ	6600	UJ	3300	UJ	3300	UJ	2200	U	NA	550	U

Wells G a[illegible] Site, OU III
Large Fish Detected Compounds
Semivolatile Organics (ug/Kg - wet weight)

SAMPLE ID	LF-RV-01-O	LF-RV-02-F		LF-RV-02-O	LF-RV-03-F		LF-RV-03-O	LF-RV-04-F	LF-RV-04-O
LAB ID	DAB904	DAB907		DAB908	DAB905		DAB906	DAB909	DAB910
SAMPLE DATE	7/31/95	7/31/95		7/31/95	7/31/95		7/31/95	7/31/95	7/31/95
COMMENTS									
Hexachlorocyclopentadiene	NA	660	U	NA	550	U	NA	NA	NA
2,4,6-Trichlorophenol	NA	660	U	NA	550	U	NA	NA	NA
2,4,5-Trichlorophenol	NA	1600	U	NA	1300	U	NA	NA	NA
2-Chloronaphthalene	NA	660	U	NA	550	U	NA	NA	NA
2-Nitroaniline	NA	1600	U	NA	1300	U	NA	NA	NA
Dimethylphthalate	NA	660	U	NA	550	U	NA	NA	NA
Acenaphthylene	NA	660	U	NA	550	U	NA	NA	NA
2,6-Dinitrotoluene	NA	660	U	NA	550	U	NA	NA	NA
3-Nitroaniline	NA	1600	U	NA	1300	U	NA	NA	NA
Acenaphthene	NA	660	U	NA	550	U	NA	NA	NA
2,4-Dinitrophenol	NA	1600	U	NA	1300	U	NA	NA	NA
4-Nitrophenol	NA	1600	U	NA	1300	U	NA	NA	NA
Dibenzofuran	NA	660	U	NA	550	U	NA	NA	NA
2,4-Dinitrotoluene	NA	660	U	NA	550	U	NA	NA	NA
Diethylphthalate	NA	660	U	NA	550	U	NA	NA	NA
4-Chlorophenyl-phenylether	NA	660	U	NA	550	U	NA	NA	NA
Fluorene	NA	660	U	NA	550	U	NA	NA	NA
4-Nitroaniline	NA	1600	U	NA	1300	U	NA	NA	NA
Benzo(g,h,i)perylene	NA	660	U	NA	550	U	NA	NA	NA

Wells G & Site, OU III
Large Fish Detected Compounds
Semivolatile Organics (ug/Kg - wet weight)

SAMPLE ID	LF-RV-05-F		LF-RV-05-O		LF-RV-06-F		LF-RV-06-O		LF-RV-07	LF-RV-08	LF-RV-09
LAB ID	DAB938		DAB939		DAB940		DAB941		DAB942	DAB943	DAB944
SAMPLE DATE	8/1/95		8/1/95		8/1/95		8/1/95		8/1/95	8/1/95	8/1/95
COMMENTS											
Hexachlorocyclopentadiene	1300	U	NA		1300	U	NA		NA	NA	NA
2,4,6-Trichlorophenol	1300	U	NA		1300	U	NA		NA	NA	NA
2,4,5-Trichlorophenol	3200	U	NA		3100	U	NA		NA	NA	NA
2-Chloronaphthalene	1300	U	NA		1300	U	NA		NA	NA	NA
2-Nitroaniline	3200	U	NA		3100	U	NA		NA	NA	NA
Dimethylphthalate	1300	U	NA		1300	U	NA		NA	NA	NA
Acenaphthylene	1300	U	NA		1300	U	NA		NA	NA	NA
2,6-Dinitrotoluene	1300	U	NA		1300	U	NA		NA	NA	NA
3-Nitroaniline	3200	U	NA		3100	U	NA		NA	NA	NA
Acenaphthene	1300	U	NA		1300	U	NA		NA	NA	NA
2,4-Dinitrophenol	3200	U	NA		3100	U	NA		NA	NA	NA
4-Nitrophenol	3200	U	NA		3100	U	NA		NA	NA	NA
Dibenzofuran	1300	U	NA		1300	U	NA		NA	NA	NA
2,4-Dinitrotoluene	1300	U	NA		1300	U	NA		NA	NA	NA
Diethylphthalate	1300	U	NA		1300	U	NA		NA	NA	NA
4-Chlorophenyl-phenylether	1300	U	NA		1300	U	NA		NA	NA	NA
Fluorene	1300	U	NA		1300	U	NA		NA	NA	NA
4-Nitroaniline	3200	U	NA		3100	U	NA		NA	NA	NA
Benzo(g,h,i)perylene	1300	U	NA		1300	U	NA		NA	NA	NA

Wells G & H Site, OU III
Large Fish Detected Compounds
Semivolatile Organics (ug/Kg - wet weight)

SAMPLE ID	LF-RV-10-F1		LF-RV-10-F2		LF-RV-10-O	LF-RV-11	LF-RV-12	LF-RV-13-F		LF-RV-13-O
LAB ID	DAB968		DAB974		DAB969	DAB972	DAB973	DAB975		DAB976
SAMPLE DATE	8/1/95		8/1/95		8/1/95	8/1/95	8/1/95	8/1/95		8/1/95
COMMENTS	dup of DAB974		dup of DAB968							
Hexachlorocyclopentadiene	1100	U	1100	U	NA	NA	NA	1100	U	NA
2,4,6-Trichlorophenol	1100	U	1100	U	NA	NA	NA	1100	U	NA
2,4,5-Trichlorophenol	2600	U	2700	U	NA	NA	NA	2700	U	NA
2-Chloronaphthalene	1100	U	1100	U	NA	NA	NA	1100	U	NA
2-Nitroaniline	2600	U	2700	U	NA	NA	NA	2700	U	NA
Dimethylphthalate	1100	U	1100	U	NA	NA	NA	1100	U	NA
Acenaphthylene	1100	U	1100	U	NA	NA	NA	1100	U	NA
2,6-Dinitrotoluene	1100	U	1100	U	NA	NA	NA	1100	U	NA
3-Nitroaniline	2600	U	2700	U	NA	NA	NA	2700	U	NA
Acenaphthene	1100	U	1100	U	NA	NA	NA	1100	U	NA
2,4-Dinitrophenol	2600	U	2700	U	NA	NA	NA	2700	U	NA
4-Nitrophenol	2600	U	2700	U	NA	NA	NA	2700	U	NA
Dibenzofuran	1100	U	1100	U	NA	NA	NA	1100	U	NA
2,4-Dinitrotoluene	1100	U	1100	U	NA	NA	NA	1100	U	NA
Diethylphthalate	1100	U	1100	U	NA	NA	NA	1100	U	NA
4-Chlorophenyl-phenylether	1100	U	1100	U	NA	NA	NA	1100	U	NA
Fluorene	1100	U	1100	U	NA	NA	NA	1100	U	NA
4-Nitroaniline	2600	U	2700	U	NA	NA	NA	2700	U	NA
Benzo(g,h,i)perylene	1100	U	1100	U	NA	NA	NA	1100	U	NA

Wells G & , Site, OU III
Large Fish Detected Compounds
Semivolatile Organics (ug/Kg - wet weight)

SAMPLE ID	LF-RV-14-F		LF-RV-14-O		LF-RV-15-F		LF-RV-15-O		LF-RV-16	LF-RV-17	LF-RV-18
LAB ID	DAB977		DAB978		DAB979		DAB980		DAB998	DAB550	DAB590
SAMPLE DATE	8/1/95		8/1/95		8/1/95		8/1/95		8/2/95	8/2/95	8/3/95
COMMENTS											
Hexachlorocyclopentadiene	1100	U	NA		1100	U	NA		NA	NA	NA
2,4,6-Trichlorophenol	1100	U	NA		1100	U	NA		NA	NA	NA
2,4,5-Trichlorophenol	2700	U	NA		2700	U	NA		NA	NA	NA
2-Chloronaphthalene	1100	U	NA		1100	U	NA		NA	NA	NA
2-Nitroaniline	2700	U	NA		2700	U	NA		NA	NA	NA
Dimethylphthalate	1100	U	NA		1100	U	NA		NA	NA	NA
Acenaphthylene	1100	U	NA		1100	U	NA		NA	NA	NA
2,6-Dinitrotoluene	1100	U	NA		1100	U	NA		NA	NA	NA
3-Nitroaniline	2700	U	NA		2700	U	NA		NA	NA	NA
Acenaphthene	1100	U	NA		1100	U	NA		NA	NA	NA
2,4-Dinitrophenol	2700	U	NA		2700	U	NA		NA	NA	NA
4-Nitrophenol	2700	U	NA		2700	U	NA		NA	NA	NA
Dibenzofuran	1100	U	NA		1100	U	NA		NA	NA	NA
2,4-Dinitrotoluene	1100	U	NA		1100	U	NA		NA	NA	NA
Diethylphthalate	1100	U	NA		1100	U	NA		NA	NA	NA
4-Chlorophenyl-phenylether	1100	U	NA		1100	U	NA		NA	NA	NA
Fluorene	1100	U	NA		1100	U	NA		NA	NA	NA
4-Nitroaniline	2700	U	NA		2700	U	NA		NA	NA	NA
Benzo(g,h,i)perylene	1100	U	NA		1100	U	NA		NA	NA	NA

Wells G &... .1 Site, OU III
Large Fish Detected Compounds
Semivolatile Organics (ug/Kg - wet weight)

SAMPLE ID	LF-RV-20-O	LF-RV-21-O	LF-RV-23-O	LF-RV-24-O
LAB ID	DAB986	DAB984	DAB991	DAB993
SAMPLE DATE	8/2/95	8/2/95	8/2/95	8/2/95
COMMENTS				
Hexachlorocyclopentadiene	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA
2-Nitroaniline	NA	NA	NA	NA
Dimethylphthalate	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA
3-Nitroaniline	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA
Diethylphthalate	NA	NA	NA	NA
4-Chlorophenyl-phenylether	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA
Benzo(g,h,i)perylene	NA	NA	NA	NA

Wells G a Site, OU III
Small Fish Detected Compounds
Semivolatile Organics (ug/Kg -wet weight)

No semivolatile organic compounds were detected in the small fish samples.

5.3 PCBs/Pesticides

Wells G . H, OU III
Large Fish Summary Statistics
Pesticide - PCBs (ug/Kg)

PARAMETER	NO. DETECTED	NO. SAMPLES	MIN DETECTED	MAX	MEAN	StdDev	UCL MEAN	LOG MEAN	UCL LOG MEAN
alpha-BHC	1	114	1	1	1.2	0.9	1.4	1.3	1.5
beta-BHC	12	114	0.3	2.3	1.26	0.9	1.41	1.32	1.56
delta-BHC	7	114	0.36	1.1	1.24	0.89	1.38	1.28	1.5
Heptachlor	2	114	0.39	0.41	1.23	0.9	1.37	1.27	1.5
Aldrin	33	114	0.31	5.3	1.53	1.15	1.71	1.61	1.92
Heptachlor epoxide	47	116	0.3	15	2.28	2.9	2.73	2.26	2.87
Endosulfan I	12	114	0.38	6.4	1.53	1.34	1.74	1.6	1.94
Dieldrin	65	116	0.7	59	6.97	9.18	8.4	7.21	9.43
4,4'-DDE	112	115	2.8	820	83.9	127.5	103.7	86.4	119.7
Endrin	48	114	0.72	66	7.01	11.57	8.82	6.47	8.41
Endosulfan II	20	114	2.6	21	4.3	4.3	4.9	4.6	5.8
4,4'-DDD	93	116	2.1	360	30.2	49.1	37.8	37.1	56.9
Endosulfan sulfate	22	114	0.8	8.9	2.7	1.94	3.01	2.85	3.38
4,4'-DDT	71	114	0.64	68	7.83	11.01	9.56	8.17	10.78
Endrin ketone	14	114	0.27	6.6	2.57	1.85	2.86	2.7	3.2
Endrin aldehyde	44	114	0.63	24	4.5	4.77	5.24	4.71	5.97
alpha-Chlordane	89	116	0.29	110	14.68	19.1	17.64	19.07	29.3
gamma-Chlordane	83	116	0.56	36	6.79	7.35	7.93	8.25	11.63
Aroclor-1248	6	114	7.9	73	13.5	10.9	15.2	14	16.6
Aroclor-1254	77	116	9.6	770	106.6	154.3	130.5	129.5	188.3
Aroclor-1260	115	116	5.1	1100	148.8	177.3	176.3	161.4	211.3

Wells G ar.. Site, OU III
Large Fish Detected Compounds
Pesticide - PCBs (ug/Kg - wet weight)

SAMPLE ID	LF-LB-01-F		LF-LB-01-O		LF-LB-02-F		LF-LB-02-O		LF-LB-03-F		LF-LB-03-O		LF-LB-04-F	
LAB ID	DAB553		DAB554		DAB555		DAB556		DAB557		DAB558		DAB559	
SAMPLE DATE	8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95	
COMMENTS														
alpha-BHC	0.51	U	2.5	UJ	2.5	U	5.1	U	0.51	U	5	U	0.51	U
beta-BHC	0.51	U	2.5	UJ	2.5	U	5.1	U	0.51	U	5	U	0.51	U
delta-BHC	0.51	U	2.5	UJ	2.5	U	5.1	U	0.51	U	5	U	0.51	U
Heptachlor	0.51	U	2.5	UJ	2.5	U	5.1	U	0.51	U	5	U	0.39	J
Aldrin	0.51	U	2.5	UJ	2.5	U	5.1	U	0.51	U	5	U	0.51	U
Heptachlor epoxide	0.51	U	2.5	UJ	2.5	U	5.1	U	0.51	U	5	U	0.51	U
Endosulfan I	0.51	U	2.5	UJ	2.5	U	5.1	U	0.51	U	5	U	0.51	U
Dieldrin	0.99	U	4.9	UJ	4.9	U	9.9	U	0.98	U	9.8	U	0.98	U
4,4'-DDE	5.9		17	UJ	19		110	J	3		27		3.5	
Endrin	0.99	U	4.9	UJ	4.9	U	9.9	U	0.98	U	9.8	U	0.98	U
Endosulfan II	0.99	U	4.9	UJ	4.9	U	9.9	U	0.98	U	9.8	U	0.98	U
4,4'-DDD	0.99	U	4.9	UJ	4.9	U	7.6	J	0.98	U	9.8	U	0.98	U
Endosulfan sulfate	0.99	U	4.9	UJ	4.9	U	9.9	U	0.98	U	9.8	U	0.98	U
4,4'-DDT	0.99	U	4.9	UJ	4.9	U	7.3	J	0.98	U	9.8	U	0.98	U
Endrin ketone	0.99	U	4.9	UJ	4.9	U	9.9	U	0.98	U	9.8	U	0.98	U
Endrin aldehyde	0.99	U	4.9	UJ	4.9	U	9.9	U	0.98	U	9.8	U	0.98	U
alpha-Chlordane	0.29	J	2.5	UJ	2.5	U	4.2	J	0.51	U	5	U	0.33	J
gamma-Chlordane	0.51	U	2.5	UJ	2.5	U	5.1	U	0.51	U	5	U	0.51	U
Aroclor-1248	5	U	25	UJ	25	U	50	U	5	U	50	U	5	U
Aroclor-1254	5	U	25	UJ	25	U	50	U	5	U	50	U	5	U
Aroclor-1260	10		33	J	29		160	J	5.5		50	U	5.1	

Wells G a. Site, OU III
Large Fish Detected Compounds
Pesticide - PCBs (ug/Kg - wet weight)

SAMPLE ID	LF-LB-04-O		LF-LB-05-F		LF-LB-05-O		LF-LB-06-F		LF-LB-06-O		LF-LB-07-F		LF-LB-07-O	
LAB ID	DAB560		DAB561		DAB562		DAB572		DAB573		DAB574		DAB575	
SAMPLE DATE	8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95	
COMMENTS														
alpha-BHC	5.1	U	0.5	U	7.6	U	0.51	U	5.1	U	0.51	U	2.6	U
beta-BHC	5.1	U	0.5	U	7.6	U	0.51	U	5.1	U	0.51	U	2.6	U
delta-BHC	5.1	U	0.5	U	7.6	U	0.51	U	5.1	U	0.51	U	2.6	U
Heptachlor	5.1	U	0.5	U	7.6	U	0.51	U	5.1	U	0.51	U	2.6	U
Aldrin	5.1	U	0.5	U	7.6	U	0.51	U	5.1	U	0.51	U	2.6	U
Heptachlor epoxide	5.1	U	0.34	J	7.6	U	0.51	U	5.1	U	0.51	U	2.6	U
Endosulfan I	5.1	U	0.5	U	7.6	U	0.51	U	5.1	U	0.51	U	2.6	U
Dieldrin	9.9	U	0.98	U	15	U	0.98	U	9.9	U	0.99	U	5	U
4,4'-DDE	43	J	6	J	56	J	5.1		100		2.8		36	
Endrin	9.9	U	0.98	U	15	U	0.98	U	9.9	U	0.99	U	5	U
Endosulfan II	9.9	U	0.98	U	15	U	0.98	U	9.9	U	0.99	U	5	U
4,4'-DDD	9.9	U	0.98	U	15	U	0.98	U	8.1	J	0.99	U	3	J
Endosulfan sulfate	9.9	U	0.98	U	15	U	0.98	U	9.9	U	0.99	U	5	U
4,4'-DDT	9.9	U	0.98	U	15	U	0.98	U	6.4	J	0.99	U	2.9	J
Endrin ketone	9.9	U	0.98	U	15	U	0.98	U	9.9	U	0.99	U	5	U
Endrin aldehyde	9.9	U	0.98	U	15	U	0.98	U	9.9	U	0.99	U	5	U
alpha-Chlordane	5.1	U	0.33	J	7.6	U	0.51	U	4.9	J	0.51	U	2	J
gamma-Chlordane	5.1	U	0.5	U	7.6	U	0.51	U	5.1	U	0.51	U	2.6	U
Aroclor-1248	50	U	5	U	75	U	5	U	50	U	5	U	25	U
Aroclor-1254	50	U	5	U	75	U	5	U	50	U	5	U	25	U
Aroclor-1260	55	J	9.5		86	J	9.4		170		6.1		74	

Wells G a.. . Site, OU III
Large Fish Detected Compounds
Pesticide - PCBs (ug/Kg - wet weight)

SAMPLE ID	LF-LB-08-F		LF-LB-08-O		LF-LB-09-F		LF-LB-09-O		LF-LB-10-F		LF-LB-10-O		LF-LB-11	
LAB ID	DAB576		DAB577		DAB578		DAB579		DAB580		DAB581		DAB582	
SAMPLE DATE	8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95	
COMMENTS														
alpha-BHC	0.51	U	4	U	1	U	4	U	0.51	U	2.6	U	1.5	U
beta-BHC	0.51	U	4	U	1	U	4	U	0.51	U	2.6	U	1.5	U
delta-BHC	0.51	U	4	U	1	U	4	U	0.51	U	2.6	U	1.5	U
Heptachlor	0.51	U	4	U	1	U	4	U	0.51	U	2.6	U	1.5	U
Aldrin	0.51	U	4	U	1	U	4	U	0.51	U	2.6	U	1.5	U
Heptachlor epoxide	0.51	U	4	U	1	U	4	U	0.51	U	2.6	U	0.81	J
Endosulfan I	0.51	U	4	U	1	U	4	U	0.51	U	2.6	U	1.5	U
Dieldrin	0.99	U	7.8	U	1.9	U	7.8	U	0.99	U	5	U	3	U
4,4'-DDE	0	R	61		14		53		3.7		40		28	
Endrin	0.99	U	7.8	U	1.9	U	7.8	U	0.99	U	5	U	3	U
Endosulfan II	0.99	U	7.8	U	1.9	U	7.8	U	0.99	U	5	U	3	U
4,4'-DDD	0.99	U	5.6	J	1.9	U	7.8	U	0.99	U	4	J	5.3	
Endosulfan sulfate	0.99	U	7.8	U	1.9	U	7.8	U	0.99	U	5	U	3	U
4,4'-DDT	0.99	U	4.7	J	1.9	U	7.8	U	0.99	U	3	J	2.6	J
Endrin ketone	0.99	U	7.8	U	1.9	U	7.8	U	0.99	U	5	U	3	U
Endrin aldehyde	0.99	U	7.8	U	1.9	U	7.8	U	0.99	U	2.9	J	2.6	J
alpha-Chlordane	0.51	U	4	U	1	U	4	U	0.51	U	2.6	U	1.4	J
gamma-Chlordane	0.51	U	4	U	1	U	4	U	0.51	U	2.6	U	1.5	U
Aroclor-1248	5	U	39	U	9.8	U	39	U	5	U	25	U	15	U
Aroclor-1254	5	U	39	U	9.8	U	39	U	5	U	25	U	15	U
Aroclor-1260	8.9		110		35		140		6.2		62		51	

Wells G a. Site, OU III
Large Fish Detected Compounds
Pesticide - PCBs (ug/Kg - wet weight)

SAMPLE ID	LF-LB-12		LF-LB-13		LF-LB-14-F		LF-LB-14-O		LF-LB-15-F		LF-LB-15-O		LF-LB-16-F	
LAB ID	DAB583		DAB584		DAB593		DAB594		DAB595		DAB596		DAB597	
SAMPLE DATE	8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95	
COMMENTS														
alpha-BHC	2.6	U	1	J	0.56	U	2.9	U	2.7	U	5.1	U	1	U
beta-BHC	2.6	U	1	U	0.56	U	2.9	U	2.7	U	5.1	U	1	U
delta-BHC	2.6	U	1	U	0.56	U	2.9	U	2.7	U	5.1	U	1	U
Heptachlor	2.6	U	1	U	0.56	U	2.9	U	2.7	U	5.1	U	1	U
Aldrin	2.6	U	1	U	0.56	U	2.9	U	2.7	U	5.1	U	1	U
Heptachlor epoxide	2	J	1.5	J	0.56	U	2.9	U	2.7	U	5.1	U	1	U
Endosulfan I	2.6	U	1	U	0.56	U	2.9	U	2.7	U	5.1	U	1	U
Dieldrin	2.8	J	2	U	1.1	U	5.6	U	5.2	U	9.8	U	2	U
4,4'-DDE	37		140		6.2		22		32	J	55	J	8.2	
Endrin	5	U	2	U	1.1	U	5.6	U	5.2	U	9.8	U	2	U
Endosulfan II	4.2	J	5.9	J	1.1	U	5.6	U	5.2	U	9.8	U	2	U
4,4'-DDD	12		29		1.1	U	5.6	U	6.4	J	11	J	2	U
Endosulfan sulfate	5	U	1.2	J	1.1	U	5.6	U	5.2	U	9.8	U	2	U
4,4'-DDT	3.1	J	7.7	J	1.1	U	5.6	U	5.2	U	9.8	U	2	U
Endrin ketone	5	U	1.2	J	1.1	U	5.6	U	5.2	U	9.8	U	2	U
Endrin aldehyde	5	U	2	U	1.1	U	5.6	U	5.2	U	9.8	U	2	U
alpha-Chlordane	3.1		2.4	J	0.56	U	2.9	U	2.7	U	5.1	U	1	U
gamma-Chlordane	2.6	U	0.71	J	0.56	U	2.9	U	2.7	U	5.1	U	1	U
Aroclor-1248	25	U	9.9	U	5.5	U	28	U	26	U	50	U	9.9	U
Aroclor-1254	25	U	9.9	U	5.5	U	28	U	26	U	50	U	9.9	U
Aroclor-1260	62		180		12		40		130	J	230	J	18	

Wells G ar.. . Site, OU III
Large Fish Detected Compounds
Pesticide - PCBs (ug/Kg - wet weight)

SAMPLE ID	LF-LB-16-O		LF-LB-17		LF-LB-18		LF-LB-19		LF-LB-20		LF-LB-21		LF-LB-22	
LAB ID	DAB598		DAB656		DAB657		DAB658		DAB659		DAB660		DAB663	
SAMPLE DATE	8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/10/95	
COMMENTS														
alpha-BHC	2.7	U	3.4	U	1	U	1	U	1	U	5.1	U	5.1	U
beta-BHC	2.7	U	3.4	U	1	U	1	U	1	U	5.1	U	5.1	U
delta-BHC	2.7	U	3.4	U	1	U	1	U	1	U	5.1	U	5.1	U
Heptachlor	2.7	U	3.4	U	1	U	1	U	1	U	5.1	U	5.1	U
Aldrin	2.7	U	3.4	U	1	U	1	U	1	U	5.1	U	5.1	U
Heptachlor epoxide	2.7	U	2	J	1	U	1	J	1.1	J	5.1	U	5.1	U
Endosulfan I	2.7	U	3.4	U	1	U	1	U	1	U	5.1	U	5.1	U
Dieldrin	5.2	U	6.5	U	2	U	2	U	2	U	9.9	U	10	U
4,4'-DDE	56	J	43		16		130	J	160	J	49		56	
Endrin	5.2	U	6.5	U	2	U	2	U	2	U	9.9	U	10	U
Endosulfan II	5.2	U	4	J	2	U	4.6	J	5.5	J	9.9	U	10	U
4,4'-DDD	6.7	J	13		4.3		9.4		15		9.3	J	37	
Endosulfan sulfate	5.2	U	6.5	U	2	U	2	U	2	U	9.9	U	10	U
4,4'-DDT	5.2	U	6.5	U	2	U	4	J	7.5	J	9.9	U	10	U
Endrin ketone	5.2	U	6.5	U	2	U	2	U	2	U	9.9	U	10	U
Endrin aldehyde	5.2	U	6.5	U	2	U	2	U	2	U	9.9	U	10	U
alpha-Chlordane	1.4	J	4.6		0.63	J	1.5	J	2	J	5.1	U	9.7	J
gamma-Chlordane	2.7	U	1.8	J	1	U	1	U	0.62	J	5.1	U	7.4	
Aroclor-1248	26	U	33	U	10	U	10	U	9.9	U	50	U	50	U
Aroclor-1254	26	U	33	U	10	U	10	U	9.9	U	50	U	100	J
Aroclor-1260	110	J	58	J	25		190		220		84		98	

Wells G and Site, OU III
Large Fish Detected Compounds
Pesticide - PCBs (ug/Kg - wet weight)

SAMPLE ID	LF-LB-23		LF-LB-24		LF-LB-25		LF-LB-26		LF-LK-01		LF-LK-02		LF-LK-03	
LAB ID	DAB664		DAB665		DAB666		DAB667		DAB911		DAB913		DAB915	
SAMPLE DATE	8/10/95		8/10/95		8/10/95		8/10/95		7/31/95		7/31/95		7/31/95	
COMMENTS														
alpha-BHC	5	U	5.1	U	5	U	2.6	U	5.1	UJ	5	UJ	5.1	UJ
beta-BHC	5	U	5.1	U	5	U	2.6	U	5.1	UJ	5	UJ	5.1	UJ
delta-BHC	5	U	5.1	U	5	U	2.6	U	5.1	UJ	5	UJ	5.1	UJ
Heptachlor	5	U	5.1	U	5	U	2.6	U	5.1	UJ	5	UJ	5.1	UJ
Aldrin	5	U	5.1	U	5	U	2.6	U	5.1	UJ	5	UJ	5.1	UJ
Heptachlor epoxide	2.8	J	2.7	J	8.6	J	5.5	J	15	J	14	J	9.8	J
Endosulfan I	5	U	5.1	U	5.5	J	2.8	J	5.1	UJ	5	UJ	5.1	UJ
Dieldrin	9.8	U	9.9	U	9.8	U	5	U	39	J	34	J	26	J
4,4'-DDE	36		32		280	J	110	J	42	J	43	J	24	J
Endrin	9.8	U	9.9	U	9.8	U	5	U	9.8	UJ	9.8	UJ	9.8	UJ
Endosulfan II	9.8	U	9.9	U	13	J	6.4	J	9.8	UJ	9.8	UJ	9.8	UJ
4,4'-DDD	40		30		150	J	64		45	J	9.8	UJ	33	J
Endosulfan sulfate	9.8	U	9.9	U	9.8	U	5	U	9.8	UJ	9.8	UJ	9.8	UJ
4,4'-DDT	9.8	U	9.9	U	13	J	15	J	8.9	J	11	J	5.7	J
Endrin ketone	9.8	U	9.9	U	6.4	J	3	J	9.8	UJ	9.8	UJ	9.8	UJ
Endrin aldehyde	9.8	U	9.9	U	18	J	5	U	9.8	UJ	9.8	UJ	9.8	UJ
alpha-Chlordane	11		10		29	J	20	J	42	J	39	J	28	J
gamma-Chlordane	9.7		8		16	J	13		20	J	18	J	13	J
Aroclor-1248	49	U	50	U	49	U	25	U	50	UJ	49	UJ	50	UJ
Aroclor-1254	89	J	72	J	250	J	120	J	160	J	150	J	92	J
Aroclor-1260	76		55		520	J	200		100	J	110	J	70	J

Wells G a. Site, OU III
Large Fish Detected Compounds
Pesticide - PCBs (ug/Kg - wet weight)

SAMPLE ID	LF-LK-04		LF-LK-05		LF-LK-06-F		LF-LK-06-O		LF-LK-07-F		LF-LK-07-O		LF-LK-08-F	
LAB ID	DAB917		DAB919		DAB921		DAB922		DAB923		DAB924		DAB925	
SAMPLE DATE	7/31/95		7/31/95		7/31/95		7/31/95		7/31/95		7/31/95		7/31/95	
COMMENTS														
alpha-BHC	1	UJ	1	UJ	1	U	5.1	U	0.51	U	0.51	UJ	0.51	U
beta-BHC	1.7	UJ	1.5	UJ	1	U	5.1	U	0.51	U	0.51	UJ	0.51	U
delta-BHC	1	UJ	1	UJ	1	U	5.1	U	0.51	U	0.56	J	0.36	J
Heptachlor	1	UJ	1	UJ	1	U	5.1	U	0.51	U	0.51	UJ	0.51	U
Aldrin	0.73	J	0.68	J	1	U	5.1	U	0.51	U	0.64	J	0.31	J
Heptachlor epoxide	10	J	9.3	J	1	U	5.1	U	0.51	U	0.43	J	0.51	U
Endosulfan I	1	UJ	1	UJ	1	U	5.1	U	0.51	U	0.51	UJ	0.51	U
Dieldrin	27	J	25	J	2.7	J	9.8	U	1	J	2.3	J	2	J
4,4'-DDE	41	J	32	J	15		24	J	3.8	J	10	J	7.5	J
Endrin	2.1	J	2	UJ	1.1	J	4.8	J	0.81	J	1.8	J	1.5	J
Endosulfan II	3.9	UJ	5	UJ	2	U	9.8	U	0.99	U	1	UJ	0.99	U
4,4'-DDD	37	J	37	J	9.8		15	J	2.1	J	6.2	J	6.7	J
Endosulfan sulfate	2.6	J	2.3	J	2	U	9.8	U	0.99	U	0.99	UJ	0.99	U
4,4'-DDT	12	J	7.7	J	1.7	J	9.8	U	0.99	U	1.3	J	0.84	J
Endrin ketone	2.7	J	2.3	J	2	U	9.8	U	0.99	U	0.27	J	0.99	U
Endrin aldehyde	2	UJ	2	UJ	1.2	J	9.8	U	0.99	U	4.9	J	0.63	J
alpha-Chlordane	32	J	32	J	8.9	J	16	J	2.5	J	6.1	J	7.4	J
gamma-Chlordane	14	J	13	J	5.1		9.1	J	1.7	J	4.1	J	4.8	J
Aroclor-1248	34	J	27	J	9.9	U	50	U	5	U	5	UJ	5	U
Aroclor-1254	130	J	110	J	9.9	U	71	J	13	J	29	J	22	J
Aroclor-1260	93	J	88	J	61		110	J	20	J	55	J	29	J

Wells G a[illegible] Site, OU III
Large Fish Detected Compounds
Pesticide - PCBs (ug/Kg - wet weight)

SAMPLE ID	LF-LK-08-O		LF-LK-09-F		LF-LK-09-O		LF-LK-10-F		LF-LK-10-O		LF-LK-11-F		LF-LK-11-O	
LAB ID	DAB926		DAB927		DAB928		DAB934		DAB935		DAB951		DAB952	
SAMPLE DATE	7/31/95		7/31/95		7/31/95		8/1/95		8/1/95		8/1/95		8/1/95	
COMMENTS														
alpha-BHC	5.1	U	0.51	U	1	U	0.51	U	1.5	U	0.51	U	1	U
beta-BHC	5.1	U	0.51	U	1	U	0.3	J	1.5	U	0.51	U	0.6	J
delta-BHC	5.1	U	0.58	J	0.89	J	0.56	J	1.1	J	0.51	U	1	U
Heptachlor	5.1	U	0.51	U	1	U	0.51	U	1.5	U	0.51	U	1	U
Aldrin	5.1	U	0.32	J	1	U	0.51	U	1.5	U	0.51	U	3	
Heptachlor epoxide	5.1	U	0.31	J	0.57	J	0.3	J	1	J	0.51	U	1.8	
Endosulfan I	5.1	U	0.51	U	1	U	0.51	U	1.5	U	0.51	U	1.8	
Dieldrin	13	J	2.1	J	3.3	J	1.8	J	4.9	J	0.7	J	12	
4,4'-DDE	49	J	5.2	J	8.9	J	6.8	J	22	J	5.7		120	
Endrin	7.9	J	0.72	J	1.6	J	1.2	J	3.4	J	1.2		19	
Endosulfan II	9.8	U	0.99	UJ	2	U	0.99	U	2.9	U	1.1	U	9.1	U
4,4'-DDD	49	J	5	J	8.2	J	4.6	J	15	J	2.6		60	
Endosulfan sulfate	9.8	U	0.99	U	2	U	0.99	U	2.9	U	0.99	U	1.9	J
4,4'-DDT	5	J	0.99	U	1	J	4.6	J	2.9	U	0.64	J	11	
Endrin ketone	9.8	U	0.99	U	2	U	0.99	U	2.9	U	0.99	U	2	U
Endrin aldehyde	8.5	J	0.99	U	1.5	J	0.85	J	4.8	J	0.99	U	7.7	
alpha-Chlordane	55	J	4.6	J	8.4	J	4.5	J	14	J	1.6		31	
gamma-Chlordane	36	J	3	J	5.1	J	2.9	J	8.6	J	0.58		12	
Aroclor-1248	50	U	5	U	9.9	U	5	U	15	U	5	U	10	U
Aroclor-1254	130	J	19	J	34	J	20	J	58	J	17		290	
Aroclor-1260	160	J	20	J	37	J	24	J	78	J	15		280	

Wells G ar, Site, OU III
Large Fish Detected Compounds
Pesticide - PCBs (ug/Kg - wet weight)

SAMPLE ID	LF-LK-12-F		LF-LK-12-O		LF-LK-13-F		LF-LK-13-O		LF-LK-14-F		LF-LK-14-O		LF-LK-15	
LAB ID	DAB953		DAB954		DAB955		DAB956		DAB957		DAB958		DAB959	
SAMPLE DATE	8/1/95		8/1/95		8/1/95		8/1/95		8/1/95		8/1/95		8/1/95	
COMMENTS														
alpha-BHC	0.51	U	1	U	0.51	U	1	U	0.51	U	5	U	5	U
beta-BHC	0.51	U	0.58	J	0.51	U	1	U	0.51	U	5	U	5	U
delta-BHC	0.51	U	1	U	0.51	U	1	U	0.51	U	5	U	5	U
Heptachlor	0.51	U	1	U	0.51	U	1	U	0.51	U	5	U	5	U
Aldrin	0.51	U	1.7		0.51	U	1.5		0.37	J	5	U	2.7	J
Heptachlor epoxide	0.51	U	1.4		0.51	U	0.87	J	0.51	U	5	U	5	U
Endosulfan I	0.51	U	1	U	0.51	U	1	U	0.51	U	5	U	5	U
Dieldrin	1.2		8.7		0.8	J	5.3		1.4		8.1	J	9.7	J
4,4'-DDE	9.6		85		13		120		11		74		38	
Endrin	2		15		2.4		17		1.9		13		6.9	J
Endosulfan II	0.99	U	6.7	U	0.99	U	2	U	0.98	U	9.8	U	9.8	U
4,4'-DDD	2.6		27		2.6		28		4.7		32		31	
Endosulfan sulfate	0.99	U	1.4	J	0.99	U	2	U	0.98	U	9.8	U	9.8	U
4,4'-DDT	1.4		12		1.7		13		0.94	J	7	J	9.8	U
Endrin ketone	0.99	U	1.1	J	0.99	U	2	U	0.98	U	9.8	U	9.8	U
Endrin aldehyde	0.97	J	7.2		1.1		7.7		0.79	J	5.5	J	9.8	U
alpha-Chlordane	1.8		15		1.6		12		3		20		27	
gamma-Chlordane	0.71		6		0.63		4.8		1.1		7.5		15	
Aroclor-1248	5	U	9.9	U	5	U	9.9	U	5	U	50	U	50	U
Aroclor-1254	27		190		30		210		28		200		140	
Aroclor-1260	28		240		31		270		28		190		82	

Wells G ar. Site, OU III
Large Fish Detected Compounds
Pesticide - PCBs (ug/Kg - wet weight)

SAMPLE ID	LF-LK-16		LF-LK-17		LF-LK-18		LF-LK-19		LF-LK-20-F		LF-LK-21-F		LF-LK-22-F1	
LAB ID	DAB960		DAB961		DAB962		DAB963		DAB985		DAB983		DAB987	
SAMPLE DATE	8/1/95		8/1/95		8/1/95		8/1/95		8/2/95		8/2/95		8/2/95	
COMMENTS													dup of DAB988	
alpha-BHC	5.1	U	1	U	2.5	U	5	U	2.5	U	5.1	U	2.5	U
beta-BHC	5.1	U	0.54	J	2.5	U	5	U	2.5	U	5.1	U	2.5	U
delta-BHC	5.1	U	1	U	2.5	U	5	U	2.5	U	5.1	U	2.5	U
Heptachlor	5.1	U	1	U	2.5	U	5	U	2.5	U	5.1	U	2.5	U
Aldrin	5.1	U	3		1.5	J	5	U	2.5	U	5.1	U	2.5	U
Heptachlor epoxide	5.1	U	2.1		2.5	U	5	U	2.5	U	5.1	U	2.5	U
Endosulfan I	5.1	U	2		2.5	U	5	U	2.5	U	5.1	U	2.5	U
Dieldrin	7.7	J	12		6.6		7.7	J	4.9	U	9.8	U	2.3	J
4,4'-DDE	61		110		24		65		27	J	83		39	J
Endrin	13		14		4.8	J	13	J	5.1	J	13	U	4.9	U
Endosulfan II	9.8	U	5.3	U	4.9	U	9.8	U	4.9	U	9.8	U	4.9	U
4,4'-DDD	27		50		20		29		8.9	J	27		14	J
Endosulfan sulfate	9.8	U	1.7	J	4.9	U	9.8	U	4.9	U	9.8	U	4.9	U
4,4'-DDT	9.1	J	11		2.3	J	9.6	J	4.9	U	6.7	J	4.9	U
Endrin ketone	9.8	U	1.2	J	4.9	U	9.8	U	4.9	U	9.8	U	4.9	U
Endrin aldehyde	5.8	J	6.6		4.9	U	5.6	J	4.9	U	9.8	U	4.9	U
alpha-Chlordane	23		39		16		20		4.2	J	11	U	6.9	J
gamma-Chlordane	13		21		9.2		13		1.4	J	3.5	J	2.3	J
Aroclor-1248	50	U	10	U	25	U	49	U	25	U	50	U	25	U
Aroclor-1254	180		220		88		200		64	J	180		72	J
Aroclor-1260	260		230		56		220		44	J	110		56	J

Wells G and Site, OU III
Large Fish Detected Compounds
Pesticide - PCBs (ug/Kg - wet weight)

SAMPLE ID	LF-LK-22-F2		LF-LK-22-O		LF-LK-23-F		LF-LK-24-F		LF-LK-25-F		LF-LK-25-O		LF-LK-31	
LAB ID	DAB988		DAB989		DAB990		DAB992		DAB567		DAB568		DAB651	
SAMPLE DATE	8/2/95		8/2/95		8/2/95		8/2/95		8/3/95		8/3/95		8/3/95	
COMMENTS	dup of DAB987													
alpha-BHC	0.51	U	2.5	U	1	U	2.5	U	0.55	U	2	U	7.5	U
beta-BHC	0.51	U	2.3	J	1	U	2.5	U	0.55	U	2	U	7.5	U
delta-BHC	0.51	U	2.5	U	1	U	2.5	U	0.55	U	2	U	7.5	U
Heptachlor	0.41	J	2.5	U	1	U	2.5	U	0.55	U	2	U	7.5	U
Aldrin	0.53	J	3.7	J	1	U	2.5	U	0.55	U	2	U	7.5	U
Heptachlor epoxide	0.51	U	2.5	U	1	U	2.5	U	0.53	J	2.5	J	10	J
Endosulfan I	0.51	U	5.2	J	1	U	2.5	U	0.38	J	2	J	7.5	U
Dieldrin	0.93	J	18	J	2	U	2.3	J	1.1	U	2	J	59	J
4,4'-DDE	15	J	330	J	19	J	51	J	6.1		33		820	
Endrin	2.2	J	38	J	2.5	J	9.8	J	1.1	U	3.9	U	32	J
Endosulfan II	1	U	15	J	2	U	3.1	U	1.1	U	3.9	U	15	U
4,4'-DDD	6	J	120	J	6.2	J	20	J	4		23		360	
Endosulfan sulfate	0.8	J	8.9	J	2	U	4.9	U	1.1	U	3.9	U	8.8	J
4,4'-DDT	1.1	J	23	J	1.5	J	4.3	J	1.1	U	3.9	U	68	J
Endrin ketone	0.98	U	4.9	U	2	U	4.9	U	0.61	J	3.9	U	15	U
Endrin aldehyde	0.85	J	14	J	2	U	4.9	U	1.1	U	3.9	U	23	J
alpha-Chlordane	2.8	J	50	J	3.5	J	11	J	3.6		19		110	J
gamma-Chlordane	1	J	16	J	1.2	J	3.6	J	2.5		14		26	J
Aroclor-1248	5	U	25	U	9.9	U	25	U	7.9		33		74	U
Aroclor-1254	28	J	450	J	31	J	120	J	15		80		74	U
Aroclor-1260	23	J	430	J	26	J	66	J	25		140		1100	

Wells G an. ...ite, OU III
Large Fish Detected Compounds
Pesticide - PCBs (ug/Kg - wet weight)

SAMPLE ID	LF-LK-32		LF-LK-33		LF-LK-34		LF-LK-35		LF-LK-36-F		LF-LK-36-O		LF-RV-01-F	
LAB ID	DAB652		DAB653		DAB654		DAB655		DAB949		DAB950		DAB903	
SAMPLE DATE	8/3/95		8/3/95		8/3/95		8/3/95		8/1/95		8/1/95		7/31/95	
COMMENTS											MS/MSD			
alpha-BHC	1	U	1	U	1	U	2.5	U	1.5	U	2.5	U	1	U
beta-BHC	1	U	0.6	J	1	J	2.5	U	1.5	U	2.5	U	1	U
delta-BHC	1	U	0.47	J	1	U	2.5	U	1.5	U	2.5	U	1	U
Heptachlor	1	U	1	U	1	U	2.5	U	1.5	U	2.5	U	1	U
Aldrin	1	U	1	U	0.68	J	1.5	J	1.5	U	2.8		1	U
Heptachlor epoxide	4.4	J	5.1	J	10	J	10	J	1.5	U	1.4	J	1	U
Endosulfan I	1	U	1	U	1	U	2.5	U	1.5	U	2.5	U	1	U
Dieldrin	2	U	17	J	21	J	34	J	3	U	8.5		1.3	J
4,4'-DDE	160		130		190	J	450	J	13		200		26	
Endrin	1.2	J	2	U	2.9	J	4.9	U	2.8	J	32		2.4	J
Endosulfan II	12	J	7.1	J	11	J	17	J	3	U	13	U	2.6	J
4,4'-DDD	50		64		170	J	190	J	2.3	J	39		2.6	U
Endosulfan sulfate	1.3	J	2	U	3.5	J	5.7	J	3	U	4.9	U	2	U
4,4'-DDT	12	J	11	J	5	J	33	J	1.7	J	21		3.2	J
Endrin ketone	2.4	J	1.5	J	6.6	J	5.7	J	3	U	4.9	U	2	U
Endrin aldehyde	2	U	8	J	2	U	4.9	U	1	J	13		2.7	J
alpha-Chlordane	18	J	25	J	44	J	69	J	1.3	J	15		2	J
gamma-Chlordane	7.9		7.9		23	J	18	J	1.5	U	6.6		0.76	J
Aroclor-1248	9.9	U	9.9	U	9.9	U	25	U	15	U	25	U	10	U
Aroclor-1254	140	J	69	J	260		250	J	35		370		10	U
Aroclor-1260	270		210		450	J	620	J	38		490		110	

Wells G a[illegible] Site, OU III
Large Fish Detected Compounds
Pesticide - PCBs (ug/Kg - wet weight)

SAMPLE ID	LF-RV-01-O		LF-RV-02-F		LF-RV-02-O		LF-RV-03-F		LF-RV-03-O		LF-RV-04-F		LF-RV-04-O	
LAB ID	DAB904		DAB907		DAB908		DAB905		DAB906		DAB909		DAB910	
SAMPLE DATE	7/31/95		7/31/95		7/31/95		7/31/95		7/31/95		7/31/95		7/31/95	
COMMENTS														
alpha-BHC	5.1	U	0.51	U	5.1	UJ	2.6	U	2.5	U	0.51	R	5.1	R
beta-BHC	5.1	U	0.51	U	5.1	UJ	2.6	U	2.5	U	0.51	R	5.1	R
delta-BHC	5.1	U	0.51	U	5.1	UJ	2.6	U	2.5	U	0.51	R	5.1	R
Heptachlor	5.1	U	0.51	U	5.1	UJ	2.6	U	2.5	U	0.51	R	5.1	R
Aldrin	5.1	U	0.51	U	5.1	UJ	2.6	U	1.2	J	0.51	R	5.1	R
Heptachlor epoxide	5.1	U	0.47	J	5.1	UJ	1.7	J	11	J	0.58	J	5.2	J
Endosulfan I	5.1	U	0.51	U	5.1	UJ	2.6	U	4.3	J	0.51	R	5.1	R
Dieldrin	9.8	U	0.77	J	9.8	UJ	2.9	J	23		1.3	J	10	J
4,4'-DDE	43		7.4		40	J	15		120	J	4.9	J	50	J
Endrin	9.8	U	0.98	U	9.8	UJ	5	U	5	J	0.99	R	9.8	R
Endosulfan II	9.8	U	0.98	U	9.8	UJ	5	U	14	J	0.99	R	9.8	R
4,4'-DDD	9.8	U	2.1		12	J	8.8		74		2.4	J	25	J
Endosulfan sulfate	9.8	U	0.98	U	9.8	UJ	5	U	3.9	J	0.99	R	9.8	R
4,4'-DDT	9.8	U	0.98	U	9.8	UJ	5	U	12	J	0.99	R	9.8	R
Endrin ketone	9.8	U	0.98	U	9.8	UJ	5	U	6.4	J	0.99	R	9.8	R
Endrin aldehyde	9.8	U	0.98	U	6	J	5	U	4.9	U	0.99	R	9.8	R
alpha-Chlordane	3.9	J	1.3	J	6.8	J	4.3	J	31	J	1.9	J	18	J
gamma-Chlordane	5.1	U	0.78		3.8	J	2.5	J	19		0.95	J	8.8	J
Aroclor-1248	50	U	5	U	50	UJ	25	U	73	J	5	R	50	R
Aroclor-1254	50	U	13	J	53	J	36	J	250	J	9.6	J	74	J
Aroclor-1260	190		35		160	J	45		350		14	J	140	J

Wells G an .ite, OU III
Large Fish Detected Compounds
Pesticide - PCBs (ug/Kg - wet weight)

SAMPLE ID	LF-RV-05-F		LF-RV-05-O		LF-RV-06-F		LF-RV-06-O		LF-RV-07		LF-RV-08		LF-RV-09	
LAB ID	DAB938		DAB939		DAB940		DAB941		DAB942		DAB943		DAB944	
SAMPLE DATE	8/1/95		8/1/95		8/1/95		8/1/95		8/1/95		8/1/95		8/1/95	
COMMENTS														
alpha-BHC	1	U	1	U	1	U	2.5	U	2.5	U	5	U	2.5	U
beta-BHC	1	U	0.74	J	1	U	2.5	U	2.5	U	5	U	2.5	U
delta-BHC	1	U	1	U	1	U	2.5	U	2.5	U	5	U	2.5	U
Heptachlor	1	U	1	U	1	U	2.5	U	2.5	U	5	U	2.5	U
Aldrin	1	U	0.7	J	1	U	1.8	J	2.5	U	5	U	1.5	J
Heptachlor epoxide	1	U	0.64	J	1	U	1.4	J	1.3	J	5	U	2.5	U
Endosulfan I	1	U	1	U	1	U	2.5	U	2.5	U	5	U	2.5	U
Dieldrin	0.93	J	3.6	J	0.92	J	7.2	J	7.2	J	5.9	J	6.1	
4,4'-DDE	17	J	110	J	15	J	160	J	28		35	J	20	
Endrin	3.4	J	5.1	J	2.4	J	21	J	4.9	U	5.6	J	3.5	J
Endosulfan II	2	U	4.8	J	2	U	7.7	J	4.9	U	9.8	U	4.9	U
4,4'-DDD	2.1	J	17	J	3.4	J	43	J	25		25	J	19	
Endosulfan sulfate	1.2	J	1.5	J	2	U	4.9	U	4.9	U	9.8	U	4.9	U
4,4'-DDT	2	U	1.6	J	2	U	2.8	J	7.6	J	5.2	J	3.3	J
Endrin ketone	2	U	2	U	2	U	4.9	U	4.9	U	9.8	U	4.9	U
Endrin aldehyde	2	U	5.8	J	2	U	7.5	J	4.9	U	9.8	U	4.9	U
alpha-Chlordane	1.5	J	8.6	J	1.9	J	18	J	24		19	J	20	
gamma-Chlordane	0.56	J	3.2	J	0.81	J	7	J	14		16	J	12	
Aroclor-1248	9.9	U	9.9	U	10	U	25	U	25	U	49	U	25	U
Aroclor-1254	31	J	91	J	32	J	260	J	25	U	92	J	75	
Aroclor-1260	37	J	220	J	26	J	270	J	52		68	J	33	

Wells G a Site, OU III
Large Fish Detected Compounds
Pesticide - PCBs (ug/Kg - wet weight)

SAMPLE ID	LF-RV-10-F1		LF-RV-10-F2		LF-RV-10-O		LF-RV-11		LF-RV-12		LF-RV-13-F		LF-RV-13-O	
LAB ID	DAB968		DAB974		DAB969		DAB972		DAB973		DAB975		DAB976	
SAMPLE DATE	8/1/95		8/1/95		8/1/95		8/1/95		8/1/95		8/1/95		8/1/95	
COMMENTS	dup of DAB974		dup of DAB968											
alpha-BHC	1	U	1	U	2.5	U	2.6	U	2.6	U	1.5	U	2.5	U
beta-BHC	1	U	1	U	2.5	U	2.6	U	2.6	U	1.5	U	2.5	U
delta-BHC	1	U	1	U	2.5	U	2.6	U	2.6	U	1.5	U	2.5	U
Heptachlor	1	U	1	U	2.5	U	2.6	U	2.6	U	1.5	U	2.5	U
Aldrin	0.54	J	0.52	J	1.2	J	3.1		2.8		1.5	U	2.5	U
Heptachlor epoxide	1	U	1	U	2.5	U	1.9	J	1.6	J	1.5	U	2.5	U
Endosulfan I	1	U	1	U	2.5	U	2.6	U	2.6	U	1.5	U	5.6	U
Dieldrin	2	U	2	U	4.9	U	12		9.1		1.5	J	25	
4,4'-DDE	120		120		260		41		39		24	U	490	
Endrin	7.4	U	7.7	U	16	U	5	U	6.9	U	6	U	25	
Endosulfan II	8.8	U	8.7	U	18	U	5	U	5	U	3	U	32	U
4,4'-DDD	20		21		46		36		32		6.3	U	140	
Endosulfan sulfate	2.6	J	2	UJ	5.4		5	U	5	U	3	U	4.9	U
4,4'-DDT	18		19		41		6.9		7.3		3.5		60	
Endrin ketone	2	U	2	U	4.9	U	5	U	5	U	3	U	4.9	U
Endrin aldehyde	8.4		9.4		19		3	J	2.9	J	1.8	J	24	
alpha-Chlordane	3.1	U	3.3	U	6.9	U	38		35		3.2	U	58	
gamma-Chlordane	1.2		1.3		2.6		23		20		1	J	18	
Aroclor-1248	10	U	10	U	25	U	25	U	25	U	15	U	25	U
Aroclor-1254	74	J	140	J	160		140		120		55		770	
Aroclor-1260	310		320		720		64		59		41		650	

Wells G & Site, OU III
Large Fish Detected Compounds
Pesticide - PCBs (ug/Kg - wet weight)

SAMPLE ID	LF-RV-14-F		LF-RV-14-O		LF-RV-15-F		LF-RV-15-O		LF-RV-16		LF-RV-17		LF-RV-18	
LAB ID	DAB977		DAB978		DAB979		DAB980		DAB998		DAB550		DAB590	
SAMPLE DATE	8/1/95		8/1/95		8/1/95		8/1/95		8/2/95		8/2/95		8/3/95	
COMMENTS														
alpha-BHC	1	U	1.5	U	5.1	U	2.5	U	2.5	U	5.1	U	2	U
beta-BHC	1	U	1.5	U	5.1	U	2.5	U	2.5	U	5.1	U	2	U
delta-BHC	1	U	1.5	U	5.1	U	2.5	U	2.5	U	5.1	U	2	U
Heptachlor	1	U	1.5	U	5.1	U	2.5	U	2.5	U	5.1	U	2	U
Aldrin	0.48	J	2.1		5.1	U	3.7		2.5	U	5.1	U	2	U
Heptachlor epoxide	1	U	1.7		5.1	U	2.5	U	1.4	J	4.1	J	2.5	J
Endosulfan I	1	U	2.2	U	5.1	U	4.4	U	2.5	U	5.1	U	2	U
Dieldrin	1.4	J	11		9.8	U	13		15	J	12	J	7.2	
4,4'-DDE	19	U	190		91		540		44	J	21	J	16	
Endrin	2	U	10	U	13	U	49		4.9	U	9.9	U	4	U
Endosulfan II	2	U	11	U	9.8	U	17	U	4.9	U	9.9	U	4	U
4,4'-DDD	5.3	U	53		18		100		28	J	27	J	19	
Endosulfan sulfate	2	U	1.6	J	9.8	U	5.3		4.9	U	9.9	U	4	U
4,4'-DDT	3.2		28		7.1	J	31		6.9	J	9.9	U	2.5	J
Endrin ketone	2	U	2.9	U	9.8	U	4.9	U	4.9	U	9.9	U	4	U
Endrin aldehyde	3.5		11		9.8	U	15		4.9	U	9.9	U	4	U
alpha-Chlordane	2.9	U	26		8.4	U	43		18	J	25	J	16	
gamma-Chlordane	0.81	J	8.6		2.6	J	12		11	J	15	J	10	
Aroclor-1248	10	U	15	U	50	U	25	U	25	U	50	U	27	J
Aroclor-1254	37		250		140		660		96	J	93	J	52	
Aroclor-1260	35		320		85		450		120	J	55		45	

Wells G a. , Site, OU III
Large Fish Detected Compounds
Pesticide - PCBs (ug/Kg - wet weight)

SAMPLE ID	LF-RV-20-O		LF-RV-21-O		LF-RV-23-O		LF-RV-24-O	
LAB ID	DAB986		DAB984		DAB991		DAB993	
SAMPLE DATE	8/2/95		8/2/95		8/2/95		8/2/95	
COMMENTS								
alpha-BHC	2.6	U	2.5	U	2.5	U	2.5	U
beta-BHC	2.2	J	1.4	J	1.6	J	1.5	J
delta-BHC	2.6	U	2.5	U	2.5	U	2.5	U
Heptachlor	2.6	U	2.5	U	2.5	U	2.5	U
Aldrin	4	J	4	J	5.3	J	4.5	J
Heptachlor epoxide	2.6	U	2.5	U	2.5	U	2.5	U
Endosulfan I	4.9	J	5.8	J	4.7	J	6.4	J
Dieldrin	15	J	16	J	12	J	18	J
4,4'-DDE	320	J	420	J	310	J	380	J
Endrin	50	J	55	J	32	J	66	J
Endosulfan II	18	J	19	J	12	J	21	J
4,4'-DDD	110	J	130	J	99	J	150	J
Endosulfan sulfate	5	U	4	J	5.9	J	4.1	J
4,4'-DDT	25	J	34	J	21	J	29	J
Endrin ketone	5	U	4.9	U	4.9	U	4.9	U
Endrin aldehyde	14	J	17	J	10	J	16	J
alpha-Chlordane	47	J	50	J	54	J	81	J
gamma-Chlordane	15	J	16	J	16	J	26	J
Aroclor-1248	25	U	25	U	25	U	25	U
Aroclor-1254	620	J	630	J	400	J	770	J
Aroclor-1260	440	J	490	J	350	J	480	J

Wells G a. Site, OU III
Small Fish Summary Statistics
Pesticide - PCBs (ug/Kg - wet weight)

PARAMETER	NO. DETECTED	NO. SAMPLES	MIN DETECTED	MAX	MEAN	StdDev	UCL MEAN	LOG MEAN	UCL LOG MEAN
beta-BHC	1	28	1.4	1.4	1.1	0.6	1.3	1.1	1.4
delta-BHC	2	28	1.2	1.4	1.1	0.6	1.3	1.1	1.4
Aldrin	7	28	0.59	3.1	1.21	0.7	1.43	1.24	1.61
Heptachlor epoxide	16	28	0.63	4.6	1.51	0.9	1.79	1.54	1.98
Endosulfan I	8	28	0.26	2.5	1.22	0.61	1.41	1.26	1.62
Dieldrin	20	28	2.5	17	5.4	3.9	6.7	6.1	9.3
4,4'-DDE	25	28	5.5	59	25.8	14.7	30.5	26.5	34.5
Endrin	13	28	1.6	8.2	3.4	2.1	4.1	3.6	4.9
Endosulfan II	3	28	2.4	4.8	2.3	1.2	2.7	2.4	3.1
4,4'-DDD	27	28	0.82	34	18.18	11.1	21.74	24.28	45.82
Endosulfan sulfate	2	28	1.2	1.5	2.1	1.1	2.5	2.2	2.7
4,4'-DDT	22	28	0.79	9.3	3.69	2.31	4.43	3.84	5.2
Endrin ketone	1	28	1.9	1.9	2.1	1.1	2.5	2.2	2.7
Endrin aldehyde	7	28	1.5	4.9	2.3	1.1	2.7	2.4	3
alpha-Chlordane	24	28	0.33	29	10.95	8.31	13.62	16.27	37.76
gamma-Chlordane	21	28	2	17	4.8	4.9	6.3	5.6	10.6
Aroclor-1248	3	28	31	47	14.1	11.1	17.6	14.3	19.7
Aroclor-1254	21	28	41	130	68.7	42.4	82.3	95.4	184.9
Aroclor-1260	28	28	9.2	100	54.6	26.1	63	57.3	74.4

Wells G & Site, OU III
Small Fish Detected Compounds
Pesticide - PCBs (ug/Kg -wet weight)

SAMPLE ID	SF-LB-01		SF-LB-02		SF-LB-03		SF-LB-04		SF-LB-05		SF-LB-06		SF-LK-01	
LAB ID	DAB563		DAB564		DAB565		DAB566		DAB599		DAB650		DAB929	
SAMPLE DATE	8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		7/31/95	
COMMENTS														
beta-BHC	2.6	U	0.51	U	2.5	U	1	U	0.5	U	0.86	U	5.1	U
delta-BHC	2.6	U	0.51	U	2.5	U	1	U	0.5	U	0.86	U	5.1	U
Aldrin	2.6	U	0.51	U	2.5	U	1	U	0.5	U	0.86	U	5.1	U
Heptachlor epoxide	2.6	U	0.63	J	2.5	U	1.3	J	0.5	U	0.86	U	5.1	U
Endosulfan I	2.6	U	0.26	J	2.5	U	0.88	J	0.5	U	0.86	U	5.1	U
Dieldrin	5	U	0.98	U	4.9	U	2	U	0.98	U	1.7	U	11	J
4,4'-DDE	24		8.3		20		15	J	6.9		5.5		31	
Endrin	5	U	0.98	U	4.9	U	2	U	0.98	U	1.7	U	9.8	UJ
Endosulfan II	5	U	0.98	U	4.9	U	2	U	0.98	U	1.7	U	9.8	U
4,4'-DDD	3.2	J	0.89	J	2.9	J	3.1		0.82	J	1.7	U	27	
Endosulfan sulfate	5	U	0.98	U	4.9	U	2	U	0.98	U	1.7	U	9.8	U
4,4'-DDT	5	U	0.79	J	2.5	J	1.8	J	0.98	U	1.7	U	8.3	J
Endrin ketone	5	U	0.98	U	4.9	U	2	U	0.98	U	1.7	U	9.8	U
Endrin aldehyde	5	U	0.98	U	4.9	U	2	U	0.98	U	1.7	U	9.8	U
alpha-Chlordane	1.3	J	0.55	J	2.5	U	0.94	J	0.33	J	0.86	U	12	J
gamma-Chlordane	2.6	U	0.51	U	2.5	U	1	U	0.28	U	0.86	U	5.1	U
Aroclor-1248	25	U	5	U	25	U	9.9	U	5	U	8.5	U	50	U
Aroclor-1254	25	U	5	U	25	U	9.9	U	5	U	8.5	U	50	U
Aroclor-1260	33		9.7		26		20		18		9.2	J	84	

Wells G & . Site, OU III
Small Fish Detected Compounds
Pesticide - PCBs (ug/Kg -wet weight)

SAMPLE ID	SF-LK-02		SF-LK-03		SF-LK-04		SF-LK-05		SF-LK-06		SF-LK-07		SF-LK-08	
LAB ID	DAB930		DAB931		DAB932		DAB933		DAB964		DAB965		DAB966	
SAMPLE DATE	7/31/95		7/31/95		7/31/95		7/31/95		8/1/95		8/1/95		8/1/95	
COMMENTS														
beta-BHC	2.6	U	2.6	U	1	U	1	U	2.6	U	2.5	U	1	U
delta-BHC	1.4	J	1.2	J	1	U	1	U	2.6	U	2.5	U	1	U
Aldrin	2.3	J	1.3	J	1	U	1.1		2.6	U	2.5	U	0.61	J
Heptachlor epoxide	2.2	J	2.1	J	0.78	J	0.67	J	1.5	J	1.8	J	0.98	J
Endosulfan I	2.6	U	2.6	U	1	U	0.57	J	2.6	U	2.5	U	1	U
Dieldrin	17	J	13	J	4.8	J	4.2	J	7.5		4.3	J	6.7	
4,4'-DDE	31	J	30	J	19	J	18	J	25	U	32	U	18	U
Endrin	6.9	J	8.2	J	3.7	J	3.2	J	5	U	4.9	U	3.8	U
Endosulfan II	5	U	5	U	2	U	2	U	5	U	2.4	J	2	U
4,4'-DDD	32	J	27	J	16	J	16	J	26		32		17	
Endosulfan sulfate	5	U	5	U	2	U	2	U	5	U	4.9	U	1.5	J
4,4'-DDT	7.1	J	4.4	J	2.4	J	2	J	5	U	5.2		2.3	
Endrin ketone	5	U	5	U	2	U	2	U	5	U	4.9	U	2	U
Endrin aldehyde	3	J	3	J	2.2	J	1.9	J	5	U	4.9	U	2.2	
alpha-Chlordane	17	J	18	J	8.9	J	12	J	23		18		9.1	U
gamma-Chlordane	4.1	J	4.6	J	7.8	J	8.1	J	15		3.9		2	
Aroclor-1248	25	U	25	U	9.9	U	10	U	25	U	25	U	9.9	U
Aroclor-1254	130	J	130	J	57	J	50	J	97		100		62	
Aroclor-1260	98	J	87	J	60	J	53	J	30		46		34	

Wells G . Site, OU III
Small Fish Detected Compounds
Pesticide - PCBs (ug/Kg -wet weight)

SAMPLE ID	SF-LK-09		SF-LK-10		SF-LK-11		SF-LK-12		SF-LK-13		SF-RV-01		SF-RV-02	
LAB ID	DAB967		DAB994		DAB995		DAB996		DAB997		DAB945		DAB946	
SAMPLE DATE	8/1/95		8/2/95		8/2/95		8/2/95		8/2/95		8/1/95		8/1/95	
COMMENTS														
beta-BHC	2.6	U	2.5	U	5.1	U	2.5	U	2.5	U	2.6	U	2.5	U
delta-BHC	2.6	U	2.5	U	5.1	U	2.5	U	2.5	U	2.6	U	2.5	U
Aldrin	1.4	J	2.5	U	5.1	U	2.5	U	2.5	U	2.6	U	2.5	U
Heptachlor epoxide	1.7	J	2.5	U	5.1	U	1.6	J	2.5	U	2.6	U	2.5	U
Endosulfan I	2.6	U	2.5	U	5.1	U	1.5	J	1.4	J	6.5		6.3	
Dieldrin	10		2.5	J	9.8	U	3.5	J	3.3	J	31		24	
4,4'-DDE	37		42	J	59	J	53	J	49	J	4.5	J	3.7	J
Endrin	7.8	U	5	J	7.2	J	6.3	J	5.9	J	5	U	4.9	U
Endosulfan II	5	U	4.9	U	9.8	U	4.9	U	4.9	U	21		18	
4,4'-DDD	34		20	J	30	J	29	J	23	J	5	U	4.9	U
Endosulfan sulfate	5	U	4.9	U	9.8	U	4.9	U	4.9	U	4.3	J	3.6	J
4,4'-DDT	5		2.9	J	9.8	U	3.7	J	3.8	J	5	U	4.9	U
Endrin ketone	5	U	4.9	U	9.8	U	4.9	U	4.9	U	5	U	4.9	U
Endrin aldehyde	4.9	J	4.9	U	9.8	U	4.9	U	4.9	U	12		11	
alpha-Chlordane	17		8.9	J	14	J	12	J	10	J	2.8		2.8	
gamma-Chlordane	3.8		2.1	J	3.5	J	2.9	J	2.3	J	25	U	25	U
Aroclor-1248	25	U	25	U	50	U	25	U	25	U	84		75	
Aroclor-1254	130		74	J	110	J	95	J	87	J	52		45	
Aroclor-1260	66		56	J	72	J	75	J	74	J				

Wells G & Site, OU III
Small Fish Detected Compounds
Pesticide - PCBs (ug/Kg -wet weight)

SAMPLE ID	SF-RV-03	SF-RV-04	SF-RV-05	SF-RV-06	SF-RV-07	SF-RV-08	SF-RV-09
LAB ID	DAB947	DAB970	DAB971	DAB999	DAB551	DAB552	DAB569
SAMPLE DATE	8/1/95	8/1/95	8/1/95	8/2/95	8/2/95	8/2/95	8/3/95
COMMENTS							
beta-BHC	2.6 U	2.5 U	2.6 U	1 U	NA	NA	NA
delta-BHC	2.6 U	2.5 U	2.6 U	1 U	NA	NA	NA
Aldrin	2.6 U	2.5 U	3.1	1 U	NA	NA	NA
Heptachlor epoxide	2.6 U	1.3 J	1.4 J	1 U	NA	NA	NA
Endosulfan I	2.6 U	2.5 U	2.6 U	1 U	NA	NA	NA
Dieldrin	6.2	6.7	8	5.3 J	NA	NA	NA
4,4'-DDE	26	44	41	15 J	NA	NA	NA
Endrin	4.1 J	4.9 U	5 U	2.8 J	NA	NA	NA
Endosulfan II	5 U	4.9 U	5 U	2 U	NA	NA	NA
4,4'-DDD	18	29	29	14 J	NA	NA	NA
Endosulfan sulfate	5 U	4.9 U	5 U	2 U	NA	NA	NA
4,4'-DDT	4.6 J	9.3	8.3	1.9 J	NA	NA	NA
Endrin ketone	5 U	4.9 U	5 U	2 U	NA	NA	NA
Endrin aldehyde	5 U	4.9 U	5 U	1.5 J	NA	NA	NA
alpha-Chlordane	11	27	29	10 J	NA	NA	NA
gamma-Chlordane	2.6	15	17	6.1 J	NA	NA	NA
Aroclor-1248	25 U	25 U	25 U	10 U	NA	NA	NA
Aroclor-1254	77	110	110	41 J	NA	NA	NA
Aroclor-1260	43	65	61	46 J	NA	NA	NA

Wells G ı Site, OU III
Small Fish Detected Compounds
Pesticide - PCBs (ug/Kg -wet weight)

SAMPLE ID	SF-RV-10		SF-RV-12		SF-RV-13	
LAB ID	DAB570		DAB591		DAB592	
SAMPLE DATE	8/3/95		8/3/95		8/3/95	
COMMENTS						
beta-BHC	1.4		2.3	U	1.5	U
delta-BHC	1	U	2.3	U	1.5	U
Aldrin	0.59	J	2.3	U	1.5	U
Heptachlor epoxide	4.6	J	3.1	J	1.3	J
Endosulfan I	1.7	J	2.5	J	1.3	J
Dieldrin	4.9		6.4		2.9	U
4,4'-DDE	16	J	29		9	
Endrin	1.6	J	4.4	U	2.9	U
Endosulfan II	4	J	4.8	J	2.9	U
4,4'-DDD	9		26		4.2	
Endosulfan sulfate	1.2	J	4.4	U	2.9	U
4,4'-DDT	2.7	J	3.6	J	2.9	U
Endrin ketone	1.9	J	4.4	U	2.9	U
Endrin aldehyde	2	U	4.4	U	2.9	U
alpha-Chlordane	1	U	22		3.9	
gamma-Chlordane	2.8		15		2.8	
Aroclor-1248	47		44	J	31	J
Aroclor-1254	84		110		46	J
Aroclor-1260	95		100		70	

5.4 Inorganics

Wells G a[illegible] Site, OU III
Large Fish Summary Statistics
Inorganics (mg/Kg - wet weight)

PARAMETER	NO. DETECTED	NO. SAMPLES	MIN DETECTED	MAX	MEAN	StdDev	UCL MEAN	LOG MEAN	UCL LOG MEAN
Aluminum	45	116	0.48	130	5.46	16.91	8.09	3.61	4.74
Antimony	9	109	0.084	0.2	0.057	0.027	0.061	0.056	0.059
Arsenic	6	116	0.096	2.5	0.109	0.305	0.156	0.077	0.087
Barium	13	116	0.48	1.8	0.72	1.96	1.03	0.59	0.78
Cadmium	74	115	0.011	0.56	0.025	0.054	0.033	0.022	0.025
Calcium	26	116	19700	67100	8476	11844	10312	24086	55191
Chromium	89	116	0.05	2.6	0.26	0.356	0.316	0.254	0.311
Cobalt	38	116	0.041	0.23	0.037	0.034	0.043	0.036	0.039
Copper	92	116	0.12	4.5	0.65	0.72	0.76	0.64	0.78
Iron	77	116	4	591	40.8	85.4	54	42	60.2
Lead	30	116	0.059	3.2	0.176	0.475	0.25	0.112	0.142
Magnesium	1	116	363	363	198.8	83.1	211.7	198	210.5
Manganese	3	116	7.6	41.6	2.9	5.1	3.7	4.8	8.5
Mercury	82	116	0.0092	1	0.1566	0.1895	0.186	0.1759	0.2436
Nickel	1	116	0.83	0.83	0.03	0.08	0.05	0.03	0.03
Potassium	116	116	1320	4650	3087	601	3180	3090	3193
Selenium	116	116	0.27	1.1	0.67	0.15	0.69	0.67	0.7
Silver	7	116	0.033	0.22	0.022	0.021	0.025	0.021	0.022
Zinc	110	116	3.6	43.6	17.8	10.2	19.4	19	22
Cyanide	1	116	0.47	0.47	0.25	0.04	0.26	0.25	0.26

Wells G a. Site, OU III
Large Fish Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	LF-LB-01-F		LF-LB-01-O		LF-LB-02-F		LF-LB-02-O		LF-LB-03-F		LF-LB-03-O		LF-LB-04-F	
LAB ID	DAB553		DAB554		DAB555		DAB556		DAB557		DAB558		DAB559	
SAMPLE DATE	8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95	
COMMENTS														
Aluminum	2.5	UJ	2.5	UJ	0.94	UJ	1.2	UJ	0.48	J	4.5	UJ	0.48	UJ
Antimony	0.1	U	0.084		0.097	U	0.089	U	0.11	U	0.1	U	0.11	U
Arsenic	0.097	U	0.08	U	0.093	U	0.085	U	0.1	U	0.098	U	0.1	U
Barium	0.16	U	0.96	U	0.15	U	0.72	U	0.17	U	3.7	U	0.16	U
Cadmium	0.014	U	0.022	J	0.013	U	0.014	J	0.015	U	0.014	J	0.014	U
Calcium	105	UJ	22000	J	1000	UJ	18100	UJ	113	UJ	23600	J	119	UJ
Chromium	0.076	J	0.38	J	0.067	J	0.31	J	0.057	J	0.37	J	0.064	J
Cobalt	0.046	J	0.13	J	0.044	J	0.041	J	0.049	J	0.047	J	0.048	J
Copper	0.19	U	0.52	UJ	0.2	U	0.37	UJ	0.19	U	0.61	UJ	0.19	U
Iron	8	UJ	38	UJ	4	UJ	14	UJ	4.7	UJ	40	UJ	3.5	UJ
Lead	0.069	U	0.057	U	0.066	U	0.061	U	0.081	UJ	0.07	UJ	0.072	UJ
Magnesium	294	UJ	529	UJ	319	UJ	507	UJ	297	UJ	574	UJ	316	UJ
Manganese	0.19	U	7.6	J	0.31	U	3.7	UJ	0.18	U	18.4	UJ	0.16	U
Mercury	0.63	J	0.49	J	0.63	J	0.5	J	0.36	J	0.2	J	0.34	J
Nickel	0.046	U	0.038	U	0.044	U	0.041	U	0.049	U	0.047	U	0.048	U
Potassium	4000	J	2700	J	3920	J	2800	J	4040	J	2710	J	3970	J
Selenium	0.61	J	0.8	J	0.64	J	0.64	J	0.66	J	0.62	J	0.52	J
Silver	0.037	UJ	0.033	J	0.035	UJ	0.033	UJ	0.039	UJ	0.037	UJ	0.039	UJ
Zinc	4.9	U	22.4	J	5.5		22.5	J	5.2	U	21.6	J	4.3	U
Cyanide	0.56	U	0.53	U	0.61	U	0.56	U	0.6	U	0.57	U	0.53	U

Wells G & . Site, OU III
Large Fish Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	LF-LB-04-O		LF-LB-05-F		LF-LB-05-O		LF-LB-06-F		LF-LB-06-O		LF-LB-07-F		LF-LB-07-O	
LAB ID	DAB560		DAB561		DAB562		DAB572		DAB573		DAB574		DAB575	
SAMPLE DATE	8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95	
COMMENTS														
Aluminum	2.2	UJ	0.8	UJ	3.4	UJ	2.1	UJ	1.2	UJ	2.1	UJ	2.5	UJ
Antimony	0.1	U	0.099	U	0.1	U	0.11	U	0.1	U	0.11	UJ	0.091	U
Arsenic	0.1	U	0.095	U	0.1	U	0.1	U	0.096	U	0.1	U	0.087	U
Barium	0.88	U	0.15	U	2.1	U	0.17	U	0.65	U	0.16	U	2.9	U
Cadmium	0.025		0.014	U	0.02	J	0.015	U	0.019	J	0.014	U	0.04	J
Calcium	10900	UJ	120	UJ	19800	UJ	104	UJ	18100	UJ	352	UJ	21100	UJ
Chromium	0.2	J	0.078	J	0.32	J	0.072	J	0.3	J	0.059	J	0.32	J
Cobalt	0.048	J	0.045	J	0.047	J	0.05	UJ	0.046	UJ	0.047	UJ	0.041	UJ
Copper	0.44	U	0.21	U	0.47	UJ	0.16		0.32	J	0.14		0.64	J
Iron	19	UJ	4.3	UJ	22.9	UJ	4.9	UJ	12.9	J	3.8	UJ	33.4	J
Lead	0.071	UJ	0.08	UJ	0.071	UJ	0.091	UJ	0.069	U	0.071	U	0.062	U
Magnesium	357	UJ	296	UJ	503	UJ	334	UJ	496	UJ	310	UJ	535	UJ
Manganese	3.9	U	0.14	U	6.5	UJ	0.13	U	4.6	UJ	0.2	U	8.2	UJ
Mercury	0.14	J	0.32	J	0.21	J	0.53		0.35		0.5		0.33	
Nickel	0.048	U	0.045	U	0.047	U	0.05	UJ	0.046	UJ	0.047	UJ	0.041	UJ
Potassium	2520	J	3730	J	2580	J	4200	J	2490	J	4010	J	2670	J
Selenium	0.69	J	0.62	J	0.68	J	0.8	J	0.64	J	0.6	J	0.69	J
Silver	0.038	UJ	0.036	UJ	0.038	UJ	0.04	UJ	0.037	UJ	0.038	UJ	0.033	UJ
Zinc	16.1		4.6	U	23.9	J	4.4		18.1	J	4.6		17.4	J
Cyanide	0.49	U	0.56	U	0.5	U	0.49	U	0.46	U	0.48	U	0.45	U

Wells G a. Site, OU III
Large Fish Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	LF-LB-08-F		LF-LB-08-O		LF-LB-09-F		LF-LB-09-O		LF-LB-10-F		LF-LB-10-O		LF-LB-11	
LAB ID	DAB576		DAB577		DAB578		DAB579		DAB580		DAB581		DAB582	
SAMPLE DATE	8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95	
COMMENTS														
Aluminum	1.7	UJ	1.7	UJ	2.3	UJ	1.7	UJ	1.8	UJ	2.1	UJ	3.2	UJ
Antimony	0.1	U	0.094	U	0.092	U	0.074	U	0.11	UJ	0	R	0.11	U
Arsenic	0.098	U	0.089	U	0.087	U	0.071	U	0.095	U	0.1	U	0.1	U
Barium	0.16	U	0.77	U	0.14	U	0.77	U	0.15	U	2.6	U	0.43	U
Cadmium	0.014	U	0.027	J	0.013	U	0.029	J	0.014	U	0.017	J	0.056	
Calcium	218	UJ	17300	UJ	204	UJ	24700	J	564	UJ	13600	UJ	2220	UJ
Chromium	0.082	J	0.29	J	0.072	J	0.38	J	0.087	J	0.23	J	0.086	J
Cobalt	0.047	UJ	0.043	UJ	0.042	UJ	0.034	UJ	0.045	UJ	0.049	UJ	0.05	UJ
Copper	0.14		0.35	J	0.12		0.53	J	0.14		0.35	J	0.72	
Iron	6	J	12.4	J	6.8	UJ	20.1	J	4.4	UJ	17.9	J	40.4	J
Lead	0.07	U	0.064	U	0.076	UJ	0.051	U	0.074	UJ	0.074	U	0.17	UJ
Magnesium	320	UJ	481	UJ	270	UJ	556	UJ	318	UJ	351	UJ	234	UJ
Manganese	0.38	U	6.1	UJ	0.14	U	6.1	UJ	0.36	U	21.6	UJ	2	U
Mercury	0.55		0.36		1		0.6		0.13		0.091		0.13	
Nickel	0.047	UJ	0.043	UJ	0.042	UJ	0.034	UJ	0.045	UJ	0.049	UJ	0.05	UJ
Potassium	4120	J	2750	J	3820	J	2360	J	4110	J	2480	J	3140	J
Selenium	0.54	J	0.72	J	0.56	J	0.85	J	0.57	J	0.83	J	0.81	J
Silver	0.037	UJ	0.034	UJ	0.033	UJ	0.034	J	0.036	UJ	0.039	UJ	0.04	UJ
Zinc	4.5		19.3	J	3.6		19	J	6.1		18.6	J	25.8	
Cyanide	0.36	U	0.48	U	0.5	U	0.44	U	0.47	U	0.45	U	0.43	U

Wells G & Site, OU III
Large Fish Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	LF-LB-12		LF-LB-13		LF-LB-14-F		LF-LB-14-O		LF-LB-15-F		LF-LB-15-O		LF-LB-16-F	
LAB ID	DAB583		DAB584		DAB593		DAB594		DAB595		DAB596		DAB597	
SAMPLE DATE	8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95	
COMMENTS														
Aluminum	3.4	UJ	2.6	UJ	1.8	UJ	2.8	UJ	2.8	UJ	24.4	J	1.7	UJ
Antimony	0.11	U	0.11	U	0.089	U	0.087	U	0.086	U	0.11	U	0.09	U
Arsenic	0.11	U	0.1	U	0.085	UJ	0.083	UJ	0.082	UJ	0.1	UJ	0.086	UJ
Barium	0.39	U	0.84	U	0.21	UJ	7.6	U	0.13	U	9.1	U	0.18	UJ
Cadmium	0.047		0.062		0.012	U	0.012	UJ	0.012	U	0.015	UJ	0.012	U
Calcium	1910	UJ	4880	UJ	625	UJ	26000	J	83.5	UJ	26600	J	407	UJ
Chromium	0.3	J	0.14	J	0.1	UJ	0.54	UJ	0.072	UJ	0.48	UJ	0.073	UJ
Cobalt	0.05	UJ	0.049	UJ	0.041	UJ	0.04	UJ	0.039	UJ	0.049	UJ	0.041	UJ
Copper	0.92		0.36		0.26	U	0.83	J	0.57	U	1.1	J	0.23	U
Iron	63	J	36.6	J	10.3	J	66.2	J	24.9	J	591	J	12.3	J
Lead	0.32	UJ	0.28	UJ	0.061		0.079	UJ	0.059		1.3	J	0.061	
Magnesium	198	UJ	265	UJ	277	UJ	579	UJ	254	UJ	600	UJ	239	UJ
Manganese	2.7	U	10.9	U	0.81	U	29.4	J	0.4	U	41.6	J	0.38	U
Mercury	0.11		0.26		0.025	UJ	0.015	UJ	0.15	UJ	0.057	UJ	0.028	UJ
Nickel	0.19	UJ	0.049	UJ	0.041	UJ	0.04	UJ	0.039	UJ	0.049	UJ	0.041	UJ
Potassium	2600	J	2850	J	4650	J	2460	J	4420	J	2290	J	3560	J
Selenium	0.78	J	0.9	J	0.57	J	0.77	J	0.66	J	0.73	J	0.55	J
Silver	0.04	UJ	0.039	UJ	0.033	UJ	0.032	UJ	0.031	UJ	0.039	UJ	0.033	UJ
Zinc	36.3		23.6		6.3		19.9	J	6.1		23.4	J	4.6	
Cyanide	0.49	U	0.41	U	0.51	U	0.57	U	0.55	U	0.41	U	0.57	U

Wells G ar. Site, OU III
Large Fish Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	LF-LB-16-O		LF-LB-17		LF-LB-18		LF-LB-19		LF-LB-20		LF-LB-21		LF-LB-22	
LAB ID	DAB598		DAB656		DAB657		DAB658		DAB659		DAB660		DAB663	
SAMPLE DATE	8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/10/95	
COMMENTS														
Aluminum	4.2	J	1.9	UJ	2.3	UJ	9.2	J	1.8	UJ	6.8	J	1.7	UJ
Antimony	0.086	U	0.089	U	0.11	U	0.099	U	0.078	U	0.1	U	0.1	U
Arsenic	0.082	UJ	0.085	UJ	0.1	UJ	0.095	UJ	0.074	UJ	0.1	UJ	0.096	UJ
Barium	10.1	U	0.27	U	0.65	U	0.77	U	0.51	U	0.22	U	1.4	U
Cadmium	0.012	UJ	0.016		0.015	U	0.014	U	0.016		0.03		0.014	UJ
Calcium	22000	J	1930	UJ	5980	UJ	2440	UJ	4210	UJ	1270	UJ	13000	UJ
Chromium	0.38	UJ	0.086	UJ	0.14	UJ	0.085	UJ	0.11	UJ	0.09	UJ	0.26	UJ
Cobalt	0.039	UJ	0.04	UJ	0.049	UJ	0.045	UJ	0.035	UJ	0.048	UJ	0.046	UJ
Copper	0.75	J	0.54	U	0.43	U	0.54	U	0.35	U	0.56	U	0.5	UJ
Iron	93.5	J	28.5	J	22.3	J	59.7	J	16.4	J	27	J	16.7	J
Lead	0.2	UJ	0.068	UJ	0.095	UJ	0.2	UJ	0.053	UJ	0.13	UJ	0.068	UJ
Magnesium	531	UJ	205	UJ	322	UJ	239	UJ	264	UJ	209	UJ	435	UJ
Manganese	17.6	UJ	2.5	U	14.5	U	5.2	U	7.9	U	1.5	U	6.4	UJ
Mercury	0.017	UJ	0.15	UJ	0.12	UJ	0.59	J	0.55	J	0.19	UJ	0.016	UJ
Nickel	0.039	UJ	0.04	UJ	0.088	UJ	0.045	UJ	0.035	UJ	0.048	UJ	0.046	UJ
Potassium	2190	J	2650	J	3340	J	3190	J	3080	J	2970	J	3450	J
Selenium	0.74	J	0.8	J	0.77	J	0.79	J	0.67	J	0.72	J	1	J
Silver	0.031	UJ	0.032	UJ	0.039	UJ	0.036	UJ	0.028	UJ	0.038	UJ	0.037	UJ
Zinc	22	J	27.6		24.5		25.9		22.4		27.2		19.6	J
Cyanide	0.51	U	0.47	U	0.53	U	0.46	U	0.46	U	0.57	U	0.4	U

Wells G & , Site, OU III
Large Fish Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	LF-LB-23		LF-LB-24		LF-LB-25		LF-LB-26		LF-LK-01		LF-LK-02		LF-LK-03	
LAB ID	DAB664		DAB665		DAB666		DAB667		DAB911		DAB913		DAB915	
SAMPLE DATE	8/10/95		8/10/95		8/10/95		8/10/95		7/31/95		7/31/95		7/31/95	
COMMENTS														
Aluminum	17	J	21.8	J	2.4	UJ	3.4	UJ	4.2	UJ	2.3	UJ	4.4	UJ
Antimony	0.09	R	0.1	U	0.11	U	0.18		0.098	U	0	R	0.11	U
Arsenic	0.077	U	0.098	U	0.11	U	0.1	U	0.19	U	0.1	UJ	0.24	U
Barium	1.1		0.64		0.73		0.48		1.5		0.76		0.63	
Cadmium	0.014	J	0.014	U	0.56		0.017		0.017	J	0.02	J	0.015	
Calcium	13100	U	6200	U	6650	U	3940	U	14600	U	11200	U	9200	U
Chromium	0.3	J	0.22	J	0.16	UJ	0.12	UJ	0.36	J	0.25	J	0.26	J
Cobalt	0.08	J	0.087	J	0.082	J	0.053	J	0.045	UJ	0.058	J	0.06	J
Copper	0.84	J	0.69		0.75		0.62		1	J	0.79	J	0.6	
Iron	40.1		44.5		34.2		21		36.2		19.1		28.1	
Lead	0.4	J	0.42	J	0.19	J	0.21	J	0.067	UJ	0.062	UJ	0.076	J
Magnesium	445	U	313	U	296	U	244	U	424	U	385	U	343	U
Manganese	4.2	UJ	2.1	U	3.9	U	3.2	U	9.6	UJ	4.4	UJ	4.3	U
Mercury	0.014	UJ	0.021	UJ	0.064	UJ	0.079	UJ	0.016	UJ	0.034	UJ	0.027	UJ
Nickel	0.037	U	0.047	U	0.05	U	0.047	U	0.045	U	0.041	U	0.049	U
Potassium	3160		3130		2830		2700		3250		3350		3350	
Selenium	0.72	J	0.58	J	0.55	J	0.55	J	0.87	J	0.82	J	0.7	J
Silver	0.03	UJ	0.037	UJ	0.04	UJ	0.038	UJ	0.036	UJ	0.035	UJ	0.039	UJ
Zinc	21.6	J	17.5		18.7		19.2		21.1	J	22.1	J	21	
Cyanide	0.53	U	0.48	U	0.53	U	0.55	U	0.5	U	0.46	U	0.37	U

Wells G a. Site, OU III
Large Fish Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	LF-LK-04		LF-LK-05		LF-LK-06-F		LF-LK-06-O		LF-LK-07-F		LF-LK-07-O		LF-LK-08-F	
LAB ID	DAB917		DAB919		DAB921		DAB922		DAB923		DAB924		DAB925	
SAMPLE DATE	7/31/95		7/31/95		7/31/95		7/31/95		7/31/95		7/31/95		7/31/95	
COMMENTS														
Aluminum	3.6	UJ	5.8	J	0.49	UJ	2.9	J	4.2	J	130	J	1.5	J
Antimony	0	R	0	R	0.097	U	0.13	R	0.16		0.14		0.1	
Arsenic	0.095	UJ	0.16	UJ	0.085	UJ	0.25	UJ	0.42	UJ	2.5	J	0.21	UJ
Barium	1.6		1.8		0.13	U	3.2	U	0.19	UJ	2.6	U	0.14	U
Cadmium	0.084	J	0.027	J	0.012		0.044	J	0.017		0.12		0.012	U
Calcium	21900		18100	U	69.4	UJ	14300	UJ	703	UJ	6440	UJ	98.6	UJ
Chromium	0.46	J	0.41	J	0.071	J	0.27	J	0.16	J	2.6	J	0.068	J
Cobalt	0.044	J	0.059	J	0.032	UJ	0.044	UJ	0.045	J	0.23	J	0.041	UJ
Copper	0.89	J	0.55	J	0.62		1	J	0.38		3.6		0.56	
Iron	23.9		28.5		8	UJ	107	J	12.9	J	458	J	12.1	J
Lead	0.054	UJ	0.074	UJ	0.069	U	0.26	UJ	0.077	UJ	3.2	J	0.066	UJ
Magnesium	521	U	451	U	248	UJ	384	UJ	261	UJ	311	UJ	239	UJ
Manganese	8.9	UJ	8.4	UJ	0.12	U	3.9	UJ	0.5	U	8.4	U	0.14	U
Mercury	0.038	UJ	0.02	UJ	0.058	UJ	0.045	J	0.039	J	0.047	J	0.04	J
Nickel	0.036	U	0.049	U	0.065	U	0.044	UJ	0.066	UJ	0.32	UJ	0.041	UJ
Potassium	3310		3030		3800	J	2470	J	3560	J	2570	J	3350	J
Selenium	0.66	J	0.78	J	0.39	J	0.44	J	0.39	J	0.69	J	0.27	J
Silver	0.031	UJ	0.04	UJ	0.06	U	0.036	UJ	0.035	UJ	0.039	UJ	0.033	UJ
Zinc	24.8	J	25.4	J	6.9	U	22.7	J	6.3		34.7		6.6	
Cyanide	0.52	U	0.38	U	0.47	U	0.51	UJ	0.57	UJ	0.55	UJ	0.56	UJ

Wells G a. Site, OU III
Large Fish Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	LF-LK-08-O		LF-LK-09-F		LF-LK-09-O		LF-LK-10-F		LF-LK-10-O		LF-LK-11-F		LF-LK-11-O	
LAB ID	DAB926		DAB927		DAB928		DAB934		DAB935		DAB951		DAB952	
SAMPLE DATE	7/31/95		7/31/95		7/31/95		8/1/95		8/1/95		8/1/95		8/1/95	
COMMENTS														
Aluminum	106	J	1.3	J	21.7	J	3.3	J	72.2	J	1.4	UJ	2.5	UJ
Antimony	0.15		0.082	U	0.2		0.1	U	0.11	U	0.11	U	0.097	U
Arsenic	1.4	J	0.33	UJ	0.61	UJ	0.39	UJ	1.8	J	0.1	U	0.093	U
Barium	10.8	U	0.13	U	1.3	U	0.15	U	38.6	U	0.16	U	0.78	UJ
Cadmium	0.12		0.011	U	0.055		0.014		0.06	J	0.014	U	0.02	J
Calcium	11700	UJ	82.7	UJ	4220	UJ	498	UJ	14600	UJ	122	UJ	27600	J
Chromium	2.1	J	0.076	J	0.49	J	0.084	J	1.7	J	0.061	J	0.35	J
Cobalt	0.18	J	0.037	UJ	0.1	J	0.045	J	0.2	J	0.048	UJ	0.044	UJ
Copper	3.4		0.31		1.2		0.42		3	J	0.17		0.84	
Iron	413	J	8.5	UJ	267	J	10.4	J	284	J	4	J	31.6	J
Lead	2.5	J	0.056	UJ	0.57	J	0.13	UJ	1.9	J	0.072	J	0.066	UJ
Magnesium	353	UJ	259	UJ	238	UJ	245	UJ	424	UJ	309	UJ	582	UJ
Manganese	9.3	U	0.1	U	3.1	U	0.33	U	9.3	UJ	0.14	U	5.3	UJ
Mercury	0.029	J	0.056	J	0.039	J	0.023	J	0.028	J	0.15	J	0.064	J
Nickel	0.32	UJ	0.037	UJ	0.072	UJ	0.045	UJ	0.18	UJ	0.048	UJ	0.044	UJ
Potassium	2120	J	3680	J	2310	J	3360	J	2510	J	3490	J	2650	J
Selenium	0.45	J	0.33	J	0.57	J	0.36	J	0.67	J	0.71	J	0.91	J
Silver	0.04	UJ	0.03	UJ	0.22	J	0.036	UJ	0.11	J	0.038	U	0.035	U
Zinc	37.5		5.7		21.2		7.6		37.6	J	7.2		28.5	J
Cyanide	0.52	UJ	0.51	UJ	0.59	UJ	0.54	UJ	0.57	UJ	0.44	UJ	0.41	UJ

Wells G & Site, OU III
Large Fish Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	LF-LK-12-F		LF-LK-12-O		LF-LK-13-F		LF-LK-13-O		LF-LK-14-F		LF-LK-14-O		LF-LK-15	
LAB ID	DAB953		DAB954		DAB955		DAB956		DAB957		DAB958		DAB959	
SAMPLE DATE	8/1/95		8/1/95		8/1/95		8/1/95		8/1/95		8/1/95		8/1/95	
COMMENTS														
Aluminum	1.2	UJ	1.3	UJ	1.8	UJ	1.2	UJ	1.3	UJ	3.4	J	13.1	J
Antimony	0.1	U	0.085	U	0.1	U	0.11	U	0.11	U	0.11	U	0.095	U
Arsenic	0.098	U	0.081	U	0.096	U	0.1	U	0.1	U	0.1	U	0.15	UJ
Barium	0.16	U	0.66	UJ	0.16	U	1	UJ	0.17	U	1.6	UJ	0.49	UJ
Cadmium	0.014	U	0.021	J	0.017		0.026	J	0.015		0.021	J	0.018	
Calcium	189	UJ	28300	J	690	UJ	34500	J	1020	UJ	20100	J	9370	UJ
Chromium	0.058	J	0.36	J	0.069	J	0.42	J	0.07	J	0.31	J	0.39	J
Cobalt	0.047	UJ	0.038	UJ	0.046	UJ	0.049	UJ	0.049	UJ	0.05	UJ	0.043	UJ
Copper	0.14		0.58		0.16		0.84		0.16		1.9		1	
Iron	3.1	UJ	31.8	J	2.8	UJ	30	J	3.8	UJ	43	J	61.3	J
Lead	0.07	UJ	0.058	UJ	0.069	UJ	0.074	UJ	0.073	UJ	0.075	UJ	0.25	J
Magnesium	304	UJ	660	UJ	303	UJ	735	UJ	308	UJ	483	UJ	371	UJ
Manganese	0.1	U	3.4	UJ	0.17	U	5.2	UJ	0.22	U	4.7	UJ	4.4	U
Mercury	0.15	J	0.064	J	0.13		0.061	J	0.14	J	0.05	J	0.025	J
Nickel	0.047	UJ	0.038	UJ	0.046	UJ	0.049	UJ	0.049	UJ	0.05	UJ	0.043	UJ
Potassium	3480	J	2800	J	3690	J	2850	J	3370	J	2470	J	3130	J
Selenium	0.69	J	0.83	J	0.67	J	1.1	J	0.84	J	0.93	J	0.65	J
Silver	0.037	U	0.031	U	0.037	U	0.039	U	0.039	U	0.04	U	0.034	U
Zinc	6		25.8	J	5.5		27.9	J	5.4		26.5	J	23.1	
Cyanide	0.36	UJ	0.43	UJ	0.48	UJ	0.47	UJ	0.46	UJ	0.48	UJ	0.51	UJ

Wells G ai ...ite, OU III
Large Fish Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	LF-LK-16		LF-LK-17		LF-LK-18		LF-LK-19		LF-LK-20-F		LF-LK-21-F		LF-LK-22-F1	
LAB ID	DAB960		DAB961		DAB962		DAB963		DAB985		DAB983		DAB987	
SAMPLE DATE	8/1/95		8/1/95		8/1/95		8/1/95		8/2/95		8/2/95		8/2/95	
COMMENTS													dup of DAB988	
Aluminum	6.8	J	7	J	7.6	J	3.4	J	0.74	UJ	0.87	J	1.2	UJ
Antimony	0.091	U	0.077	U	0.097	U	0.09	U	0.077	U	0.097	U	0.1	U
Arsenic	0.087	U	0.074	U	0.12	UJ	0.086	U	0.074	U	0.093	U	0.097	U
Barium	0.89	UJ	0.73	UJ	0.65	UJ	1.1	UJ	0.12	U	0.15	U	0.16	U
Cadmium	0.022		0.011	J	0.013	U	0.019		0.014		0.015		0.014	U
Calcium	6690	UJ	10500	UJ	6090	UJ	7270	UJ	93.6	U	85.1	UJ	91.8	U
Chromium	0.2	J	0.3	J	0.23	J	0.17	J	0.14	J	0.07	UJ	0.05	J
Cobalt	0.043	J	0.035	UJ	0.044	UJ	0.041	UJ	0.035	UJ	0.044	UJ	0.046	UJ
Copper	0.66		0.96		0.8		0.56		0.13		0.17		0.13	
Iron	62.6	J	46.1	J	43	J	45.5	J	4.8	U	3.7	UJ	2.8	U
Lead	0.3	J	0.14	J	0.12	J	0.14	J	0.053	U	0.066	U	0.069	U
Magnesium	301	UJ	390	UJ	339	UJ	336	UJ	265	U	279	UJ	272	U
Manganese	4.3	U	7.1	UJ	3.7	U	3.2	U	0.095	U	0.12	U	0.093	U
Mercury	0.12	J	0.029	J	0.028	J	0.01	UJ	0.19		0.2	J	0.2	
Nickel	0.041	UJ	0.035	UJ	0.044	UJ	0.041	UJ	0.035	UJ	0.044	UJ	0.046	UJ
Potassium	2820	J	3180	J	3170	J	3000	J	3430		3290	J	3210	
Selenium	0.65	J	0.74	J	0.76	J	0.69	J	0.56	J	0.53	J	0.61	J
Silver	0.033	U	0.028	U	0.035	U	0.033	U	0.028	U	0.035	UJ	0.037	U
Zinc	22.5		22.8	J	19.7		18.6		5.6		5	J	5.7	
Cyanide	0.57	UJ	0.55	UJ	0.48	UJ	0.59	UJ	0.42	U	0.48	U	0.52	U

Wells G & Site, OU III
Large Fish Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	LF-LK-22-F2		LF-LK-22-O		LF-LK-23-F		LF-LK-24-F		LF-LK-25-F		LF-LK-25-O		LF-LK-31	
LAB ID	DAB988		DAB989		DAB990		DAB992		DAB567		DAB568		DAB651	
SAMPLE DATE	8/2/95		8/2/95		8/2/95		8/2/95		8/3/95		8/3/95		8/3/95	
COMMENTS	dup of DAB987													
Aluminum	0.71	UJ	1.4	UJ	1.1	UJ	1.2	UJ	2.6	UJ	9.8	UJ	1	UJ
Antimony	0.089	U	0.092	U	0.1	U	0.1	U	0.1	U	0.098	U	0.12	U
Arsenic	0.085	U	0.088	U	0.097	U	0.096	U	0.17		0.096		0.1	UJ
Barium	0.14	U	0.44	U	0.16	U	0.16	U	0.16	U	2.3	U	0.16	U
Cadmium	0.012	U	0.02	J	0.015		0.016		0.023		0.017	J	0.022	
Calcium	82.1	U	25200		94.5	U	120	U	1380	UJ	16000	UJ	1940	UJ
Chromium	0.056	J	0.32	J	0.065	J	0.081	J	0.097	J	0.38	J	0.1	J
Cobalt	0.041	UJ	0.042	UJ	0.046	UJ	0.046	UJ	0.054	J	0.045	UJ	0.039	UJ
Copper	0.15		0.42	J	0.12		0.13		0.8		0.71	J	0.5	
Iron	2.9	U	17.8		3.5	U	3.4	U	43.7	J	181	J	25.3	J
Lead	0.061	U	0.066	J	0.076	J	0.068	U	2.3	J	0.52	UJ	0.1	J
Magnesium	270	U	550	U	292	U	279	U	1020	UJ	458	UJ	197	UJ
Manganese	0.093	U	4.4	UJ	0.1	U	0.11	U	2.9	U	13.2	UJ	1.6	U
Mercury	0.18		0.13		0.15		0.13		0.018		0.0092		0.13	J
Nickel	0.041	UJ	0.042	UJ	0.046	UJ	0.046	UJ	0.046	UJ	0.045	UJ	0.078	U
Potassium	3350		2570		3570		3340		4060	J	2560	J	2050	J
Selenium	0.64	J	0.69	J	0.58	J	0.65	J	0.45	J	0.52	J	0.69	J
Silver	0.033	U	0.034	U	0.037	U	0.037	U	0.037	UJ	0.036	UJ	0.073	U
Zinc	5.2		20.3	J	6.2		5.5		6.9		22.4	J	34.4	
Cyanide	0.4	U	0.52	U	0.48	U	0.53	U	0.5	U	0.43	U	0.45	U

Wells G & , Site, OU III
Large Fish Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	LF-LK-32		LF-LK-33		LF-LK-34		LF-LK-35		LF-LK-36-F		LF-LK-36-O		LF-RV-01-F	
LAB ID	DAB652		DAB653		DAB654		DAB655		DAB949		DAB950		DAB903	
SAMPLE DATE	8/3/95		8/3/95		8/3/95		8/3/95		8/1/95		8/1/95		7/31/95	
COMMENTS											MS/MSD			
Aluminum	3.9	J	3	UJ	2.2	UJ	1.6	UJ	1.9	UJ	3.1	UJ	0.52	UJ
Antimony	0.084	U	0.1	U	0.11	U	0.1	U	0.1	U	0.083	U	0.1	U
Arsenic	0.08	UJ	0.097	UJ	0.1	UJ	0.095	UJ	0.095	U	0.079	U	0.089	UJ
Barium	0.31	U	0.34	U	0.98	U	0.3	UJ	0.15	U	0.7	UJ	0.14	U
Cadmium	0.015		0.054		0.015	U	0.014	U	0.015		0.018	J	0.0085	U
Calcium	1980	UJ	1570	UJ	10600	UJ	6290	UJ	104	UJ	24600	J	389	UJ
Chromium	0.19	UJ	0.073	UJ	0.22	UJ	0.15	UJ	0.058	J	0.31	J	0.084	J
Cobalt	0.038	UJ	0.046	UJ	0.05	UJ	0.045	UJ	0.045	J	0.038	UJ	0.034	UJ
Copper	0.6		0.43	U	0.3	U	0.62		0.17		1.2	J	0.27	
Iron	24.8	J	20.7	J	20.4	J	27.9	J	4.1	UJ	33.5	J	2.8	UJ
Lead	0.063	UJ	0.29	UJ	1	J	0.068	U	0.068	UJ	0.056	UJ	0.072	U
Magnesium	229	UJ	205	UJ	350	UJ	299	UJ	298	UJ	587	UJ	256	UJ
Manganese	7	U	3.9	U	6.4	U	3.3	U	0.077	U	2.1	UJ	0.13	U
Mercury	0.063	UJ	0.072	UJ	0.0099	UJ	0.093	UJ	0.26	J	0.13	J	0.58	J
Nickel	0.075	UJ	0.046	UJ	0.05	UJ	0.045	UJ	0.045	UJ	0.038	UJ	0.068	U
Potassium	1870	J	2010	J	1320	J	3140	J	3570	J	2640	J	3660	J
Selenium	0.93	J	0.83	J	0.8	J	0.84	J	0.74	J	0.78	J	0.46	J
Silver	0.031	UJ	0.037	UJ	0.04	UJ	0.036	UJ	0.036	U	0.03	U	0.064	U
Zinc	24.8		21.7		29.9		29		7.4		23.5	J	7.6	U
Cyanide	0.56	U	0.6	U	0.42	U	0.49	U	0.43	UJ	0.47	J	0.53	U

Wells G & Site, OU III
Large Fish Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	LF-RV-01-O	LF-RV-02-F	LF-RV-02-O	LF-RV-03-F	LF-RV-03-O	LF-RV-04-F	LF-RV-04-O
LAB ID	DAB904	DAB907	DAB908	DAB905	DAB906	DAB909	DAB910
SAMPLE DATE	7/31/95	7/31/95	7/31/95	7/31/95	7/31/95	7/31/95	7/31/95
COMMENTS							
Aluminum	8.4 J	1.5 UJ	2.5 UJ	2.3 UJ	6.8 J	0.96 UJ	5.6 J
Antimony	0.11 U	0.092	0 R	0.089 U	0.1 U	0.089 U	0.11 U
Arsenic	0.15 UJ	0.071 U	0.099 U	0.085 U	0.12 UJ	0.11 UJ	0.11 UJ
Barium	1.1	0.11 U	1.2	0.14 U	1.5	0.14 U	1.7
Cadmium	0.04 J	0.014	0.032 J	0.012 U	0.024 J	0.012 U	0.026 J
Calcium	33000	763 U	25800	330 U	35000	352 U	25500
Chromium	0.65 J	0.1 UJ	0.44 J	0.087 UJ	0.74 J	0.088 UJ	0.49 J
Cobalt	0.049 J	0.034 UJ	0.06 J	0.041 J	0.048 J	0.041 UJ	0.058 J
Copper	1.8 J	0.16	2.2 J	0.49	1.4 J	0.17	4.5 J
Iron	39.9	3.2 U	36.3	5.8 U	38.3	3.3 U	42.5
Lead	0.074 UJ	0.051 UJ	0.07 UJ	0.062 J	0.071 UJ	0.061 UJ	0.075 UJ
Magnesium	692 U	276 U	580 U	316 U	737 U	296 U	581 U
Manganese	6.9 UJ	0.23 U	5.7 UJ	0.34 U	3.7 UJ	0.21 U	7.4 UJ
Mercury	0.34 UJ	0.082 UJ	0.16 UJ	0.096 UJ	0.038 UJ	0.089 UJ	0.033 UJ
Nickel	0.049 U	0.034 U	0.047 U	0.041 U	0.048 U	0.041 U	0.05 U
Potassium	2450	4370	2470	3810	2400	3670	2540
Selenium	0.55 J	0.64 J	0.66 J	0.78 J	0.72 J	0.6 J	0.67 J
Silver	0.039 UJ	0.027 UJ	0.042 UJ	0.033 UJ	0.044 UJ	0.033 UJ	0.04 UJ
Zinc	29.9 J	4.8	27.9 J	6.3	33.5 J	6.7	28.1 J
Cyanide	0.54 U	0.56 U	0.56 U	0.52 U	0.47 U	0.54 U	0.56 U

Wells G [illegible] Site, OU III
Large Fish Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	LF-RV-05-F		LF-RV-05-O		LF-RV-06-F		LF-RV-06-O		LF-RV-07		LF-RV-08		LF-RV-09	
LAB ID	DAB938		DAB939		DAB940		DAB941		DAB942		DAB943		DAB944	
SAMPLE DATE	8/1/95		8/1/95		8/1/95		8/1/95		8/1/95		8/1/95		8/1/95	
COMMENTS														
Aluminum	2	J	3.7	J	1.6	J	2.2	J	18.9	UJ	10.1	J	4.6	J
Antimony	0.1	U	0.11	U	0.14		0.11	U	0.11	U	0.089	U	0.092	U
Arsenic	0.13	UJ	0.15	UJ	0.085	UJ	0.11	J	0.21	UJ	0.23	UJ	0.18	U
Barium	0.16	U	1	U	0.14	U	0.47	U	0.92	UJ	0.8	U	0.77	UJ
Cadmium	0.014	U	0.053	J	0.012	U	0.028	J	0.025		0.019	J	0.025	J
Calcium	595	UJ	21700	J	139	UJ	13000	UJ	10700	UJ	14400	UJ	14900	UJ
Chromium	0.1	J	0.8	J	0.094	J	0.24	J	0.25	J	0.33	J	0.27	J
Cobalt	0.047	UJ	0.073	J	0.04	UJ	0.05	UJ	0.09	J	0.043	J	0.05	J
Copper	0.24		2.1	J	0.24	U	1.1	J	1.3		1.1	J	1.1	J
Iron	5.9	UJ	145	J	5.2	UJ	23.4	J	39.1	J	39.3	J	30.9	J
Lead	0.097	UJ	0.37	UJ	0.074	UJ	0.075	UJ	0.079	U	0.13	UJ	0.063	UJ
Magnesium	287	UJ	520	UJ	277	UJ	363	J	361	U	455	UJ	470	UJ
Manganese	0.25	U	7.6	UJ	0.16	U	2.6	UJ	22.2	U	14.2	UJ	13.9	UJ
Mercury	0.33	J	0.16	J	0.12	J	0.066	J	0.023	UJ	0.023	J	0.024	J
Nickel	0.047	UJ	0.83	J	0.04	UJ	0.05	UJ	0.074	U	0.045	UJ	0.042	UJ
Potassium	3580	J	2500	J	3770	J	2610	J	2980		3090	J	3640	J
Selenium	0.6	J	0.63	J	0.53	J	0.74	J	0.69	J	0.6	J	0.82	J
Silver	0.038	UJ	0.04	UJ	0.037	J	0.04	UJ	0.07	U	0.033	UJ	0.033	U
Zinc	7.8		30.9	J	7.3		27.4	J	24.2		23.2	J	24.6	J
Cyanide	0.52	UJ	0.42	UJ	0.45	UJ	0.5	UJ	0.49	U	0.49	UJ	0.43	UJ

Wells G & Site, OU III
Large Fish Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	LF-RV-10-F1		LF-RV-10-F2		LF-RV-10-O		LF-RV-11		LF-RV-12		LF-RV-13-F		LF-RV-13-O	
LAB ID	DAB968		DAB974		DAB969		DAB972		DAB973		DAB975		DAB976	
SAMPLE DATE	8/1/95		8/1/95		8/1/95		8/1/95		8/1/95		8/1/95		8/1/95	
COMMENTS	dup of DAB974		dup of DAB968											
Aluminum	1.5	J	0.96	J	1.9	J	5.1	J	5.1	J	1.9	J	1.7	J
Antimony	0.089	U	0.11	U	0.11	U	0.1	U	0.1	U	0.11	U	0.11	U
Arsenic	0.085	U	0.11	U	0.1	U	0.11	UJ	0.15	UJ	0.1	U	0.1	U
Barium	0.14	U	0.17	U	1.4	UJ	0.91	UJ	0.89	UJ	0.16	U	1	UJ
Cadmium	0.012	U	0.015	U	0.04	J	0.018		0.019	J	0.014	U	0.015	UJ
Calcium	96.3	UJ	75.7	UJ	67100	J	9590	UJ	12700	UJ	141	UJ	34000	J
Chromium	0.08	UJ	0.076	UJ	0.78	J	0.25	J	0.23	J	0.062	UJ	0.42	J
Cobalt	0.041	UJ	0.05	UJ	0.048	UJ	0.064	J	0.052	J	0.048	UJ	0.049	UJ
Copper	0.13	U	0.17		1.3	J	1.1		1	J	0.18		0.98	J
Iron	4.9	UJ	4.2	UJ	29.4	J	34	J	25.6	UJ	4.7	UJ	23.6	J
Lead	0.061	U	0.075	U	0.072	UJ	0.068	U	0.068	UJ	0.072	U	0.074	UJ
Magnesium	260	UJ	257	UJ	1130	UJ	363	UJ	436	UJ	294	UJ	738	UJ
Manganese	0.1	U	0.088	U	5.8	UJ	24.9	U	18.1	UJ	0.09	U	6.3	UJ
Mercury	0.58	J	0.56	J	0.33	J	0.025	J	0.033	J	0.19	J	0.085	J
Nickel	0.041	UJ	0.05	UJ	0.048	UJ	0.046	UJ	0.045	UJ	0.048	UJ	0.049	UJ
Potassium	3220	J	2790	J	2420	J	3150	J	3370	J	3430	J	2800	J
Selenium	0.59	J	0.49	J	0.7	J	0.63	J	0.55	J	0.59	J	0.61	J
Silver	0.033	UJ	0.04	UJ	0.039	UJ	0.037	UJ	0.036	UJ	0.039	UJ	0.039	UJ
Zinc	4.9	J	5	J	27.5	J	21.9	J	26	J	6.3	J	28.6	J
Cyanide	0.47	U	0.44	U	0.41	U	0.42	U	0.44	U	0.48	U	0.48	U

Wells G & Site, OU III
Large Fish Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	LF-RV-14-F		LF-RV-14-O		LF-RV-15-F		LF-RV-15-O		LF-RV-16		LF-RV-17		LF-RV-18	
LAB ID	DAB977		DAB978		DAB979		DAB980		DAB998		DAB550		DAB590	
SAMPLE DATE	8/1/95		8/1/95		8/1/95		8/1/95		8/2/95		8/2/95		8/3/95	
COMMENTS														
Aluminum	1.8	J	1.3	J	1.1	J	1.6	J	4.1	UJ	3.8	UJ	6	UJ
Antimony	0.11	U	0.1	U	0.097	U	0.091	U	0.11	U	0.11	U	0.15	UJ
Arsenic	0.1	U	0.098	U	0.093	U	0.086	U	0.1	U	0.2	UJ	0.23	U
Barium	0.17	U	0.68	UJ	0.15	U	0.56	UJ	0.92	U	0.81	U	0.59	U
Cadmium	0.015	U	0.016	J	0.013	U	0.012	UJ	0.048	J	0.016	J	0.02	
Calcium	171	UJ	22400	J	802	UJ	28900	J	16800	U	15800	UJ	7170	UJ
Chromium	0.064	UJ	0.59	J	0.069	UJ	0.37	J	0.28	J	0.33	J	0.22	J
Cobalt	0.05	UJ	0.047	UJ	0.044	UJ	0.041	UJ	0.049	UJ	0.05	U	0.05	UJ
Copper	0.18		0.45	J	0.17		0.51	J	0.79	J	0.44	UJ	0.54	
Iron	4	UJ	20.2		3.5	UJ	17.6	J	26.5		23	UJ	48.3	J
Lead	0.075	U	0.07	UJ	0.066	U	0.062	UJ	0.34	J	0.074	U	0.13	UJ
Magnesium	299	UJ	525	UJ	269	UJ	611	UJ	485	U	505	UJ	341	UJ
Manganese	0.095	U	3.2	UJ	0.21	U	6.1	UJ	11.7	UJ	6.6	UJ	6.4	U
Mercury	0.18	J	0.1	J	0.1	J	0.059	J	0.063		0.02	UJ	0.016	
Nickel	0.05	UJ	0.047	UJ	0.044	UJ	0.041	UJ	0.049	UJ	0.05	U	0.05	UJ
Potassium	3510	J	2400	J	3210	J	2870	J	3150		3600	J	3270	J
Selenium	0.4	J	0.6	J	0.39	J	0.61	J	0.93	J	0.46	J	0.86	J
Silver	0.04	UJ	0.037	UJ	0.035	UJ	0.033	J	0.039	U	0.04	UJ	0.04	UJ
Zinc	7.9	J	23.4	J	5.3	J	26.3	J	43.6	J	25.9	J	22.6	
Cyanide	0.41	U	0.5	U	0.43	U	0.61	U	0.68	U	0.54	U	0.46	U

Wells G a,. , Site, OU III
Large Fish Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	LF-RV-20-O		LF-RV-21-O		LF-RV-23-O		LF-RV-24-O	
LAB ID	DAB986		DAB984		DAB991		DAB993	
SAMPLE DATE	8/2/95		8/2/95		8/2/95		8/2/95	
COMMENTS								
Aluminum	0.64	UJ	2.4	UJ	1	UJ	0.54	UJ
Antimony	0.095	U	0.086	U	0.095	U	0.1	U
Arsenic	0.091	U	0.082	U	0.091	U	0.096	U
Barium	0.48	U	0.83	U	0.32	U	0.68	U
Cadmium	0.024	J	0.017	J	0.014	J	0	R
Calcium	33100		35600		19700		25400	
Chromium	0.4	J	0.43	J	0.24	J	0.31	J
Cobalt	0.043	UJ	0.039	UJ	0.043	UJ	0.046	UJ
Copper	0.47	J	0.55	J	0.4	J	0.65	J
Iron	20.4		24.6		20.1		21.5	
Lead	0.098	J	0.18	J	0.07	J	0.09	J
Magnesium	675	U	605	U	474	U	554	U
Manganese	3.4	UJ	5.2	UJ	2.8	UJ	4.1	UJ
Mercury	0.12		0.13		0.094		0.075	
Nickel	0.043	UJ	0.039	UJ	0.043	UJ	0.046	UJ
Potassium	2820		2600		2650		2550	
Selenium	0.75	J	0.7	J	0.64	J	0.96	J
Silver	0.04		0.031	U	0.035	U	0.037	U
Zinc	22.2	J	17.3	J	20	J	25.3	J
Cyanide	0.56	U	0.55	U	0.55	U	0.46	U

Wells G & Site, OU III
Small Fish Summary Statistics
Inorganics (mg/Kg - wet weight)

PARAMETER	NO. DETECTED	NO. SAMPLES	MIN DETECTED	MAX	MEAN	StdDev	UCL MEAN	LOG MEAN	UCL LOG MEAN
Aluminum	18	31	2.8	66.7	8.6	11.8	12.1	8.4	12.6
Antimony	1	30	0.14	0.14	0.05	0.02	0.06	0.05	0.06
Arsenic	3	31	0.59	1.4	0.22	0.3	0.31	0.2	0.31
Cadmium	26	30	0.013	0.065	0.025	0.014	0.029	0.025	0.032
Calcium	5	31	13700	27800	9422	6146	11292	9234	10950
Chromium	28	31	0.21	0.66	0.34	0.13	0.37	0.34	0.39
Cobalt	15	31	0.038	0.12	0.045	0.028	0.053	0.044	0.054
Copper	23	31	0.52	1.7	0.82	0.37	0.94	0.84	1.03
Iron	27	31	23.2	236	54.8	45.8	68.8	53	65.2
Lead	9	31	0.071	0.68	0.133	0.158	0.181	0.127	0.196
Manganese	2	31	35.6	37	8.6	7.9	11	8.4	10.7
Mercury	20	31	0.015	0.098	0.031	0.023	0.038	0.031	0.042
Potassium	31	31	2770	3540	3060	210	3124	3060	3125
Selenium	31	31	0.53	0.96	0.69	0.11	0.73	0.69	0.73
Silver	1	31	0.035	0.035	0.02	0.005	0.021	0.02	0.021
Zinc	31	31	13.9	42	27.6	6.1	29.4	27.6	29.8

Wells G &. . Site, OU III
Small Fish Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	SF-LB-01		SF-LB-02		SF-LB-03		SF-LB-04		SF-LB-05		SF-LB-06		SF-LK-01	
LAB ID	DAB563		DAB564		DAB565		DAB566		DAB599		DAB650		DAB929	
SAMPLE DATE	8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		8/3/95		7/31/95	
COMMENTS														
Aluminum	5.8	UJ	3.6	UJ	9.2	UJ	7	UJ	1.3	UJ	1.3	UJ	10.9	J
Antimony	0.085	U	0.11	U	0.11	U	0.11	U	0.091	U	0.11	U	0.11	U
Arsenic	0.081	U	0.11	UJ	0.1	U	0.11	U	0.087	UJ	0.1	UJ	0.43	UJ
Cadmium	0.018	J	0.017	J	0.017	J	0.015	UJ	0.012	UJ	0.015	U	0	R
Calcium	20500	J	24700	J	19900	UJ	23900	J	15500	UJ	10700	UJ	16300	UJ
Chromium	0.34	J	0.35	J	0.3	J	0.34	J	0.28	UJ	0.2	UJ	0.4	J
Cobalt	0.038	J	0.048	J	0.05	J	0.05	UJ	0.041	UJ	0.049	UJ	0.088	J
Copper	0.51	UJ	0.58	UJ	0.58	UJ	0.71	J	0.47	UJ	0.54	U	0.92	J
Iron	50.4	J	39.2	UJ	50	UJ	39.6	J	47.7	J	29.6	J	49.3	J
Lead	0.058	UJ	0.072	UJ	0.074	UJ	0.075	U	0.062	U	0.073	U	0.68	J
Manganese	14	UJ	13.4	UJ	37	J	19.5	UJ	16.2	UJ	14.7	U	5.2	UJ
Mercury	0.088	J	0.062	J	0.098	J	0.075		0.024	UJ	0.035	UJ	0.051	UJ
Potassium	2850	J	2770	J	2910	J	2930	J	3400	J	3240	J	2830	J
Selenium	0.61	J	0.61	J	0.55	J	0.63	J	0.68	J	0.64	J	0.87	J
Silver	0.035	J	0.039	UJ	0.04	UJ	0.04	UJ	0.033	UJ	0.039	UJ	0.067	U
Zinc	32.4	J	38.3	J	33.1	J	34.1	J	13.9	J	15.3		29.6	J

Wells G , Site, OU III
Small Fish Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	SF-LK-02		SF-LK-03		SF-LK-04		SF-LK-05		SF-LK-06		SF-LK-07		SF-LK-08	
LAB ID	DAB930		DAB931		DAB932		DAB933		DAB964		DAB965		DAB966	
SAMPLE DATE	7/31/95		7/31/95		7/31/95		7/31/95		8/1/95		8/1/95		8/1/95	
COMMENTS														
Aluminum	66.7	J	5.5	J	11.4	J	20.5	J	5.9	J	2.8	J	5.4	J
Antimony	0.11	U	0.1	U	0.11	U	0.14		0.11	U	0.094	U	0.11	U
Arsenic	0.34	UJ	0.5	UJ	0.5	UJ	0.53	UJ	0.18	UJ	0.18	UJ	0.16	UJ
Cadmium	0.043	J	0.02	J	0.019		0.031		0.015	U	0.013	J	0.017	J
Calcium	13400	UJ	15900	UJ	10400	UJ	11300	UJ	12100	UJ	15000	UJ	27800	J
Chromium	0.27	J	0.28	J	0.33	J	0.55	J	0.28	J	0.24	J	0.44	J
Cobalt	0.049	UJ	0.047	UJ	0.049	UJ	0.047	UJ	0.05	UJ	0.043	UJ	0.049	UJ
Copper	0.83	J	0.59	J	0.71		0.94	U	0.69		0.52	J	0.94	J
Iron	34.5	J	37.6	J	44.6	J	76.3	J	30.6	J	23.2	J	32.9	J
Lead	0.074	UJ	0.07	UJ	0.15	UJ	0.39	UJ	0.075	U	0.064	UJ	0.074	UJ
Manganese	4.6	UJ	5.5	UJ	7.7	U	7.7	U	7.5	U	6	UJ	11.6	UJ
Mercury	0.041	J	0.032	J	0.017	UJ	0.018	J	0.02	UJ	0.036	J	0.037	J
Potassium	3060	J	2940	J	2880	J	3010	J	3350	J	2970	J	3080	J
Selenium	0.66	J	0.79	J	0.7	J	0.65	J	0.61	J	0.62	J	0.56	J
Silver	0.039	UJ	0.037	UJ	0.039	UJ	0.038	UJ	0.04	UJ	0.034	UJ	0.039	UJ
Zinc	29.2	J	34.7	J	24.1		29		25.7	J	23.3	J	29.9	J

Wells G a. . Site, OU III
Small Fish Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	SF-LK-09		SF-LK-10		SF-LK-11		SF-LK-12		SF-LK-13		SF-RV-01		SF-RV-02	
LAB ID	DAB967		DAB994		DAB995		DAB996		DAB997		DAB945		DAB946	
SAMPLE DATE	8/1/95		8/2/95		8/2/95		8/2/95		8/2/95		8/1/95		8/1/95	
COMMENTS														
Aluminum	5.7	J	6	J	5.8	UJ	5.9	J	5.5	UJ	12.9	J	6.8	J
Antimony	0.1	U	0.1	U	0.1	U	0.1	U	0.11	U	0.094	U	0.095	U
Arsenic	0.11	UJ	0.21	U	0.23	U	0.14	UJ	0.2	UJ	0.29	U	0.22	U
Cadmium	0.015	J	0.032	J	0.036	J	0.044	J	0.048	J	0.038	J	0.025	J
Calcium	17100	UJ	13700		14500	U	17000	U	17300	U	13600	UJ	13400	UJ
Chromium	0.32	J	0.27	J	0.27	J	0.27	J	0.32	J	0.32	J	0.27	J
Cobalt	0.047	UJ	0.046	UJ	0.046	UJ	0.047	UJ	0.05	UJ	0.069	J	0.058	J
Copper	0.82	J	1.3	J	0.69	J	1.5	J	0.99	J	1	J	1.1	J
Iron	37.1	J	48.4		51.2		51.7		41.8		55.7	J	37.3	J
Lead	0.071	UJ	0.39	J	0.33	J	0.37	J	0.34	J	0.21	J	0.071	J
Manganese	6.8	UJ	16.9	UJ	35.6	J	23.8	UJ	20.1	UJ	15.6	UJ	17.3	UJ
Mercury	0.022	J	0.021	U	0.017	U	0.018	U	0.02	U	0.028	J	0.031	J
Potassium	3060	J	2820		2980		2800		2910		2900	J	3230	J
Selenium	0.54	J	0.69	J	0.75	J	0.62	J	0.72	J	0.88	J	0.87	J
Silver	0.038	UJ	0.037	U	0.037	U	0.038	U	0.04	U	0.034	U	0.035	U
Zinc	24.8	J	27.8	J	25.2	J	25.2	J	25.4	J	25.2	J	23.4	J

Wells G & Site, OU III
Small Fish Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	SF-RV-03		SF-RV-04		SF-RV-05		SF-RV-06		SF-RV-07		SF-RV-08		SF-RV-09	
LAB ID	DAB947		DAB970		DAB971		DAB999		DAB551		DAB552		DAB569	
SAMPLE DATE	8/1/95		8/1/95		8/1/95		8/2/95		8/2/95		8/2/95		8/3/95	
COMMENTS														
Aluminum	5.7	J	7.9	J	6.1	J	19.7	J	15.3	UJ	7.9	UJ	21.4	UJ
Antimony	0.1	U	0.092	U	0.1	U	0.1	U	0.085	U	0.11	U	0.13	UJ
Arsenic	0.16	UJ	0.12	UJ	0.12	UJ	0.32	U	0.52	U	0.7	U	1.4	
Cadmium	0.021		0.027	J	0.022		0.032		0.017		0.065		0.037	J
Calcium	11600	UJ	15400	UJ	11200	UJ	10500	U	11500	UJ	8290	UJ	11400	UJ
Chromium	0.21	J	0.29	J	0.21	J	0.5	J	0.66	J	0.37	J	0.63	J
Cobalt	0.048	UJ	0.043	J	0.067	J	0.078	J	0.12	J	0.05	J	0.12	J
Copper	1		0.81	J	0.93		1.1		1.2	U	2.2	U	1.7	J
Iron	32.1	J	33.3	J	29.6	J	60.2		71.3	UJ	43.6	UJ	236	J
Lead	0.077	J	0.063	UJ	0.071	U	0.38	J	0.21	UJ	0.17	UJ	0.35	UJ
Manganese	11.9	U	18.2	UJ	21	U	11.8	U	18.8	U	7.9	U	23.5	UJ
Mercury	0.024	J	0.033	J	0.032	J	0.022	U	0.028	J	0.054	J	0.032	
Potassium	2890	J	3540	J	3400	J	3040		3000	J	3290	J	2990	J
Selenium	0.8	J	0.61	J	0.6	J	0.74	J	0.67	J	0.53	J	0.68	J
Silver	0.038	U	0.034	UJ	0.038	UJ	0.037	U	0.031	UJ	0.04	UJ	0.034	UJ
Zinc	21.2		22.1	J	22.4	J	28.5		31.8		42		22.1	J

Wells G & Site, OU III
Small Fish Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	SF-RV-10		SF-RV-12		SF-RV-13	
LAB ID	DAB570		DAB591		DAB592	
SAMPLE DATE	8/3/95		8/3/95		8/3/95	
COMMENTS						
Aluminum	10.3	UJ	8.1	UJ	8.3	J
Antimony	0.11	U	0.11	U	0	R
Arsenic	0.59		0.89	U	1	J
Cadmium	0.032	J	0.016	J	0.017	J
Calcium	18400	UJ	18400	UJ	12900	UJ
Chromium	0.47	J	0.44	J	0.42	UJ
Cobalt	0.058	J	0.058	J	0.056	J
Copper	1.3	J	0.78	J	1.1	J
Iron	82.7	J	152	J	152	J
Lead	0.13	UJ	0.1	UJ	0.078	UJ
Manganese	21.2	UJ	10.1	UJ	9.3	UJ
Mercury	0.031		0.015		0.013	UJ
Potassium	3160	J	3410	J	3230	J
Selenium	0.96	J	0.71	J	0.89	J
Silver	0.038	UJ	0.04	UJ	0.029	UJ
Zinc	35.3	J	29.2	J	29.9	J

5.5 Percent Moisture and Lipids

Wells G [illegible] Site, OU III
Large Fish Detected Compounds
Percent Moisture and Lipids (%)

SAMPLE ID	LF-LB-01-F	LF-LB-01-O	LF-LB-02-F	LF-LB-02-O	LF-LB-03-F	LF-LB-03-O	LF-LB-04-F
LAB ID	DAB553	DAB554	DAB555	DAB556	DAB557	DAB558	DAB559
SAMPLE DATE	8/3/95	8/3/95	8/3/95	8/3/95	8/3/95	8/3/95	8/3/95
COMMENTS							
% MOISTURE	79.4	71.5	78.4	66.2	79.9	69.1	79.5
PERCENT LIPIDS	0.8	1.7	0.7	3	0.5	4.6	0.4

Wells G . Site, OU III
Large Fish Detected Compounds
Percent Moisture and Lipids (%)

SAMPLE ID	LF-LB-04-O	LF-LB-05-F	LF-LB-05-O	LF-LB-06-F	LF-LB-06-O	LF-LB-07-F	LF-LB-07-O
LAB ID	DAB560	DAB561	DAB562	DAB572	DAB573	DAB574	DAB575
SAMPLE DATE	8/3/95	8/3/95	8/3/95	8/3/95	8/3/95	8/3/95	8/3/95
COMMENTS							
% MOISTURE	71.5	77.7	67.8	78.8	69.6	78.5	69.6
PERCENT LIPIDS	2.9	0.5	3.3	0.4	3.8	0.4	2.7

Wells G a[illegible] Site, OU III
Large Fish Detected Compounds
Percent Moisture and Lipids (%)

SAMPLE ID	LF-LB-08-F	LF-LB-08-O	LF-LB-09-F	LF-LB-09-O	LF-LB-10-F	LF-LB-10-O	LF-LB-11
LAB ID	DAB576	DAB577	DAB578	DAB579	DAB580	DAB581	DAB582
SAMPLE DATE	8/3/95	8/3/95	8/3/95	8/3/95	8/3/95	8/3/95	8/3/95
COMMENTS							
% MOISTURE	79.3	73	82.7	69.5	79.7	72.1	75
PERCENT LIPIDS	0.2	2.2	0.2	0.5	0.3	2.2	3.7

Wells G [illegible] Site, OU III
Large Fish Detected Compounds
Percent Moisture and Lipids (%)

SAMPLE ID	LF-LB-12	LF-LB-13	LF-LB-14-F	LF-LB-14-O	LF-LB-15-F	LF-LB-15-O	LF-LB-16-F
LAB ID	DAB583	DAB584	DAB593	DAB594	DAB595	DAB596	DAB597
SAMPLE DATE	8/3/95	8/3/95	8/3/95	8/3/95	8/3/95	8/3/95	8/3/95
COMMENTS							
% MOISTURE	56.2	67.4	80.7	75.7	79	77.9	82.2
PERCENT LIPIDS	12	9	0.4	1.3	1	1.6	0.6

Wells G a . Site, OU III
Large Fish Detected Compounds
Percent Moisture and Lipids (%)

SAMPLE ID	LF-LB-16-O	LF-LB-17	LF-LB-18	LF-LB-19	LF-LB-20	LF-LB-21	LF-LB-22
LAB ID	DAB598	DAB656	DAB657	DAB658	DAB659	DAB660	DAB663
SAMPLE DATE	8/3/95	8/3/95	8/3/95	8/3/95	8/3/95	8/3/95	8/10/95
COMMENTS							
% MOISTURE	74.6	57.9	75.1	67.6	72.4	69.8	75.9
PERCENT LIPIDS	2.2	17.8	3.8	6.3	5.6	9.5	1.9

Wells G & Site, OU III
Large Fish Detected Compounds
Percent Moisture and Lipids (%)

SAMPLE ID	LF-LB-23	LF-LB-24	LF-LB-25	LF-LB-26	LF-LK-01	LF-LK-02	LF-LK-03
LAB ID	DAB664	DAB665	DAB666	DAB667	DAB911	DAB913	DAB915
SAMPLE DATE	8/10/95	8/10/95	8/10/95	8/10/95	7/31/95	7/31/95	7/31/95
COMMENTS							
% MOISTURE	76.9	75.9	68.6	73.3	68.6	66.6	66.9
PERCENT LIPIDS	2.4	3.8	9.1	6.2	5.1	4.9	3.9

Wells G & , Site, OU III
Large Fish Detected Compounds
Percent Moisture and Lipids (%)

SAMPLE ID	LF-LK-04	LF-LK-05	LF-LK-06-F	LF-LK-06-O	LF-LK-07-F	LF-LK-07-O	LF-LK-08-F
LAB ID	DAB917	DAB919	DAB921	DAB922	DAB923	DAB924	DAB925
SAMPLE DATE	7/31/95	7/31/95	7/31/95	7/31/95	7/31/95	7/31/95	7/31/95
COMMENTS							
% MOISTURE	69.8	69.6	83.8	77	81.1	74.5	82.4
PERCENT LIPIDS	4.3	3.6	0.6	0.8	0.3	0.8	0.3

Wells G a[illegible] Site, OU III
Large Fish Detected Compounds
Percent Moisture and Lipids (%)

SAMPLE ID	LF-LK-08-O	LF-LK-09-F	LF-LK-09-O	LF-LK-10-F	LF-LK-10-O	LF-LK-11-F	LF-LK-11-O
LAB ID	DAB926	DAB927	DAB928	DAB934	DAB935	DAB951	DAB952
SAMPLE DATE	7/31/95	7/31/95	7/31/95	8/1/95	8/1/95	8/1/95	8/1/95
COMMENTS							
% MOISTURE	71.9	78.9	74.7	81.8	74.7	80.2	68.4
PERCENT LIPIDS	1.7	0.6	1	0.6	1.4	0.3	2.4

Wells G a. Site, OU III
Large Fish Detected Compounds
Percent Moisture and Lipids (%)

SAMPLE ID	LF-LK-12-F	LF-LK-12-O	LF-LK-13-F	LF-LK-13-O	LF-LK-14-F	LF-LK-14-O	LF-LK-15
LAB ID	DAB953	DAB954	DAB955	DAB956	DAB957	DAB958	DAB959
SAMPLE DATE	8/1/95	8/1/95	8/1/95	8/1/95	8/1/95	8/1/95	8/1/95
COMMENTS							
% MOISTURE	80	70.5	78.9	72.7	79.1	80.8	71.8
PERCENT LIPIDS	0.4	1.8	0.3	1.7	0.6	2.3	3

Wells G ar. ...Site, OU III
Large Fish Detected Compounds
Percent Moisture and Lipids (%)

SAMPLE ID	LF-LK-16	LF-LK-17	LF-LK-18	LF-LK-19	LF-LK-20-F	LF-LK-21-F	LF-LK-22-F1
LAB ID	DAB960	DAB961	DAB962	DAB963	DAB985	DAB983	DAB987
SAMPLE DATE	8/1/95	8/1/95	8/1/95	8/1/95	8/2/95	8/2/95	8/2/95
COMMENTS							dup of DAB988
% MOISTURE	76.8	74.9	73.6	71	79.8	79.8	78.9
PERCENT LIPIDS	2.8	4.4	2.5	3.1	0.5	0.8	1

Wells G & Site, OU III
Large Fish Detected Compounds
Percent Moisture and Lipids (%)

SAMPLE ID	LF-LK-22-F2	LF-LK-22-O	LF-LK-23-F	LF-LK-24-F	LF-LK-25-F	LF-LK-25-O	LF-LK-31
LAB ID	DAB988	DAB989	DAB990	DAB992	DAB567	DAB568	DAB651
SAMPLE DATE	8/2/95	8/2/95	8/2/95	8/2/95	8/3/95	8/3/95	8/3/95
COMMENTS	dup of DAB987						
% MOISTURE	79.2	65.3	79.2	78.4	81.6	72.6	59.5
PERCENT LIPIDS	0.5	6.5	0.4	0.9	0.5	2	13.8

Wells G ar. . Site, OU III
Large Fish Detected Compounds
Percent Moisture and Lipids (%)

SAMPLE ID	LF-LK-32	LF-LK-33	LF-LK-34	LF-LK-35	LF-LK-36-F	LF-LK-36-O	LF-RV-01-F
LAB ID	DAB652	DAB653	DAB654	DAB655	DAB949	DAB950	DAB903
SAMPLE DATE	8/3/95	8/3/95	8/3/95	8/3/95	8/1/95	8/1/95	7/31/95
COMMENTS						MS/MSD	
% MOISTURE	74.6	69.3	70	74.9	78.7	65.6	82.2
PERCENT LIPIDS	2.8	4.4	10.1	9.2	0.3	2	1.1

Wells G a Site, OU III
Large Fish Detected Compounds
Percent Moisture and Lipids (%)

SAMPLE ID	LF-RV-01-O	LF-RV-02-F	LF-RV-02-O	LF-RV-03-F	LF-RV-03-O	LF-RV-04-F	LF-RV-04-O
LAB ID	DAB904	DAB907	DAB908	DAB905	DAB906	DAB909	DAB910
SAMPLE DATE	7/31/95	7/31/95	7/31/95	7/31/95	7/31/95	7/31/95	7/31/95
COMMENTS							
% MOISTURE	71.2	79.9	75.6	78.5	68	80.3	68.6
PERCENT LIPIDS	0.6	0.3	0.8	0.8	5.3	0.4	2.4

Wells G a Site, OU III
Large Fish Detected Compounds
Percent Moisture and Lipids (%)

SAMPLE ID	LF-RV-05-F	LF-RV-05-O	LF-RV-06-F	LF-RV-06-O	LF-RV-07	LF-RV-08	LF-RV-09
LAB ID	DAB938	DAB939	DAB940	DAB941	DAB942	DAB943	DAB944
SAMPLE DATE	8/1/95	8/1/95	8/1/95	8/1/95	8/1/95	8/1/95	8/1/95
COMMENTS							
% MOISTURE	81.6	72.2	79.3	71.8	76.4	76.9	74.9
PERCENT LIPIDS	0.2	1	0.4	1.9	2.3	2	2.5

Wells G a Site, OU III
Large Fish Detected Compounds
Percent Moisture and Lipids (%)

SAMPLE ID	LF-RV-10-F1	LF-RV-10-F2	LF-RV-10-O	LF-RV-11	LF-RV-12	LF-RV-13-F	LF-RV-13-O
LAB ID	DAB968	DAB974	DAB969	DAB972	DAB973	DAB975	DAB976
SAMPLE DATE	8/1/95	8/1/95	8/1/95	8/1/95	8/1/95	8/1/95	8/1/95
COMMENTS	dup of DAB974	dup of DAB968					
% MOISTURE	81.3	83.7	69.2	75.3	75.8	79.4	69.9
PERCENT LIPIDS	0.3	0.3	0.5	4.4	3.4	0.3	3.4

Wells G & ___ Site, OU III
Large Fish Detected Compounds
Percent Moisture and Lipids (%)

SAMPLE ID	LF-RV-14-F	LF-RV-14-O	LF-RV-15-F	LF-RV-15-O	LF-RV-16	LF-RV-17	LF-RV-18
LAB ID	DAB977	DAB978	DAB979	DAB980	DAB998	DAB550	DAB590
SAMPLE DATE	8/1/95	8/1/95	8/1/95	8/1/95	8/2/95	8/2/95	8/3/95
COMMENTS							
% MOISTURE	78.9	71.3	81.1	72	74.3	76.9	76.7
PERCENT LIPIDS	0.4	1.9	0.7	3.1	3.9	2.6	1.8

Wells G . Site, OU III
Large Fish Detected Compounds
Percent Moisture and Lipids (%)

SAMPLE ID	LF-RV-20-O	LF-RV-21-O	LF-RV-23-O	LF-RV-24-O
LAB ID	DAB986	DAB984	DAB991	DAB993
SAMPLE DATE	8/2/95	8/2/95	8/2/95	8/2/95
COMMENTS				
% MOISTURE	62.5	68.4	68.1	67.9
PERCENT LIPIDS	4	4.6	3.9	5.3

Wells G & H Site, OU III
Small Fish Detected Compounds
Percent Moisture and Lipids (%)

SAMPLE ID	SF-LB-01	SF-LB-02	SF-LB-03	SF-LB-04	SF-LB-05	SF-LB-06	SF-LK-01
LAB ID	DAB563	DAB564	DAB565	DAB566	DAB599	DAB650	DAB929
SAMPLE DATE	8/3/95	8/3/95	8/3/95	8/3/95	8/3/95	8/3/95	7/31/95
COMMENTS							
% MOISTURE	72.3	73.9	74	76.3	79.2	79.3	76.4
PERCENT LIPIDS	1.8	1.3	2.2	1.9	0.8	1	1.6

Wells G & [illegible], Site, OU III
Small Fish Detected Compounds
Percent Moisture and Lipids (%)

SAMPLE ID	SF-LK-02	SF-LK-03	SF-LK-04	SF-LK-05	SF-LK-06	SF-LK-07	SF-LK-08
LAB ID	DAB930	DAB931	DAB932	DAB933	DAB964	DAB965	DAB966
SAMPLE DATE	7/31/95	7/31/95	7/31/95	7/31/95	8/1/95	8/1/95	8/1/95
COMMENTS							
% MOISTURE	74.8	80.6	83.5	73.3	75	74	74.4
PERCENT LIPIDS	2.6	2.4	1.3	1.1	2.6	2.9	1.5

Wells G . ' Site, OU III
Small Fish Detected Compounds
Percent Moisture and Lipids (%)

SAMPLE ID	SF-LK-09	SF-LK-10	SF-LK-11	SF-LK-12	SF-LK-13	SF-RV-01	SF-RV-02
LAB ID	DAB967	DAB994	DAB995	DAB996	DAB997	DAB945	DAB946
SAMPLE DATE	8/1/95	8/2/95	8/2/95	8/2/95	8/2/95	8/1/95	8/1/95
COMMENTS							
% MOISTURE	74.9	74	75.1	75.1	75.2	74.5	76.1
PERCENT LIPIDS	2.5	1.8	2.4	2.1	2.2	2	1.8

Wells G & Site, OU III
Small Fish Detected Compounds
Percent Moisture and Lipids (%)

SAMPLE ID	SF-RV-03	SF-RV-04	SF-RV-05	SF-RV-06	SF-RV-07	SF-RV-08	SF-RV-09
LAB ID	DAB947	DAB970	DAB971	DAB999	DAB551	DAB552	DAB569
SAMPLE DATE	8/1/95	8/1/95	8/1/95	8/2/95	8/2/95	8/2/95	8/3/95
COMMENTS							
% MOISTURE	74.6	73.9	75.6	78.6	81.7	77.6	79.5
PERCENT LIPIDS	1.9	2.2	3.1	1.4	0.9	2.4	3.4

Wells G a Site, OU III
Small Fish Detected Compounds
Percent Moisture and Lipids (%)

SAMPLE ID	SF-RV-10	SF-RV-12	SF-RV-13
LAB ID	DAB570	DAB591	DAB592
SAMPLE DATE	8/3/95	8/3/95	8/3/95
COMMENTS			
% MOISTURE	74.5	77.7	79.6
PERCENT LIPIDS	1.9	2	1.4

6. CRAYFISH ANALYSES

6.1 Crayfish Statistics

Species	Tissue	Reach	Category	Specific Sampling Location	# individuals in sample	Sample Length (in)	Sample Weight (g)	Average Weight (g)	Sample Label	Sample ID	Analyses
crayfish	hole bod	1	crayfish	S of Olympia Rd	13	2.8	124.5	9.6	CF-RV-06	DAB-981	metals, pesticides/PCBs
crayfish	hole bod	1	crayfish	N of Olympia Rd	24	2.8	273.1	11.4	CF-RV-07	DAB-982	metals, pesticides/PCBs
crayfish	hole bod	2	crayfish	Washington Circle	10	2.5	105.2	10.5	CF-RV-03	DAB-936	metals, pesticides/PCBs
crayfish	hole bod	2	crayfish	North Montvale	8	3.2	141.4	17.7	CF-RV-04	DAB-937	metals, pesticides/PCBs
crayfish	hole bod	3	crayfish	Adjacent to Textron	14	3.4	323.4	23.1	CF-RV-01	DAB-900	metals, pesticides/PCBs
crayfish	hole bod	3	crayfish	South Davidson Pond	13	2.6	122.1	9.4	CF-RV-02	DAB-901	metals, pesticides/PCBs
crayfish	hole bod	3	crayfish	Davidson Pond	11	3.1	169.2	15.4	CF-RV-01	DAB-902	metals, pesticides/PCBs
crayfish	hole bod	5	crayfish	n/a	9	2.7	83.3	9.3	CF-RV-05	DAB-948	metals, pesticides/PCBs

6.2 SOVCs

Wells G[illegible]1 Site, OU III
Crayfish Detected Compounds
Semivolatile Organics (ug/Kg -wet weight)

No semivolatile organic compounds were detected in the crayfish samples.

6.3 PCBs/Pesticides

Wells G , Site, OU III
Crayfish Summary Statistics
Pesticide - PCBs (ug/Kg - wet weight)

PARAMETER	NO. DETECTED	NO. SAMPLES	MIN DETECTED	MAX	MEAN	StdDev	UCL MEAN	LOG MEAN	UCL LOG MEAN
gamma-BHC (lindane)	2	11	0.24	0.39	0.29	0.06	0.32	0.29	0.33
Aldrin	4	11	0.25	0.31	0.29	0.05	0.32	0.29	0.32
Heptachlor epoxide	2	11	0.36	0.85	0.34	0.18	0.44	0.34	0.43
Endosulfan I	1	11	0.54	0.54	0.36	0.16	0.44	0.36	0.46
Dieldrin	7	11	0.81	2.4	1.17	0.63	1.51	1.19	1.78
4,4'-DDE	9	11	3.5	8.2	4.9	2.4	6.2	5.4	10.1
Endrin	3	11	1.1	1.7	0.8	0.4	1	0.8	1.1
4,4'-DDD	9	11	0.63	4.1	2.04	1.33	2.76	2.15	4.05
Endosulfan sulfate	4	11	0.54	1.4	0.71	0.31	0.88	0.71	0.91
4,4'-DDT	8	11	0.71	2.2	0.99	0.48	1.25	1	1.35
Endrin ketone	1	11	0.71	0.71	0.55	0.11	0.61	0.55	0.62
Endrin aldehyde	9	11	0.61	3.1	1.74	1.08	2.32	1.84	3.46
alpha-Chlordane	7	11	0.52	1.8	0.78	0.47	1.03	0.8	1.29
gamma-Chlordane	5	11	0.25	0.83	0.37	0.18	0.47	0.37	0.49
Aroclor-1254	8	11	11	24	13.1	8	17.4	15	35.7
Aroclor-1260	11	11	5.1	41	20.7	13.3	27.8	21.9	41

Wells G [illegible] Site, OU III
Crayfish Detected Compounds
Pesticide - PCBs (ug/Kg - wet weight)

SAMPLE ID	CF-LK-01		CF-RB-02		CF-RB-03		CF-RV-01		CF-RV-02		CF-RV-03		CF-RV-04	
LAB ID	DAB902		DAB682		DAB683		DAB900		DAB901		DAB936		DAB937	
SAMPLE DATE	7/31/95		9/5/95		9/5/95		7/31/95		7/31/95		8/1/95		8/1/95	
COMMENTS														
gamma-BHC (lindane)	0.51	U	0.5	U	0.51	U	0.51	U	0.5	U	0.5	U	0.5	U
Aldrin	0.51	U	0.5	U	0.51	U	0.51	U	0.5	U	0.29	J	0.25	J
Heptachlor epoxide	0.36	J	0.5	U	0.51	U	0.51	U	0.85	J	0.5	U	0.5	U
Endosulfan I	0.51	U	0.5	U	0.51	U	0.51	U	0.5	U	0.5	U	0.5	U
Dieldrin	1.6		0.98	U	0.98	U	1.6	J	1.3	J	1.9	J	2.4	J
4,4'-DDE	5.4		4		5.3		7		4.9		7.8	J	8.2	J
Endrin	0.98	U	0.98	U	0.98	U	0.99	UJ	0.98	U	1.4	J	1.7	J
4,4'-DDD	3.5	J	0.63	J	0.94	J	4.1		2.2	J	2.8	J	3.8	J
Endosulfan sulfate	0.98	U	0.98	U	0.98	U	1.1	J	0.98	U	0.54	J	0.89	J
4,4'-DDT	1	J	0.98	U	0.98	U	2.2	J	1.1	J	1.1	J	1	J
Endrin ketone	0.98	U	0.98	U	0.98	U	0.99	U	0.71	J	0.98	U	0.98	U
Endrin aldehyde	0.61	J	0.98	U	0.98	U	2.9	J	0.74	J	2.8	J	3.1	J
alpha-Chlordane	1.8		0.5	U	0.51	U	1.3	J	1.2		0.52	J	0.72	J
gamma-Chlordane	0.83	J	0.5	U	0.51	U	0.4	J	0.55	J	0.25	J	0.5	U
Aroclor-1254	14	J	5	U	5	U	5	U	12	J	21	J	23	J
Aroclor-1260	15		5.1		5.2		31		25		41	J	41	J

Wells G l Site, OU III
Crayfish Detected Compounds
Pesticide - PCBs (ug/Kg - wet weight)

SAMPLE ID	CF-RV-05		CF-RV-06		CF-RV-07		CF-RV-08	
LAB ID	DAB948		DAB981		DAB982		DAB662	
SAMPLE DATE	8/1/95		8/2/95		8/2/95		8/8/95	
COMMENTS								
gamma-BHC (lindane)	0.8	U	0.24	J	0.39	J	0.73	U
Aldrin	0.8	U	0.3	J	0.31	J	0.73	U
Heptachlor epoxide	0.8	U	0.51	U	0.51	U	0.73	U
Endosulfan I	0.54	J	1.1	U	1.4	U	0.73	U
Dieldrin	1.5	U	0.88	J	0.81	J	1.4	U
4,4'-DDE	5.7		1.7	U	2.2	U	3.5	
Endrin	1.1	J	0.98	U	1.1	U	1.4	U
4,4'-DDD	1.9		0.98	U	1.6	U	1.3	J
Endosulfan sulfate	1.5	U	0.98	U	1.4		1.4	U
4,4'-DDT	0.71	J	0.85	J	1.3		1.4	U
Endrin ketone	1.5	U	0.98	U	0.98	U	1.4	U
Endrin aldehyde	2.3		1.5		2.9		1.3	J
alpha-Chlordane	0.72	J	1.1	U	1.4	U	0.56	J
gamma-Chlordane	0.8	U	0.51	U	0.51	U	0.4	J
Aroclor-1254	17		15		24		11	J
Aroclor-1260	12		15		28		9.1	

6.4 Inorganics

Wells G a. Site, OU III
Crayfish Tissue Summary Statistics
Inorganics (mg/Kg - wet weight)

PARAMETER	NO. DETECTED	NO. SAMPLES	MIN DETECTED	MAX	MEAN	StdDev	UCL MEAN	LOG MEAN	UCL LOG MEAN
Aluminum	11	11	9.4	72.8	40.3	20.7	51.4	43.3	78.4
Arsenic	7	11	1.1	4.4	1.7	1.4	2.4	2.1	8
Barium	4	11	12.5	18.3	10.9	4.7	13.4	11.5	18.4
Cadmium	10	10	0.043	0.16	0.071	0.034	0.09	0.071	0.092
Calcium	9	11	23700	44300	26327	12131	32845	28994	53142
Chromium	9	10	0.18	2.5	0.94	0.77	1.37	1.06	2.93
Cobalt	11	11	0.23	0.65	0.42	0.13	0.49	0.42	0.52
Copper	11	11	19.2	65.1	43.5	15.3	51.7	44.1	58.6
Iron	11	11	54.7	645	271	195	375.8	292.1	625.6
Lead	8	11	0.35	1.5	0.59	0.47	0.85	0.87	5.12
Manganese	11	11	40.2	146	98.41	34.22	116.8	100.39	134.97
Mercury	1	11	0.02	0.02	0.009	0.004	0.011	0.009	0.011
Potassium	11	11	2010	2280	2125	95	2176	2126	2180
Selenium	10	11	0.24	0.61	0.37	0.15	0.45	0.39	0.58
Silver	3	11	0.056	0.21	0.057	0.061	0.09	0.057	0.124
Thallium	1	11	0.19	0.19	0.08	0.04	0.1	0.08	0.1
Zinc	11	11	17.3	29.1	23.4	4.6	25.9	23.5	26.6

Wells G a. Site, OU III
Crayfish Tissure Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	CF-LK-01		CF-RB-02		CF-RB-03		CF-RV-01		CF-RV-02		CF-RV-03		CF-RV-04	
LAB ID	DAB902		DAB682		DAB683		DAB900		DAB901		DAB936		DAB937	
SAMPLE DATE	7/31/95		9/5/95		9/5/95		7/31/95		7/31/95		8/1/95		8/1/95	
COMMENTS														
Aluminum	72.8	J	9.4	J	10.1	J	46.9	J	55.3	J	57.6	J	47.8	J
Arsenic	2.1		0.36	U	0.41	U	1.1	J	1.4		2.7	J	2.7	J
Barium	13		18.3		12.5		21.8	U	18		20.8	U	19.1	U
Cadmium	0.043	J	0.07	J	0.09	J	0	R	0.05	J	0.16	J	0.061	J
Calcium	25800		43300		27300		44300	J	23700		25500	J	25600	J
Chromium	1.2	J	0	R	0.18	J	0.72	J	0.75	J	2.5	J	1.9	J
Cobalt	0.23	J	0.4	J	0.44	J	0.41	J	0.55	J	0.65	J	0.43	J
Copper	30	J	19.2	J	21	J	44.1	J	49.5	J	59.4	J	65.1	J
Iron	388		54.7		78		193	J	251		315	J	370	J
Lead	1.5	J	0.066	UJ	0.067	UJ	0.54	J	1	J	1	J	0.94	J
Manganese	44.9	J	108	J	104	J	104	J	146	J	135	J	105	J
Mercury	0.014	UJ	0.01	UJ	0.012	UJ	0.015	UJ	0.01	UJ	0.02	J	0.016	UJ
Potassium	2280		2200		2220		2030	J	2160		2010	J	2050	J
Selenium	0.38	J	0.16	UJ	0.24	J	0.56	J	0.35	J	0.28	J	0.51	J
Silver	0.043	UJ	0.2	UJ	0.21	J	0.063	U	0.058	UJ	0.039	UJ	0.039	UJ
Thallium	0.11	U	0.13	U	0.13	U	0.15	U	0.13	U	0.15	U	0.19	
Zinc	25.9	J	18.3	J	18	J	22.7	J	23.2	J	28	J	27.5	J

Wells G & H Site, OU III
Crayfish Tissure Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	CF-RV-05		CF-RV-06		CF-RV-07		CF-RV-08	
LAB ID	DAB948		DAB981		DAB982		DAB662	
SAMPLE DATE	8/1/95		8/2/95		8/2/95		8/8/95	
COMMENTS								
Aluminum	17.9	J	49.1	J	46.7	J	29.8	J
Arsenic	0.48	U	3.1	J	4.4	J	0.68	UJ
Barium	4	UJ	14	UJ	21.2	UJ	15.3	U
Cadmium	0.059		0.05	J	0.064	J	0.066	J
Calcium	7000	UJ	20000	UJ	26300	J	34300	J
Chromium	0.2	J	0.79	J	1	J	0.3	UJ
Cobalt	0.25	J	0.41	J	0.56	J	0.29	J
Copper	40.7		49.1	J	59.6	J	40.4	J
Iron	72.5	J	510	J	645	J	104	J
Lead	0.35	J	0.48	J	0.55	J	0.15	UJ
Manganese	40.2		65.4	J	112	J	118	J
Mercury	0.02	UJ	0.016	UJ	0.02	UJ	0.016	UJ
Potassium	2190	J	2070	J	2160	J	2010	J
Selenium	0.61	J	0.35	J	0.31	J	0.42	J
Silver	0.11		0.036	UJ	0.056	J	0.034	UJ
Thallium	0.15	U	0.13	U	0.14	U	0.13	U
Zinc	17.3		29.1	J	28.4	J	19.4	J

6.5 Percent Moisture and Lipids

Wells G & . Site, OU III
Crayfish Detected Compounds
Percent Moisture and Lipids (%)

SAMPLE ID	CF-LK-01	CF-RB-02	CF-RB-03	CF-RV-01	CF-RV-02	CF-RV-03	CF-RV-04
LAB ID	DAB902	DAB682	DAB683	DAB900	DAB901	DAB936	DAB937
SAMPLE DATE	7/31/95	9/5/95	9/5/95	7/31/95	7/31/95	8/1/95	8/1/95
COMMENTS							
% MOISTURE	78.4	75	76.8	72.2	75	78.4	75.9
PERCENT LIPIDS	0.9	0.8	1.3	1.1	0.7	0.7	0.9

Wells G Site, OU III
Crayfish Detected Compounds
Percent Moisture and Lipids (%)

SAMPLE ID	CF-RV-05	CF-RV-06	CF-RV-07	CF-RV-08
LAB ID	DAB948	DAB981	DAB982	DAB662
SAMPLE DATE	8/1/95	8/2/95	8/2/95	8/8/95
COMMENTS				
% MOISTURE	78.6	76	76.7	82.8
PERCENT LIPIDS	0.9	0.6	0.9	0.9

7. PLANT TISSUE ANALYSES

7.1 Description of Composite Samples

0800 ON SITE [illegible] & S
PERSONEL. [illegible]
C. FORTIN
B. OLSEN
HAS LEVEL D UNLESS NOTED

0900: LOCATE TO SITE 23 (Reference Stream)

collected cattail
~~pondweed~~
pickerelweed
bulrush

1100: Locate to Site 21

collected cattail
spikerush
reed
arrowhead

[signature]

PL-21-01 & 02
1230 pm
Floating bog dry and could walk over with no problem. Surrounded by common reed. Within bog area was cattail, spikerush, arrowhead, grasses, sedges, rush.

4 plants collected.
cattail
common reed
arrowhead
spikerush - abundant in bog area

Rebecca Allen

Location 20 1:30 - 4:00pm

4 species
cattail
burreed
arrowhead
spikerush

Cattail, purple loosestrife and touch me not were dominant species dry wetland except at stream. Burreed had been eaten. Raccoon tracks nearby

Sample ID's
PL-20-01
PL-20-02

P. Berthelsen

8/29/95 Plant Sampling
Robert Olsen
Jay Ehret
Hugh Donaghey
location 18 1030 am - 1230 pm

5 species collected
common reed
cattail
arrowhead
spikerush
bulrush

sample location consisted of cattails, reed with understory of arrowhead and spikerush, spikerush, bulrush and spikerush around ponded area. Other species included purple loosestrife and touch-me-not.

Sample ID PL-18-01
PL-18-02
Forb, Pedicularis

7.2 SVOCs

Wells G a. . .H Site, OU III
Plant Tissue Summary Statistics
Semivolatile Organics (ug/Kg - wet weight)

PARAMETER	NO. DETECTED	NO. SAMPLES	MIN DETECTED	MAX	MEAN	StdDev	UCL MEAN	LOG MEAN	UCL LOG MEAN
Phenanthrene	2	8	25	38	131.6	61.9	171.7	147.6	354.2
Fluoranthene	6	8	31	120	81.9	59	120.1	84.6	190.9
Pyrene	5	8	33	110	106.8	55.3	142.6	113.2	225.2
Chrysene	3	8	54	98	130.4	49.3	162.3	133.9	203.3
Benzo(b)fluoranthene	4	8	55	100	118.6	51.6	152	121.6	189.2
Benzo(k)fluoranthene	3	8	52	120	133.1	47.9	164.2	137	207.5
Benzo(a)pyrene	1	8	77	77	154	31.1	174.2	155.6	191.8
Indeno(1,2,3-cd)pyrene	1	8	63	63	152.3	36.1	175.6	155	205.6

Wells G & Site, OU III
Plant Tissue Detected Compounds
Semivolatile Organics (ug/Kg - wet weight)

SAMPLE ID	PL-18-01		PL-18-02		PL-20-01		PL-20-02		PL-21-01		PL-21-02		PL-23-01	
LAB ID	DAB672		DAB673		DAB674		DAB675		DAB678		DAB679		DAB676	
SAMPLE DATE	8/29/95		8/29/95		8/29/95		8/29/95		9/6/95		9/6/95		9/6/95	
PERCENT MOISTURE	88		86		88		89		88		84		87	
COMMENTS													dup of DAB677	
Phenanthrene	330	U	330	U	38	J	25	J	330	U	330	U	330	U
Fluoranthene	36	J	43	J	120	J	64	J	31	J	31	J	330	U
Pyrene	88	J	330	U	110	J	94	J	34	J	33	J	330	U
Chrysene	330	U	54	J	98	J	66	J	330	U	330	U	330	U
Benzo(b)fluoranthene	55	J	79	J	100	J	55	J	330	U	330	U	330	U
Benzo(k)fluoranthene	52	J	68	J	120	J	330	UJ	330	U	330	U	330	U
Benzo(a)pyrene	330	U	330	U	77	J	330	UJ	330	U	330	U	330	U
Indeno(1,2,3-cd)pyrene	330	U	330	U	63	J	330	UJ	330	U	330	U	330	U

Wells G Site, OU III
Plant Tissue Detected Compounds
Semivolatile Organics (ug/Kg - wet weight)

SAMPLE ID	PL-23-02	
LAB ID	DAB677	
SAMPLE DATE	9/6/95	
PERCENT MOISTURE	87	
COMMENTS	dup of DAB676	
Phenanthrene	330	U
Fluoranthene	330	U
Pyrene	330	U
Chrysene	330	U
Benzo(b)fluoranthene	330	U
Benzo(k)fluoranthene	330	U
Benzo(a)pyrene	330	U
Indeno(1,2,3-cd)pyrene	330	U

7.3 PCBs/Pesticides

Wells G . ı Site, OU III
Plant Tissue Summary Statistics
Pesticide - PCBs (ug/Kg - wet weight)

PARAMETER	NO. DETECTED	NO. SAMPLES	MIN DETECTED	MAX	MEAN	StdDev	UCL MEAN	LOG MEAN	UCL LOG MEAN
alpha-BHC	1	8	0.27	0.27	0.25	0.01	0.26	0.25	0.26
Heptachlor	3	8	0.28	0.37	0.28	0.05	0.31	0.28	0.31
Heptachlor epoxide	1	8	0.44	0.44	0.28	0.07	0.32	0.28	0.32
Endosulfan I	1	8	0.43	0.43	0.27	0.06	0.32	0.27	0.32
4,4'-DDE	8	8	0.36	1.2	0.74	0.25	0.9	0.75	1.01
Endosulfan II	1	8	1.1	1.1	0.6	0.2	0.7	0.6	0.7
4,4'-DDD	5	8	0.58	5.2	1.71	2.01	3.02	1.7	8.03
4,4'-DDT	2	8	0.56	0.78	0.54	0.1	0.6	0.54	0.6
Endrin aldehyde	4	8	0.63	2.9	0.89	0.83	1.43	0.87	1.63
alpha-Chlordane	8	8	0.43	2.3	1.15	0.74	1.63	1.18	2.26
gamma-Chlordane	6	8	0.32	0.56	0.41	0.12	0.49	0.42	0.55
Aroclor-1260	6	8	5.6	8.9	5.9	2.5	7.5	6	9.8

Wells G a Site, OU III
Plant Tissue Detected Compounds
Pesticide/PCBs (ug/Kg - wet weight)

SAMPLE ID	PL-18-01		PL-18-02		PL-20-01		PL-20-02		PL-21-01		PL-21-02		PL-23-01	
LAB ID	DAB672		DAB673		DAB674		DAB675		DAB678		DAB679		DAB676	
SAMPLE DATE	8/29/95		8/29/95		8/29/95		8/29/95		9/6/95		9/6/95		9/6/95	
PERCENT MOISTURE	88		86		88		89		88		84		87	
COMMENTS													dup of DAB677	
alpha-BHC	0.51	U	0.51	U	0.27	J	0.5	U	0.5	U	0.5	U	0.51	U
Heptachlor	0.51	U	0.51	U	0.37	J	0.5	U	0.33	J	0.5	U	0.28	J
Heptachlor epoxide	0.51	U	0.51	U	0.44	J	0.5	U	0.5	U	0.5	U	0.51	U
Endosulfan I	0.51	U	0.51	U	0.43	J	0.5	U	0.5	U	0.5	U	0.51	U
4,4'-DDE	1.2		0.36	J	0.63	J	0.57	J	0.62	J	0.81	J	0.87	J
Endosulfan II	0.99	U	0.99	U	0.98	U	0.98	U	1.1	J	0.98	U	0.98	U
4,4'-DDD	1.1	J	0.58	J	0.64	J	0.98	U	0.98	U	0.98	U	5.2	
4,4'-DDT	0.56	J	0.99	U	0.98	U	0.98	U	0.98	U	0.98	U	0.78	J
Endrin aldehyde	0.99	U	0.67	J	0.98	J	0.98	U	0.63	J	2.9	J	0.98	U
alpha-Chlordane	0.91		1	J	0.99	J	0.84	J	2.3	J	2.3	J	0.43	J
gamma-Chlordane	0.51		0.43	J	0.56		0.32	J	0.53		0.46	J	0.51	U
Aroclor-1260	7.1		5.6	J	5.8	J	5.6	J	8.9		8.9		5	U

Wells G. , Site, OU III
Plant Tissue Detected Compounds
Pesticide/PCBs (ug/Kg - wet weight)

SAMPLE ID	PL-23-02	
LAB ID	DAB677	
SAMPLE DATE	9/6/95	
PERCENT MOISTURE	87	
COMMENTS	dup of DAB676	
alpha-BHC	0.5	U
Heptachlor	0.5	UJ
Heptachlor epoxide	0.5	U
Endosulfan I	0.5	U
4,4'-DDE	0.85	J
Endosulfan II	0.98	U
4,4'-DDD	4.7	
4,4'-DDT	0.98	U
Endrin aldehyde	0.98	U
alpha-Chlordane	0.45	J
gamma-Chlordane	0.5	U
Aroclor-1260	5	U

7.4 Inorganics

Wells G [illegible] Site, OU III
Plant Tissue Summary Statistics
Inorganics (mg/Kg - wet weight)

PARAMETER	NO. DETECTED	NO. SAMPLES	MIN DETECTED	MAX	MEAN	StdDev	UCL MEAN	LOG MEAN	UCL LOG MEAN
Aluminum	8	8	69.3	348	210.9	110.1	282.2	220.1	416.6
Arsenic	8	8	1.4	15.9	8	6.2	12	9.2	44.5
Barium	8	8	2.5	5.2	3.8	0.9	4.3	3.8	4.5
Cadmium	8	8	0.11	0.78	0.42	0.22	0.56	0.45	0.99
Calcium	8	8	1040	1420	1208	119	1285	1208	1294
Chromium	8	8	0.41	71.2	23.65	22.63	38.31	63.79	5622.54
Cobalt	8	8	0.46	2.2	0.84	0.56	1.21	0.84	1.28
Copper	8	8	0.97	27.1	12.29	9.69	18.57	17.63	191.72
Iron	8	8	828	2270	1329.3	531.9	1673.9	1337.1	1824.5
Lead	8	8	3	13.9	9.4	4.2	12.1	9.9	18.7
Magnesium	8	8	171	238	202.3	25.8	219	202.5	222.5
Manganese	8	8	29	158	84	49.8	116.3	87.6	174.1
Mercury	6	8	0.04	0.29	0.084	0.097	0.146	0.119	1.636
Nickel	7	8	0.17	1.5	0.56	0.43	0.84	0.63	1.85
Potassium	8	8	500	1620	988	378	1233	999	1379
Selenium	1	8	0.55	0.55	0.25	0.13	0.34	0.25	0.38
Sodium	8	8	568	1420	926	313.8	1129.3	931	1218.5
Vanadium	8	8	0.61	2.1	1.25	0.52	1.58	1.27	1.85
Zinc	8	8	19.7	149	85.2	45.5	114.7	93.8	221.6

Wells G . , Site, OU III
Plant Tissue Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	PL-18-01		PL-18-02		PL-20-01		PL-20-02		PL-21-01		PL-21-02		PL-23-01	
LAB ID	DAB672		DAB673		DAB674		DAB675		DAB678		DAB679		DAB676	
SAMPLE DATE	8/29/95		8/29/95		8/29/95		8/29/95		9/6/95		9/6/95		9/6/95	
PERCENT MOISTURE	88		86		88		89		88		84		87	
COMMENTS													dup of DAB677	
Aluminum	348	J	235	J	348	J	283	J	166	J	154	J	83.9	J
Arsenic	14.7		10.2		13.4		15.9		4.2		2.9		1.5	
Barium	4.1		3.4		2.51		3.6		3.5		3.3		5.2	
Cadmium	0.78		0.42		0.53		0.45		0.47		0.44		0.12	
Calcium	1420		1220		1290		1260		1160		1180		1040	
Chromium	71.2	J	34.2	J	28.7	J	18	J	21.1	J	15	J	0.56	J
Cobalt	2.2	J	0.68	J	0.87	J	0.76	J	0.61	J	0.65	J	0.53	J
Copper	27.1	J	16.1	J	21.6	J	17.4	J	7.8	J	6.4	J	0.97	J
Iron	2270		1880		1120		1640		828		948		938	
Lead	13.6	J	9.4	J	13.9	J	9.8	J	10.9	J	11.4	J	3.3	J
Magnesium	218		197		238		226		216	J	177		175	
Manganese	49.8		59.6		93.4		109		30		29		158	
Mercury	0.04	J	0.04	J	0.07	J	0.06	J	0.29	J	0.16	J	0.01	UJ
Nickel	1.5	J	0.65		0.6		0.501		0.53		0.48		0.17	
Potassium	899		718		1390		1620		687		500		940	
Selenium	0.52	UJ	0.5	UJ	0.54	UJ	0.251	UJ	0.55	J	0.3	UJ	0.42	UJ
Sodium	812		568		918		642		1420		1380		825	
Vanadium	2.1		1.7		1.6		1.3		1		0.9		0.78	
Zinc	149	J	76	J	103	J	81.9	J	117	J	113	J	19.7	J

Wells G i Site, OU III
Plant Tissue Detected Compounds
Inorganics (mg/Kg - wet weight)

SAMPLE ID	PL-23-02	
LAB ID	DAB677	
SAMPLE DATE	9/6/95	
PERCENT MOISTURE	87	
COMMENTS	dup of DAB676	
Aluminum	69.3	J
Arsenic	1.4	
Barium	4.7	
Cadmium	0.11	
Calcium	1090	
Chromium	0.406	J
Cobalt	0.457	J
Copper	0.978	J
Iron	1010	
Lead	3	J
Magnesium	171	
Manganese	143	
Mercury	0.01	UJ
Nickel	0.16	U
Potassium	1150	
Selenium	0.42	UJ
Sodium	843	
Vanadium	0.61	
Zinc	22.3	J

7.5 Percent Moisture

Wells G & H Site, OU III
Plant Tissure Detected Compounds
Percent Moisture (%)

SAMPLE ID	PL-18-01	PL-18-02	PL-20-01	PL-20-02	PL-21-01	PL-21-02	PL-23-01
LAB ID	DAB672	DAB673	DAB674	DAB675	DAB678	DAB679	DAB676
SAMPLE DATE	8/29/95	8/29/95	8/29/95	8/29/95	9/6/95	9/6/95	9/6/95
COMMENTS							dup of DAB677
% MOISTURE	88	86.5	88.2	89.1	87.5	84.2	86.7

Wells G l Site, OU III
Plant Tissure Detected Compounds
Percent Moisture (%)

SAMPLE ID	PL-23-02
LAB ID	DAB677
SAMPLE DATE	9/6/95
COMMENTS	dup of DAB676
% MOISTURE	87.3

8. SEDIMENT BIOASSAY REPORT

WELLS G&H SEDIMENT TOXICITY TEST REPORT

Hyalella azteca
Chironomus tentans

EPA NEW ENGLAND
OFFICE OF ECOSYSTEM ASSESSMENT

FEBRUARY 13, 1996

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INTRODUCTION

Sediment toxicity testing was conducted with the two freshwater invertebrates: the amphipod, *Hyalella azteca* and midge, *Chironomus tentans* to evaluate the potential impact from exposure of sediment related contaminants to the benthic community in the Aberjona River. Sediments were collected from seven sampling locations which included five locations from potentially contaminated areas (SED-07, SED-16, SED-12, SED-18 and SED-19) and two reference locations (SED-23 and SED-24). Since sediments were collected from either riverine or wetland systems, one reference sediment was collected from a riverine system (SED-23) and another reference sediment was collected from a wetland system (SED-24) for purposes of biological and statistical comparison. In addition, a field duplicate sediment sample was collected at SED-19 (SED-19-02) for quality assurance and an artificial sediment was formulated and tested as the laboratory control. Young *H. azteca* and *C. tentans* were exposed to sediment samples for ten days and at the conclusion of the test, organisms were recovered from each test chamber and survival and growth were recorded as endpoints. Impacts on growth of surviving organisms were assessed by drying recovered individuals from each replicate at 75° F to a constant weight. Samples were brought to room temperature in a desiccator and weighed to the nearest 0.01 mg to obtain mean weight per replicate. Statistical comparisons were performed between survival and growth endpoints from the site locations and two site reference locations and laboratory control.

MATERIALS AND METHODS

References

- The procedures used followed those outlined in the EPA document, *Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates*, (June 1994, EPA/600/R-94/024).

- EPA Region I ESD Biology Section SOP #13.1.2, Sediment Toxicity Testing Procedures for the Preparation of Sediments.

Overlying Water

The overlying water consisted of 25% Perrier/75% 80 mg/L $CaCO_3$ culture water (150 mg/L $CaCO_3$) for *H. azteca* and aerated tap water for *C. tentans*. The sediment and water were allowed to settle overnight before inoculation of test organisms.

Test Chemistry

Initial and final overlying water quality measurements included pH, specific

conductance, temperature, and dissolved oxygen (DO). DO, pH and temperature were monitored every 24 hours.

Test Food

C. tentans:

* Tetramin shake; 1.0 ml (12 g Tetramin/300 ml deionized water) daily to each test beaker.

H. azteca:

* Tetramin shake; 0.2 ml (20 g Tetramin/L deionized water) daily to each test beaker.

Equipment and Test Chambers

* #10, #45, #50 and #60 sieves
* plastic scoops
* 250 ml beakers (*H. azteca* test chambers)
* 1 liter beakers (*C. tentans* test chambers)
* 1 ml plastic disposable pipets
* Parafilm
* Tygon tubing
* Nalgene trays

Statistical Analyses

The purpose of the sediment toxicity tests was to determine whether a biological response (survival or growth) from a site related sediment sample was significantly different than the site reference or laboratory control sediment. This difference is identified through statistical analysis. Prior to conducting the statistical analysis, a null hypothesis was developed as no difference in biological responses between the site related sediment samples and site reference and laboratory control sediments. The alternative hypothesis was that site related sediments contain contaminants in concentrations affecting survival and growth in comparison to the site reference or laboratory control sediments.

Following the decision tree (Figure 14.7) in EPA/600/R-94/024, growth and survival data were tested for normality and homogeneity of variance prior to conducting hypothesis testing. Appendix A provides the statistics performed on this data and illustrate the final statistical results obtained through hypothesis testing.

PROCEDURES

Introduction

Less than seven day old *H. azteca* and 2nd instar *C. tentans* were exposed to sediment samples from five (plus a duplicate) on-site sampling stations, two site related reference stations and a formulated sediment laboratory control (Appendix A). On the 10th day of the test, organisms were recovered from each test chamber and tallied as alive or dead. Live organisms were dried at 75° F overnight and weighed to the nearest 0.01 to obtain mean weight per replicate. Comparison of survival and growth data were performed between the following stations as illustrated in Table 1, 2 and 3: **1)** *C. tentans* survival and growth in the artificial sediment in comparison to the five on-site stations, in addition to a field duplicate for station 19 and the wetland reference station; **2)** The riverine reference station (SED-23) was evaluated against all other riverine stations (7, 12 and 16) for *C. tentans* growth and survival; Unfortunately no statistical comparisons could be completed for the wetland reference station (SED-24) against the other wetland stations (18, 19.01 and 19.02) due to low survival (36%). **3)** *H. azteca* survival was analyzed for the wetland reference station (SED-24) and compared against the other wetland stations (18, 19.01 and 19.02); **4)** *H. azteca* growth from wetland reference location SED-24 was compared to other wetland stations (19.01 and 19.02). Unfortunately no statistical comparisons could be completed for *C. tentans* in the wetland reference station (SED-24) against the other wetland stations (18, 19.01 and 19.02) due to low survival (36%). In addition, statistical analysis for *H. azteca* could not be performed using the riverine reference stations since survival was very low (0.8%). The laboratory control (artificial sediment) was not suitable to make comparisons against all other stations since *H. azteca* survival was very low (16.6%).

Table 1: ***C. tentans*** **Survival and Growth Comparisons**

STATION	VERSUS THE FOLLOWING LOCATIONS
SED-23	7, 12, 16, 18, 19.01, 19.02, 24
ART SED	7, 12, 16, 18, 19.01, 19.02, 24

Table 2: ***H. azteca*** **Survival Comparisons**

STATION	VERSUS THE FOLLOWING LOCATIONS

SED-24	18, 19.01, 19.02

Table 3: *H. azteca* Growth Comparisons

STATION	VERSUS THE FOLLOWING LOCATIONS
SED-24	19.01, 19.02

Sample Handling

The following sediment samples were received at EPA-New England's Regional Laboratory on August 29th and 30th, 1995: SED-7, SED-12, SED-16, SED-18, SED-19.01 and SED-19.02 (field duplicate), SED-23 and SED-24. Sediments were received up to 7 days prior to the initiation of the test and stored at 4° C until the time of testing on September 8, 1995.

Organism Origin

EPA-New England's Biology Laboratory provided the *C. tentans* and *H. azteca* organisms for the sediment tests. The *C. tentans* were 7 to 10 days old and *H. azteca* were 2nd and 3rd instar or 2-3 millimeters in length.

Initial Test Set-Up

On September 6 & 7, 1995, the sediments were homogenized then screened with #10 Tyler sieves. Sediments, followed by overlying water, were added to the clean test chambers in the following quantities. For *H. azteca* 50 ml of sediment was added to each 250 ml beaker with approximately 200 ml of overlying water per replicate. For *C. tentans*, 200 ml of sediment was added to each 1 liter beaker followed by 800 ml of overlying water. Eight laboratory replicates per test species were run for each sediment sample location. All test chambers were aerated during the test period. Prior to introduction of *H. azteca* and *C. tentans*, and following the addition of overlying water, the sediments were allowed to settle overnight. On September 8th, ten *C. tentans* and fifteen *H. azteca* were introduced to each test chambers. The test was performed in a walk-in environmental chamber located at EPA New England's Biology Laboratory. All test chambers were maintained at 25 degrees Celsius +/- 1 degree and 16:8 hour light/dark cycle.

Feeding

C. tentans was fed 1.0 ml 12 g Tetramin/300 ml suspension per day. *H. azteca* was

fed 0.2 ml of 20 g Tetramin/L suspension daily.

Test Chemistry

Initial chemistry was performed on the overlying water and monitored every 24 hours. All chemistry results were recorded in wet chemistry laboratory log book and are included as Appendix B. Initial chemistry included the following: pH, specific conductance, hardness, temperature and dissolved oxygen (DO). Daily monitored chemistry included pH, DO and temperature. The environmental chamber temperature was monitored daily.

RESULTS

The survival rate for *C. tentans* in the artificial sediment (ART SED) was 70% which indicates the test meets the performance criteria for an acceptable test (Table 4). Survival ranged from 36% in SED-24 (wetland reference) to 86.2% in SED-12. In the riverine reference, SED-23, the survival rate was 81.2%. For *C. tentans* survival data, there was no statistically significant difference between the ART SED and any other station location (Appendix C). The riverine reference location, SED-23, was also used in comparison against the other riverine locations, with no significant difference identified. All sediment locations had similar or greater than 70 % survival except for SED-16 and SED-24 (Table 4).

For growth results for *C. tentans*, when ART SED is compared to all other samples, the statistical results indicated that all of the locations, except SED-24, were statistically significantly lower in weight. However, SED-24 had a greater weight measurement with only 36% survival. When site reference SED-23 is compared to the other riverine samples, SED-7, 12, 16; station location SED-16 was found to differ significantly from the control with respect to a decrease in weight. Noting that SED-16 contained considerable amount of coarse sediment (0.14% Total Combustible Organics), the significance may be due to physical characteristics of the sediment rather than from contaminants. When comparing the wetland reference sediment SED-24 to wetland locations SED-18 and 19, growth was seen to be better in the site related location.

The survival rate for *H. azteca* in the ART SED control was 16.6% (Table 5) which would render this test unacceptable under current sediment test guidelines. The recommended survival rate for *H. azteca* is 80%. The reason for the low survival rate in the laboratory control is unexplainable at this time. In order to obtain some useable information from these test results, the survival rate in the two site reference locations (wetlands and riverine) were scrutinized to estimate whether or not they could substitute for site specific comparisons. The wetland and riverine reference locations, SED-24 & SED-23, had recovery rates of 78.1% and 0.8%, respectively. Even though survival was extremely low in SED-23, this sample had the highest

average weight (Table 5). Due to the poor recoveries in ART SED and SED-23, an attempt was made to use SED-24 for comparison. A comparison was made to the other wetland locations: SED-18, SED-19-01, and SED-19-02. Location SED-18 was determined to differ significantly from SED-24 with a survival rate of only 10.8%, and a 60% decrease in growth. Location SED-23 was excluded from any statistical analyses due to the extremely low survival.

As part of the quality control for this test, the station location, SED-19.01, had a duplicate sample collected SED-19.02. There was a 14% relative percent difference (RPD) between each other for the *C. tentans* in the survival category. For growth there was an 18% RPD. For *H. azteca*, there is a 10% RPD difference from the mean when survival and growth are considered.

Table 4: ***C. tentans* Sediment Toxicity Test Results**

SEDIMENT TOXICITY TEST RESULTS WELLS G&H, WOBURN, MA *Chironomus tentans*		
Station location	**Survival %**	**Avg. weight (mg)**
ART SED[a]	70	0.0033
SED-7[d]	82.5	0.0014*
SED-12[d]	86.2	0.0012*
SED-16[d]	68.6	0.0008*
SED-18[e]	70	0.0013*
SED-19-01[e]	70	0.0010*
SED-19-02[e]	81.1	0.0009*
SED-23[b]	81.2	0.0017*
SED-24[c]	36	0.0021

[a] designates laboratory control i.e. artificial sediment
[b] designates riverine reference
[c] designates wetland reference
[d] designates riverine locations
[e] designates wetland locations
* designates statistical significance (α=0.05)

Table 5: ***H. azteca* Sediment Toxicity Results**

SEDIMENT TOXICITY RESULTS WELLS G&H, WOBURN, MA *Hyalella azteca*		
Station location	**Survival %**	**Avg. weight (mg)**
ART SED[a]	16.6	0.00007
SED-7[d]	50	0.00009
SED-12[d]	74.2	0.00011
SED-16[d]	93.3	0.00014
SED-18[e]	10.8*	0.00004*
SED-19-01[e]	56.6	0.00011
SED-19-02[e]	62.5	0.00010
SED-23[b]	0.8	0.00030
SED-24[c]	78.1	0.00010

[a] designates laboratory control i.e. artificial sediment
[b] designates riverine reference
[c] designates wetland reference
[d] designates riverine locations
[e] designates wetland locations
* designates statistical significance (α=0.05)

Unvalidated sediment chemistry data was compared to sediment benchmarks developed by NOAA (Long et al., 1995) and Ontario Ministry of the Environment (OMOE) (Persaud et al., 1992) to evaluate the toxicity test results against contaminant concentrations and determine whether a causal relationship between chemistry and toxicity could be supported.

Through NOAA's National Status and Trends Program Long and Morgan (1990) developed Effects Range Low (ER-L) and Effects Range Median (ER-M) values. These biological effects were obtained from modeling studies, field and laboratory tests with more emphasis placed on marine and estuarine systems. For each chemical, data was gathered to correspond with adverse biological effects. ER-L values represent the lower 10th percentile concentration associated with observation of biological effects and ER-M values represent the 50th percentile concentration associated with the observation of biological effects. Chemical concentrations below ER-L values should have a low probability of being associated with adverse biological effects.

OMOE Sediment Quality Guidelines were originally developed to determine whether dredged material was appropriate for open water disposal. The two levels used for comparison are the Lowest Effect Level (LEL) and Severe Effect Level (SEL). The LEL "*indicates a level of contamination which has no effect on the majority of the sediment-dwelling organisms and the sediment is considered clean to marginally polluted.*" Contaminant concentrations that exceed LEL values may require further testing and the development of a management plan. In contrast, SEL concentrations are "*considered heavily polluted and likely to affect the health of sediment-dwelling organisms. If the level of contamination exceeds the SEL then testing is required to determine whether or not the sediment is acutely toxic.*" Since sediments collected from the Aberjona River are freshwater more emphasis was placed on the comparison to OMOE LEL and SEL guidelines. However, NOAA guidelines are listed for comparison.

Table 6 list the inorganics that exceed OMOE guidelines for the various sampling locations. The site that had the most inorganic exceedances was SED-19. All inorganics except for nickel exceeded OMOE SEL levels in SED-19-01 and SED-19-02 (field duplicate). For example, the concentration of arsenic in SED-19-02 (5510 mg/kg) exceeds the SEL by 166 times and copper by 13 times (1490 mg/kg) (Table 6). Zinc in SED-19 sediments is a factor of three times greater than the SEL. In contrast the sampling locations with the least number of inorganic exceedances was SED-23, the riverine reference location, in which chromium at 29.1 mg/kg slightly exceeded the OMOE LEL value and SED-24 of 26 mg/kg. At SED-24, the wetland reference location, there were LEL exceedances for copper and lead (Table 6). Arsenic, chromium, copper, lead and zinc were identified in SED-07 as exceeding the

OMOE SEL values.

Table 7 lists those organic compounds (polycyclic aromatic hydrocarbons and pesticides) that exceed either the OMOE LEL or SEL concentrations. SED-7 had the most exceedances (10) of OMOE LEL values for polycyclic aromatic hydrocarbons (PAHs) and SED-24 had 7 compounds with concentrations that were greater than the OMOE LEL (Table 7). SED-18 did not possess any organic constituents that exceeded OMOE guidelines since no organic compounds that were detected in SED-18 sediment sample. After adjusting the OMOE SEL (Table 7) to the site specific TCOs there were no sediment locations that exceeded the SEL values (Table 8).

TABLE 6.INORGANIC CONCENTRATIONS (MG/KG) IN SEDIMENT SAMPLES IN COMPARISON TO SEDIMENT BENCHMARKS.

Compound (mg/kg)	*SED-07*	*SED-16*	*SED-12*	*SED-18*	*SED-19 -01*	*SED-19 -02*	*SED-23*	*SED-24*	*OMOE LEL*[1]	*OMOE SEL*[2]	*NOAA ER-L*[3]	*NOAA ER-M*[4]
Arsenic	75.5	13.6	38.4	34.9	2070	5510	5.2	3.8	6	33	8.2	70
Cadmium	5.0	.18	1.3	1.9	11.6	14.1	.09	.24	0.6	10	1.2	9.6
Chromium	207	20.9	42.1	109	2960	1710	29.1	10.3	26	110	81	370
Copper	209	24.8	40.5	158	1170	1490	1.9	19.8	16	110	34	270
Iron (%)	2	.5	.7	.4	14	18	.2	.4	2	4		
Lead	480	10.1	16.8	55.4	609	669	6.5	81.3	31	250	46.7	218
Manganese	595	93.3	610	93	1140	1180	12.6	50.4	460	1100		
Mercury	.94	.37	.15	.69	9.5	4.7	.07	.03	0.2	2	0.15	0.71
Nickel	28.3	4.2	5.4	4.6	37.7	29.4	1.1	6.0	16	75	20.9	51.6
Zinc	1200	78.5	1390	420	2880	3040	11.5	47.6	120	820	150	410
Total Combustible Organics (%)	8.4	.14	10	6.1	26.7	38	2.4	.28				

[1]Persaud et al. 1992. Ontario Ministry of the Environment(OMOE); Low Effect Level (LEL) indicates a level of sediment contamination that can be tolerated by most benthic organisms.
[2]Persaud et al. 1992. OMOE Severe Effects Level (SEL) represents a contaminant concentration that would be detrimental to most organisms.
[3]Long et al. 1995. NOAA Effects Range Low (ER-L). The lower 10th percentile of the effects data.
[4]Long et al. 1995. NOAA Effects Range Median (ER-M). The 50th percentile of the effects data.
Underlined numbers represent those that exceed OMOE LEL values.
Bolded numbers represent those that exceed OMOE SEL values.

TABLE 7: PAH CONCENTRATIONS (MG/KG) IN SEDIMENT SAMPLES — COMPARISON TO SEDIMENT BENCHMARKS.

Compound	SED-07	SED-16	SED-12	SED-18	SED-19 -01	SED-19 -02	SED-23	SED-24	OMOE LEL[1]	OMOE SEL[2]	NOAA ER-L[3]	NOAA ER-M[4]
Anthracene	.470							.098	.220	370		
Benzo(a) anthracene	2.80		.160		.240	.250		.440	.320	1480		
Benzo(a) pyrene	3.20		.160		.320	.270		.400	.370	1440	0.43	1.6
Benzo(k) fluoranthene	5.3		.350		.940	.880		.690	.240	1340		
Chlordane						.005			.007	6		
Chrysene	4.4		.200		.340	.390		.550	.340	460		
DDD	.064	.011			.008	.007	.060	.035	.008	6		
DDE	.037	.002			.01	.001	.011		.005	19		
DDT		.001			.002	.001			.007	12	0.0016	0.046
Dieldrin	.001					.006			.002	91		
Endrin					.003	.005			.003	130		
Fluoranthene	6.20	.088				.500	.071	.880	.750	1020		
Fluorene	.330							.091	.190	160		
Phenanthrene	2.70							.460	.560	950	0.24	1.5
Pyrene	4.50	.110	.420			.430	.081	.680	.490	850	0.665	2.6
Total Combustible Organics (%)	8.4	.14	10	6.1	26.7	38	2.4	.28				

[1]Persaud et al. 1992. Ontario Ministry of the Environment(OMOE); Low Effect Level (LEL) indicates a level of sediment contamination that can be tolerated by most benthic organisms.

[2]Persaud et al. 1992. OMOE Severe Effects Level (SEL) represents a contaminant concentration that would be detrimental to most organisms.

[3]Long et al. 1995. NOAA Effects Range Low (ER-L). The lower 10th percentile of the effects data.

[4]Long et al. 1995. NOAA Effects Range Median (ER-M). The 50th percentile of the effects data.

Underlined numbers represent those that exceed OMOE LEL values. Bolded numbers represent those that exceed OMOE SEL values.

TOTAL COMBUSTIBLE ORGANICS.

Compound	*SED-07*	*OMOE SEL 8 %*	*SED-24*	*SED-16*	*OMOE SEL 1 %*	*SED-12*	*SED-19 -01*	*SED-19 -02*	*OMOE SEL 10 %*	*SED-23*	*OMOE SEL 2.4 %*
Anthracene	.470	29.60	.098		3.7						
Benzo(a) anthracene	2.80	118.40	.440		1.48	.160	.240	.250	148		
Benzo(a) pyrene	3.20	115.20	.400		14.40	.160	.320	.270	144		
Benzo(k) fluoranthene	5.3	107.	.690		1.34	.350	.940	.880	134		
Chlordane								.005	.6		
Chrysene	4.4	36.80	.550		4.6	.200	.340	.390	46		
DDD	.064	.48	.035	.011	.06		.008	.007	.6	.060	.144
DDE	.037	1.52		.002	.19		.01	.001	1.9	.011	.456
DDT				.001	.12		.002	.001	1.2		
Dieldrin	.001	1.52						.006	1.9		
Endrin							.003	.005	13		
Fluoranthene	6.20	81.60	.880	.088	1.02			.500	102	.071	24.48
Fluorene	.330	12.8	.091		.16						
Phenanthrene	2.70	76	.460		9.5						
Pyrene	4.50	68	.680	.110	8.5	.420		.430	85	.081	20.4

*OMOE SEL numbers listed in Table 7 are multiplied by site specific TCO to calculate site specific SELs which are then used to make comparison between chemical concentrations and adjusted SELs.

DISCUSSION

Station location SED-24 (wetland reference) had low survival for *C. tentans* (36%) which could be a result of very low TCO at 0.28% and seven exceedances of PAHs and pesticides in comparison to OMOE LEL values (Table 7). Recognizing the role of organic carbon in predicting bioavailability OMOE SEL benchmarks were adjusted with site specific TCO values and SED-24 in addition to all the other sediment sample locations did not have PAHs or pesticides that exceeded the OMOE SEL concentration (Table 8). Based on ten day water only tests conducted on the three freshwater species, *H. azteca, C. tentans* and *Lumbriculus variegatus* (oligochaete), the midge *C. tentans* was generally more sensitive or had similar sensitivity than the amphipod *H. azteca* with exposure to pesticides (Phipps et al. 1995). SED-16 also had a lower survival rate of 68.6% and this sediment also had a low TCO level of 0.14% with OMOE LEL exceedances for both inorganics and organics.

Station locations SED-18 and SED-23 had very low *H. azteca* survival rates of 10.8% & 0.8% respectively. In SED-18 there were OMOE SEL exceedances of both arsenic and copper, concentrations approximately twice the SEL concentration and survival was statistically significantly different when compared to the site specific wetland control location, SED-24. However, there were no PAHs or pesticides in this sediment that exceeded OMOE LEL or SEL levels. H. azteca survival was lower in SED-7 at 50% and this sediment had elevated levels of the inorganics, arsenic, chromium, copper, lead and zinc that exceeded OMOE SEL concentrations. Kemble et al. (1994) determined that *H. azteca* was the most sensitive species with respect to metal contaminated sediments from Great Lakes when compared against the three species *C. riparius, Oncorhynchus mykiss* (rainbow trout) and *Daphnia magna.* This sensitivity may also account for the survival differences observed for the two species exposed to SED-19. In general, *H. azteca* had lower survival that *C. tentans* in SED-19. Neither species has been reported in the literature to be more sensitive than the other for all chemicals. This supports the rationale in the use of both species in sediment toxicity testing.

Exposure to site related contaminants from sediments collected from location SED-18 indicates the potential for adverse biological impacts to benthic invertebrate survival and growth when compared to the wetland reference site (SD-24). The low recovery rates for SED-23 could be due to the proximity of the sampling location to Lubbers Brook and Concord Street. It is possible that surface runoff may adversely affect this test organism. In addition, since SED-23 is a riverine reference location upgradient of the site, and is not likely to be impacted by site related contamination, further investigation based on test results is not warranted.

The limitation in comparing sediment contaminant concentrations to biological effects benchmarks only utilizes a chemical by chemical evaluation of the potential for toxicity but the sediment toxicity testing results allow for an assessment of the

additive exposure to a mixture of contaminants. It is recognized that other abiotic factors (i.e. grain size) may influence toxicity but exposing burrowing invertebrates to contaminated sediments is considered a worst case scenario with respect to routes of exposure.

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APPENDIX A

FORMULATED REFERENCE SEDIMENT RECIPE

ARTIFICIAL SEDIMENT

Sand 77%: "Mystic White" medium to fine grain

Silt/Clay 17%: ASP 400 (31.5% silt and 68.5% clay)

Organic Matter 5%: peat (47% C, 4 mg/g N, 0.4 ug/g P)
cow manure (30% C, 11 mg/g N, 8.2 ug/g P)

Buffer (CaCO3) 1%

The artificial sediment recipe listed above is the one selected for further testing. The sand component, 77%, consists of both a fine grain portion, (0.25-0.05 mm) and a medium grain portion (0.5-0.25 mm). A source of this material, known as "Mystic White", is New England Silica, Inc. South Windsor, CT. The second component, silt/clay at 17%, can be purchased under the name of ASP 400 from the Engelhard Corp. Edison, NJ. A third component is the buffer, CaCO3. This should be added at a rate of 1% and can be purchased from any reputable chemical supply house.

The last, and most critical, organic matter component of this mixture, should make up 5% of the artificial sediment. The following source list associated with this component has been developed because they have been shown to have the ability to produce large quantities of consistent quality. However, a more local source of these materials could be developed by investigating analysis results and QA/QC protocols associated with the product. Peat can reliably be purchased from D.L. Browning Co. Mathers, WI or Mellingers, North Lima, OH. Humus can be purchased from Sims Bark Co., Inc. Tuscumbia, AL. Composted cow manure can be acquired from A.H. Hoffman, Inc. Landisville, PA. Potting soil is another source of organic matter but care should be taken to select a reliable source. If the application were strictly to be used "in house" at ESD the use of potting soil may be acceptable if reliability could be maintained.

All components should be mixed on a dry weight basis. Reagents where applicable i.e. CaCO3, should be reagent grade or better. The sand should be sieved to the above mentioned particle size and mixed at a ratio of 2:1, fine:medium. The organic matter should be dried, milled and passed through a 0.84 mm sieve.

Compatibility between the mixture and the use of test organisms *Hyalella azteca* and *Chironomus tentans*, particularly relating to grain size and organic carbon content, was checked and is not anticipated to be a problem.

APPENDIX B

INITIAL, DAILY, AND FINAL WET CHEMISTRY RESULTS

SEPT. '95 SEDIMENT TOXICITY TEST RESULTS
WELLS G&H, WOBURN, MA
Chironomus tentans
September 8, 1995

Station location	pH	DO	Cond	Temp	NH_4 (ppm)
ART SED	8.1	7.4	345	25.9	7.4
SED-7	6.9	7.4	127	25.9	6.6
SED-12	7.3	7.1	120	25.7	7.0
SED-16	7.1	7.2	100	25.8	4.6
SED-18	6.9	7.6	140	25.8	7.2
SED-19-01	6.6	6.6	109	26.2	6.6
SED-19-02	7.1	7.1	105	25.7	8.4
SED-23	6.8	7.3	79	25.7	5.8
SED-24	7.0	7.7	113	25.8	6.4

SEPT. '95 SEDIMENT TOXICITY TEST RESULTS
WELLS G&H, WOBURN, MA
Hyallela azteca
September 8, 1995

Station location	pH	DO	Cond	Temp
ART SED	8.4	7.3	256	25.6
SED-7	7.7	7.1	317	25.4
SED-12	8.3	7.0	327	25.2
SED-16	8.1	7.0	302	25.3
SED-18	8.2	7.6	308	24.6
SED-19-01	6.6	7.3	334	25.4
SED-19-02	8.0	7.2	295	24.7
SED-23	7.2	6.3	216	25.3
SED-24	8.1	7.1	331	25.3

SEPT. '95 SEDIMENT TOXICITY TEST RESULTS
WELLS G&H, WOBURN, MA
Chironomus tentans
September 9, 1995

Station location	pH	DO	Temp
ART SED	7.1	5.5	25.6
SED-7	7.1	5.5	25.9
SED-12	7.3	4.6	25.2
SED-16	7.1	4.8	25.7
SED-18	7.3	5.5	25.1
SED-19-01	7.4	5.5	25.8
SED-19-02	7.1	5.1	25.5
SED-23	7.3	4.8	25.7
SED-24	7.1	5.0	25.8

SEPT. '95 SEDIMENT TOXICITY TEST RESULTS
WELLS G&H, WOBURN, MA
Hyallela azteca
September 9, 1995

Station location	pH	DO	Temp
ART SED	8.2	5.7	24.6
SED-7	7.9	6.1	25.1
SED-12	7.9	5.9	25.0
SED-16	8.2	5.8	25.3
SED-18	8.0	5.9	25.2
SED-19-01	7.5	5.7	25.1
SED-19-02	7.5	6.3	25.2
SED-23	8.1	5.9	25.1
SED-24	7.9	6.5	24.6

SEPT. '95 SEDIMENT TOXICITY TEST RESULTS WELLS G&H, WOBURN, MA Chironomus tentans September 10, 1995			
Station location	pH	DO	Temp
ART SED	8.2	5.6	25.3
SED-7	7.1	5.7	25.3
SED-12	7.3	4.6	25.5
SED-16	7.0	6.0	24.8
SED-18	6.9	5.9	25.4
SED-19-01	6.8	5.8	25.3
SED-19-02	6.7	6.0	25.5
SED-23	7.3	5.6	25.4
SED-24	7.3	5.6	25.4

SEPT. '95 SEDIMENT TOXICITY TEST RESULTS WELLS G&H, WOBURN, MA Hyallela azteca September 10, 1995			
Station location	pH	DO	Temp
ART SED	8.3	5.6	22.1
SED-7	7.7	6.1	24.5
SED-12	8.0	6.1	24.5
SED-16	8.0	5.7	25.4
SED-18	7.8	5.8	25.0
SED-19-01	7.9	5.6	24.7
SED-19-02	7.5	6.3	24.8
SED-23	8.1	6.1	24.9
SED-24	8.3	6.1	24.9

SEPT. '95 SEDIMENT TOXICITY TEST RESULTS
WELLS G&H, WOBURN, MA
Chironomus tentans
September 11, 1995

Station location	pH	DO	Temp
ART SED	8.4	5.1	24.7
SED-7	7.7	5.6	25.0
SED-12	7.3	4.2	25.0
SED-16	7.6	5.5	24.9
SED-18	7.3	5.1	24.9
SED-19-01	6.9	5.1	24.6
SED-19-02	6.9	5.8	24.6
SED-23	7.4	5.0	24.7
SED-24	7.6	4.6	24.7

SEPT. '95 SEDIMENT TOXICITY TEST RESULTS
WELLS G&H, WOBURN, MA
Hyallela azteca
September 11, 1995

Station location	pH	DO	Temp
ART SED	8.7	5.3	23.8
SED-7	7.9	5.4	24.1
SED-12	7.7	6.1	23.6
SED-16	7.8	5.5	23.6
SED-18	7.9	5.7	23.8
SED-19-01	7.4	5.6	23.3
SED-19-02	7.4	5.5	23.7
SED-23	7.7	5.8	23.6
SED-24	8.0	5.5	23.4

SEPT. '95 SEDIMENT TOXICITY TEST RESULTS
WELLS G&H, WOBURN, MA
Chironomus tentans
September 12, 1995

Station location	pH	DO	Temp
ART SED	8.2	4.4	25.1
SED-7	7.9	4.8	25.1
SED-12	7.6	5.1	25.3
SED-16	7.4	4.9	25.4
SED-18	7.5	5.9	25.2
SED-19-01	7.1	5.7	25.1
SED-19-02	7.3	4.9	25.0
SED-23	7.5	5.4	25.1
SED-24	7.4	5.2	25.0

SEPT. '95 SEDIMENT TOXICITY TEST RESULTS
WELLS G&H, WOBURN, MA
Hyallela azteca
September 12, 1995

Station location	pH	DO	Temp
ART SED	8.6	5.2	23.9
SED-7	8.0	5.0	24.7
SED-12	7.8	6.3	24.4
SED-16	8.0	6.0	24.0
SED-18	8.1	5.2	24.4
SED-19-01	7.9	6.2	24.0
SED-19-02	7.8	5.6	24.0
SED-23	8.3	6.0	24.1
SED-24	8.3	6.3	24.2

SEPT. '95 SEDIMENT TOXICITY TEST RESULTS
WELLS G&H, WOBURN, MA
Chironomus tentans
September 13, 1995

Station location	pH	DO	Temp
ART SED	8.3	5.6	25.4
SED-7	7.4	4.6	25.1
SED-12	7.5	5.6	25.2
SED-16	7.3	5.4	25.4
SED-18	7.5	5.6	25.1
SED-19-01	7.2	5.7	25.1
SED-19-02	7.3	5.5	25.2
SED-23	7.5	5.7	25.4
SED-24	7.5	5.9	25.1

SEPT. '95 SEDIMENT TOXICITY TEST RESULTS
WELLS G&H, WOBURN, MA
Hyallela azteca
September 13, 1995

Station location	pH	DO	Temp
ART SED	8.6	5.8	24.8
SED-7	8.0	6.0	24.4
SED-12	7.8	6.4	24.4
SED-16	8.2	5.4	24.7
SED-18	7.9	4.4	24.7
SED-19-01	7.8	5.8	24.4
SED-19-02	7.5	5.1	24.4
SED-23	7.9	5.3	24.2
SED-24	8.6	6.0	23.6

SEPT. '95 SEDIMENT TOXICITY TEST RESULTS
WELLS G&H, WOBURN, MA
Chironomus tentans
September 14, 1995

Station location	pH	DO	Temp
ART SED	--	--	--
SED-7	7.9	5.7	25.1
SED-12	7.6	5.6	25.2
SED-16	7.1	5.4	25.4
SED-18	7.9	5.7	25.1
SED-19-01	7.5	4.6	25.1
SED-19-02	7.3	4.1	25.2
SED-23	7.8	5.4	25.4
SED-24	7.8	5.5	25.1

-- denotes chemistry measurements unavailable

SEPT. '95 SEDIMENT TOXICITY TEST RESULTS
WELLS G&H, WOBURN, MA
Hyallela azteca
September 14, 1995

Station location	pH	DO	Temp
ART SED	8.9	5.5	25.0
SED-7	8.1	4.4	25.0
SED-12	8.0	5.2	25.0
SED-16	8.1	4.8	25.0
SED-18	7.8	5.5	24.9
SED-19-01	7.3	6.0	25.0
SED-19-02	7.8	5.6	25.0
SED-23	7.9	4.2	25.0
SED-24	7.9	5.2	24.6

SEPT. '95 SEDIMENT TOXICITY TEST RESULTS
WELLS G&H, WOBURN, MA
Chironomus tentans
September 15, 1995

Station location	pH	DO	Temp
ART SED	8.5	4.5	25.0
SED-7	7.7	5.3	25.0
SED-12	7.5	5.7	25.0
SED-16	7.6	5.8	25.0
SED-18	7.7	5.8	25.0
SED-19-01	7.3	5.5	25.0
SED-19-02	7.6	5.6	25.0
SED-23	7.7	5.4	25.0
SED-24	7.7	5.8	25.0

SEPT. '95 SEDIMENT TOXICITY TEST RESULTS
WELLS G&H, WOBURN, MA
Hyallela azteca
September 15, 1995

Station location	pH	DO	Temp
ART SED	8.7	5.8	25.1
SED-7	8.0	4.7	25.5
SED-12	7.9	5.4	25.6
SED-16	8.3	5.8	25.1
SED-18	7.9	5.1	23.7
SED-19-01	7.8	5.0	25.1
SED-19-02	7.7	5.3	25.3
SED-23	8.2	5.3	25.1
SED-24	7.8	5.6	25.1

SEPT. '95 SEDIMENT TOXICITY TEST RESULTS
WELLS G&H, WOBURN, MA
Chironomus tentans
September 16, 1995

Station location	pH	DO	Temp
ART SED	8.3	5.3	25.5
SED-7	6.2	1.8[a]	25.4
SED-12	6.4	5.8	25.4
SED-16	6.9	5.7	25.4
SED-18	7.3	5.1	24.8
SED-19-01	7.5	6.1	25.2
SED-19-02	7.1	5.7	25.2
SED-23	7.4	5.5	25.4
SED-24	7.7	5.8	25.0

[a] denotes replicate with no aeration at time of wet chemistry

SEPT. '95 SEDIMENT TOXICITY TEST RESULTS
WELLS G&H, WOBURN, MA
Hyallela azteca
September 16, 1995

Station location	pH	DO	Temp
ART SED	8.6	6.1	25.2
SED-7	8.0	6.1	24.6
SED-12	7.7	5.8	24.7
SED-16	7.8	6.1	25.3
SED-18	7.5	6.1	24.6
SED-19-01	7.8	6.0	24.7
SED-19-02	7.8	6.1	24.6
SED-23	8.2	6.1	23.7
SED-24	8.4	6.5	24.2

SEPT. '95 SEDIMENT TOXICITY TEST RESULTS
WELLS G&H, WOBURN, MA
Chironomus tentans
September 17, 1995

Station location	pH	DO	Temp
ART SED	8.4	5.3	25.0
SED-7	--	--	--
SED-12	7.4	5.4	25.0
SED-16	7.2	4.6	25.0
SED-18	7.9	5.6	25.0
SED-19-01	7.8	4.5	25.0
SED-19-02	7.5	5.2	25.0
SED-23	7.8	5.7	25.0
SED-24	7.7	5.6	25.0

-- denotes chemistry measurements unavailable

SEPT. '95 SEDIMENT TOXICITY TEST RESULTS
WELLS G&H, WOBURN, MA
Hyallella azteca
September 17, 1995

Station location	pH	DO	Temp
ART SED	8.6	5.4	24.9
SED-7	8.4	5.6	24.9
SED-12	8.3	5.8	24.9
SED-16	8.2	5.4	25.1
SED-18	8.0	5.3	25.3
SED-19-01	7.9	5.6	24.9
SED-19-02	7.9	6.0	25.2
SED-23	7.9	4.6	25.1
SED-24	8.4	6.0	25.0

SEPT. '95 SEDIMENT TOXICITY TEST RESULTS WELLS G&H, WOBURN, MA Chironomus tentans September 18, 1995				
Station location	pH	DO	Temp	NH_4(ppm)
ART SED	--	--	--	--
SED-7	6.8	7.1	26.0	4.8
SED-12	6.7	6.8	26.0	5.5
SED-16	6.4	6.3	26.0	3.4
SED-18	6.2	5.7	26.0	8.1
SED-19-01	7.0	6.4	26.0	11.22
SED-19-02	7.1	6.8	26.0	12.2
SED-23	6.9	6.3	26.0	6.8
SED-24	6.7	6.8	26.0	4.4
-- denotes chemistry measurements unavailable				

SEPT. '95 SEDIMENT TOXICITY TEST RESULTS WELLS G&H, WOBURN, MA Chironomus tentans September 18, 1995				
Station location	pH	DO	Temp	NH_4(ppm)
ART SED	7.8	7.7	26.0	6.3
SED-7	6.6	6.8	26.0	2.2
SED-12	6.4	7.2	26.0	1.8
SED-16	7.1	7.5	26.0	2.2
SED-18	6.6	7.5	26.0	2.1
SED-19-01	6.7	7.1	26.0	8.5
SED-19-02	6.7	7.5	26.0	6.2
SED-23	7.1	7.0	26.0	1.8
SED-24	7.6	6.9	26.0	2.1

APPENDIX C

STATISTICAL ANALYSES

(A)

CT SURVIVAL WITH SED23 as ctrl vs all others

WELLS G&H, CT SURVIVAL, SEDIMENT TOX TEST
e: WLCTSRV.S23 Transform: NO TRANSFORMATION

Chi-square test for normality: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	4.154	15.004	23.684	15.004	4.154
OBSERVED	4	13	23	19	3

Calculated Chi-Square goodness of fit test statistic = 1.6780
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test. Continue analysis.

‖ Press any key to continue or Esc to return to menu ‖

LS G&H, CT SURVIVAL, SEDIMENT TOX TEST
e: WLCTSRV.S23 Transform: NO TRANSFORMATION

Shapiro-Wilks test for normality

******** Shapiro-Wilks Test is aborted ********

This test can not be performed because total number of replicates
is greater than 50.

Total number of replicates = 62

‖ Press any key to continue or Esc to return to menu ‖

LS G&H, CT SURVIVAL, SEDIMENT TOX TEST
e: WLCTSRV.S23 Transform: NO TRANSFORMATION

Hartley test for homogeneity of variance

alculated H statistic (max Var/min Var) = 7.90
losest, conservative, Table H statistic = 22.0 (alpha = 0.01)

1 for Table H ==> R (# groups) = 8, df (# reps-1) = 7
ual values ==> R (# groups) = 8, df (# avg reps-1) = 6.75
(average df used)

---

ata PASS homogeneity test. Continue analysis.

OTE: This test requires equal replicate sizes. If they are unequal but do not differ greatly, the Hartley test may still be used as an approximate test (average df are used).

‖ Press any key to continue or Esc to return to menu ‖

ELLS G&H, CT SURVIVAL, SEDIMENT TOX TEST
ile: WLCTSRV.S23 Transform: NO TRANSFORMATION

artletts test for homogeneity of variance

---

alculated B statistic = 16.86
able Chi-square value = 18.48 (alpha = 0.01)
ble Chi-square value = 14.07 (alpha = 0.05)

erage df used in calculation ==> df (avg n - 1) = 6.75
sed for Chi-square table value ==> df (#groups-1) = 7

---

ata PASS homogeneity test at 0.01 level. Continue analysis.

OTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

‖ Press any key to continue or Esc to return to menu ‖

ELLS G&H, CT SURVIVAL, SEDIMENT TOX TEST
ile: WLCTSRV.S23 Transform: NO TRANSFORMATION

ILCOXON RANK SUM TEST W/ BONFERRONI ADJUSTMENT - Ho:Control<Treatment

---

ROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	REPS	SIG
	SED-23	7.625				
	SED-7	8.250	77.50	44.00	8	
3	SED-12	8.375	77.00	44.00	8	
4	SED-16	5.875	59.50	44.00	8	
5	SED-18	7.000	61.00	44.00	8	

6	SED-19.01	7.000	69.00	44.00	8
7	SED-19.02	8.125	80.50	44.00	8
8	SED-24	3.500	28.50	26.00	6

Critical values use k = 7, are 1 tailed, and alpha = 0.05

Press any key to continue or Esc to return to menu

(B) CT SURVIVAL w/ ART SED AS CTRL

~~WELLS G&H CT GROWTH SEDIMENT TOX TEST~~
File: wghctsrv.asd Transform: NO TRANSFORMATION

Chi-square test for normality: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	4.556	16.456	25.976	16.456	4.556
OBSERVED	0	0	68	0	0

Calculated Chi-Square goodness of fit test statistic = 110.0105
Table Chi-Square value (alpha = 0.01) = 13.277

Data FAIL normality test. Try another transformation.

Warning - The two homogeneity tests are sensitive to non-normal data and should not be performed.

|| Press any key to continue or Esc to return to menu ||

SURVIVAL

WELLS G&H CT ~~GROWTH~~ SEDIMENT TOX TEST
File: wghctsrv.asd Transform: NO TRANSFORMATION

Shapiro-Wilks test for normality

******** Shapiro-Wilks Test is aborted ********

This test can not be performed because total number of replicates is greater than 50.

Total number of replicates = 68

|| Press any key to continue or Esc to return to menu ||

TOXSTAT | Zero Variance

SURVIVAL

WELLS G&H CT ~~GROWTH~~ SEDIMENT TOX TEST
File: wghctsrv.asd Transform: NO TRANSFORMATION

TOXSTAT	Zero Variance

_LS G&H CT GROWTH SEDIMENT TOX TEST
ile: wghctsrv.asd Transform: ARC SINE(SQUARE ROOT(Y))

artley test for homogeneity of variance
artletts test for homogeneity of variance

---

hese two tests can not be performed because at least one group has
ero variance.

ata FAIL to meet homogeneity of variance assumption.
dditional transformations are useless.

B

‖ Press any key to continue or Esc to return to menu ‖

SURVIVAL

ELLS G&H CT ~~GROWTH~~ SEDIMENT TOX TEST
ile: wghctsrv.asd Transform: ARC SINE(SQUARE ROOT(Y))

OXON RANK SUM TEST W/ BONFERRONI ADJUSTMENT - Ho:Control<Treatment

ROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	REPS	SIG
1	ART SED	0.991				
2	SED-7	1.139	100.00	44.00	8	
3	SED-12	1.190	84.00	34.00	7	
4	SED-16	0.990	36.00	44.00	8	
5	SED-18	0.991	68.00	44.00	8	
6	SED-19.01	0.991	56.00	34.00	7	
7	SED-19.02	1.121	100.00	44.00	8	
8	SED-23	1.122	100.00	44.00	8	
9	SED-24	0.644	21.00	25.00	6	

Critical values use k = 8, are 1 tailed, and alpha = 0.05

‖ Press any key to continue or Esc to return to menu ‖

Hartley test for homogeneity of variance
Bartletts test for homogeneity of variance

---

se two tests can not be performed because at least one group has
o variance.

Data FAIL to meet homogeneity of variance assumption.
Additional transformations are useless.

‖ Press any key to continue or Esc to return to menu ‖

SURVIVAL

WELLS G&H CT ~~GROWTH~~ SEDIMENT TOX TEST
File: wghctsrv.asd Transform: ARC SINE(SQUARE ROOT(Y))

Chi-square test for normality: actual and expected frequencies

---

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	4.556	16.456	25.976	16.456	4.556
OBSERVED	0	0	68	0	0

Calculated Chi-Square goodness of fit test statistic = 110.0105
Table Chi-Square value (alpha = 0.01) = 13.277

Data FAIL normality test. Try another transformation.

Warning - The two homogeneity tests are sensitive to non-normal data and
should not be performed.

‖ Press any key to continue or Esc to return to menu ‖

SURVIVAL

WELLS G&H CT ~~GROWTH~~ SEDIMENT TOX TEST
File: wghctsrv.asd Transform: ARC SINE(SQUARE ROOT(Y))

Shapiro-Wilks test for normality

******** Shapiro-Wilks Test is aborted ********

This test can not be performed because total number of replicates
is greater than 50.

Total number of replicates = 68

CT CTH SED 23 as CTRL

WELLS G&H CT GROWTH SEDIMENT TOX TEST
File: C:\BIOSOFT\WELLSGTH.S23 Transform: NO TRANSFORMATION

-square test for normality: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	4.020	14.520	22.920	14.520	4.020
OBSERVED	0	20	24	12	4

Calculated Chi-Square goodness of fit test statistic = 6.5766
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test. Continue analysis.

↳ Passes, but not in decision tree.

‖ Press any key to continue or Esc to return to menu ‖

WELLS G&H CT GROWTH SEDIMENT TOX TEST
File: C:\BIOSOFT\WELLSGTH.S23 Transform: NO TRANSFORMATION

piro-Wilks test for normality

******** Shapiro-Wilks Test is aborted ********

This test can not be performed because total number of replicates
is greater than 50.

Total number of replicates = 60

‖ Press any key to continue or Esc to return to menu ‖

WELLS G&H CT GROWTH SEDIMENT TOX TEST
File: C:\BIOSOFT\WELLSGTH.S23 Transform: NO TRANSFORMATION

artley test for homogeneity of variance

Calculated H statistic (max Var/min Var) = 24.33

:losest, conservative, Table H statistic = 22.0 (alpha = 0.01)

Jsed for Table H ==> R (# groups) = 8, df (# reps-1) = 7
\ctual values ==> R (# groups) = 8, df (# avg reps-1) = 6.50
(average df used)

)ata FAIL homogeneity test. Try another transformation.

NOTE: This test requires equal replicate sizes. If they are unequal but do not differ greatly, the Hartley test may still be used as an approximate test (average df are used).

‖ Press any key to continue or Esc to return to menu ‖

Next, according to Method applied
The Arc-Sine Transformation

WELLS G&H CT GROWTH SEDIMENT TOX TEST
File: C:\BIOSOFT\WELLSGTH.S23 Transform: ARC SINE(SQUARE ROOT(Y))

rtley test for homogeneity of variance

Calculated H statistic (max Var/min Var) = 21.32
Closest, conservative, Table H statistic = 22.0 (alpha = 0.01)

Used for Table H ==> R (# groups) = 8, df (# reps-1) = 7
Actual values ==> R (# groups) = 8, df (# avg reps-1) = 6.50
(average df used)

Data PASS homogeneity test. Continue analysis.

NOTE: This test requires equal replicate sizes. If they are unequal but do not differ greatly, the Hartley test may still be used as an approximate test (average df are used).

‖ Press any key to continue or Esc to return to menu ‖

WELLS G&H CT GROWTH SEDIMENT TOX TEST
File: C:\BIOSOFT\WELLSGTH.S23 Transform: ARC SINE(SQUARE ROOT(Y))

)tletts test for homogeneity of variance

Calculated B statistic = 18.06
Table Chi-square value = 18.48 (alpha = 0.01)
Table Chi-square value = 14.07 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 6.50
Used for Chi-square table value ==> df (#groups-1) = 7

Data PASS homogeneity test at 0.01 level. Continue analysis.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

‖ Press any key to continue or Esc to return to menu ‖

Next, Wilcoxon Rank Sum Test

WELLS G&H CT GROWTH SEDIMENT TOX TEST
File: C:\BIOSOFT\WELLSGTH.S23 Transform: ARC SINE(SQUARE ROOT(Y))

WILCOXON RANK SUM TEST W/ BONFERRONI ADJUSTMENT - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	REPS	SIG
1	SED-23	0.041				
2	SED-7	0.037	62.50	44.00	8	
3	SED-12	0.037	43.00	35.00	7	
4	SED-16	0.027	36.00	44.00	8	*
5	SED-18	0.035	49.50	44.00	8	
6	SED-19.01	0.034	37.00	35.00	7	
7	SED-19.02	0.031	36.00	44.00	8	*
8	SED-24	0.046	53.00	26.00	6	

Critical values use k = 7, are 1 tailed, and alpha = 0.05

Press any key to continue or Esc to return to menu

1 CT GTH w/ ART SED as CTRL

CT growth

ELLS G&H CT GROWTH SEDIMENT TOX TEST
ile: C:\BTH.SED Transform: NO TRANSFORMATION

-square test for normality: actual and expected frequencies

NTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
XPECTED	4.556	16.456	25.976	16.456	4.556
BSERVED	2	20	26	16	4

alculated Chi-Square goodness of fit test statistic = 2.2777
able Chi-Square value (alpha = 0.01) = 13.277

ata PASS normality test. Continue analysis.

¤ Press any key to continue or Esc to return to menu ¤

ELLS G&H CT GROWTH SEDIMENT TOX TEST
ile: C:\BTH.SED Transform: NO TRANSFORMATION

piro-Wilks test for normality

******** Shapiro-Wilks Test is aborted ********

his test can not be performed because total number of replicates
s greater than 50.

otal number of replicates = 68

ART SED & SED 24 } very poor recoveries

¤ Press any key to continue or Esc to return to menu ¤

ELLS G&H CT GROWTH SEDIMENT TOX TEST
ile: C:\BTH.SED Transform: NO TRANSFORMATION

tley test for homogeneity of variance

alculated H statistic (max Var/min Var) = 31.69

conservative, Table H statistic = 23.0 (alpha = 0.01)

Used for Table H ==> R (# groups) = 9, df (# reps-1) = 7
Actual values ==> R (# groups) = 9, df (# avg reps-1) = 6.56
(average df used)

Data FAIL homogeneity test. Try another transformation.

NOTE: This test requires equal replicate sizes. If they are unequal but do not differ greatly, the Hartley test may still be used as an approximate test (average df are used).

¤ Press any key to continue or Esc to return to menu ¤

WELLS G&H CT GROWTH SEDIMENT TOX TEST
File: C:\BTH.SED Transform: NO TRANSFORMATION

Bartletts test for homogeneity of variance

Calculated B statistic = 26.77
Table Chi-square value = 20.09 (alpha = 0.01)
Table Chi-square value = 15.51 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 6.56
Used for Chi-square table value ==> df (#groups-1) = 8

Data FAIL homogeneity test at 0.01 level. Try another transformation.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

ART SED as lab control is all zeros

¤ Press any key to continue or Esc to return to menu ¤

WELLS G&H CT GROWTH SEDIMENT TOX TEST
File: C:\BTH.SED Transform: NO TRANSFORMATION

WILCOXON RANK SUM TEST W/ BONFERRONI ADJUSTMENT - Ho:Control<Treatment

---

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	REPS	SIG
1	ART SED	0.003				
2	SED-7	0.001	39.00	44.00	8	*
	SED-12	0.001	30.00	34.00	7	*
	SED-16	0.001	36.00	44.00	8	*
5	SED-18	0.001	37.00	44.00	8	*
6	SED-19.01	0.001	28.00	34.00	7	*
7	SED-19.02	0.001	36.00	44.00	8	*

CT GTH SED 23 as CTRL vs 7,12,16

WELLS G&H CT GROWTH SEDIMENT TOX TEST
File: C:\BIOSOFT\WELLSGTH.RVR Transform: NO TRANSFORMATION

Shapiro Wilks test for normality

D = 0.000 E

W = 0.964

Critical W (P = 0.05) (n = 30) = 0.927
Critical W (P = 0.01) (n = 30) = 0.900

Data PASS normality test at P=0.01 level. Continue analysis.

Press any key to continue or Esc to return to menu

WELLS G&H CT GROWTH SEDIMENT TOX TEST
File: C:\BIOSOFT\WELLSGTH.RVR Transform: NO TRANSFORMATION

Hartley test for homogeneity of variance

Calculated H statistic (max Var/min Var) = 17.48
Closest, conservative, Table H statistic = 14.5 (alpha = 0.01)

Used for Table H ==> R (# groups) = 4, df (# reps-1) = 7
Actual values ==> R (# groups) = 4, df (# avg reps-1) = 6.50
(average df used)

Data FAIL homogeneity test. Try another transformation.

NOTE: This test requires equal replicate sizes. If they are unequal but do not differ greatly, the Hartley test may still be used as an approximate test (average df are used).

Press any key to continue or Esc to return to menu

WELLS G&H CT GROWTH SEDIMENT TOX TEST
File: C:\BIOSOFT\WELLSGTH.RVR Transform: NO TRANSFORMATION

Bartletts test for homogeneity of variance

Calculated B statistic = 10.17

:able Chi-square value = 11.34 (alpha = 0.01)
:able Chi-square value = 7.81 (alpha = 0.05)

...erage df used in calculation ==> df (avg n - 1) = 6.50
...d for Chi-square table value ==> df (#groups-1) = 3

)ata PASS homogeneity test at 0.01 level. Continue analysis.

IOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

Press any key to continue or Esc to return to menu

WELLS G&H CT GROWTH SEDIMENT TOX TEST
File: C:\BIOSOFT\WELLSGTH.RVR Transform: NO TRANSFORMATION

WILCOXON RANK SUM TEST W/ BONFERRONI ADJUSTMENT - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	REPS	SIG
1	SED-23	0.002				
2	SED-7	0.001	62.50	47.00	8	
3	SED-12	0.001	43.00	37.00	7	
4	SED-16	0.001	28.00	37.00	7	*

Critical values use k = 3, are 1 tailed, and alpha = 0.05

Press any key to continue or Esc to return to menu

(G) Stats precede the transformation to (Log one.

azteca-survival, SEDIMENT TOX TEST
3.24 Transform: NO TRANSFORMATION

AA survival vs 18, 19-01, 19-02.

K SUM TEST W/ BONFERRONI ADJUSTMENT - Ho:Control<Treatment

ROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	REPS	SIG
1	SED-24	0.781				
2	SED-18	0.108	10.00	12.00	4	*
3	SED-19.01	0.566	36.00	45.00	8	
4	SED-19.02	0.625	36.00	45.00	8	

Critical values use k = 3, are 1 tailed, and alpha = 0.05

Press any key to continue or Esc to return to menu

ELLS G&H, H. azteca-survival, SEDIMENT TOX TEST
ile: WLHAVS3.24 Transform: NO TRANSFORMATION

-square test for normality: actual and expected frequencies

NTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
XPECTED	1.809	6.534	10.314	6.534	1.809
BSERVED	0	0	27	0	0

alculated Chi-Square goodness of fit test statistic = 43.6806
able Chi-Square value (alpha = 0.01) = 13.277

ata FAIL normality test. Try another transformation.

arning - The two homogeneity tests are sensitive to non-normal data and should not be performed.

Press any key to continue or Esc to return to menu

ELLS G&H, H. azteca-survival, SEDIMENT TOX TEST
ile: WLHAVS3.24 Transform: NO TRANSFORMATION

piro Wilks test for normality

= 0.000

W = 0.002

Critical W (P = 0.05) (n = 27) = 0.923
Critical W (P = 0.01) (n = 27) = 0.894

Data FAIL normality test. Try another transformation.

Warning - The two homogeneity tests are sensitive to non-normal data and should not be performed.

Press any key to continue or Esc to return to menu

TOXSTAT | Zero Variance

WELLS G&H, H. azteca-survival, SEDIMENT TOX TEST
File: WLHAVS3.24 Transform: NO TRANSFORMATION

Hartley test for homogeneity of variance
Bartletts test for homogeneity of variance

These two tests can not be performed because at least one group has zero variance.

Data FAIL to meet homogeneity of variance assumption.
Additional transformations are useless.

Press any key to continue or Esc to return to menu

(H) AGH 24 vs 19-01, 19-02

H azteca-growth, SEDIMENT TOX TEST
File: C:\BIO.REV Transform: NO TRANSFORMATION

)-square test for normality: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	1.541	5.566	8.786	5.566	1.541
OBSERVED	0	8	9	5	1

Calculated Chi-Square goodness of fit test statistic = 2.8581
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test. Continue analysis.

Press any key to continue or Esc to return to menu

WELLS G&H, H. azteca-growth, SEDIMENT TOX TEST
File: C:\BIO.REV Transform: NO TRANSFORMATION

Shapiro Wilks test for normality

D = 0.000

W = 0.966

Critical W (P = 0.05) (n = 23) = 0.914
Critical W (P = 0.01) (n = 23) = 0.881

Data PASS normality test at P=0.01 level. Continue analysis.

Press any key to continue or Esc to return to menu

WELLS G&H, H. azteca-growth, SEDIMENT TOX TEST
File: C:\BIO.REV Transform: NO TRANSFORMATION

Bartley test for homogeneity of variance

Calculated H statistic (max Var/min Var) = 22.50

)ata FAIL homogeneity test. Try another transformation.

NOTE: This test requires equal replicate sizes. If they are unequal but do not differ greatly, the Hartley test may still be used as an approximate test (average df are used).

Press any key to continue or Esc to return to menu

WELLS G&H, H. azteca-growth, SEDIMENT TOX TEST
File: C:\BIO.REV Transform: ARC SINE(SQUARE ROOT(Y))

Bartletts test for homogeneity of variance

Calculated B statistic = 11.89
Table Chi-square value = 9.21 (alpha = 0.01)
Table Chi-square value = 5.99 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 6.67
Used for Chi-square table value ==> df (#groups-1) = 2

Data FAIL homogeneity test at 0.01 level. Try another transformation.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

Press any key to continue or Esc to return to menu

WELLS G&H, H. azteca-growth, SEDIMENT TOX TEST
File: C:\BIO.REV Transform: ARC SINE(SQUARE ROOT(Y))

WILCOXON RANK SUM TEST W/ BONFERRONI ADJUSTMENT - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	REPS	SIG
1	SED-24	0.010				
2	SED-19.02	0.010	62.00	46.00	8	
3	SED-19.01	0.010	61.00	46.00	8	

Critical values use k = 2, are 1 tailed, and alpha = 0.05

Because, SED-18 sig for survival (only 10.8% ~~on 0.8%~~)
Can drop from stats.

Press any key to continue or Esc to return to menu

```
Closest, conservative, Table H statistic =   12.1  (alpha = 0.01)

Used for Table H ==>     R (# groups) =   3,    df (# reps-1) =       7
Equal values     ==>     R (# groups) =   3,    df (# avg reps-1) =   6.67
                                                (average df used)
```

Data FAIL homogeneity test. Try another transformation.

NOTE: This test requires equal replicate sizes. If they are unequal but do not differ greatly, the Hartley test may still be used as an approximate test (average df are used).

Press any key to continue or Esc to return to menu

```
WELLS G&H, H. azteca-growth, SEDIMENT TOX TEST
File: C:\BIO.REV        Transform: NO TRANSFORMATION

Bartletts test for homogeneity of variance
```

```
Calculated B statistic =   11.76
Table Chi-square value =    9.21  (alpha = 0.01)
Table Chi-square value =    5.99  (alpha = 0.05)

Average df used in calculation  ==>   df (avg n - 1) =   6.67
Used for Chi-square table value ==>   df (#groups-1) =   2
```

Data FAIL homogeneity test at 0.01 level. Try another transformation.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

Press any key to continue or Esc to return to menu

```
WELLS G&H, H. azteca-growth, SEDIMENT TOX TEST
File: C:\BIO.REV        Transform: ARC SINE(SQUARE ROOT(Y))

Hartley test for homogeneity of variance
```

```
Calculated H statistic (max Var/min Var) =   23.83
Closest, conservative, Table H statistic =   12.1  (alpha = 0.01)

Used for Table H ==>     R (# groups) =   3,    df (# reps-1) =       7
Equal values     ==>     R (# groups) =   3,    df (# avg reps-1) =   6.67
                                                (average df used)
```

HA growth w/ SED24 vs 18, 19-01, 19-02

WELLS G&H H. azteca GROWTH SEDIMENT TOX TEST
File: C:\WELHAGTH.24 Transform: ARC SINE(SQUARE ROOT(Y))

WILCOXON RANK SUM TEST W/ BONFERRONI ADJUSTMENT - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	REPS	SIG
1	SED-24	0.010				
2	SED-19.01	0.010	57.50	45.00	8	
3	SED-19.02	0.010	62.50	45.00	8	
4	SED-18	0.008	10.00	12.00	4	*

Critical values use k = 3, are 1 tailed, and alpha = 0.05

F/T, SED-18 not dropped from stats

Press any key to continue or Esc to return to menu

Table 4: *C. tentans* **Sediment Toxicity Test Results**

SEDIMENT TOXICITY TEST RESULTS
WELLS G&H, WOBURN, MA
Chironomus tentans

Station location		Survival %	Avg. weight
ART SED[a]		70	0.0033
SED-7[d]	R	82.5	0.0014*
SED-12[d]	R	86.2	0.0012*
SED-16[d]	R	68.6	0.0008*
SED-18[e]	W	70	0.0013*
SED-19-01[e]	W	70	0.0010*
SED-19-02[e]	W	81.1	0.0009*
SED-23[b]	R	81.2	0.0017*
SED-24[c]	W	36	0.0021

[a] designates laboratory control i.e. artificial sediment
[b] designates riverine reference
[c] designates wetland reference
[d] designates riverine locations
[e] designates wetland locations
* designates statistical significance (α=0.05)

Table 5: *H. azteca* **Sediment Toxicity Results**

SEDIMENT TOXICITY RESULTS
WELLS G&H, WOBURN, MA
Hyalella azteca

Station location		Survival %	Avg. weight
ART SED[a]		16.6	0.00007
SED-7[d]	R	50	0.00009
SED-12[d]	R	74.2	0.00011
SED-16[d]	R	93.3	0.00014
SED-18[e]	W	10.8*	0.00004*
SED-19-01[e]	W	56.6	0.00011
SED-19-02[e]	W	62.5	0.00010
SED-23[b]	R	0.8	0.00030
SED-24[c]	W	78.1	0.00010

[a] designates laboratory control i.e. artificial sediment
[b] designates riverine reference
[c] designates wetland reference
[d] designates riverine locations
[e] designates wetland locations
* designates statistical significance (α=0.05)

Appendix A.2

Metcalf & Eddy Supplemental Data Compendium

EPA CONTRACT NO. 68-W6-0042
EPA WORK ASSIGNMENT NO. 004-RICO-0146

EPA Project Officer: Diana King
EPA Remedial Project Manager: Mary Garren

SUPPLEMENTAL DATA COMPENDIUM FOR WELLS G&H SUPERFUND SITE ABERJONA RIVER STUDY (OPERABLE UNIT 3)

Woburn, Massachusetts

MAY 1998

Prepared By:

Metcalf & Eddy
An Air & Water Technologies Company

SUPPLEMENTAL DATA COMPENDIUM
WELLS G&H SUPERFUND SITE
ABERJONA RIVER STUDY
(OPERABLE UNIT 3)

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SUPPLEMENTAL DATA COMPENDIUM
WELLS G&H SUPERFUND SITE
ABERJONA RIVER STUDY
(OPERABLE UNIT 3)

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1.0 INTRODUCTION

This document contains a summary of field information and data that was collected by M&E at the Aberjona River (Operable Unit 3) of the Wells G&H Superfund Site during the fall of 1997. The data was collected to support the human health and ecological risk assessments being conducted for EPA Region I under the Remedial Action Contracting Strategy (RACS) contract as part of Work Assignment No. 004-RICO-0146.

The field investigation conducted by M&E in 1997 supplements Foster Wheeler Environmental Corporation's (FW's) field investigation, which was conducted in 1995. The data collected during FW's 1995 field investigation are presented in their Preliminary Data Compendium (FW, 1996a). This compendium presents only M&E's 1997 data, as well as a brief discussion of data trends and comparisons with FW's 1995 data. Specifically, additional sediment data was collected to verify FW's 1995 results, to fill data gaps where 1995 sediment data were rejected, and to achieve lower detection limits to meet risk-based concentrations (RBCs) and ecological screening values for sediments referred to as effects range-low (ERLs).

The compendium is organized into the following sections:

Section 2.0 -- describes M&E's field sampling program
Section 3.0 -- presents the sediment sample results and discusses validation of the data
Section 4.0 -- discusses the sediment data in terms of major types of chemical classes detected and provides a comparison of M&E's and FW's data, where relevant
Section 5.0 -- provides references cited in the text

2.0 SAMPLING AND ANALYSIS PROGRAM

Sampling of the Aberjona River and the surrounding wetlands was conducted according to M&E's Revised Draft Work Plan for the Remedial Investigation/Feasibility Study (Risk Assessment) for the Aberjona River (OU3) Wells G&H Superfund Site (1997a). The field sampling program and the analytical program is described in M&E's Final Quality Assurance Project Plan (QAPP) for the site (1997b). No significant deviations from these plans occurred during the sampling effort.

2.1 Field Sampling Program

The field sampling program followed by M&E is described in the Final QAPP (M&E, 1997b). Prior to conducting the main event sampling, a pre-test sampling was performed in conjunction with EPA. The purpose of the pre-test was to fine tune the field sampling protocols and test the analytical methods (Section 2.2) for applicability before collecting the actual sediment samples that would be used for the risk assessments. The pre-test was conducted over a two-day period from October 15 to 16, 1997. Both M&E and EPA personnel participated in the collection of samples from locations SED-13-01 and SED-19-01 during the pre-test. All other sample locations were located during the pre-test. No data validation was conducted on the pre-test sample results. The results were

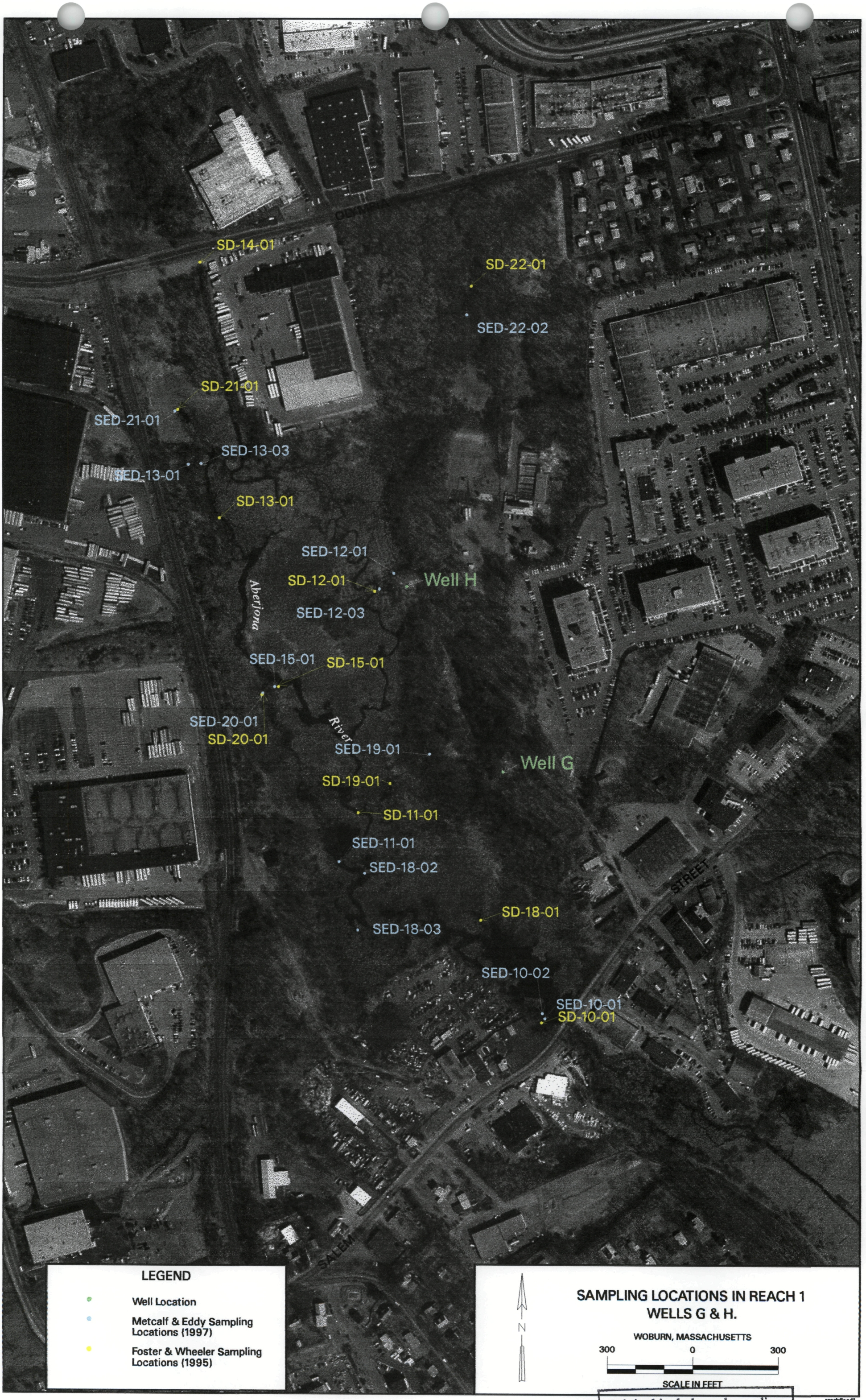
examined to establish if the methods would meet the goals of the risk assessments, which they did. No changes in methodology were proposed from the pre-test sampling and analysis.

Sediment samples from 28 sampling locations (Figures 2-1 through 2-5, Table 2-1) within the Aberjona River, surrounding wetlands, and several background locations were collected and analyzed for volatile organic compounds (VOCs), polynuclear aromatic compounds (PAHs), pesticides and polychlorinated biphenyls (PCBs), low concentration metals, acid volatile sulfides/simultaneously extracted metals (AVS/SEM), and total combustible organics (TCO), grain size, moisture content, and pH. As per the QAPP, TCO analyses were conducted rather than Total Organic Carbon (TOC) due to the measurement of TCO being greater than one percent. The sampling was conducted between November 12, 1997 and November 20, 1997.

As previously stated, sample locations were selected primarily to confirm results previously obtained in 1995 by FW, to fill data gaps where FW's 1995 data were rejected, and to achieve lower detection limits to meet risk-based objectives. When field observations warranted, however, sampling locations were relocated, near the original location, but where the depositional sediments were most likely to be found (Table 2-2). All relocated sampling locations were approved by onsite EPA personnel. All sampling locations were mapped by EPA using a Global Positioning System (GPS) unit to establish the precise location of each sample. GPS information was used to generate Figures 2-1 through 2-5. In addition to the analytical samples collected, 12 locations were sampled for sediment toxicity testing. One additional location, Fowle Brook, was sampled only for toxicity testing. The samples were provided to EPA and the testing was performed by the EPA laboratory in Lexington, Massachusetts. The results of the toxicity testing and the GPS coordinates are presented in Appendix A.

Sediment samples were collected using several methods. Volatile samples were collected using a modified plastic syringe to collect a solid core of undisturbed sediment directly from the river bottom or from the sediment sampler and were placed directly into the sample jar. Sediment for all other parameters was collected using conical bulb planters or an Eckman dredge.

For the non-volatile parameters, once sufficient sediment was placed into a decontaminated 5-gallon pail, standing water was decanted, often several times. The sediment was then visually checked to assess the amount of retained moisture. This was particularly important since organic matter was a large fraction of most sediment samples, and organic matter strongly retains moisture. For this reason, most of the sediment samples were then placed into a large colander lined with several sheets of Whatman® No. 4 filter paper. Several sheets of filter paper were placed on top of the sediment and the sediment was blotted/squeezed dry. The layers of filter paper were changed frequently until most of the non-interstitial moisture was removed from the sediment. If the moisture content of the sediments was considered to be excessive, aliquots of the sediment were placed onto a decontaminated sieve stack of #4, #20, #50, and #200 sieves and the water was allowed to drain. After draining, the sediment was squeezing through the sieve stack to remove most of the water. Any twigs or other material residing on the #4 sieve was discarded. The sieved sediment was then placed on filter paper to dry the sample further. The samples were left on the filter paper no longer


SD-14-01
SD-22-01
SED-22-02
SD-21-01
SED-21-01
SED-13-03
SED-13-01
SD-13-01
SED-12-01
SD-12-01
Well H
Aberjona
SED-12-03
SED-15-01
SD-15-01
SED-20-01
SD-20-01
River
SED-19-01
Well G
SD-19-01
SD-11-01
SED-11-01
SED-18-02
STREET
SD-18-01
SED-18-03
SED-10-02
SED-10-01
SD-10-01
SALEM
LEGEND
Well Location
Metcalf & Eddy Sampling Locations (1997)
Foster & Wheeler Sampling Locations (1995)
N
SAMPLING LOCATIONS IN REACH 1
WELLS G & H.
WOBURN, MASSACHUSETTS
300
0
300
SCALE IN FEET
Original includes color coding.
reachflood1

Original includes color coding.

Original includes color coding.

Aberjona River
SED-05-03
SD-05-01
LEGEND
Well Location
Metcalf & Eddy Sampling Locations (1997)
Foster & Wheeler Sampling Locations (1995)
N
SAMPLING LOCATIONS IN REACH 5
WELLS G & H.
WOBURN, MASSACHUSETTS
200
0
200
SCALE IN FEET
Original includes color coding.
reachflood5

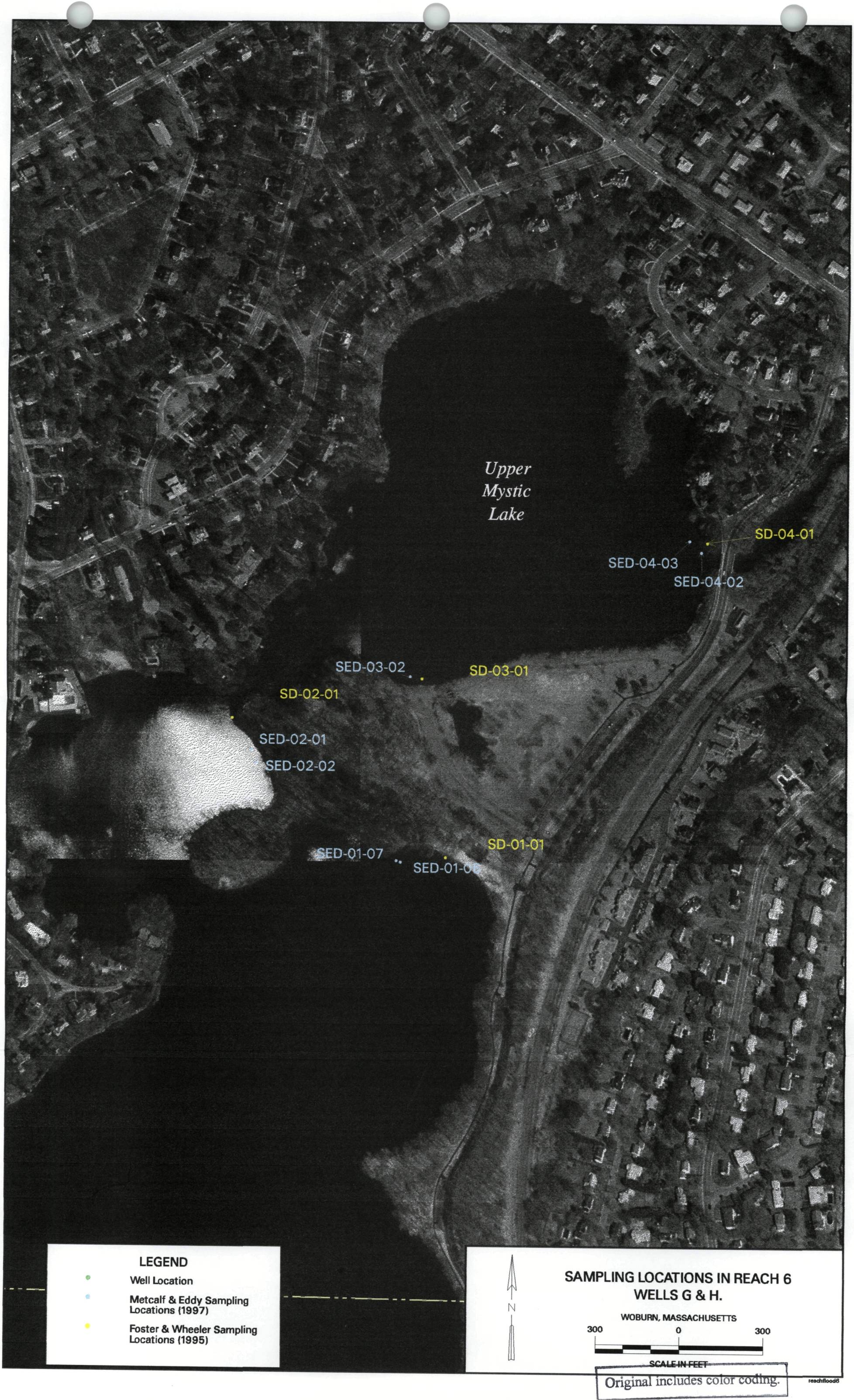

Upper
Mystic
Lake
SD-04-01
SED-04-03
SED-04-02
SED-03-02
SD-03-01
SD-02-01
SED-02-01
SED-02-02
SD-01-01
SED-01-07
SED-01-06
LEGEND
Well Location
Metcalf & Eddy Sampling Locations (1997)
Foster & Wheeler Sampling Locations (1995)
N
SAMPLING LOCATIONS IN REACH 6
WELLS G & H.
WOBURN, MASSACHUSETTS
300
0
300
SCALE IN FEET
Original includes color coding.
reachflood6

TABLE 2-1. SAMPLING SITES AND LOCATIONS

Sample Site	Sample Location	Geographic Location
1	#06, #07	Upper Mystic Lake, Sandy Beach
2	#01, #02	Upper Mystic Lake, Near Narrow Area
3	#02	Upper Mystic Lake, Near Boat Launch
4	#02, #03	Upper Mystic Lake, Aberjona River Inlet
5	#03	Gauge Station Off Mystic Valley Parkway
6	#03	Judkins Pond, near High School
7	#02, #05, #10	Davidson Park
10	#01, #02	Salem Street Bridge
11	#01	Aberjona Wetlands, Well G River
12	#01, #03	Aberjona Wetlands, Well H River
13	#01, #03	Aberjona Wetlands, near railroad sidetrack
15	#01	Aberjona Wetlands, west of Well G
18	#02, #03	Aberjona Wetlands, near Rifle Range Road
19	#01	Aberjona Wetlands, near Well G
20	#01	Aberjona Wetlands, near dirt road
21	#01	Aberjona Wetlands, floating bog near railroad
22	#02	Aberjona Wetlands, west of Dewey Street
24	#03	Maple Meadow Brook and Route 129
25	#02	North end of Horn Pond

Total Number of sampling sites = 19

Total Number of sampling locations = 28

TABLE 2-2. SAMPLE SITE/LOCATION DESCRIPTIONS

SAMPLING SITE	SAMPLING LOCATION	DESCRIPTION
SED-01	SED-01-06 Sampled: 11-12-97	Upper Mystic Lake • ~ 35' from shore • water ~ 7' deep • brown, gelatinous muck • sample sieved • amphipod observed in sample
	SED-01-07 Sampled: 11-12-97	Upper Mystic Lake • ~ 50' from shore • water ~ 8' deep • brown muck, "wetter" than SED-01-06, retains water • sample sieved
SED-02	SED-02-01 Sampled: 11-13-97	Upper Mystic Lake • ~ 15' from shore • water ~ 5' deep • black muck, roots in sample • sample sieved
	SED-02-02 Sampled: 11-13-97	Upper Mystic Lake • ~ 20' from shore • water ~ 7' deep • black muck, roots and plants in sample • sample sieved
SED-03	SED-03-02 Sampled: 11-13-97	Upper Mystic Lake • ~ 15' from shore • water ~ 1.5' deep • mucky, organic odor • large snail in sample • sample dried on filter paper

TABLE 2-2. SAMPLE SITE/LOCATION DESCRIPTIONS

SAMPLING SITE	SAMPLING LOCATION	DESCRIPTION
SED-04	SED-04-02 Sampled: 11-14-97	Upper Mystic Lake • ~ 50' from shore • water ~ 7' deep • dark, leaves, aquatic plants, no sand in sample • sample sieved
SED-04	SED-04-03 Sampled: 11-14-97	Upper Mystic Lake • ~ 25' from shore • water ~ 7' deep • dark, leaves, aquatic plants, no sand in sample • sample sieved
SED-05	SED-05-03 Sampled: 11-13-97	Aberjona River, Winchester • middle of river bed • water ~ 3' deep, moving • hard muck, dense, difficult to sample • petroleum odor & sheen • no drying performed
SED-06	SED-06-03 Sampled: 11-18-97	Judkins Pond, Winchester • ~ 10' from shore • water ~ 4' deep • dark, very fine particles in sediment, "pudding - like" consistency • sheen appeared on water while sampling • dried with filter paper

TABLE 2-2. SAMPLE SITE/LOCATION DESCRIPTIONS

SAMPLING SITE	SAMPLING LOCATION	DESCRIPTION
SED-07	SED-07-02 Sampled: 11-20-97	Davidson Park, Winchester • ~ 40' from shore • water ~ 3.4' deep • black, mucky, many worms in sample • sheen appeared on water while sampling • dried on filter paper
	SED-07-05 Sampled: 11-20-97	Davidson Park, Winchester • ~ 4' from shore • water ~ 1.2' deep • black, mucky, large number of worms in sample • slight sheen appeared on water while sampling • dried on filter paper
	SED-07-10 Sampled: 11-19-97	Davidson Park, Winchester • ~ 2' from shore • water ~ 2' deep • black, mucky, several worms in sample • occasional sheen appeared on water while sampling • dried on filter paper
SED-10	SED-10-01 Sampled: 11-19-97	Aberjona River at Salem St. • ~ 30' from shore • water ~ 2' deep • very dark, roots, leaves in sample • dried on filter paper

TABLE 2-2. SAMPLE SITE/LOCATION DESCRIPTIONS

SAMPLING SITE	SAMPLING LOCATION	DESCRIPTION
SED-10	SED-10-02 Sampled: 11-19-97	Aberjona River at Salem St. • ~ 25' from shore • water ~ 2' deep • very dark, peaty, roots, leaves in sample • dried on filter paper
SED-11	SED-11-01 Sampled: 11-14-97	Aberjona River Wetlands • sampled middle of main river channel • water ~ 1' deep • brown, peaty sediment • sheen in sample • dried on filter paper
SED-12	SED-12-01 Sampled: 11-20-97	Aberjona River Wetlands • sampled in cattails immediately downgradient from upland area • water ~ 1' deep • dark, mucky sediment, high organic content with roots and decaying leaves • dried on filter paper
	SED-12-03 Sampled: 11-20-97	Aberjona River Wetlands • sampled at bend in main river channel • water ~ 5' deep • dark, mucky sediment, peaty and thick texture • dried on filter paper

TABLE 2-2. SAMPLE SITE/LOCATION DESCRIPTIONS

SAMPLING SITE	SAMPLING LOCATION	DESCRIPTION
SED-13	SED-13-01 Sampled: 11-17-97	Aberjona River Wetlands • sampled in deep backwater of river channel • water ~ 2' deep • very black, organic sediment • dried on filter paper
	SED-13-03 Sampled: 11-17-97	Aberjona River Wetlands • sampled in main river channel • water ~ 2' deep • sediment fibrous, mucky • dried on filter paper
SED-15	SED-15-01 Sampled: 11-17-97	Aberjona River • sampled in main river channel next to FW stake • water ~ 2.5' deep • sampled ~ 4' from shore • brown, peaty sediment • dried on filter paper
SED-18	SED-18-02 Sampled: 11-18-97	Aberjona River • sampled in small inlet off of main river channel • water ~ 6" deep • dark brown, mucky, fibrous sediment • dried on filter paper

TABLE 2-2. SAMPLE SITE/LOCATION DESCRIPTIONS

SAMPLING SITE	SAMPLING LOCATION	DESCRIPTION
SED-18	SED-18-03 Sampled: 11-18-97	Aberjona River • sampled in small stream off of main river channel • water ~ 2-4" deep • black, mucky, fibrous sediment • dried on filter paper
SED-19	SED-19-01 Sampled: 11-19-97	Aberjona River Wetland • sampled near Well G • water ~ 2-3" deep • peaty, black sediment, decaying vegetation • orange sheen present • dried on filter paper
SED-20	SED-20-01 Sampled: 11-17-97	Aberjona River • sampled in small pond off of main river channel • water ~ 2' deep, mat of floating aquatic vegetation • brown, fibrous sediment • dried on filter paper
SED-21	SED-21-01 Sampled: 11-14-97	Aberjona River Side Channel • water ~ 1' deep • brown, organic smell, coarse organic matter • dried on filter paper

TABLE 2-2. SAMPLE SITE/LOCATION DESCRIPTIONS

SAMPLING SITE	SAMPLING LOCATION	DESCRIPTION
SED-22	SED-22-02 Sampled: 11-12-97	Dewey Street Swamp • moist area with no standing water • sampled with bulb planter to a depth of 6" • brown, peaty soil, earthworms present • sample not dried
SED-24	SED-24-03 Sampled: 11-12-97	Aberjona River, Wilmington • sampled in center of stream channel • water ~ 1' deep • sediment soft, deep, dark brown, mucky, gelatinous • dried on filter paper
SED-25	SED-25-02 Sampled: 11-18-97	Horn Pond, Woburn • sampled ~ 25' from point • bottom very rocky, sandy • algae covering substrate • fine sediments, "soupy" • sample sieved

than five minutes. When dried, the sediment was homogenized and placed into wide mouth sample containers.

All of M&E's field sampling was conducted between November 12, 1997 and November 20, 1997. The weather during the sampling event was generally clear and cold with temperatures falling from the start of the event from the mid 40's°F to about 30°F at the end. Snow and sleet fell on November 14th, but sampling continued as there was no wind. Sample dewatering on that day took place under tarps to exclude falling precipitation from the samples.

2.2 Analytical Program

The analytical program used to analyze the sediment samples collected by M&E is described in the Final QAPP (M&E, 1997b). All analyses were conducted under the EPA DAS program following EPA Region I approved DAS analytical methodologies. The EPA-approved DAS analytical specifications are provided in Appendix B of the QAPP (M&E, 1997b). No changes to the methods were proposed from the results of the pre-test sampling. Analysis for VOCs, PAHs, pesticides, PCBs, and grain size were conducted by Southwest Research Institute in San Antonio, Texas. Nine of the sediment samples were reanalyzed for PAHs using Gas Chromatography/Mass Spectroscopy/Selected Ion Monitoring (GC/MS/SIM) due to low concentrations of PAHs, and in order to meet the required reporting limits for the ecological risk assessment (M&E, 1997a and 1997c). Analysis for low concentration metals, total combustible organics (TCO), moisture content, and pH were conducted by RECRA LabNet Philadelphia, in Lionville, Pennsylvania. The AVS/SEM analyses were conducted by American Environmental Network in Monroe, Connecticut. Table 2-3 summarizes laboratory information about the analyses that were conducted for the samples collected. No significant deviations occurred from the DAS analytical methods.

3.0 SEDIMENT SAMPLE RESULTS

Validated data for all sediment and field quality control (QC) samples collected during M&E's field investigation are presented in Appendix B. The data are presented by analytical fraction and method in sequential sample station/location order:

- VOCs
- PAHs
- PAHs GC/MS/SIM
- Pesticides
- PCBs
- Metals (total extractable)
- AVS/SEM
- TCO
- Grain size -- sieve
- Grain size -- hydrometer

Table 2-3
Sample Location and Laboratory Reference Table

Sample Location	Date Collected	Matrix	QC Sample	Case Number	DAS Number	SDG Lab - SWRI	SDG Lab - RECRA	SDG Lab - IEA
SED-01-06	12-Nov-97	Sediment		0049M	DAM322	DAM320-OA	DAM320-IA	DAM320-OB
SED-01-07	12-Nov-97	Sediment		0049M	DAM323	DAM320-OA	DAM320-IA	DAM320-OB
SED-02-01	13-Nov-97	Sediment		0049M	DAM326	DAM320-OA	DAM320-IA	DAM320-OB
SED-02-02	13-Nov-97	Sediment		0049M	DAM327	DAM320-OA	DAM320-IA	DAM320-OB
SED-03-02	13-Nov-97	Sediment		0049M	DAM325	DAM320-OA	DAM320-IA	DAM320-OB
SED-04-02	14-Nov-97	Sediment		0049M	DAM333	DAM320-OA	DAM320-IA	DAM320-OB
SED-04-03	14-Nov-97	Sediment		0049M	DAM334	DAM320-OA	DAM320-IA	DAM320-OB
SED-05-03	13-Nov-97	Sediment	Duplicate	0049M	DAM328	DAM320-OA	DAM320-IA	DAM320-OB
SED-05-05	13-Nov-97	Sediment	Duplicate	0049M	DAM331	DAM320-OA	DAM320-IA	DAM320-OB
SED-06-03	18-Nov-97	Sediment		0049M	DAM345	DAM340-OA	DAM345-IA	DAM345-OA
SED-07-02	20-Nov-97	Sediment		0049M	DAM359	DAM340-OA	DAM345-IA	DAM345-OA
SED-07-05	20-Nov-97	Sediment	MS/MSD	0049M	DAM360	DAM340-OA	DAM345-IA	DAM345-OA
SED-07-10	19-Nov-97	Sediment		0049M	DAM353	DAM340-OA	DAM345-IA	DAM345-OA
SED-10-01	19-Nov-97	Sediment	Duplicate	0049M	DAM351	DAM340-OA	DAM345-IA	DAM345-OA
SED-10-04	19-Nov-97	Sediment	Duplicate	0049M	DAM355	DAM340-OA	DAM345-IA	DAM345-OA
SED-10-02	19-Nov-97	Sediment		0049M	DAM352	DAM340-OA	DAM345-IA	DAM345-OA
SED-11-01	14-Nov-97	Sediment		0049M	DAM336	DAM320-OA	DAM320-IA	DAM320-OB
SED-12-01	20-Nov-97	Sediment		0049M	DAM357	DAM340-OA	DAM345-IA	DAM345-OA
SED-12-03	20-Nov-97	Sediment		0049M	DAM358	DAM340-OA	DAM345-IA	DAM345-OA
SED-13-01	17-Nov-97	Sediment		0049M	DAM341	DAM340-OA	DAM320-IA	DAM320-OB
SED-13-03	17-Nov-97	Sediment		0049M	DAM342	DAM340-OA	DAM320-IA	DAM320-OB
SED-15-01	17-Nov-97	Sediment		0049M	DAM340	DAM340-OA	DAM320-IA	DAM320-OB
SED-18-02	18-Nov-97	Sediment		0049M	DAM347	DAM340-OA	DAM345-IA	DAM345-OA
SED-18-03	18-Nov-97	Sediment		0049M	DAM348	DAM340-OA	DAM345-IA	DAM345-OA
SED-19-01	19-Nov-97	Sediment		0049M	DAM354	DAM340-OA	DAM345-IA	DAM345-OA
SED-20-01	17-Nov-97	Sediment	MS/MSD	0049M	DAM339	DAM320-OA	DAM320-IA	DAM320-OB
SED-21-01	14-Nov-97	Sediment	Duplicate	0049M	DAM335	DAM320-OA	DAM320-IA	DAM320-OB
SED-21-05	14-Nov-97	Sediment	Duplicate	0049M	DAM337	DAM320-OA		
SED-22-02	12-Nov-97	Sediment		0049M	DAM321	DAM320-OA	DAM320-IA	DAM320-OB
SED-24-03	12-Nov-97	Sediment		0049M	DAM320	DAM320-OA	DAM320-IA	DAM320-OB
SED-25-02	18-Nov-97	Sediment		0049M	DAM346	DAM340-OA	DAM345-IA	DAM345-OA
SED-12-TB	12-Nov-97	Methanol	Trip Blank	0049M	DAM324	DAM320-OA		
SED-13-TB	13-Nov-97	Methanol	Trip Blank	0049M	DAM329	DAM320-OA		
SED-14-TB	14-Nov-97	Methanol	Trip Blank	0049M	DAM332	DAM320-OA		
SED-17-TB	17-Nov-97	Methanol	Trip Blank	0049M	DAM343	DAM340-OA		
SED-18-TB	18-Nov-97	Methanol	Trip Blank	0049M	DAM350	DAM340-OA		
SED-19-TB	19-Nov-97	Methanol	Trip Blank	0049M	DAM356	DAM340-OA		
SED-20-TB	20-Nov-97	Methanol	Trip Blank	0049M	DAM361	DAM340-OA		
SED-13-PE	13-Nov-97	Sediment	PE Sample	0049M	DAM330	DAM320-OA	DAM320-IA	DAM320-OB
SED-18-PE	18-Nov-97	Sediment	PE Sample	0049M	DAM349	DAM340-OA	DAM345-IA	DAM345-OA
SED-17-EB	17-Nov-97	Aqueous	Equip. Blk	0049M	DAM344	DAM320-OA	DAM320-IA	DAM320-OB
SED-20-EB	20-Nov-97	Aqueous	Equip. Blk	0049M	DAM362	DAM340-OA	DAM345-IA	DAM345-OA

3.1 Analytical Data Validation

Quality control (QC) samples were taken and submitted for laboratory analysis to monitor precision, accuracy, and potential contamination throughout the sampling episode. These samples included trip blanks, equipment blanks, field duplicates, and matrix spike/matrix spike duplicate samples.

All sediment analytical data generated from field investigation were validated to EPA Region I's Tier III level in accordance with Region I EPA New England Data Validation Guidelines (U.S. EPA, 1996), which were modified to meet the QC criteria set forth in the DAS analytical specifications. Typical actions implemented during validation of analytical data are described in Appendix D and are summarized below.

Data found to be suspect during the validation process were qualified, and a description of the discrepancy was noted in the validation summary. Positive and non-detect results that were shown to have serious QC problems were rejected and flagged with an "R." Positive results that were shown to exhibit poor precision or accuracy were qualified as approximated and flagged with a "J." Nondetect results that were shown to exhibit poor precision were flagged with a "UJ." Nonqualified positive results were found to meet all validation criteria. Nondetect results that were found to meet the validation criteria were shown as the quantitative limit or detection limit followed by a "U" qualifier. Rejected values were considered as non-usable results for subsequent evaluations. Approximated and nonqualified results were used in further evaluations, but the qualified data were first reviewed to establish their usability.

The data tables presented in Appendix B show the results of the validation. As was described in Section 3.1, the % solids in each sediment sample were increased (the moisture content decreased) using field techniques and laboratory procedures specifically designed for this project. All results presented in the Appendix B data tables are in dry weight units; however, the % moisture for each sample is listed at the bottom of the tables. This value represents the % moisture after field manipulation. Only sediment samples collected for VOC analysis were analyzed at the "true" or unmanipulated moisture content found in the field.

3.2 Sediment Data Results

Table 3-1 summarizes by station/location the validated data for analytes that were detected in at least one sediment sample collected by M&E.

4.0 DATA EVALUATION

This section discusses the comparison between the 1995 and 1997 sediment data as well as data trends for the major chemical groups detected across the site.

TABLE 3-1. ANALYTES DETECTED IN 1997 SEDIMENT SAMPLES [1,2]

M&E SAMPLE ID:	SED-01-06	SED-01-07	SED-02-01	SED-02-02	SED-03-02	SED-04-02	SED-04-03
DAS SAMPLE NUMBER:	DAM322	DAM323	DAM326	DAM327	DAM325	DAM333	DAM334
DATE SAMPLED:	11/12/97	11/12/97	11/13/97	11/13/97	11/13/97	11/14/97	11/14/97
REMARKS:	-----	-----	-----	-----	-----	-----	-----
VOCs (ug/Kg)							
Benzene	26 UJ	30 UJ	10 UJ	21 UJ	9 J	24 UJ	32 UJ
Chloroform	66 UJ	76 UJ	26 UJ	53 UJ	44 UJ	60 UJ	224 UJ
cis-1,2-Dichloroethene	62 J	58 J	26 UJ	53 UJ	28 J	60 UJ	74 UJ
Ethylbenzene	26 UJ	30 UJ	10 UJ	21 UJ	18 UJ	24 UJ	29 UJ
m/p-Xylene	66 UJ	76 UJ	26 UJ	53 UJ	44 UJ	60 UJ	74 UJ
Naphthalene	197 UJ	228 UJ	77 UJ	159 UJ	132 UJ	180 U	221 U
Tetrachloroethene	197 UJ	228 UJ	77 UJ	159 UJ	132 UJ	180 U	221 U
trans-1,2-Dichloroethene	197 UJ	228 UJ	77 UJ	159 UJ	132 UJ	180 U	221 U
Trichloroethene	37 J	76 UJ	26 UJ	53 UJ	44 UJ	60 UJ	74 UJ
Vinyl chloride	197 UJ	228 UJ	77 UJ	159 UJ	132 UJ	180 U	221 U
PAHs (ug/Kg)							
2-Methylnaphthalene	20 J	20 J	10 J	20 J	16 J	41 J	70
Acenaphthene	33 J	32 J	R	30 J	45 J	110 J	170 J
Acenaphthylene	33 J	37 J	19 J	57 J	39 J	170	160
Anthracene	92	100	62 J	140	120	420	640
Benzo(a)anthracene	1000	1100	590	1500	1300	3100	3200
Benzo(a)pyrene	930	920	620	1400	1000	4100	3500
Benzo(b)fluoranthene	1400	1600	720	1700	1400	5100	6000
Benzo(g,h,i)perylene	480	510	330	640	570	1900	2100
Benzo(k)fluoranthene	730	690	340	710	640	2100	3800
Chrysene	880	980	660	1400	1300	3700	3800
Dibenz(a,h)anthracene	120	110	60 J	150	110	720	890
Fluoranthene	2100	2200	1200	3000	2600	8300	8500
Fluorene	89	89	44 J	97	150	290	490
Indeno(1,2,3-cd)pyrene	580	640	420	860	620	2600	2500
Naphthalene	24 J	23 J	13 J	24 J	18 J	56 J	96 J
Phenanthrene	840	900	390	970	1000	3200	3400
Pyrene	1900	1900	1100	2500	2600	6700	6000
PAH-SIMS (ug/Kg)							
Naphthalene			13 UJ				
2-Methylnaphthalene			12 J				
Acenaphthylene			22 J				
Acenaphthene			11 J				
Fluorene			42 J				
Dibenz(a,h)anthracene			69 J				

TABLE 3-1. ANALYTES DETECTED IN 1997 SEDIMENT SAMPLES [1,2]

M&E SAMPLE ID:	SED-01-06	SED-01-07	SED-02-01	SED-02-02	SED-03-02	SED-04-02	SED-04-03
DAS SAMPLE NUMBER:	DAM322	DAM323	DAM326	DAM327	DAM325	DAM333	DAM334
DATE SAMPLED:	11/12/97	11/12/97	11/13/97	11/13/97	11/13/97	11/14/97	11/14/97
REMARKS:	-----	-----	-----	-----	-----	-----	-----
Pesticides (ug/Kg)							
4,4'-DDD	16 J	18 J	20 J	25 J	94	160	37 J
4,4'-DDE	24	28	26 J	30	29	91	20 J
4,4'-DDT	2.5 J	3.2 J	1.8 J	2.4 J	5.8 J	21 J	4.4 J
Aldrin	0.16 U	0.21 J	0.16 UJ	0.16 U	1.6 U	1.9 U	0.30 J
alpha-BHC	0.16 U	0.17 J	0.16 UJ	0.16 U	1.6 U	1.9 U	0.16 U
alpha-Chlordane	9.3 J	10 J	11 J	16	11 J	21	29 J
delta-BHC	0.19 J	0.16 U	1.3 J	0.16 U	2.3 J	1.9 U	1.3 J
Dieldrin	0.50 J	0.61 J	0.45 J	0.47	3.2 U	3.9 U	0.73 J
Endosulfan I	0.16 U	0.16 U	0.16 UJ	0.17 U	1.6 U	1.9 U	0.16 U
Endosulfan II	0.41	0.66	0.21 J	0.28	3.2 U	3.9 U	0.49
Endosulfan Sulfate	0.67 J	0.78 J	0.47 J	0.33 U	3.2 U	3.9 U	0.33 J
Endrin	1.2 J	1.8 J	1.3 J	1.9	3.2 U	5.0 J	3.2 J
Endrin Aldehyde	3.4 J	3.2 J	1.6 J	1.9 J	3.2 U	11 J	4.9 J
gamma-BHC	0.16 U	0.16 U	0.16 UJ	0.16 U	1.6 U	1.9 U	0.16 U
gamma-Chlordane	6.4 J	6.8 J	8.0 J	11 J	9.3 J	16 J	22 J
Heptachlor Epoxide	0.16 U	0.16 U	0.16 UJ	0.16 U	1.6 U	1.9 U	0.16 U
PCBs (ug/Kg)							
Aroclor-1248	46 J	70 J	160 J	180 J	160 J	200 J	44 J
Aroclor-1260	47	69 J	140	170	110	94	160
Total Metals (mg/Kg)							
Aluminum	12200 J	13200 J	6570 J	11200 J	6720 J	17700 J	11500 J
Antimony	1.7 J	1.8 J	1.9 J	2.1 J	1.7 J	11.1 J	1.8 J
Arsenic	78.1	111	56.4	105	86.5	1570	98.6
Barium	85.8	95.1	50.6	81.2	84.6	77.3	175
Beryllium	0.87 J	0.98 J	0.47 J	0.91 J	0.59 J	1.7 J	0.86 J
Cadmium	6.8	8.5	3.8	16.1	5.2	19.1	7.4
Calcium	5420	7510	2610	4600	4410	5900	6310
Chromium	148 J	192 J	103 J	190 J	200 J	3000 J	240 J
Cobalt	27.9 J	33.1 J	17.0 J	33.0 J	21.4 J	42.7 J	21.6 J
Copper	305	436	128	381	171	1080	323
Iron	31800 J	32500 J	16900 J	26000 J	21900 J	86200 J	31600 J
Lead	413 J	477 J	225 J	449 J	345 J	425 J	487 J
Magnesium	3480	3430	2150	2510	1790	1400	3470
Manganese	479	595	206	390	503	803	1010
Mercury	1.0	1.1	0.37	1.1	0.71	13.6	1.7
Nickel	40.4 J	41.3 J	21.5 J	31.0 J	26.7 J	41.2 J	33.6 J
Potassium	1190 J	1170 J	640 J	784 J	604 J	476 J	1120 J

TABLE 3-1. ANALYTES DETECTED IN 1997 SEDIMENT SAMPLES [1,2]

M&E SAMPLE ID:	SED-01-06	SED-01-07	SED-02-01	SED-02-02	SED-03-02	SED-04-02	SED-04-03
DAS SAMPLE NUMBER:	DAM322	DAM323	DAM326	DAM327	DAM325	DAM333	DAM334
DATE SAMPLED:	11/12/97	11/12/97	11/13/97	11/13/97	11/13/97	11/14/97	11/14/97
REMARKS:	-----	-----	-----	-----	-----	-----	-----
Selenium	5.1 J	1.4 J	1.6 J	2.0 J	4.2 J	1.8 J	2.0 J
Silver	0.75 J	0.66 J	0.40 J	0.91 J	0.69 J	0.59 J	0.91 J
Sodium	583	611	197	382	321	330	347
Thallium	0.63 UJ	0.43 UJ	0.53 UJ	0.48 UJ	0.43 UJ	0.44 UJ	0.43 UJ
Vanadium	56.4	55.3	32.2	46.1	49.2	63.8	55.7
Zinc	2080 J	2370 J	992 J	5170 J	1420 J	4330 J	1590 J
AVS-SEM (umoles/g)							
Arsenic	0.06 J	0.11 J	0.05 U	0.05 J	0.05 U	0.09 J	0.08 J
Cadmium	0.08 UJ	0.09 J	0.05 U	0.15 J	0.08 UJ	0.08 UJ	0.06 UJ
Copper	0.05 UJ	0.08 J	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ
Lead	1.87 J	2.13 J	0.83 J	1.88 J	1.69 J	1.96 J	1.60 J
Nickel	0.86 J	0.23 J	0.14 J	0.49 J	0.98 J	0.24 J	0.34 J
Sulfide	72.0	79.9	34.7	129	88.0	23.5	18.7
Zinc	26.5 J	29.3 J	11.2 J	36.7 J	25.0 J	21.0 J	15.1 J
SEM/AVS Ratio	0.41	0.40	0.35	0.30	0.32	0.99	0.91
TCO (mg/Kg)							
Total Combustible Organics	230000 J	152000 J	125000 J	160000 J	195000 J	193000 J	255000 J

NOTES:

[1] Validated data for all sediment and field QC samples collected during M&E's field investigation are reported in Appendix B.

[2] Data presented for an analyte if the analyte was detected in at least one sediment sample

FD - Field duplicate

J - Quantitation is approximate due to limitations identified in the quality control review

U - Value reported is the sample-specific detection limit

R - Value is rejected

UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review

TABLE 3-1. ANALYTES DETECTED IN 1997 SEDIMENT SAMPLES [1,2]

M&E SAMPLE ID:	SED-05-03	SED-05-05	SED-06-03	SED-07-02	SED-07-05	SED-07-10	SED-10-01
DAS SAMPLE NUMBER:	DAM328	DAM331	DAM345	DAM359	DAM360	DAM353	DAM351
DATE SAMPLED:	11/13/97	11/13/97	11/18/97	11/20/97	11/20/97	11/19/97	11/19/97
REMARKS:	FD of SED-05-05	FD of SED-05-03	-----	-----	-----	-----	FD of SED-10-04
VOCs (ug/Kg)							
Benzene	6 J		17 J	10 UJ	11 UJ	13 UJ	44 UJ
Chloroform	9 UJ		32 UJ	25 UJ	26 UJ	34 UJ	110 UJ
cis-1,2-Dichloroethene	7 J		38 J	20 J	18 J	24 J	110 UJ
Ethylbenzene	5 J		9 J	5 J	11 UJ	13 UJ	44 UJ
m/p-Xylene	10 J		25 J	25 UJ	26 UJ	34 UJ	110 UJ
Naphthalene	17 J		70 J	74 UJ	79 UJ	101 UJ	330 U
Tetrachloroethene	28 U		96 U	74 UJ	79 UJ	101 UJ	330 U
trans-1,2-Dichloroethene	28 U		96 U	74 UJ	79 UJ	101 UJ	330 U
Trichloroethene	6 J		52 J	16 J	24 J	35 J	110 UJ
Vinyl chloride	28 U		96 U	74 UJ	79 UJ	101 UJ	330 U
PAHs (ug/Kg)							
2-Methylnaphthalene	41 J	70	40 J	45 J	44 J	59 J	37 J
Acenaphthene	84 J	120 J	130 J	220 J	170 J	230 J	27 J
Acenaphthylene	30 J	42 J	120	140	130	140	16 J
Anthracene	200	290	550	740	880	890	93
Benzo(a)anthracene	830	1200	4200 J	6000	5200	9600	500
Benzo(a)pyrene	660	810	5100 J	6000	5700	10000	540
Benzo(b)fluoranthene	770	700	6100 J	8800 J	7800 J	16000 J	830 J
Benzo(g,h,i)perylene	280	330	1900 J	3300	3400	5300	330
Benzo(k)fluoranthene	67 UJ	860 J	1300 J	4100 J	1800 J	2300 J	470 J
Chrysene	890	980	6900 J	6600	6000	10000	520
Dibenz(a,h)anthracene	95	130	720 J	1200 J	1400 J	2000	110
Fluoranthene	1900	2600	9900	14000	14000	23000	1600
Fluorene	160 J	290 J	400	640	500	550	110
Indeno(1,2,3-cd)pyrene	340	370	2400 J	4200	4200	6900	360
Naphthalene	34 J	35 J	53 J	61 J	57 J	72 J	86 J
Phenanthrene	1300 J	2200 J	5200	8500	4800	12000	600
Pyrene	1600	2600	7500	9500	9800	15000	1300
PAH-SIMS (ug/Kg)							
Naphthalene							
2-Methylnaphthalene							
Acenaphthylene							
Acenaphthene							
Fluorene							
Dibenz(a,h)anthracene							

TABLE 3-1. ANALYTES DETECTED IN 1997 SEDIMENT SAMPLES [1,2]

M&E SAMPLE ID:	SED-05-03	SED-05-05	SED-06-03	SED-07-02	SED-07-05	SED-07-10	SED-10-01
DAS SAMPLE NUMBER:	DAM328	DAM331	DAM345	DAM359	DAM360	DAM353	DAM351
DATE SAMPLED:	11/13/97	11/13/97	11/18/97	11/20/97	11/20/97	11/19/97	11/19/97
REMARKS:	FD of SED-05-05	FD of SED-05-03	-----	-----	-----	-----	FD of SED-10-04
Pesticides (ug/Kg)							
4,4'-DDD	180	180	79	47	39 J	36	98 J
4,4'-DDE	37	34	71	19 J	41	33	90 J
4,4'-DDT	9.7 J	8.8 J	15 J	21 J	18 J	14 J	3.4 U
Aldrin	1.7 U	1.7 U	1.6 U	1.6 U	1.6 U	1.6 U	11 J
alpha-BHC	1.7 U	1.7 U	1.6 U	1.6 U	1.6 U	1.6 U	1.7 U
alpha-Chlordane	9.1 J	17 J	80	49 J	64	80	18 J
delta-BHC	3.0 J	4.3 J	25 J	1.6 U	24 J	1.6 U	1.7 U
Dieldrin	4.2 J	3.3 U	5.0 J	4.1 J	3.2 U	3.2 U	13
Endosulfan I	1.7 U	1.7 U	1.6 U	1.6 U	1.6 U	1.6 U	1.7 U
Endosulfan II	3.3 U	3.3 U	3.2 U	3.3 U	3.2 U	3.2 U	3.4 U
Endosulfan Sulfate	3.3 U	3.3 U	3.2 U	3.3 U	3.2 U	3.2 U	3.4 U
Endrin	3.3 U	3.3 U	17 J	8.6 J	17 J	16 J	4.7 J
Endrin Aldehyde	3.3 U	3.3 U	3.2 U	27 J	3.2 U	3.2 U	6.4 J
gamma-BHC	1.7 U	1.7 U	1.6 U	1.6 U	1.6 U	1.6 U	1.7 U
gamma-Chlordane	7.3 J	16 J	48 J	41	38 J	45 J	16 J
Heptachlor Epoxide	1.7 U	1.7 U	1.6 U	1.6 U	1.6 U	1.6 U	1.7 U
PCBs (ug/Kg)							
Aroclor-1248	120 J	120 J	120 J	37 J	29 J	67 J	300 J
Aroclor-1260	77	72	82	95	74	50	190 J
Total Metals (mg/Kg)							
Aluminum	4860 J	4300 J	14300	13200	14700	12500	30100
Antimony	2.4 J	0.68 UJ	2.5 J	2.6 J	2.8 J	2.4 J	17.7 J
Arsenic	9.8	9.9	135	111	98.3	87.4	715
Barium	40.8	37.8	130	110	118	89.8	99.2
Beryllium	0.32 J	0.27 J	1.0	0.95	1.0	0.86	2.0
Cadmium	0.76	0.48	7.7	6.3	5.8	4.5	17.5
Calcium	1590	1090	5510	5310	6630	5840	9570
Chromium	90.0 J	46.9 J	403	291	277	238	3290
Cobalt	5.6 J	4.4 J	20.9	19.2	21.5	18.2	34.5
Copper	45.9	40.4	389	306	304	261	2590
Iron	9520 J	8600 J	40600	33800	35400	29100	45500
Lead	1090 J	220 J	455	382	406	326	975
Magnesium	2100	1590	4260	4180	5330	4420	2130
Manganese	103	91.9	1630	517	495	397	570
Mercury	0.23	0.22	2.6	2.3	2.0	1.6	24.4
Nickel	11.2 J	10.8 J	32.2	35.2	37.5	31.5	41.4
Potassium	681 J	390 J	1380	1310	1620	1320	597

TABLE 3-1. ANALYTES DETECTED IN 1997 SEDIMENT SAMPLES [1,2]

M&E SAMPLE ID:	SED-05-03	SED-05-05	SED-06-03	SED-07-02	SED-07-05	SED-07-10	SED-10-01
DAS SAMPLE NUMBER:	DAM328	DAM331	DAM345	DAM359	DAM360	DAM353	DAM351
DATE SAMPLED:	11/13/97	11/13/97	11/18/97	11/20/97	11/20/97	11/19/97	11/19/97
REMARKS:	FD of SED-05-05	FD of SED-05-03	-----	-----	-----	-----	FD of SED-10-04
Selenium	0.53 U	0.53 U	3.4 J	2.2 J	2.2 J	2.4 J	10.3
Silver	0.18 J	0.73 J	0.18 J	0.86 J	0.91 J	0.78 J	0.62 J
Sodium	103	85.3	617 U	416 U	519 U	483 U	726 U
Thallium	0.04 UJ	0.04 UJ	0.77 U	0.81 U	0.44 U	0.76 U	1.7 U
Vanadium	26.3	20.8	60.2	56.7	62.6	54.6	75.5
Zinc	144 J	126 J	1630	1500	1450	1190	3340
AVS-SEM (umoles/g)							
Arsenic	0.05 U	0.05 U	0.17 J	0.19 J	0.10 J	0.17 J	1.56 J
Cadmium	0.05 U	0.05 U	0.06	0.05 U	0.05	0.07	0.11
Copper	0.46 J	0.05 UJ	0.08	0.19	0.05 U	0.05 U	0.10
Lead	1.17 J	0.78 J	1.54	1.46	1.41	1.67	1.98 J
Nickel	0.10 J	0.06 J	0.39 J	0.47 J	0.30 J	0.25 J	0.34 J
Sulfide	24.7	15.3	5.44	20.4	49.6	5.22	61.3
Zinc	3.88 J	2.24 J	11.2 J	15.1 J	17.1 J	11.2 J	24.1 J
SEM/AVS Ratio	0.23	0.20	2.44	0.84	0.38	2.53	0.41
TCO (mg/Kg)							
Total Combustible Organics	34200 J	84000 J	197000 J	194000 J	210000 J	218000 J	471000 J

NOTES:

[1] Validated data for all sediment and field QC samples collected during M&E's field investigation are reported in Appendix B.

[2] Data presented for an analyte if the analyte was detected in at least one sediment sample

FD - Field duplicate

J - Quantitation is approximate due to limitations identified in the quality control review

U - Value reported is the sample-specific detection limit

R - Value is rejected

UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review

TABLE 3-1. ANALYTES DETECTED IN 1997 SEDIMENT SAMPLES [1,2]

M&E SAMPLE ID:	SED-10-02	SED-10-04	SED-11-01	SED-12-01	SED-12-03	SED-13-01	SED-13-03
DAS SAMPLE NUMBER:	DAM352	DAM355	DAM336	DAM357	DAM358	DAM341	DAM342
DATE SAMPLED:	11/19/97	11/19/97	11/14/97	11/20/97	11/20/97	11/17/97	11/17/97
REMARKS:	-----	FD of SED-10-01	-----	-----	-----	-----	-----
VOCs (ug/Kg)							
Benzene	21 J	42 UJ	23 UJ	41 UJ	9 J	8 J	7 J
Chloroform	93 UJ	104 UJ	154 UJ	103 UJ	41 UJ	35 UJ	32 UJ
cis-1,2-Dichloroethene	93 UJ	64 J	170 J	417 J	25 J	35 UJ	23 J
Ethylbenzene	37 UJ	42 UJ	23 UJ	41 UJ	16 UJ	9 J	13 UJ
m/p-Xylene	93 UJ	104 UJ	57 UJ	103 UJ	41 UJ	35 UJ	32 UJ
Naphthalene	278 U	312 U	171 U	309 U	124 U	104 UJ	97 UJ
Tetrachloroethene	278 U	312 U	171 U	309 U	124 U	108 UJ	97 UJ
trans-1,2-Dichloroethene	278 U	312 U	387	309 U	124 U	104 UJ	97 UJ
Trichloroethene	60 J	104 UJ	103 UJ	53 J	41 UJ	35 UJ	37 J
Vinyl chloride	278 U	312 U	171 U	309 U	124 U	104 UJ	97 UJ
PAHs (ug/Kg)							
2-Methylnaphthalene	67 U	29 J	13 J	12 J	22 J	73	23 J
Acenaphthene	R	31 J	R	R	R	89 J	22 J
Acenaphthylene	8 J	24 J	9 J	16 J	14 J	31 J	26 J
Anthracene	49 J	100 J	54 J	69 J	79	300	99
Benzo(a)anthracene	210	660	410	560 J	420	1700	750
Benzo(a)pyrene	250	700	520	1000 J	440	1700	890
Benzo(b)fluoranthene	290 J	1100 J	780	1500 J	780 J	1900 J	1100 J
Benzo(g,h,i)perylene	200	400	300	640 J	290	820	540
Benzo(k)fluoranthene	220 J	430 J	720	720 J	440 J	850 J	570 J
Chrysene	380	780	670	850 J	610	1700	1100
Dibenz(a,h)anthracene	69	140	99	220 J	110	220	180
Fluoranthene	570	2300 J	1000	1200 J	750	5200	2300
Fluorene	59 J	120 J	46 J	47 J	59 J	220	67 J
Indeno(1,2,3-cd)pyrene	190	450	360	740 J	330	1000	610
Naphthalene	26 J	56 J	29 J	26 J	98 J	67 J	40 J
Phenanthrene	210	780 J	260	570 J	460	2700	960
Pyrene	470	2000 J	950	1000 J	650	4000	1700
PAH-SIMS (ug/Kg)							
Naphthalene	30 UJ		32 J	24 J	120 J		
2-Methylnaphthalene	10 U		16 J	13 J	25 J		
Acenaphthylene	13 J		9 J	19 J	23 J		
Acenaphthene	13		8 J	10 J	15 J		
Fluorene	72 J		57 J	45 J	78 J		
Dibenz(a,h)anthracene	42 J		97 J	320 J	150		

TABLE 3-1. ANALYTES DETECTED IN 1997 SEDIMENT SAMPLES [1,2]

M&E SAMPLE ID:	SED-10-02	SED-10-04	SED-11-01	SED-12-01	SED-12-03	SED-13-01	SED-13-03
DAS SAMPLE NUMBER:	DAM352	DAM355	DAM336	DAM357	DAM358	DAM341	DAM342
DATE SAMPLED:	11/19/97	11/19/97	11/14/97	11/20/97	11/20/97	11/17/97	11/17/97
REMARKS:	-----	FD of SED-10-01	-----	-----	-----	-----	-----
Pesticides (ug/Kg)							
4,4'-DDD	17	260 J	45 J	17	1.9	18 J	310
4,4'-DDE	5.1	230 J	15 J	4.0	0.90 J	17 J	130
4,4'-DDT	0.35 U	5.3 J	1.9 J	1.3 J	1.1 J	4.0 J	12 J
Aldrin	0.17 U	25 J	0.16 UJ	0.17 U	0.16 U	0.16 UJ	1.6 U
alpha-BHC	0.17 U	1.7 U	0.16 UJ	0.17 U	0.16 U	0.16 UJ	1.6 U
alpha-Chlordane	1.5 J	41 J	8.1 J	2.4 J	1.1 J	17 J	93
delta-BHC	0.17 U	1.7 U	0.16 UJ	0.17 U	0.16 U	0.16 UJ	15 J
Dieldrin	0.35 U	15 J	1.4 J	0.78 J	0.32 U	1.4 J	11 J
Endosulfan I	0.17 U	1.7 U	0.44 J	0.17 U	0.16 U	0.16 UJ	1.6 U
Endosulfan II	0.35 U	3.3 U	0.51 J	0.33 U	0.32 U	0.39 J	3.3 U
Endosulfan Sulfate	0.35 U	3.3 U	0.72 J	0.33 U	0.32 U	0.38 J	3.3 U
Endrin	0.61 J	6.9	0.69 J	1.4 J	0.77 J	9.6 J	3.3 U
Endrin Aldehyde	1.7 J	17 J	1.7 J	1.8 J	0.87 J	2.2 J	7.5 J
gamma-BHC	0.17 U	1.7 U	0.16 UJ	0.23 J	0.34 J	0.16 UJ	1.6 U
gamma-Chlordane	0.25 J	25 J	5.6 J	1.7 J	0.73 J	16 J	650 J
Heptachlor Epoxide	0.54 J	2.3 J	0.16 UJ	0.46 J	0.27 J	0.40 J	1.6 U
PCBs (ug/Kg)							
Aroclor-1248	47 J	820 J	180 J	28 J	15 J	25 J	170 J
Aroclor-1260	44	450 J	230	58	18	79	250
Total Metals (mg/Kg)							
Aluminum	24400	28400	12600 J	26000	27500	6430 J	14800 J
Antimony	13.9 J	10.2 J	1.5 UJ	68.0 J	117 J	1.7 J	4.2 J
Arsenic	875	670	121	3230	4550	15.9	186
Barium	53.4	126	149	78.8	52.5	63.8	107
Beryllium	1.7	2.1	0.97 J	2.0	1.7	0.45 J	1.1 J
Cadmium	12.4	19.9	9.5	11.7	11.4	3.1	3.8
Calcium	8590	9970	5800	8920	7160	3020	6950
Chromium	934	3580	303 J	2120	726	61.2 J	562 J
Cobalt	16.5	46.1	25.3 J	36.2	38.1	7.2 J	9.7 J
Copper	1870	2040	402	2080	1980	113	450
Iron	31900	57800	31700 J	90200	107000	12800 J	20200 J
Lead	559	787	606 J	1240	1220	340 J	771 J
Magnesium	1500	2410	2980	1860	1480	1930	2370
Manganese	409	760	728	776	586	123	330
Mercury	24.2	15.4	1.9	27.5	44.8	0.25 J	14.3 J
Nickel	18.4	50.1	32.8 J	28.3	20.5	15.9 J	19.4 J
Potassium	345 U	877	956 J	795	450 U	715 J	741 J

TABLE 3-1. ANALYTES DETECTED IN 1997 SEDIMENT SAMPLES [1,2]

M&E SAMPLE ID:	SED-10-02	SED-10-04	SED-11-01	SED-12-01	SED-12-03	SED-13-01	SED-13-03
DAS SAMPLE NUMBER:	DAM352	DAM355	DAM336	DAM357	DAM358	DAM341	DAM342
DATE SAMPLED:	11/19/97	11/19/97	11/14/97	11/20/97	11/20/97	11/17/97	11/17/97
REMARKS:	-----	FD of SED-10-01	-----	-----	-----	-----	-----
Selenium	11.5	8.3 J	2.5 J	18.3	30.3	0.53 J	3.1 J
Silver	0.57 J	0.17 J	0.92 J	0.54 J	1.2 J	0.21 J	0.32 J
Sodium	642 U	815	421	708 U	493 U	622	798
Thallium	1.3 U	2.6 U	0.44 UJ	1.2 U	1.5 U	0.43 UJ	0.43 UJ
Vanadium	47.8	78.4	58.8	107	127	27.4	54.0
Zinc	1570	4700	2260 J	2640	4760	445 J	641 J
AVS-SEM (umoles/g)							
Arsenic	4.53 J	0.80 J	2.98 J	3.40 J	2.99 J	0.05 U	0.50 J
Cadmium	0.05 U	0.12	0.10 UJ	0.05 U	0.08	0.05 U	0.05 U
Copper	0.61	0.05 U	1.45 J	1.27	0.62	0.05 UJ	0.59 J
Lead	1.87 J	1.53	1.29 J	1.54	3.26	1.17 J	2.79 J
Nickel	0.23 J	0.83 J	0.44 J	0.26 J	0.28 J	0.15 J	0.21 J
Sulfide	5.15	64.8	15.7	35.8	11.6	4.80	3.79
Zinc	9.56 J	25.0 J	17.8 J	13.0 J	13.3 J	5.79 J	4.96 J
SEM/AVS Ratio	2.38	0.42	1.34	0.45	1.51	1.48	2.26
TCO (mg/Kg)							
Total Combustible Organics	463000 J	459000 J	387000 J	912000 J	431000 J	232000 J	118000 J

NOTES:

[1] Validated data for all sediment and field QC samples collected during M&E's field investigation are reported in Appendix B.

[2] Data presented for an analyte if the analyte was detected in at least one sediment sample

FD - Field duplicate

J - Quantitation is approximate due to limitations identified in the quality control review

U - Value reported is the sample-specific detection limit

R - Value is rejected

UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review

TABLE 3-1. ANALYTES DETECTED IN 1997 SEDIMENT SAMPLES [1,2]

M&E SAMPLE ID:	SED-15-01	SED-18-02	SED-18-03	SED-19-01	SED-20-01	SED-21-01	SED-21-05
DAS SAMPLE NUMBER:	DAM340	DAM347	DAM348	DAM354	DAM339	DAM335	DAM337
DATE SAMPLED:	11/17/97	11/18/97	11/18/97	11/19/97	11/17/97	11/14/97	11/14/97
REMARKS:	-----	-----	-----	-----	-----	FD of SED-21-05	FD of SED-21-01
VOCs (ug/Kg)							
Benzene	25 UJ	24 UJ	31 UJ	32 UJ	46 UJ	19 J	22 J
Chloroform	63 UJ	59 UJ	76 UJ	79 UJ	114 UJ	75 UJ	76 UJ
cis-1,2-Dichloroethene	187 J	37 J	76 UJ	82 J	562 J	75 UJ	76 UJ
Ethylbenzene	25 UJ	24 UJ	31 UJ	32 UJ	46 UJ	30 UJ	31 UJ
m/p-Xylene	63 UJ	59 UJ	76 UJ	79 UJ	114 UJ	75 UJ	76 UJ
Naphthalene	190 UJ	178 U	229 U	237 UJ	343 U	255 J	379
Tetrachloroethene	190 UJ	178 U	229 U	237 UJ	790 U	225 UJ	229 U
trans-1,2-Dichloroethene	190 UJ	178 U	229 U	237 UJ	343 U	19 UJ	229 U
Trichloroethene	206 J	59 UJ	76 UJ	42 J	2025 J	75 UJ	76 UJ
Vinyl chloride	190 UJ	178 U	229 U	237 UJ	343 U	225 UJ	229 U
PAHs (ug/Kg)							
2-Methylnaphthalene	67 U	15 J	21 J	R	11 J	140	
Acenaphthene	R	30 J	29 J	R	R	67 J	
Acenaphthylene	67 U	16 J	23 J	R	67 UJ	38 J	
Anthracene	50 J	150	130	18 J	26 J	420	
Benzo(a)anthracene	200	1400	1400	130 J	210	390	
Benzo(a)pyrene	180 J	1900	1900 J	160 J	290 J	890 J	
Benzo(b)fluoranthene	440 J	2500 J	2400 J	290 J	330	980	
Benzo(g,h,i)perylene	150 J	1400	1600 J	120 J	210 J	710 J	
Benzo(k)fluoranthene	270 J	1200 J	920 J	200 J	370	67 U	
Chrysene	410	2200	2000	230 J	400	940	
Dibenz(a,h)anthracene	60 J	430	410 J	46 J	97 J	240 J	
Fluoranthene	990	4000	3100	410 J	720	1400	
Fluorene	50 J	110	94	14 J	29 J	240	
Indeno(1,2,3-cd)pyrene	170 J	1400	1500 J	140 J	210 J	620 J	
Naphthalene	15 J	29 J	34 J	12 J	14 J	1300 J	
Phenanthrene	400	1400	1200	160 J	240	600	
Pyrene	590	3100	2600	340 J	540 J	1300	
PAH-SIMS (ug/Kg)							
Naphthalene	15 UJ			11 U	14 UJ		
2-Methylnaphthalene	10 J			6 U	13 J		
Acenaphthylene	7 J			1 J	6 J		
Acenaphthene	8 J			3 J	6 J		
Fluorene	69 J			14 J	36 J		
Dibenz(a,h)anthracene	34 J			18 J	45 J		

TABLE 3-1. ANALYTES DETECTED IN 1997 SEDIMENT SAMPLES [1,2]

M&E SAMPLE ID:	SED-15-01	SED-18-02	SED-18-03	SED-19-01	SED-20-01	SED-21-01	SED-21-05
DAS SAMPLE NUMBER:	DAM340	DAM347	DAM348	DAM354	DAM339	DAM335	DAM337
DATE SAMPLED:	11/17/97	11/18/97	11/18/97	11/19/97	11/17/97	11/14/97	11/14/97
REMARKS:	-----	-----	-----	-----	-----	FD of SED-21-05	FD of SED-21-01
Pesticides (ug/Kg)							
4,4'-DDD	6.9 J	23 J	4.9 J	9.0	8.4 J	35 J	
4,4'-DDE	3.8 J	28	30	3.2	4.4	22	
4,4'-DDT	1.8 J	1.2 J	1.7 J	0.33 U	4.6 J	4.4 J	
Aldrin	0.17 UJ	0.16 U	0.17 U	0.16 U	R	1.6 U	
alpha-BHC	0.17 UJ	0.16 U	0.17 U	0.16 U	0.16 U	1.6 U	
alpha-Chlordane	6.0 J	7.7 J	17 J	0.98 J	12 J	29	
delta-BHC	0.17 UJ	0.16 U	0.17 U	0.16 U	0.16 U	1.8 J	
Dieldrin	0.57 J	0.33 J	0.94 J	2.5 J	0.70 J	3.2 U	
Endosulfan I	0.45 J	0.16 U	0.17 U	0.44 J	0.16 U	1.6 U	
Endosulfan II	0.33 UJ	0.33 U	0.34 U	0.33 U	0.31 U	5.2	
Endosulfan Sulfate	0.33 UJ	0.33 U	0.41 J	0.33 U	0.31 U	3.2 U	
Endrin	0.48 J	1.3 J	1.1 J	0.92 J	0.97 J	3.6 J	
Endrin Aldehyde	2.0 J	2.4 J	3.6 J	0.33 U	1.3 J	9.0 J	
gamma-BHC	0.17 UJ	0.16 U	0.17 U	0.16 U	0.16 U	1.6 U	
gamma-Chlordane	0.98 J	1.9 J	26 J	0.59 J	6.8 J	19 J	
Heptachlor Epoxide	0.17 J	0.16 U	0.17 U	0.16 U	0.49 J	1.6 U	
PCBs (ug/Kg)							
Aroclor-1248	43 J	60 J	170 J	35 J	28 J	240 J	
Aroclor-1260	83	90	190	11	79	420	
Total Metals (mg/Kg)							
Aluminum	6100 J	20300	24100	10100	13500 J	11300 J	
Antimony	3.9 J	8.9 J	9.2 J	5.2 J	3.8 J	2.0 J	
Arsenic	184	1180	839	182	236	258	
Barium	65.6	143	169	66.5	44.2	181	
Beryllium	0.76 J	1.8	2.3	2.9	1.2 J	0.93 J	
Cadmium	17.7	15.1	16.0	7.4	15.3	14.1	
Calcium	13400	7300	6860	11800	11100	8290	
Chromium	537 J	3890	4340	226	1090 J	5590 J	
Cobalt	23.1 J	44.3	54.9	18.7	28.3 J	26.9 J	
Copper	306	1010	1310	557	1060	613	
Iron	16000 J	99600	85100	19800	18500 J	20800 J	
Lead	157 J	469	678	197	450 J	546 J	
Magnesium	1300	2780	2930	1300	1530	2170	
Manganese	956	1630	1580	677	711	268	
Mercury	1.3 J	7.5	5.5	0.98	1.3 J	0.15	
Nickel	18.9 J	42.5	46.7	14.6	27.5 J	29.8 J	
Potassium	243 J	894	1050	342 U	454 J	531 J	

TABLE 3-1. ANALYTES DETECTED IN 1997 SEDIMENT SAMPLES [1,2]

M&E SAMPLE ID:	SED-15-01	SED-18-02	SED-18-03	SED-19-01	SED-20-01	SED-21-01	SED-21-05
DAS SAMPLE NUMBER:	DAM340	DAM347	DAM348	DAM354	DAM339	DAM335	DAM337
DATE SAMPLED:	11/17/97	11/18/97	11/18/97	11/19/97	11/17/97	11/14/97	11/14/97
REMARKS:	-----	-----	-----	-----	-----	FD of SED-21-05	FD of SED-21-01
Selenium	1.2 UJ	8.0 J	9.0 J	5.6	3.3 J	3.2 J	
Silver	0.29 J	0.74 J	0.62 J	0.12 UJ	0.29 J	0.30 J	
Sodium	642	648 U	551 U	706 U	612	796	
Thallium	2.4 J	1.0 U	1.9 U	1.5 U	0.44 UJ	0.44 UJ	
Vanadium	22.4	76.0	95.9	25.4	38.2	46.2	
Zinc	2490 J	4020	3600	1080	2380 J	4940 J	
AVS-SEM (umoles/g)							
Arsenic	0.47 J	3.43 J	3.00 J	0.52 J	1.12 J	0.19 J	
Cadmium	0.20 J	0.11	0.08	0.05 U	0.09 J	0.09 UJ	
Copper	0.05 UJ	2.18	4.11	0.38	1.29 J	0.05 UJ	
Lead	0.81 J	1.70	2.38	0.60	1.43 J	1.68 J	
Nickel	0.52 J	0.47 J	0.61 J	0.15 J	0.72 J	0.17 J	
Sulfide	31.3	17.1	15.9	6.88	17.7	28.0	
Zinc	26.1 J	19.5 J	18.9 J	9.55 J	20.6 J	25.7 J	
SEM/AVS Ratio	0.88	1.40	1.64	1.55	1.36	0.99	
TCO (mg/Kg)							
Total Combustible Organics	702000 J	361000 J	423000 J	686000 J	441000 J	344000 J	

NOTES:

[1] Validated data for all sediment and field QC samples collected during M&E's field investigation are reported in Appendix B.

[2] Data presented for an analyte if the analyte was detected in at least one sediment sample

FD - Field duplicate

J - Quantitation is approximate due to limitations identified in the quality control review

U - Value reported is the sample-specific detection limit

R - Value is rejected

UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review

TABLE 3-1. ANALYTES DETECTED IN 1997 SEDIMENT SAMPLES [1,2]

M&E SAMPLE ID:	SED-22-02	SED-24-03	SED-25-02
DAS SAMPLE NUMBER:	DAM321	DAM320	DAM346
DATE SAMPLED:	11/12/97	11/12/97	11/18/97
REMARKS:	-----	-----	-----
VOCs (ug/Kg)			
Benzene	27 UJ	9 UJ	4 J
Chloroform	68 UJ	23 UJ	12 UJ
cis-1,2-Dichloroethene	73 J	23 UJ	12 UJ
Ethylbenzene	27 UJ	9 UJ	5 UJ
m/p-Xylene	68 UJ	23 UJ	12 UJ
Naphthalene	205 U	69 U	36 UJ
Tetrachloroethene	3164	69 U	36 UJ
trans-1,2-Dichloroethene	205 U	69 U	36 UJ
Trichloroethene	803	23 UJ	12 UJ
Vinyl chloride	205 U	69 U	36 UJ
PAHs (ug/Kg)			
2-Methylnaphthalene	11 J	23 J	22 J
Acenaphthene	R	50 J	69 J
Acenaphthylene	8 J	44 J	22 J
Anthracene	46 J	250	330
Benzo(a)anthracene	300	960	1300
Benzo(a)pyrene	200	790 J	1300
Benzo(b)fluoranthene	440	880	1500 J
Benzo(g,h,i)perylene	190	550 J	650
Benzo(k)fluoranthene	290	400	740 J
Chrysene	400	920	1400
Dibenz(a,h)anthracene	44 J	120 J	220
Fluoranthene	840	2600	2500
Fluorene	23 J	130	120
Indeno(1,2,3-cd)pyrene	220	620 J	670
Naphthalene	24 J	23 J	32 J
Phenanthrene	490	1300	1600
Pyrene	610	2400	2300
PAH-SIMS (ug/Kg)			
Naphthalene	25 J		
2-Methylnaphthalene	13 J		
Acenaphthylene	12 J		
Acenaphthene	11 J		
Fluorene	26 J		
Dibenz(a,h)anthracene	36 J		

TABLE 3-1. ANALYTES DETECTED IN 1997 SEDIMENT SAMPLES [1,2]

M&E SAMPLE ID:	SED-22-02	SED-24-03	SED-25-02
DAS SAMPLE NUMBER:	DAM321	DAM320	DAM346
DATE SAMPLED:	11/12/97	11/12/97	11/18/97
REMARKS:	-----	-----	-----
Pesticides (ug/Kg)			
4,4'-DDD	9.6 J	390	11 J
4,4'-DDE	31	37	4.4 J
4,4'-DDT	2.7 J	24 J	2.1 J
Aldrin	0.15 U	1.6 U	0.16 U
alpha-BHC	0.15 U	1.6 U	0.16 U
alpha-Chlordane	1.2 J	2.0 J	1.3 J
delta-BHC	0.16 J	1.6 U	0.16 U
Dieldrin	0.38 J	3.2 U	0.32 U
Endosulfan I	0.18 J	1.6 U	0.16 U
Endosulfan II	0.48 J	3.2 U	0.33 J
Endosulfan Sulfate	0.31 U	3.2 U	0.32 U
Endrin	0.31 U	3.2 U	0.98 J
Endrin Aldehyde	3.3 J	5.9 J	4.4 J
gamma-BHC	0.15 U	1.6 U	0.16 U
gamma-Chlordane	0.19 J	4.2	1.3 J
Heptachlor Epoxide	0.29 J	1.6 U	0.36 J
PCBs (ug/Kg)			
Aroclor-1248	8.1 J	290 J	56 J
Aroclor-1260	29	200	47
Total Metals (mg/Kg)			
Aluminum	2700 J	8440 J	7190
Antimony	8.0 J	1.2 J	0.64 J
Arsenic	6.6	30.7	5.4
Barium	32.9	43.6	48.5
Beryllium	0.48 J	0.80 J	0.37
Cadmium	0.61	2.0	0.78 J
Calcium	19600	2410	2150
Chromium	11.7 J	410 J	26.1
Cobalt	2.7 J	12.1 J	8.1
Copper	26.0	130	52.7
Iron	2710 J	13200 J	14700
Lead	3970 J	566 J	210
Magnesium	1370	2880	3490
Manganese	36.7	131	190
Mercury	0.50	0.71	0.10
Nickel	9.2 J	23.7 J	14.6
Potassium	260 J	1170 J	1210

TABLE 3-1. ANALYTES DETECTED IN 1997 SEDIMENT SAMPLES [1,2]

M&E SAMPLE ID:	SED-22-02	SED-24-03	SED-25-02
DAS SAMPLE NUMBER:	DAM321	DAM320	DAM346
DATE SAMPLED:	11/12/97	11/12/97	11/18/97
REMARKS:	-----	-----	-----
Selenium	8.1 J	0.91 J	0.48 UJ
Silver	0.22 J	2.5 J	0.20 J
Sodium	546	516	187 U
Thallium	0.44 UJ	0.12 UJ	0.14 U
Vanadium	38.8	80.3	29.7 J
Zinc	34.2 J	251 J	178
AVS-SEM (umoles/g)			
Arsenic	0.05 U	0.05 U	0.05 U
Cadmium	0.05 U	0.05 U	0.05 U
Copper	0.53 J	0.05 UJ	0.11
Lead	20.4 J	1.79 J	0.90
Nickel	0.35 J	0.38 J	0.05 J
Sulfide	0.050 U	10.2	2.03
Zinc	2.10 J	3.69 J	1.84 J
SEM/AVS Ratio	467.6	0.57	1.43
TCO (mg/Kg)			
Total Combustible Organics	693000 J	153000 J	59200 J

NOTES:

[1] Validated data for all sediment and field QC samples collected during M&E's field investigation are reported in Appendix B.

[2] Data presented for an analyte if the analyte was detected in at least one sediment sample

FD - Field duplicate

J - Quantitation is approximate due to limitations identified in the quality control review

U - Value reported is the sample-specific detection limit

R - Value is rejected

UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review

4.1 Comparison of 1995 and 1997 Sediment Data

The 1995 and 1997 sediment data were compared with each other in order to identify any differences between data sets in terms of the analytical methods employed, the locations where samples were collected, and the time frame between collection of samples. This is helpful in understanding how the data can be used together and if any time or spatial trends are important.

Tables 4-1 and 4-2 summarize the 1995 and 1997 sediment data in terms of the analytes detected, the range of detected values, the sample site and locations where the maximum detected value was found, the frequency of detection, and, where applicable, the range of sample-specific detection limits. The data sets used for both years contained only the locations that were sampled by M&E in 1997. Both M&E's and FW's data were handled in the same manner. The treatment of data used to obtain the summary tables is described in Appendix E. In comparing the tables, it should be noted that for some parameters, nondetected data were rejected for certain 1995 sample locations. This can be seen in the frequency of detection, when fewer than 28 sample locations are reported for the total number of locations.

Similar to the 1995 data, PAHs were the most prevalently detected organic compounds in 1997 and were detected in higher concentrations than other organic compounds. Although PAHs were detected at all of the 1997 sample locations compared to most of the 1995 sample locations, the range of concentrations detected between the two data sets is similar. The highest individual concentrations were detected for more PAHs at the SD-07 site in both data sets. Also, the highest detected concentrations tended to occur with the higher molecular weight PAHs in both data sets. In addition to PAHs, a few other semivolatile organic compounds (SVOCs) were detected in 1995. Due to their prevalence at the site and their associated risks, PAHs were the only SVOCs analyzed for in 1997.

Pesticides were also frequently detected in both the 1995 and 1997 data sets. Like PAHs, pesticides were detected at more sample locations in 1997 compared to 1995. The frequency of detection was above 70% for eight pesticides in the 1997 data set. Many of the same pesticides were detected in both data sets, with the DDT and chlordane groups being the predominant types in terms of frequency of detection and concentrations.

PCB Aroclor 1260 was detected in two locations during FW's 1995 sampling effort. In 1997, Aroclors 1248 and 1260 were detected in all 28 of the locations sampled, including the two reference locations. Comparing the two data sets, the range of concentrations detected are not substantially different between each set. However, the widespread detection of Aroclor 1260 may be attributed to the lower detection limit for the DAS analyses in 1997 relative to the RAS analyses conducted in 1995.

Although relatively few volatile organic compounds (VOCs) were also detected during both sampling periods, the types of VOCs reported differed. For instance, in 1995 ketones were found in relatively high concentrations compared to the three chlorinated VOCs that were detected.

TABLE 4-1. DATA SUMMARY FOR ANALYTES DETECTED IN THE 1997 SEDIMENT SAMPLES [1,2,3]

Parameter/Analyte	Range of Detected Conc.		Maximum Location	Frequency of Detection	Range of SSDLs	
	Minimum	Maximum			Minimum	Maximum
Volatile Organic Compounds (ug/Kg)						
cis-1,2-Dichloroethene	7	562	SD-20-01-ME	18 / 26	9	225
trans-1,2-Dichloroethene	387	387	SD-11-01-ME	1 / 26	28	343
Trichloroethene	6	2,025	SD-20-01-ME	14 / 26	9	114
Tetrachloroethene	3,164	3,164	SD-22-02-ME	1 / 26	28	343
Vinyl chloride	255	255	SD-11-01-ME	1 / 26	28	343
Benzene	6	22	SD-21-01-ME	8 / 26	4	225
Ethylbenzene	5	9	SD-06-03-ME	4 / 26	4	46
Xylene, m/p-	10	25	SD-06-03-ME	2 / 26	9	114
Polycyclic Aromatic Hydrocarbons (ug/Kg) [4]						
Naphthalene	12	1,300	SD-21-01-ME	26 / 26	1	67
2-Methylnaphthalene	1[illegible]	140	SD-21-01-ME	24 / 26	1	67
Acenaphthene	3	230	SD-07-10-ME	26 / 26	1	67
Acenaphthylene	1	170	SD-04-02-ME	26 / 26	1	67
Fluorene	14	640	SD-07-02-ME	26 / 26	1	67
Phenanthrene	160	12,000	SD-07-10-ME	26 / 26	67	67
Anthracene	18	890	SD-07-10-ME	26 / 26	67	67
Fluoranthene	410	23,000	SD-07-10-ME	26 / 26	67	67
Pyrene	340	15,000	SD-07-10-ME	26 / 26	67	67
Benzo(a)anthracene	130	9,600	SD-07-10-ME	26 / 26	67	67
Chrysene	230	10,000	SD-07-10-ME	26 / 26	67	67
Benzo(b)fluoranthene	290	16,000	SD-07-10-ME	26 / 26	67	67
Benzo(k)fluoranthene	200	4,100	SD-07-02-ME	25 / 26	67	67
Benzo(a)pyrene	160	10,000	SD-07-10-ME	26 / 26	67	67
Dibenz(a,h)anthracene	44	2,000	SD-07-10-ME	26 / 26	2	67
Benzo(g,h,i)perylene	120	5,300	SD-07-10-ME	26 / 26	67	67
Indeno(1,2,3-cd)pyrene	140	6,900	SD-07-10-ME	26 / 26	67	67
Pesticides (ug/Kg)						
4,4'-DDD	1.9	310	SD-13-03-ME	26 / 26	0.31	3.9
4,4'-DDE	0.9	160	SD-10-01-ME	26 / 26	0.31	3.9
4,4'-DDT	1.1	21	SD-04-02-ME	24 / 26	0.31	3.9
alpha-BHC	0.17	0.17	SD-01-07-ME	1 / 26	0.15	1.9
delta-BHC	0.16	25	SD-06-03-ME	10 / 26	0.15	1.9
gamma-BHC (Lindane)	0.23	0.34	SD-12-03-ME	2 / 26	0.15	1.9
alpha-Chlordane	0.98	93	SD-13-03-ME	26 / 26	0.15	1.9
gamma-Chlordane	0.19	650	SD-13-03-ME	26 / 26	0.15	1.9
Aldrin	0.21	18	SD-10-01-ME	3 / 25	0.15	1.9
Dieldrin	0.33	14	SD-10-01-ME	19 / 26	0.31	3.9
Endrin	0.48	17	SD-06-03-ME	22 / 26	0.31	3.9
Endrin Aldehyde	0.87	27	SD-07-02-ME	20 / 26	0.31	3.9
Endosulfan I	0.18	0.45	SD-15-01-ME	4 / 26	0.15	1.9
Endosulfan II	0.21	5.2	SD-21-01-ME	9 / 26	0.31	3.9
Endosulfan Sulfate	0.33	0.78	SD-01-07-ME	7 / 26	0.31	3.9
Heptachlor Epoxide	0.17	1.6	SD-10-01-ME	8 / 26	0.15	1.9
PCBs (ug/Kg)						
Aroclor 1248	8.1	560	SD-10-01-ME	26 / 26	2.6	3.5
Aroclor 1260	11	420	SD-21-01-ME	26 / 26	2.6	3.5

TABLE 4-1. DATA SUMMARY FOR ANALYTES DETECTED IN THE 1997 SEDIMENT SAMPLES [1,2,3]

Parameter/Analyte	Range of Detected Conc. Minimum	Range of Detected Conc. Maximum	Maximum Location	Frequency of Detection	Range of SSDLs Minimum	Range of SSDLs Maximum
Metals - Low Concentration (mg/Kg)						
Aluminum	2,700	29,250	SD-10-01-ME	26 / 26	3.5	8.2
Antimony	1.4	117	SD-12-03-ME	25 / 26	0.067	0.46
Arsenic	6.6	4,550	SD-12-03-ME	26 / 26	0.22	0.51
Barium	33	181	SD-21-01-ME	26 / 26	0.018	0.043
Beryllium	0.295	2.9	SD-19-01-ME	26 / 26	0.027	0.064
Cadmium	0.61	19	SD-04-02-ME	26 / 26	0.0048	0.81
Calcium	1,340	19,600	SD-22-02-ME	26 / 26	1.6	3.8
Chromium	12	5,590	SD-21-01-ME	26 / 26	0.055	0.13
Cobalt	2.7	55	SD-18-03-ME	26 / 26	0.37	0.88
Copper	26	2,315	SD-10-01-ME	26 / 26	0.082	0.19
Iron	2,710	107,000	SD-12-03-ME	26 / 26	0.57	1.3
Lead	157	3,970	SD-22-02-ME	26 / 26	0.26	0.62
Magnesium	1,300	5,330	SD-07-05-ME	26 / 26	0.82	8.1
Manganese	37	1,630	SD-06-03-ME	26 / 26	0.018	0.043
Mercury	0.15	45	SD-12-03-ME	26 / 26	0.0037	0.0059
Nickel	9.2	47	SD-18-03-ME	26 / 26	0.15	0.34
Potassium	243	1,620	SD-07-05-ME	23 / 26	2.7	6.3
Selenium	0.53	30	SD-12-03-ME	24 / 26	0.052	0.69
Silver	0.18	1.2	SD-12-03-ME	25 / 26	0.0094	0.043
Sodium	94	798	SD-13-03-ME	16 / 26	0.22	0.51
Thallium	2.4	2.4	SD-15-01-ME	1 / 26	0.038	0.17
Vanadium	22	127	SD-12-03-ME	26 / 26	0.073	0.17
Zinc	34	5,170	SD-02-02-ME	26 / 26	0.16	0.39
Acid Volatile Sulfide/Simultaneously Extracted Metals -- AVS/SEM (mg/Kg)						
Sulfide	122	4,141	SD-02-02-ME	25 / 26	--	--
Arsenic	3.7	339	SD-10-02-ME	21 / 26	--	--
Cadmium	5.6	22	SD-15-01-ME	11 / 26	--	--
Copper	4.0	261	SD-18-03-ME	15 / 26	--	--
Lead	124	4,227	SD-22-02-ME	26 / 26	--	--
Nickel	4.7	58	SD-03-02-ME	26 / 26	--	--
Zinc	138	2,419	SD-02-02-ME	26 / 26	--	--
SEM/AVS Ratio (umoles/g)	0.22	468	SD-22-02-ME	26 / 26	--	--
Total Combustible Organics (mg/Kg)						
Total Combustible Organics	59,100	912,000	SD-12-01-ME	26 / 26	2,000	2,000

NOTES:

1. M&E's analytical data are presented in Appendix B and detected data are summarized in Table 3-1. Field duplicate samples were averaged together as described in Appendix E prior to incorporation into summaries.
2. Data summaries were developed assuming positive detections and included approximated values (due to validation qualifiers) and included approximated values less than SSDLs.
3. The two reference locations that were re-sampled are not included in the data set (SD-24 and SD-25).
4. PAH results combined from both full scan and SIM analyses.

-- Not applicable

SSDLs -- Sample-Specific Detection Limits

TABLE 4-2. DATA SUMMARY FOR ANALYTES DETECTED IN THE 1995 SEDIMENT SAMPLES [1,2,3]

Parameter/Analyte	Range of Detected Conc.		Maximum Location	Frequency of Detection (3)	Range of Nondetected Conc. (4)	
	Minimum	Maximum			Minimum	Maximum
Volatile Organic Compounds (ug/Kg)						
1,2-Dichloroethene(total)	9	29	SD-15-01-FW	4 / 17	12	29
Tetrachloroethene	120	120	SD-22-02-FW	1 / 14	12	29
Methylene Chloride	28	28	SD-22-02-FW	1 / 14	12	56
2-Butanone	9	290	SD-19-01-FW	11 / 19	12	26
Acetone	210	590	SD-20-01-FW	4 / 18	16	430
Semivolatile Organic Compounds (ug/Kg)						
Naphthalene	83	160	SD-04-03-FW	3 / 14	410	2,900
2-Methylnaphthalene	130	130	SD-07-10-FW	1 / 14	410	2,900
Acenaphthylene	250	480	SD-07-10-FW	3 / 14	410	2,900
Acenaphthene	100	340	SD-04-03-FW	6 / 15	410	2,900
Fluorene	180	530	SD-07-05-FW	7 / 15	410	890
Phenanthrene	74	6,300	SD-06-03-FW	14 / 18	410	890
Anthracene	75	1,300	SD-06-03-FW	10 / 15	410	890
Fluoranthene	210	15,000	SD-07-05-FW	21 / 23	410	890
Pyrene	100	12,000	SD-07-05-FW	20 / 22	410	870
Benzo(a)anthracene	100	6,400	SD-07-05-FW	16 / 19	410	890
Chrysene	150	9,800	SD-07-05-FW	16 / 19	410	890
Benzo(b)fluoranthene	120	12,000	SD-07-05-FW	20 / 23	410	870
Benzo(k)fluoranthene	110	14,000	SD-07-05-FW	18 / 21	410	870
Benzo(a)pyrene	130	6,300	SD-07-05-FW	16 / 19	410	890
Dibenz(a,h)anthracene	180	1,100	SD-04-03-FW	6 / 16	410	2,900
Benzo(g,h,i)perylene	140	2,300	SD-04-03-FW	13 / 17	410	890
Indeno(1,2,3-cd)pyrene	79	2,600	SD-07-05-FW	16 / 19	410	890
Dibenzofuran	87	170	SD-04-03-FW	3 / 14	410	2,900
Bis(2-ethylhexyl)phthalate	140	13,000	SD-07-05-FW	13 / 23	410	3,300
Butylbenzylphthalate	230	620	SD-07-05-FW	3 / 16	410	2,900
Di-n-octylphthalate	430	430	SD-07-05-FW	1 / 15	410	2,900
N-Nitrosodiphenylamine	100	560	SD-10-01-FW	4 / 16	410	2,900
Carbazole	130	580	SD-07-05-FW	7 / 16	410	2,900
Pesticides (ug/Kg)						
4,4'-DDD	2.3	140	SD-04-03-FW	16 / 22	4.1	43
4,4'-DDE	1.7	125	SD-10-01-FW	19 / 23	4.1	43
4,4'-DDT	0.45	47	SD-07-10-FW	10 / 19	4.1	49
alpha-BHC	0.32	2.7	SD-07-02-FW	4 / 15	2.1	25
beta-BHC	1.5	3.9	SD-07-05-FW	6 / 17	2.1	25
delta-BHC	1.8	4.2	SD-07-02-FW	2 / 13	2.1	25
gamma-BHC (Lindane)	1.4	1.4	SD-07-02-FW	1 / 12	2.1	25
alpha-Chlordane	1.6	60	SD-21-01-FW	14 / 21	2.1	22
gamma-Chlordane	0.34	36	SD-07-05-FW	12 / 20	2.1	25
Aldrin	0.47	1.6	SD-13-03-FW	4 / 15	2.1	25
Dieldrin	1.3	5.7	SD-07-05-FW	8 / 18	4.1	49
Endrin	0.2	16	SD-21-01-FW	6 / 16	4.1	49
Endrin aldehyde	1	10	SD-13-03-FW	5 / 14	4.1	49
Endrin ketone	2.3	2.3	SD-07-02-FW	1 / 12	4.1	49
Endosulfan I	0.62	68	SD-21-01-FW	5 / 15	2.1	25
Endosulfan II	0.69	5.2	SD-07-02-FW	3 / 14	4.1	49
Endosulfan sulfate	2.1	2.1	SD-07-05-FW	1 / 13	4.1	49
Heptachlor	0.18	0.29	SD-07-05-FW	3 / 13	2.1	25
Heptachlor epoxide	1	3.7	SD-07-05-FW	4 / 13	2.1	25
Methoxychlor	6.3	12	SD-07-10-FW	2 / 12	21	250

TABLE 4-2. DATA SUMMARY FOR ANALYTES DETECTED IN THE 1995 SEDIMENT SAMPLES [1,2,3]

Parameter/Analyte	Range of Detected Conc. Minimum	Range of Detected Conc. Maximum	Maximum Location	Frequency of Detection (3)	Range of Nondetected Conc. (4) Minimum	Range of Nondetected Conc. (4) Maximum
PCBs (ug/Kg)						
Aroclor 1260	17	310	SD-13-03-FW	2 / 13	41	490
Inorganics (mg/Kg)						
Aluminum	3,560	30,200	SD-13-01-FW	26 / 26	--	--
Antimony	0.33	61	SD-13-01-FW	20 / 23	0.42	2.1
Arsenic	3.6	4,210	SD-13-01-FW	25 / 26	3.7	3.7
Barium	19	155	SD-13-03-FW	26 / 26	--	--
Beryllium	0.3	1.7	SD-10-02-FW	20 / 24	0.11	0.32
Cadmium	0.2	38	SD-01-06-FW	24 / 26	0.035	5.7
Calcium	1,300	15,000	SD-15-01-FW	26 / 26	--	--
Chromium	7.5	2,335	SD-19-01-FW	26 / 26	--	--
Cobalt	1.4	45	SD-19-01-FW	26 / 26	--	--
Copper	10	2,340	SD-13-01-FW	26 / 26	--	--
Iron	2,310	163,500	SD-19-01-FW	26 / 26	--	--
Lead	5.7	1,270	SD-13-01-FW	26 / 26	--	--
Magnesium	715	7,610	SD-13-03-FW	26 / 26	--	--
Manganese	34	1,400	SD-15-01-FW	26 / 26	--	--
Mercury	0.063	20	SD-13-01-FW	23 / 26	0.021	0.1
Nickel	4.4	53	SD-13-03-FW	26 / 26	--	--
Potassium	195	2,030	SD-13-03-FW	22 / 25	369	610
Selenium	2.3	26	SD-13-01-FW	12 / 24	0.43	2.7
Silver	0.87	2	SD-13-01-FW	3 / 17	0.22	0.79
Sodium	141	1,300	SD-18-03-FW	21 / 26	37	404
Thallium	0.47	3.8	SD-07-10-FW	11 / 17	1.2	1.6
Vanadium	12	120	SD-13-03-FW	26 / 26	--	--
Zinc	23	7,380	SD-01-06-FW	26 / 26	--	--
Cyanide	1.8	1.8	SD-07-05-FW	1 / 15	0.59	1.6
Acid Volatile Sulfide/Simultaneously Extracted Metals -- AVS/SEM (mg/Kg)						
Sulfide	13	13,482	SD-07-05-FW	26 / 26	--	--
Cadmium	0.23	34	SD-15-01-FW	24 / 26	0.1	0.37
Copper	42	2,270	SD-13-01-FW	20 / 26	12.3	138
Lead	7.4	1,590	SD-13-01-FW	25 / 26	34	34
Mercury	0.18	1	SD-13-03-FW	2 / 26	0.003	0.02
Nickel	39	258	SD-19-01-FW	8 / 26	2.3	221
SEM/AVS Ratio (umoles/g)	0	70	SD-13-03-FW	26 / 26	--	--
Total Combustible Organics/Total Organic Carbon (mg/Kg)						
Total Combustible Organics	36,700	432,000	SD-15-01-FW	19 / 19	--	--
Total Organic Carbon	6,525	288,000	SD-21-01-FW	7 / 7	--	--

NOTES:

1. FW's analytical data are presented in the Preliminary Data Compendium (1996). Field duplicate samples were averaged together as described in Appendix E prior to incorporation into summaries. The sample group only includes sample station/locations that were re-sampled by M&E.
2. Data summaries were developed assuming positive detections and include approximated values.
3. The two reference locations that were re-sampled are not included in the data set (SD-24 and SD-25).
4. Sample-specific detection limits were not available for the data; therefore, nondetected values are shown.

-- Not applicable or the nondetected values are not available because the analyte was detected in all samples in the data set.

In contrast, five chlorinated VOCs were reported in 1997 and concentrations were higher than those found in 1995. In addition, three aromatic VOCs were found in 1997 (benzene, ethylbenzene, and xylene) but were not reported in any 1995 sample locations.

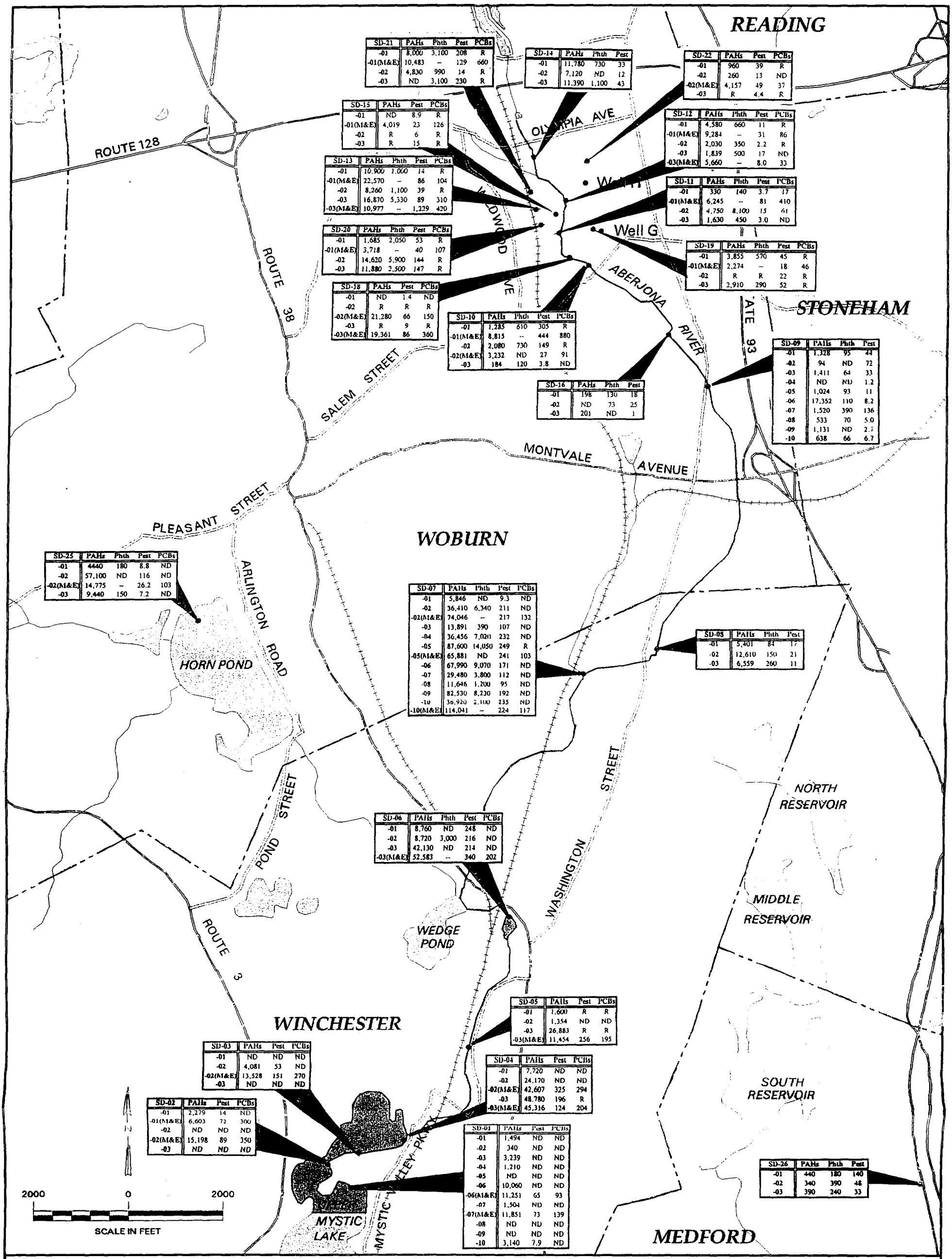
Heavy metals were detected in over 75% of the sample locations in both 1995 and 1997 including antimony, arsenic, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, vanadium, and zinc. In general, concentration ranges for individual metals did not substantially differ between the two data sets. In contrast, the 1995 data exhibited higher AVS/SEM metal concentrations for copper and zinc compared to the 1997 data. Also, arsenic and zinc were reported by AVS/SEM at most of the sample locations in 1997, but not found at any locations in 1995.

Relatively elevated TCO levels were found in both the 1995 and 1997 data sets. The maximum TCO level reported in 1997 was greater than twice the level reported in 1995.

4.2 Data Trends

To discuss data trends throughout the study area, data are discussed in terms of organic chemical groups and metals. The predominant types of organics detected consist of PAHs, phthalate compounds, pesticides, PCBs, and VOCs (aromatic, chlorinated, and ketones). For each organic group, detected concentrations for analytes with a related chemical type of that group are summed together to provide a total concentration for that organic group. Figure 4-1 presents total concentrations by sediment site/location for PAHs, pesticides, and PCBs, while Figure 4-2 presents total concentrations for aromatic VOCs, chlorinated VOCs, and ketones. The four heavy metals that were selected to represent trends include arsenic, chromium, lead, and mercury, which are shown on Figure 4-3.

Overall, PAHs and pesticides were detected in two or more sediment locations within each of the 28 sites sampled. PAHs were found in over 90% of the locations and pesticides were found in over 85% of the sediment locations sampled. Generally, sediment sites and locations exhibiting highest total PAH concentrations tended to have the more elevated total pesticide concentrations. The highest PAH and pesticide concentrations tended to occur at SED-07 compared to other sites. As reported by FW (1996), the physical characteristics of this site (a spillway, dam, and sand bar) contribute to being an area subject to accumulation of sediments and thus contaminants. Other sites with consistently elevated total PAH and pesticide concentrations include SED-04, SED-06, SED-13, and SED-18. Sites SED-04 and SED-06 are both described as depositional areas near the inlets to water bodies (i.e., Upper Mystic Lake). The predominance of these types of organics is expected given the close proximity of many of the locations to these types of features. The widespread use of pesticides (particularly the DDT and chlordane groups), along railroad lines and public roads as well as water bodies and public areas, was common practice prior to the 1980s. Run-off from these areas would be expected to transport both PAHs and pesticides into the water bodies. These organics would have the tendency to strongly bind to sediment and organic matter, and be further transported



SD-21	PAHs	Phth	Pest	PCBs
-01	8,000	3,100	208	R
-01(M&E)	10,483	--	129	660
-02	4,830	990	14	R
-03	ND	3,100	230	R

SD-14	PAHs	Phth	Pest
-01	11,780	730	33
-02	7,120	ND	12
-03	11,390	1,100	43

SD-22	PAHs	Pest	PCBs
-01	960	39	R
-02	260	13	ND
-02(M&E)	4,157	49	37
-03	R	4.4	R

SD-15	PAHs	Pest	PCBs
-01	ND	8.9	R
-01(M&E)	4,019	23	126
-02	R	6	R
-03	R	15	R

SD-12	PAHs	Phth	Pest	PCBs
-01	4,580	660	11	R
-01(M&E)	9,284	--	31	86
-02	2,030	350	2.2	R
-03	1,839	500	17	ND
-03(M&E)	5,660	--	8.0	33

SD-13	PAHs	Phth	Pest	PCBs
-01	10,900	1,000	14	R
-01(M&E)	22,570	--	86	104
-02	8,260	1,100	39	R
-03	16,870	5,330	89	310
-03(M&E)	10,977	--	1,229	420

SD-11	PAHs	Phth	Pest	PCBs
-01	330	140	3.7	17
-01(M&E)	6,245	--	81	410
-02	4,750	8,100	15	61
-03	1,630	450	3.0	ND

SD-20	PAHs	Phth	Pest	PCBs
-01	1,685	2,050	53	R
-01(M&E)	3,718	--	40	107
-02	14,620	5,900	144	R
-03	11,880	2,500	147	R

SD-19	PAHs	Phth	Pest	PCBs
-01	3,855	570	45	R
-01(M&E)	2,274	--	18	46
-02	R	R	22	R
-03	2,910	290	52	R

SD-18	PAHs	Pest	PCBs
-01	ND	1.4	ND
-02	R	R	R
-02(M&E)	21,280	66	150
-03	R	9	R
-03(M&E)	19,361	86	360

SD-10	PAHs	Phth	Pest	PCBs
-01	1,285	610	305	R
-01(M&E)	8,815	--	444	880
-02	2,080	730	149	R
-02(M&E)	3,232	ND	27	91
-03	184	120	3.8	ND

SD-16	PAHs	Phth	Pest
-01	198	130	18
-02	ND	73	25
-03	201	ND	1

SD-09	PAHs	Phth	Pest
-01	1,328	95	44
-02	94	ND	72
-03	1,411	64	33
-04	ND	ND	1.2
-05	1,024	93	11
-06	17,352	110	8.2
-07	1,520	390	136
-08	533	70	5.0
-09	1,131	ND	2.7
-10	638	66	6.7

SD-25	PAHs	Phth	Pest	PCBs
-01	4440	180	8.8	ND
-02	57,100	ND	116	ND
-02(M&E)	14,775	--	26.2	103
-03	9,440	150	7.2	ND

SD-07	PAHs	Phth	Pest	PCBs
-01	5,846	ND	9.3	ND
-02	36,410	6,340	211	ND
-02(M&E)	74,046	--	217	132
-03	13,891	390	107	ND
-04	36,456	7,020	232	ND
-05	87,600	14,050	249	R
-05(M&E)	65,881	ND	241	103
-06	67,990	9,070	171	ND
-07	29,480	3,800	112	ND
-08	11,646	1,200	95	ND
-09	82,530	8,230	192	ND
-10	36,920	2,100	235	ND
-10(M&E)	114,041	--	224	117

SD-08	PAHs	Phth	Pest
-01	5,401	84	17
-02	12,610	150	21
-03	6,559	260	11

SD-06	PAHs	Phth	Pest	PCBs
-01	8,760	ND	248	ND
-02	8,720	3,000	216	ND
-03	42,130	ND	214	ND
-03(M&E)	52,583	--	340	202

SD-05	PAHs	Pest	PCBs
-01	1,600	R	R
-02	1,354	ND	ND
-03	26,883	R	R
-03(M&E)	11,454	256	195

SD-04	PAHs	Pest	PCBs
-01	7,720	ND	ND
-02	24,170	ND	ND
-02(M&E)	42,607	325	294
-03	48,780	196	R
-03(M&E)	45,316	124	204

SD-03	PAHs	Pest	PCBs
-01	ND	ND	ND
-02	4,081	53	ND
-02(M&E)	13,528	151	270
-03	ND	ND	ND

SD-02	PAHs	Pest	PCBs
-01	2,279	14	ND
-01(M&E)	6,603	72	300
-02	ND	ND	ND
-02(M&E)	15,198	89	350
-03	ND	ND	ND

SD-01	PAHs	Pest	PCBs
-01	1,494	ND	ND
-02	340	ND	ND
-03	3,239	ND	ND
-04	1,210	ND	ND
-05	ND	ND	ND
-06	10,060	ND	ND
-06(M&E)	11,251	65	93
-07	1,504	ND	ND
-07(M&E)	11,851	73	139
-08	ND	ND	ND
-09	ND	ND	ND
-10	3,140	7.9	ND

SD-26	PAHs	Phth	Pest
-01	440	180	140
-02	340	390	48
-03	390	240	33

LEGEND

- Well Location
- Sample Site
- Study Area
- Primary Roads
- Secondary Roads
- Rail Lines
- Bodies of Water

Site No.	PAHs Phth Pest PCBs
Location Numbers	Total Concentration of Detected Analytes in ug/Kg. ND - None Detected R - All Nondetects Rejected -- Not Analyzed

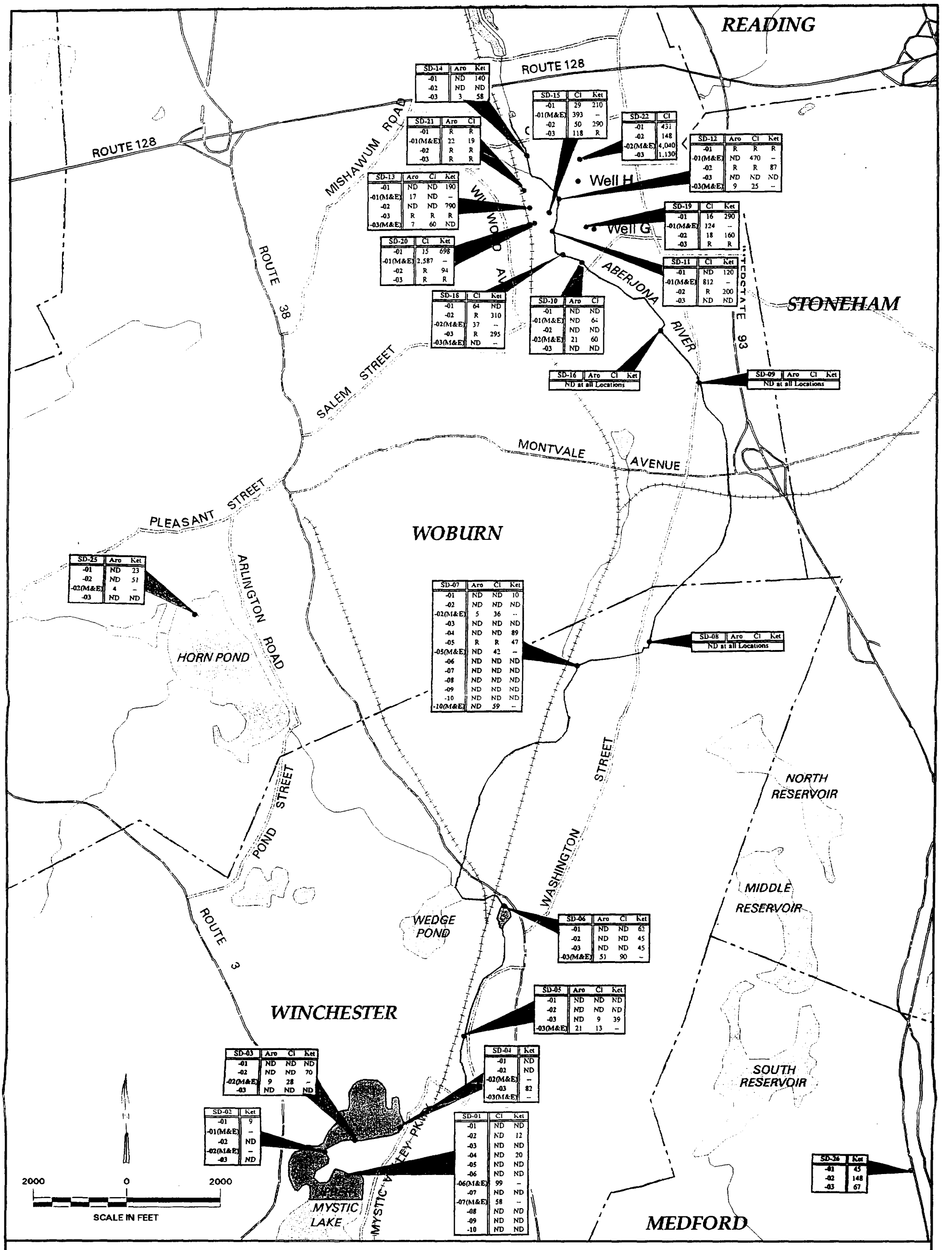
PAHs Polycyclic Aromatic Hydrocarbons
Phth Phthalate Compounds
Pest Pesticides
PCBs Polychlorinated Biphenyl Compounds

NOTES: If an organic group is not shown, no analytes in this group were detected in any of the sediment locations from this site.

M&E sediment locations distinguished from FW sediment locations by (M&E) next to the location number.

FIGURE 4-1.
PAHs, PESTICIDES, AND PCBs DETECTED IN 1995 AND 1997 SEDIMENT SAMPLES WELLS G&H SUPERFUND SITE ABERJONA RIVER STUDY (OPERABLE UNIT 3)

METCALF & EDDY



SD-14	Aro	Ket
-01	ND	140
-02	ND	ND
-03	3	58

SD-15	Cl	Ket
-01	29	210
-01(M&E)	393	--
-02	50	290
-03	118	R

SD-22	Cl
-01	451
-02	148
-02(M&E)	4,040
-03	1,130

SD-21	Aro	Cl
-01	R	R
-01(M&E)	22	19
-02	R	R
-03	R	R

SD-12	Aro	Cl	Ket
-01	R	R	R
-01(M&E)	ND	470	--
-02	R	R	87
-03	ND	ND	ND
-03(M&E)	9	25	--

SD-13	Aro	Cl	Ket
-01	ND	ND	190
-01(M&E)	17	ND	--
-02	ND	ND	790
-03	R	R	R
-03(M&E)	7	60	ND

SD-19	Cl	Ket
-01	16	290
-01(M&E)	124	--
-02	18	160
-03	R	R

SD-20	Cl	Ket
-01	15	698
-01(M&E)	2,587	--
-02	R	94
-03	R	R

SD-11	Cl	Ket
-01	ND	120
-01(M&E)	812	--
-02	R	200
-03	ND	ND

SD-18	Cl	Ket
-01	64	ND
-02	R	310
-02(M&E)	37	--
-03	R	295
-03(M&E)	ND	--

SD-10	Aro	Cl
-01	ND	ND
-01(M&E)	ND	6-
-02	ND	ND
-02(M&E)	21	60
-03	ND	ND

SD-16	Aro	Cl	Ket
ND at all Locations			

SD-09	Aro	Cl	Ket
ND at all Locations			

SD-25	Aro	Ket
-01	ND	23
-02	ND	51
-02(M&E)	4	--
-03	ND	ND

SD-07	Aro	Cl	Ket
-01	ND	ND	10
-02	ND	ND	ND
-02(M&E)	5	36	--
-03	ND	ND	ND
-04	ND	ND	89
-05	R	R	47
-05(M&E)	ND	42	--
-06	ND	ND	ND
-07	ND	ND	ND
-08	ND	ND	ND
-09	ND	ND	ND
-10	ND	ND	ND
-10(M&E)	ND	59	--

SD-08	Aro	Cl	Ket
ND at all Locations			

SD-06	Aro	Cl	Ket
-01	ND	ND	62
-02	ND	ND	45
-03	ND	ND	45
-03(M&E)	53	90	--

SD-05	Aro	Cl	Ket
-01	ND	ND	ND
-02	ND	ND	ND
-03	ND	9	39
-03(M&E)	21	13	--

SD-03	Aro	Cl	Ket
-01	ND	ND	ND
-02	ND	ND	70
-02(M&E)	9	28	--
-03	ND	ND	ND

SD-04	Ket
-01	ND
-02	ND
-02(M&E)	--
-03	82
-03(M&E)	--

SD-02	Ket
-01	9
-01(M&E)	--
-02	ND
-02(M&E)	--
-03	ND

SD-01	Cl	Ket
-01	ND	ND
-02	ND	12
-03	ND	ND
-04	ND	20
-05	ND	ND
-06	ND	ND
-06(M&E)	99	--
-07	ND	ND
-07(M&E)	58	--
-08	ND	ND
-09	ND	ND
-10	ND	ND

SD-26	Ket
-01	45
-02	148
-03	67

LEGEND	
●	Well Location
●	Sample Site
———	Study Area
———	Primary Roads
———	Secondary Roads
+++++	Rail Lines
———	Bodies of Water

Site No.	Aro	Cl	Ket
Location Numbers	Total Concentration of Detected Analytes in ug/Kg. ND - None Detected R - All Nondetects Rejected -- Not Analyzed		

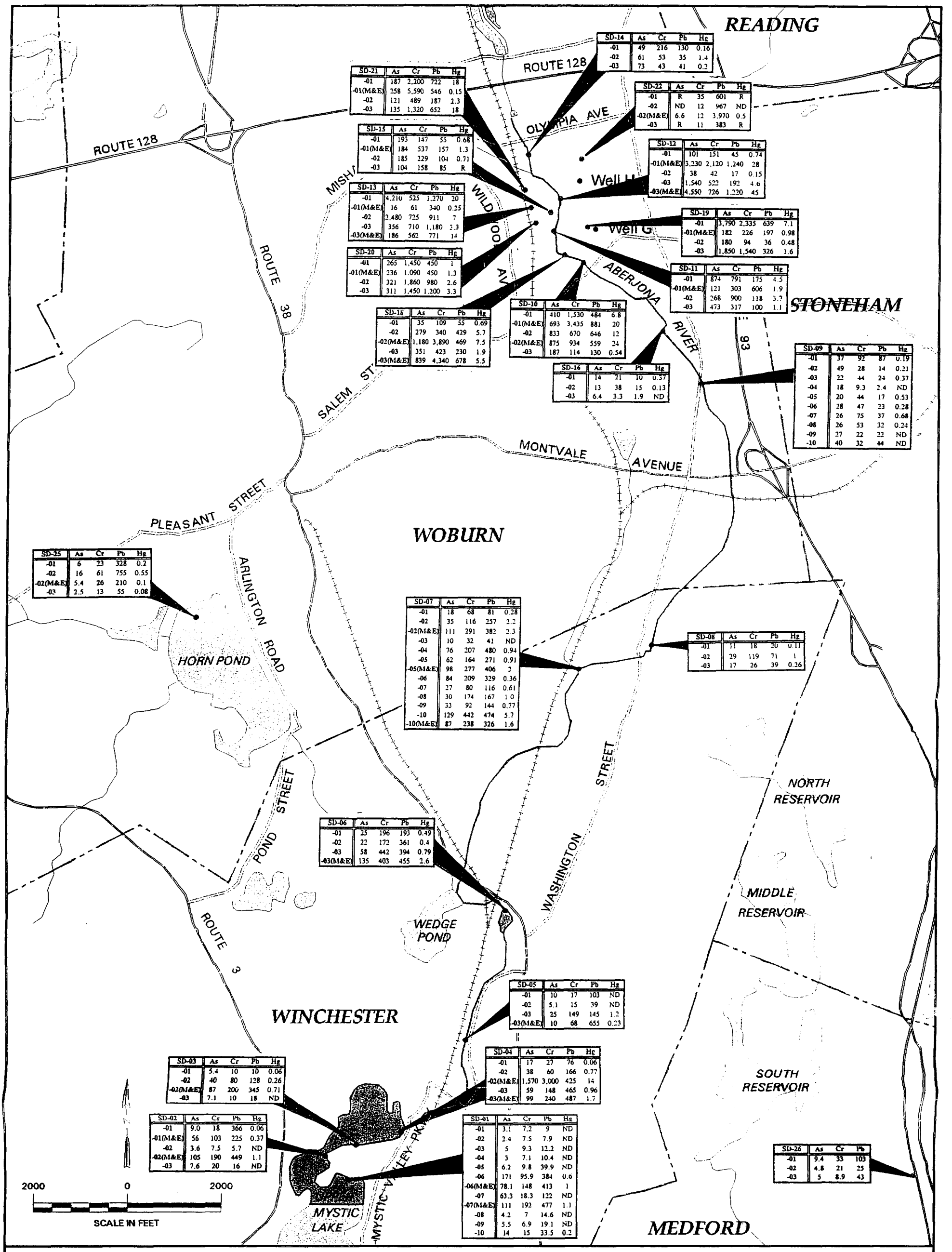
Aro Aromatic Volatile Organic Compounds
Cl Chlorinated Volatile Organic Compounds
Ket Ketones

NOTES: If an organic group is not shown, no analytes in this group were detected in any of the sediment locations from this site.

M&E sediment locations distinguished from FW sediment locations by (M&E) next to the location number.

FIGURE 4-2.
VOLATILE ORGANIC COMPOUNDS DETECTED IN 1995 AND 1997 SEDIMENT SAMPLES WELLS G&H SUPERFUND SITE ABERJONA RIVER STUDY (OPERABLE UNIT 3)

METCALF & EDDY



SD-14	As	Cr	Pb	Hg
-01	49	216	130	0.16
-02	61	53	35	1.4
-03	73	43	41	0.2

SD-21	As	Cr	Pb	Hg
-01	187	2,200	722	18
-01(M&E)	258	5,590	546	0.15
-02	121	489	187	2.3
-03	135	1,320	652	18

SD-22	As	Cr	Pb	Hg
-01	R	35	601	R
-02	ND	12	967	ND
-02(M&E)	6.6	12	3,970	0.5
-03	R	11	383	R

SD-15	As	Cr	Pb	Hg
-01	193	147	55	0.68
-01(M&E)	184	537	157	1.3
-02	185	229	104	0.71
-03	104	158	85	R

SD-12	As	Cr	Pb	Hg
-01	101	151	45	0.74
-01(M&E)	3,230	2,120	1,240	28
-02	38	42	17	0.15
-03	1,540	522	192	4.6
-03(M&E)	4,550	726	1,220	45

SD-13	As	Cr	Pb	Hg
-01	4,210	525	1,270	20
-01(M&E)	16	61	340	0.25
-02	2,480	725	911	7
-03	356	710	1,180	3.3
-03(M&E)	186	562	771	14

SD-19	As	Cr	Pb	Hg
-01	3,790	2,335	639	7.1
-01(M&E)	182	226	197	0.98
-02	180	94	36	0.48
-03	1,850	1,540	326	1.6

SD-20	As	Cr	Pb	Hg
-01	265	1,450	450	1
-01(M&E)	236	1,090	450	1.3
-02	321	1,860	980	2.6
-03	311	1,450	1,200	3.3

SD-11	As	Cr	Pb	Hg
-01	874	791	175	4.5
-01(M&E)	121	303	606	1.9
-02	268	900	118	3.7
-03	473	317	100	1.1

SD-18	As	Cr	Pb	Hg
-01	35	109	55	0.69
-02	279	340	429	5.7
-02(M&E)	1,180	3,890	469	7.5
-03	351	423	230	1.9
-03(M&E)	839	4,340	678	5.5

SD-10	As	Cr	Pb	Hg
-01	410	1,530	484	6.8
-01(M&E)	693	3,435	881	20
-02	833	670	646	12
-02(M&E)	875	934	559	24
-03	187	114	130	0.54

SD-16	As	Cr	Pb	Hg
-01	14	21	10	0.57
-02	13	38	15	0.13
-03	6.4	3.3	1.9	ND

SD-09	As	Cr	Pb	Hg
-01	37	92	87	0.19
-02	49	28	14	0.21
-03	22	44	24	0.37
-04	18	9.3	2.4	ND
-05	20	44	17	0.53
-06	28	47	23	0.28
-07	26	75	37	0.68
-08	26	53	32	0.24
-09	27	22	22	ND
-10	40	32	44	ND

SD-25	As	Cr	Pb	Hg
-01	6	23	328	0.2
-02	16	61	755	0.55
-02(M&E)	5.4	26	210	0.1
-03	2.5	13	55	0.08

SD-07	As	Cr	Pb	Hg
-01	18	68	81	0.28
-02	35	116	257	2.2
-02(M&E)	111	291	382	2.3
-03	10	32	41	ND
-04	76	207	480	0.94
-05	62	164	271	0.91
-05(M&E)	98	277	406	2
-06	84	209	329	0.36
-07	27	80	116	0.61
-08	30	174	167	1.0
-09	33	92	144	0.77
-10	129	442	474	5.7
-10(M&E)	87	238	326	1.6

SD-08	As	Cr	Pb	Hg
-01	11	18	20	0.11
-02	29	119	71	1
-03	17	26	39	0.26

SD-06	As	Cr	Pb	Hg
-01	25	196	193	0.49
-02	22	172	361	0.4
-03	58	442	394	0.79
-03(M&E)	135	403	455	2.6

SD-05	As	Cr	Pb	Hg
-01	10	17	103	ND
-02	5.1	15	39	ND
-03	25	149	145	1.2
-03(M&E)	10	68	655	0.23

SD-04	As	Cr	Pb	Hg
-01	17	27	76	0.06
-02	38	60	166	0.77
-02(M&E)	1,570	3,000	425	14
-03	59	148	465	0.96
-03(M&E)	99	240	487	1.7

SD-03	As	Cr	Pb	Hg
-01	5.4	10	10	0.06
-02	40	80	128	0.26
-02(M&E)	87	200	345	0.71
-03	7.1	10	18	ND

SD-02	As	Cr	Pb	Hg
-01	9.0	18	366	0.06
-01(M&E)	56	103	225	0.37
-02	3.6	7.5	5.7	ND
-02(M&E)	105	190	449	1.1
-03	7.6	20	16	ND

SD-01	As	Cr	Pb	Hg
-01	3.1	7.2	9	ND
-02	2.4	7.5	7.9	ND
-03	5	9.3	12.2	ND
-04	3	7.1	10.4	ND
-05	6.2	9.8	39.9	ND
-06	171	95.9	384	0.6
-06(M&E)	78.1	148	413	1
-07	63.3	18.3	122	ND
-07(M&E)	111	192	477	1.1
-08	4.2	7	14.6	ND
-09	5.5	6.9	19.1	ND
-10	14	15	33.5	0.2

SD-26	As	Cr	Pb
-01	9.4	33	103
-02	4.8	21	25
-03	5	8.9	43

LEGEND

- Well Location
- Sample Site
- Study Area
- Primary Roads
- Secondary Roads
- Rail Lines
- Bodies of Water

Site No.	As Cr Pb Hg
Location Numbers	Concentration of Metal in mg/Kg ND - None Detected R - Nondetected Value was Rejected -- Not Analyzed

As Arsenic
Cr Chromium
Pb Lead
Hg Mercury

NOTES: If an organic group is not shown, no analytes in this group were detected in any of the sediment locations from this site.

M&E sediment locations distinguished from FW sediment locations by (M&E) next to the location number.

FIGURE 4-3.
SELECTED METALS DETECTED IN 1995 AND 1997 SEDIMENT SAMPLES
WELLS G&H SUPERFUND SITE
ABERJONA RIVER STUDY
(OPERABLE UNIT 3)

METCALF & EDDY

downgradient, accumulating in depositional areas and bodies of water with little to no current.

As previously discussed, PCBs were found at all sediment locations sampled in 1997, but only two locations in 1995. The higher concentrations of PCBs detected in 1997 tended to occur at sediment locations exhibiting more elevated concentrations of PAHs and pesticides. The greater frequency of detections in 1997 may be attributed to the lower sample quantitation limits provided by the DAS Analytical Specifications.

In comparison to the above organic compounds, VOCs were less frequently detected during both sampling events, and when detected, concentrations were relatively low. In 1997, chlorinated VOCs were found at 10 of the 12 sites sampled. Sampling site SED-22 exhibited the highest total chlorinated VOC concentrations detected in both 1995 and 1997. Aromatic VOCs on the other hand were found at only 6 of the 12 sites sampled in 1997. Ketones (primarily acetone and 2-butanone) were reported in 11 of the 27 sites sampled in 1995. The majority of the VOCs detected during both sampling events were found in the vicinity of the Well G and Well H locations.

Metals exhibited a pattern of distribution similar to PAHs and pesticides. The range of concentrations between the two data sets is similar. More elevated concentrations of heavy metals tended to occur near roadways and rail lines and were characteristic of depositional areas. Sampling site SD-13 provided the greatest number of maximum metals concentrations in 1995 while the 1997 data did not show one location having a great deal more metals contamination than another location.

Overall, the sediment sampling at the Wells G&H Superfund Site verified the results of the previous sampling performed by FW in 1995. In addition, data gaps were filled using sampling techniques and DAS Analytical Methods specifically written for this site. The Data Quality Objectives and completeness goals were met by the sampling and analysis procedures provided in the QAPP. Sufficient data now exists to develop a site conceptual model and perform a baseline human health and ecological risk assessment for the Aberjona River System within the study area.

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APPENDIX A. TOXICITY DATA

SAMPLE COLLECTION ACTIVITIES AND SEDIMENT TOXICITY TESTING RESULTS FOR THE WELLS G&H SUPEFUND SITE, WOBURN, MASSACHUSETTS

U.S. Environmental Protection Agency
New England Regional Laboratory
Office of Environmental Measures & Evaluation
Office of Ecosystem Assessment

March 13, 1998

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SAMPLE COLLECTION ACTIVITIES AND SEDIMENT TOXICITY TESTING RESULTS FOR THE WELLS G&H SUPEFUND SITE, WOBURN, MASSACHUSETTS

INTRODUCTION

EPA's Office of Ecosystem Assessment with the assistance of Lockheed's Environmental Services Assistance Team (ESAT) provided support for sediment sampling acitivties for the Wells G&H Superfund site in Woburn, Massachusetts, and performed acute sediment toxicity tests on sediments collected from seven locations within the Aberjona River watershed. Some of the samples collected were from the Aberjona River itself, while others were located in wetlands or surface water bodies associated with the river. Sampling was conducted by Metcalf and Eddy, Inc, under contract to the USEPA. During sampling, ESAT biologists observed physical and biological features of the area surrounding each sample location as well as the sediment itself, took readings of the latitude and longitude using Global Positioning System (GPS), and photographed the areas sampled. At selected stations, ESAT took split samples to the USEPA Office of Environmental Measurement and Evaluation (OEME) facility in Lexington, Massachusetts, for sediment toxicity testing.

MATERIALS AND METHODS

Field Activities

Sediment sampling took place between November 12, 1997, and November 20, 1997. At each sampling location, ESAT took a GPS reading, made observations on the biological features of the station and surrounding area, and took relevant photographs. The sampling schedule is presented in **Appendix A** of this report. All information related to field activities contained in subsequent appendices are in chronological order unless otherwise noted.

The field notes and GPS readings are summarized in **Appendix B.** GPS readings were taken at the time and location of sampling, except where otherwise indicated in the field notes. At the conclusion of field activities, the GPS readings were downloaded and corrected against a known position at the OEME facility in Lexington, Massachusetts. This correction is necessary to correct field readings, because the satellite signals are routinely scrambled for reasons of National security, and must be compared with readings from a known point to obtain maximum accuracy.

Each sampling station and the surrounding area was photographed. **Appendix C** contains the photographs of each sampling station, with the exception of station SD-15-01, for which no photographs of acceptable quality were produced. For this station, a summary of observations is presented in place of photographs.

Split samples were taken at fourteen locations, as indicated in **Appendix A**. Not all

samples collected were utilized in the sediment toxicity tests. The samples utilized in the sediment toxicity tests are shaded in the appendix. The two reference locations, station SD-25 and Fowle Brook, represent two different habitat types. Station SD-25 was selected as a reference area for pond samples or samples in wetland areas with standing water. Fowle Brook was selected as a stream reference area for samples taken in the Aberjona River itself. Table 1 presents the samples that are evaluated by each reference area.

Table 1. Reference Locations and Associated Samples

Toxicity Test Samples and Reference Locations	
Stream Samples with Fowle Brook as Reference	SD-10-02
	SD-12-03
	SD-18-02
Pond/Wetland Samples with SD-25 as Reference	SD-07-02
	SD-19-01

Samples that were split for sediment toxicity testing and chemical analysis were transported to the OEME facility in Lexington, Massachusetts. There the samples were refrigerated until the day the test was initiated. As specified in U. S. EPA (1994), the holding times did not exceed fourteen days. Chain-of-custody records were kept for all samples and are found in **Appendix D**.

Laboratory Activities

The toxicity tests were performed according to procedures detailed in the EPA OEME Biology Section Standard Operating Procedure (SOP) Number **2.7**, which is included as **Appendix E;** and the EPA manual, *Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates* EPA/600/R-94/024, June 1994 (U. S. EPA, 1994).

Test chambers consisted of 300-ml glass beakers. The test was covered with plexiglass to minimize evaporation and prevent airborne particles from interfering with the test. Eight replicates per treatment were used. Each test chamber received 100 ml of sediment, with 200 ml of overlying reconstituted culture water.

Ten organisms were exposed to each test chamber through randomized introduction. Test organisms were carefully pipetted, keeping the organism completely submerged in water from holding tray to test chamber. Only the most healthy and active organisms were used for the test. The organisms were maintained at 23 degrees Celsius ± 1 degree in an environmental control chamber with a 16:8 hour light/dark cycle using cool-white fluorescent lights.

Chemistry measurement of parameters such as pH, specific conductance, temperature, and dissolved oxygen (DO) were measured for each test treatment on a daily basis. Routine chemistry was performed on a composite of renewal waste water each morning, and also at the beginning and end of the test period (Day 0 and Day 10). Additionally, alkalinity, hardness, and ammonia were measured on each treatment tested at the beginning and end of the test (Day 0 and Day 10).

Statistical analyses were conducted on organismal survival and weight for *C. tentans* according to U.S. EPA (1994), using the Chi-square test for normality of data, and Bartlett's and Hartley's tests for the homogeneity of variance. If the data were determined to be non-normal, the Square Root and Arc Sine Square Root Transformations were run to normalize the data. Steel's Many-One Rank Test and the Wilcoxon Rank-Sum Test with Bonferroni Adjustment were then used to determine whether organism survival in each treatment was significantly different from survival in the controls.

RESULTS

Hyalella azteca Toxicity Test Results

After being exposed to sediments for ten days, the toxicity test measurement endpoint (measure of effect) for *H. azteca* was survival. Results of the *H. azteca* toxicity test are presented in **Table 2** below.

Table 2: *Hyalella azteca* Toxicity Test Survival Data

Wells G&H Sediment Toxicity Survival: Hyalella azteca									
	Number of Organisms Surviving at End of Test (out of 10 at test start)								
Replicate	Artificial Sediment	SD-06	SD-07	SD-10	SD-12	SD-18	SD-19	SD-25	Fowle Brook
1	8	10	10	9	10	3	10	10	9
2	7	9	7	9	9	4	10	10	10
3	9	10	7	10	10	10	10	10	10
4	5	9	10	10	6	9	9	10	6
5	6	10	8	9	9	8	10	10	10
6	9	10	10	8	10	9	8	10	10
7	8	9	8	8	9	7	8	8	9
8	9	10	7	8	8	9	8	10	9
% Survival	77%	96%	84%	90%	89%	73%	91%	98%	91%

Survival in the laboratory control (artificial sediment) was 77% overall, which does not meet the control recovery of 80% recommended in EPA guidance (U. S. EPA, 1994). However, the survival rate was considered sufficient to allow for interpretation of the remaining data. Both the pond/wetland and stream reference stations, SD-25 and Fowle Brook had high survival rates, 98% and 91% respectively. The low survival in two replicates of sample SD-18 is most likely attributable to an ineffective method for organism recovery and may not be due to a toxic effect.

The normality of the data was evaluated using the Chi-square test. The Shapiro-Wilkes test is the preferred test, however, this test cannot be used if the overall number of replicates exceeds 50, as is the case with this test. The data passed the Chi-square test for normality. The Harley's and Bartlett's tests for homogeneity were used to test for homogeneity of data. The data failed this test initially, but passed following arc-sine/square root transformation. Finally, Steele's Many-One Rank Test was used to determine whether any samples differed significantly from their respective reference sample.

The data for samples SD-10, SD-12, and SD-18 were compared with the Fowle Brook stream reference. No statistically significant difference in survival was found between test samples and the reference sample. The data for samples SD-07 and SD-19 were compared with the pond/wetland reference station SD-25. The two wetland samples were not found to differ significantly from the reference sample.

Chironomus tentans Toxicity Test Results

The *C. tentans* test endpoints pertain to survival and growth. Specifically, evaluation of test data involves determining whether the percent survival and the mean organism weight at the end of the test differ significantly between each sample and an appropriate control. The *C. tentans* survival data are presented in **Table 3.**

Table 3: *Chironomus tentans* Toxicity Test Survival Data

Wells G&H Sediment Toxicity Survival: Chironomus tentans									
	Number of Organisms Surviving at End of Test (out of 10)								
Replicate	Artificial Sediment	SD-06	SD-07	SD-10	SD-12	SD-18	SD-19	SD-25	Fowle Brook
1	10	10	10	8	7	9	10	9	0
2	9	9	10	9	9	8	9	10	10
3	10	10	9	9	7	10	10	9	6
4	10	10	9	10	8	7	8	10	10
5	9	9	9	9	10	8	8	10	10
6	9	9	10	10	9	10	7	9	10
7	9	10	8	9	7	9	10	9	4
8	9	9	9	8	10	7	8	10	1
% Survival	94%	95%	92%	90%	84%	85%	88%	95%	66%

The *C. tentans* tests met the survival threshold of 70% for the laboratory control recommended in U.S. EPA (1994). The data for the *C. tentans* test were evaluated in the same manner as the *H. azteca* test. Overall, survival was high for this species. Fowle Brook had the lowest survival. Using this reference station as a control for samples SD-10, SD-12, and SD-18, no statistically significant difference was found between the reference and the other samples. Using SD-25 as a control for the pond/wetland stations, samples SD-7 and SD-19 did not differ significantly from the reference sample either.

In general, the *C. tentans* test produced survival results that conform to test acceptability standards. The survival data do not indicate an acute lethal effect associated with any of the sample locations. The reference stream station, Fowle Brook had variable survival among replicates. Whether this was due to a toxic effect or

to physical or chemical characteristics of the sediment, may become more clear when the analytical chemistry results become available. The *C. tentans* growth data are presented in **Table 4** below.

Table 4: *Chironomus tentans* Toxicity Test Growth Data

Wells G&H Sediment Toxicity Growth: Chironomus tentans									
	Artificial Sediment	SD-06	SD-07	SD-10	SD-12	SD-18	SD-19	SD-25	Fowle Brook
Replicate	Average (arithmetic mean) Weight of Organisms at End of Test (milligrams)								
1	0.33	0.76	0.78	0.68	0.79	0.93	0.57	1.07	0
2	0.39	0.61	0.92	0.64	0.53	0.80	0.66	0.98	0.92
3	0.34	0.58	0.90	0.70	0.58	0.66	0.62	1.16	1.18
4	0.49	0.70	0.92	0.51	0.71	0.83	0.54	0.75	1.08
5	0.62	0.69	0.80	0.56	0.70	0.70	0.66	1.30	0.88
6	0.64	0.61	0.92	0.53	0.73	0.86	0.96	1.32	0.97
7	0.53	0.52	0.78	0.60	0.74	0.88	0.58	0.77	1.38
8	0.61	0.60	0.52	0.66	1.12	0.94	0.64	1.03	1.0
Mean Weight for Sample (mg)	0.49	0.63	0.82	0.61	0.74	0.82	0.65	1.05	1.05

The growth data showed more variability than the survival data, (see Discussion section). The growth data were evaluated in the same manner as the survival data. Using Fowle Brook as a stream reference, sample SD-10 (one of three stream samples) had significantly lower growth than the reference station. Using SD-25 as a reference, Stations SD-6 and SD-19 (two of three pond/wetland samples) had significantly lower growth than the reference. It should be noted, however, that all samples except the laboratory control (artificial sediment) met or exceeded the minimum growth guideline of 0.60 milligrams for reference samples recommended in U.S. EPA (1994).

DISCUSSION

The criterion for test acceptance recommended in EPA (1994) for *C. tentans* survival is 70%. The laboratory control (artificial sediment) survival rate was 93.8%, while the pond/wetland field reference location SD-25 (Horn Pond) location exhibited a 95% survival rate. All other survival rates were greater than 80% at each location except the stream field reference, Fowle Brook, which had 66% survival. The cause for this lower survival rate for *C. tentans* is unknown. The results of chemical analyses for this sediment have not yet been compared to the survival rates since the chemical analyses were not available during the time in which this report was generated. The location was situated in a depositional area with no evident pollution sources and no visible disturbances to the brook and its associated habitat. Statistical analyses (**Appendix G**) were conducted on the results and it was found that there were no significant adverse effects when either the lab control (artificial sediment) or the field reference samples (SD -25 and Fowle Brook) were used as the control.

The growth data for *C. tentans* showed more variability than the survival data. The growth data were evaluated in the same manner as the survival data. Using Fowle Brook as a stream reference, sample SD-10 had significantly lower growth than the reference station. Using SD-25 as a pond/wetland reference, Stations SD-6 and SD-19 had significantly lower growth than the reference sample. Whether this lower growth constitutes a chronic effect is questionable considering that both samples slightly exceeded the minimum growth guideline recommended in U.S. EPA (1994) for a reference sample. Fowle Brook was a marginal location with respect to survival of *C. tentans,* however the growth rate was exceptional and equal to that of the pond/wetland field reference location SD-25 (Horn Pond) location.

It is possible that the significantly reduced growth noted is due to contaminants inhibiting the growth at these locations. It is also possible that there are physico-chemical characteristics of the sediment such as total organic carbon (TOC) and grain size influencing the bioavailability of sediment-contaminants and growth of these organisms. Although samples SD-6 and SD-19 showed significantly lower growth than the reference station, their averages of 0.63 and 0.61 milligrams per organism, respectively, still met the recommended minimum weight for a control sample according to EPA guidance (U. S. EPA, 1994). Therefore the chronic effect, if present, may be slight.

The lowest growth of C. tentans was exhibited in the artificial sediment treatment (laboratory control), may have been the result of low dissolved oxygen (DO) since the final day's DO reading was 2.5 mg/L which is below the 40% minimum saturation recommended by U. S. EPA (1994).

The criterion for test acceptance according to EPA 1994 for *H. azteca* is 80%.survival

The laboratory control (artificial sediment) survival rate was 77% and therefore slightly below this criterion. In comparison, the two field reference locations, SD -25 & SD-FB had survival rates of 98% and 91%, respectively. In fact, all other locations had survival rates greater than 80% except SD-18, with 73% survival.

It should be noted that the low recovery in certain replicates of sample SD-18 are probably attributable to an ineffective recovery method used on these replicates, rather than to toxicity. Also, the low recovery of *H. azteca* in the laboratory control may be attributable to a low (1.2 mg/L) DO concentration on Day 9 of the test. Feeding was suspended at this point and the DO rebounded but the drop in DO may have negatively affected the organisms.

CONCLUSIONS

The *H. azteca* test did not indicate any toxicity associated with the samples from the Aberjona River watershed. Although the laboratory control sample did not conform to test acceptability guidelines presented in the EPA sediment evaluation manual (U.S. EPA , 1994), its survival rate of 77% , rather than the required 80%, and the high survival rates for field reference samples provides justification for a full interpretation of results. None of the samples included in the toxicity test were acutely toxic to *H. azteca*.

Similarly, none of the samples had a lethal effect on *C. tentans*. For this species, however, the growth endpoint was evaluated in addition to the survival endpoint. Samples SD-10, SD-6, and SD-19 showed growth of *C. tentans* larvae that differed significantly in growth from their respective field reference samples. It is possible that the significant growth effects noted are due to contaminants inhibiting the organisms' growth at these locations. It is also possible that there are physico-chemical characteristics of the sediment such as total organic carbon (TOC) and grain size influencing the growth of these organisms. The growth average in the two reference samples was very high (mean of 1.05 mg per organism in both samples). The growth average in samples SD-6 and SD-19 had averages of 0.63 and 0.61 milligrams per organism, respectively, both of which exceed the minimum recommended weight of 0.60 mg for a control sample (U.S. EPA, 1994). Therefore the chronic effect, if present, may be minimal.

The possible inhibitory effect on growth of *C. tentans* from samples SD-10, SD-6, and SD-19 should be reevaluated when the analytical chemistry results become avaliable. Otherwise, no acute toxicity was observed to either species in this test.

REFERENCE

U.S. Environmental Protection Agency (U.S. EPA). 1994. Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates. EPA/600/R-94/024.

APPENDIX A

Sediment Sampling Schedule

Wells G and H, Woburn Massachusetts

November 11, 1997 through November 20, 1997

Wells G&H Sediment Sampling Schedule -November 1997				
SAMPLE STATION	DAY	ACCESS POINT	SPLIT FOR TOXICITY TESTING ?	DATE
24-03	1	Route 129 Woburn	NO	November 12, 1997
22-02	1	Dewey St. Woburn	NO	November 12, 1997
1-06	1	Beach Park Winchester	NO	November 12, 1997
1-07	1	Beach Park Winchester	NO	November 12, 1997
2-01	2	Beach Park Winchester	NO	November 13, 1997
2-02	2	Beach Park Winchester	NO	November 13, 1997
3-02	2	Beach Park Winchester	NO	November 13, 1997
5-03	2	Gauge Station Woburn	NO	November 13, 1997
4-02	3	Beach Park Winchester	NO	November 14, 1997
4-03	3	Beach Park Winchester	NO	November 14, 1997
21-01	3	Olympia Trucking Co Woburn	NO	November 14, 1997
11-01	3	Wildwood Avenue Woburn	NO	November 14, 1997
20-01	4	Olympia Trucking Co Woburn	NO	November 17, 1997
15-01	4	Olympia Trucking Co Woburn	NO	November 17, 1997
13-01	4	Olympia Trucking Co Woburn	NO	November 17, 1997
13-03	4	Olympia Trucking Co Woburn	NO	November 17, 1997
6-03	5	Rest Home Woburn	YES	November 18, 1997
25-02	5	Boat Launch Horn Pond Woburn	YES	November 18, 1997
Fowle Brook	5	Boat Launch Horn Pond Woburn	YES	November 18, 1997
18-02	5	Wildwood Avenue Woburn	YES	November 18, 1997
18-03	5	Wildwood Avenue Woburn	YES	November 18, 1997
10-01	6	Salem St. Woburn	YES	November 19, 1997
10-02	6	Salem St. Woburn	YES	November 19, 1997
07-10	6	Davidson Park Woburn	YES	November 19, 1997
19-01	6	Rifle Range Rd. Woburn	YES	November 19, 1997
12-01	7	Rifle Range Rd. Woburn	YES	November 20, 1997
12-03	7	Rifle Range Rd. Woburn	YES	November 20, 1997
07-02	7	Davidson Park Woburn	YES	November 20, 1997
07-05	7	Davidson Park Woburn	YES	November 20, 1997

NOTE: Shading indicates that the sample was utilized in the sediment toxicity test.

APPENDIX B

Field Notes Summary
and
Global Positioning System (GPS) Readings

Wells G and H, Woburn Massachusetts

November 11, 1997 through November 20, 1997

FIELD NOTES FOR WELLS G&H SAMPLING EVENT

The following Wells G&H field notes were compiled in an effort to detail the sampling activities from November 12, 1997 to November 20, 1997. These notes are organized in chronological order and the Geographical Positioning System (GPS) information i.e. the latitude and longitude coordinates have been corrected to account for routine scrambling of satellite signals for security purposes. These notes account for two ESAT Biologists in the field concurrently during the sampling event.

Project name: Wells G&H Sediment sampling
Sample location: SD-24-03
Date: November 12, 1997
Time: 0926 hrs
Weather: Sunny, approx. 40° F, with light wind
Latitude: 42° 26' 27. 43"
Longitude: 71° 08' 56. 02"
Elevation -21.38 M HAE
PDOP: 4.12
Filename: R111214A

Met M&E at trailer located at 60 Olympia Avenue in Woburn MA. Proceeded to the Rt 129 sampling location, station 24-03 with John Verban and Mark Gallagher of M&E. There was some difficulty identifying the exact sample location. The Aberjona river passes under Route 129 from the west and turns to the southwest, the main channel forming the eastern edge of an extensive cat-tail/loosestrife emergent wetland. The flow in the river was very slow, and the depth ranged from a few inches to approximately one foot. A sampling station was selected on the eastern side of Route 129, adjacent to a small garden center. Some debris, such as empty potting soil bags and plastic flower pots, was found in the water near the sampling station, probably originating from the garden center.

Station 24-03 is in shallow water, approximately one foot in depth, in the channel between the base of the slope near the garden center and the wetland. The sediment sample was taken using an Eckman dredge modified with an extension pole and a top-mounted release button. The sediment at this location was very dark brown, mucky, with sufficient plant matter to give the sediment a cohesive quality. The muck was deep and soft in this area.

Project name: Wells G&H Sediment sampling
Sample location: SD 22-02
Date: November 12, 1997
Time: 1310 hrs
Weather: Partly sunny, approx. 40° F, with light wind
Latitude: 42° 29' 54. 02"
Longitude: 71° 07' 48. 71"
Elevation 3.28 M HAE
PDOP: Not recorded
Filename: R111218B

In the afternoon station 22-02 was sampled. This station is off Dewey Street in Woburn. The station was located in a red maple swamp area to the south of Dewey Street, which at the time of sampling had no standing water. Sphaghnum moss, and the tops of skunk cabbage, were evident in the area, suggesting that the area may be seasonally flooded. The sediment was a rich black peat, crumbly and light, with many fine roots. Samples were taken with a bulb planter to a depth of approximately six inches. The holes left by the sampling filled with water within a few minutes **Project name: Wells G&H sediment sampling**
Sample location: SD-01-06
Date: November 12, 1997
Time: 1030 hrs.
Weather: Sunny and breezy, air temperature approximately 40 °F

Latitude: 42° 26' 23. 94" N
Longitude: 71° 08' 49. 15" W
Elevation: -25.32 M HAE
PDOP: 2.75
Filename: F111215B (disregard file F111215A as practice)

The first sediment location for the day was designated as SD-01-06, Mystic Lake in Beach Park in the town of Winchester, Massachusetts. The sampling location was approximately 100 feet to the right of the beach. Sampling was conducted by use of a boat and an Eckmann sampler. The designated location was to be 25 feet from the marker near the shoreline. A grab sample was attempted at this location, however, the substrate appeared to be mostly gravel. Further attempts were taken to locate a finer sediment sample within this general area, however, this was also unsuccessful. The sampling team moved straight out approximately another 9-10 feet, to a location some 34-35 feet from the marker. The first attempt at this location resulted in a successful grab of fine sediment. The depth of water was approximately seven feet at this location. The sediment was characterized as black and mucky. During the sampling, a GPU reading was taken by ESAT in another boat within the same general location. Several pictures were also taken of the sampling event and the location as it related to various landmarks. The first grab sample was dedicated to VOA analysis, and the subsequent grabs were composited in a five gallon bucket. The sediment sample was processed on shore. An attempt was made to use filter paper to de-water some of the sample. However, this proved unsuccessful as the filter paper absorbed so much water that it began to tear. Due to the excess amount of water in the sediment, Andy Beliveau (USEPA) decided that it would be better to use sieving trays. A single isopod was discovered in the sample during the processing.

Project name: Wells G&H sediment sampling
Sample location: SD-01-07
Date: November 12, 1997
Time: 1400 hrs
Weather: Sunny and breezy
Latitude: 42 ° 26' 23. 99" N
Longitude: 71° 08' 49. 35" W
Elevation: -26.88 M HAE
PDOP: 3.43
Filename: F111218A

The second sediment sample, designated as SD-01-07, was taken in the same general area. Sampling was conducted in the same manner has the first sample. This sample was taken approximately fifty feet from the marker and 14 feet straight out from the first sample. Sampling has conducted in eight feet of water, in the same manner as that of the first sample. The sediment sample was similar to that of the SD-01-07, except that it seem to retain more water. Processing was conducted in a similar manner as SD-01-06.

Project name: Wells G&H Sediment sampling
Sample location: SD 2-01
Date: November 13, 1997
Time: 0130 hrs
Weather: Sunny, approx. 35° F, with light wind
Latitude: 42° 26' 27.43"
Longitude: 71° 08' 56.02"
Elevation -21.38 HAE
PDOP: Not Recorded
Filename: R111314A

Station SD 2-01 was located approximately 24 feet from station SD-2-02, and approximately 16 feet from shore. The sample was similar in consistency to SD-2-02. At the time of sampling (approximately 10:30

am) ESAT attempted to do a real-time correction of the GPS reading in order to pinpoint the exact location of previous sampling, however the necessary U.S. Coast Guard signal could not be picked up by the GPS equipment. Therefore, a standard reading was taken for future correction. The sample was taken from an inflatable raft with the pole-mounted Eckman sampler, composited in a plastic bucket, and processed on shore.

Project name: Wells G&H Sediment sampling
Sample location: SD-2-02
Date: November 13, 1997
Time: 1000 hrs
Weather: Sunny, approx. 35° F, with light wind
Latitude: 42° 26' 27.88"
Longitude: 71° 08' 56.25"
Elevation -20.7 M HAE
PDOP: 5.53
Filename: R111314B

Sample SD-2-02 was taken in Upper Mystic Lake in Winchester, MA. Access to the sampling location was via Beach Park in Winchester. The sampling station 2-02 was taken approximately 40 feet from shore, in an area of Upper Mystic Lake near the entrance to the lower portion of Mystic Lake. Water lily leaves were still present in the area sampled. The sediment was a black muck with many sticks present. Samples were taken using the pole-mounted Eckman dredge described previously, from an inflatable raft. The sample was composited in a white plastic bucket and processed on shore.

Project name: Wells G&H sediment sampling
Sample location: SD-03-02
Date: November 13, 1997
Time: 0900 hrs
Weather Cold, sunny with a slight breeze
Latitude: 42° 26' 30. 45" N
Longitude: 71° 08' 48. 67" W
Elevation: -21.85 M HAE
PDOP: 5.11
Filename: F111314A

This sampling location was also in Mystic Lake, but east of the main body of water, in a cove where the lake first opens up. A stake was placed approximately 15 feet out from the shoreline (a relatively flat open area). A sediment sample was taken at a distance of 24 feet to the left of the marker, looking at the lake, in 1.5 feet of water. The shoreline at this location contained trees. The sediment sample was taken with an Eckman dredge, and was characterized as mucky with a lot of organic material, in particular submerged leaves. A large snail was found in the sample. This sample seemed to contain less water that either of the two samples taken in Mystic Lake on the previous day. The sediment sample was processed using filter paper.

Project name: Wells G&H sediment sampling
Sample location: SD-05-03
Date: November 13, 1997
Time: 1255 hrs
Weather: Cold, sunny with a slight breeze
Latitude: 42° 26' 50. 88" N
Longitude: 71° 08' 19. 40" W
Elevation: -11.07 M HAE
PDOP: 5.83

Filename: F111317A

The next sampling location was upsteam from Mystic Lake in a narrow section of the Aberjona River at the gauge station. Railroad tracks can be seen on the other side of the embankment. The sample was taken approximately fifty-seven feet upsteam from a small man-made dam. The width of the stream measured forty feet across. The sample was taken from a boat in approximately the middle of the stream, at a depth of 2.7 feet in slow slowing water. The shorelines bordering the stream were moderately sloped and heavily vegetated. The sediment at this location was much denser than previous sampling locations. As a result, the sampling team had trouble collecting a sufficient sample with the Eckman dredge. The sampling team deployed a core sampler which worked well. The sediment sample at this location was characterized as hard muck, with very little water content. As a result, no filter paper or sieving was found necessary for this particular sample. The sediment sample had a slight petroleum odor.

Project name: Wells G&H sediment sampling
Sample location: SD-04-02, Mystic Lake
Date: November 14, 1997
Time: Not recorded
Weather: total cloud cover, below freezing temps, sleet and snow.
Latitude: 42°26' 35 . 20 " N
Longitude: 71° 08' 35. 35" W
Elevation: -24.76 M HAE
PDOP: Not recorded
Filename: F111415A

The lake is surrounded by residential area and a public park along the shoreline. Railroad tracks are located across the street and parallel to the road that is adjacent to the lake. The shoreline adjacent to these two sites is sparsely wooded shoreline and has relatively easy access.
Upon arrival at the Mystic lake site we found out that the samples had already been taken with an Eckmann dredge and were in covered buckets on the shore. The water seemed shallow as the sampling sites were staked when we arrived, with the florescent tape visible just below the surface of the water.

Project name: Wells G&H sediment sampling
Sample location: SD-04-03, Mystic Lake
Date: November 14, 1997
Time: Not recorded
Weather: total cloud cover, below freezing temps, sleet and snow.
Latitude: 42°26 '34.80" N
Longitude: 71°08 ' 34.79" W
Elevation: -19.63 M HAE
PDOP: Not recorded
Filename: F111414A

The two sediment sampling locations on Mystic Lake were in close vicinity to each other, within 100 feet. It was realized by the sampling team that they did not have any VOA vials and had to return to the trailer to get some, whereupon it was found out that they had not been shipped and some would have to be prepared. Samples were split by the M&E team for analysis in the back of the van to protect them from the weather. The sediment was black and not very peaty.

Project name: Wells G&H Sediment sampling
Sample location: SD 21-01
Date: November 14, 1997
Time: 0900 hrs
Weather: Rain/sleet/snow mix, approx. 30° F, moderate wind
Latitude: 42° 29' 50. 73"
Longitude: 71° 08' 02. 36"

Elevation -9.94 HAE
PDOP: 4.03
Filename: R111414A

The sediment sampling station SD 21-01 was accessed from the trailer yard of the Olympia Trucking Company in Woburn. The station was located in a marsh approximately 75 feet to the east of the trailer yard, and on the opposite side of the railroad tracks that border the trailer yard. The sediment was taken in approximately four feet of water, in a small ponded area surrounded by a dense stand of common reed and cat-tails. There was a beaver lodge located approximately 20 feet from the sample station. The sample was taken from a john-boat using the pole-mounted Eckman corer. The water surface had a covering of floating vegetation (not identified). The sediment was a black peat with many root fragments. The sample was composited in a plastic bucket and processed in the trailer yard.

Project name: Wells G&H Sediment sampling
Sample location: SD 11-01
Date: November 14, 1997
Time: Approx. 0900 hrs
Weather: Partly sunny, approx. 45° F, light wind
Latitude: 42° 29' 35.20"
Longitude: 71° 07' 54.80"
Elevation -12.14 HAE
PDOP: 3.42
Filename: R111813A

Note: Station 11-01 was sampled on November 14, 1997, in snow and sleet. ESAT was unable to reach the sampling location in time to observe sampling. Metcalf and Eddy brought ESAT to the location on November 18 to take the GPS reading and make observations.

Station 11-01 was located mid-channel in the Aberjona River. The water depth is approximately 6 inches. The sediment is a dark-brown peat. The current is slow, steady, and laminar. The shore on both sides of the river is a marsh consisting of a mix of loosestrife, cat-tails, and high spots with shrubs. Access to the sampling location is via a plank boardwalk that begins on a construction company property off Wildwood Avenue in Woburn.

Project name: Wells G&H Sediment sampling
Sample location: SD 20-01
Date: November 17, 1997
Time: 0934 hrs
Weather: Clear, approx. 30° F, no wind
Latitude: 42° 29' 41.03"
Longitude: 71° 07' 58.31"
Elevation -8.30 HAE
PDOP: 4.10
Filename: R111714A

Station 20-01 is located due west of Well G. Access to the sampling station was via the Olympia Trucking Company lot. Station 20-01 is in a dense cat-tail marsh that is bordered by Wildwood Avenue, Washington Street, and the Boston and Maine Railroad tracks. The cat-tail marsh had some loosestrife at the edges, and the main channel and a number of small tributary streams run through the marsh. A stake marking the original station 20-01 was found, and a sample taken within approximately one meter of the stake. The station was in a small ponded area in a tributary stream to the Aberjona River. A dense mat of an unidentified floating weed was on the water surface at this station. The water depth was approximately 2 to 6 inches in various parts of the ponded area. The sediment was a black muck, very fibrous, very wet material. The sample was taken with a pole-mounted Eckman sampler, and the sample had to punch through a layer of fine roots to obtain a sample. Amphipods were observed in sediment at this location.

Project name: Wells G&H Sediment sampling
Sample location: SD 15-01
Date: November 17, 1997
Time: 1049 hrs
Weather: Clear, approx. 30° F, no wind
Latitude: 42° 29' 41.25"
Longitude: 71° 07' 57.75"
Elevation -4.92 HAE
PDOP: 5.43
Filename: R111715A

Station 15-01 was located on the main channel of the Aberjona River approximately 45 feet downstream of the entry point of a tributary stream, and approximately fifty feet further into the center of the marsh (east) of Station 20-01. The river at Station 15-01 is shallow, approximately 4 to 14 inches deep, with a fairly swift current. This station is marked with a 2"x 4" board sunk into the sediment, marked "SW-15". The sediment at this location was dark brown, with less fibrous material than the sediment at Station SD-20-01. Muskrat tracks were observed near the sampling station.

Project name: Wells G&H Sediment sampling
Sample location: SD 13-01
Date: November 17, 1997
Time: 0845 hrs
Weather: Sunny, cold, and windy
Latitude: 42° 29' 48.91" N
Longitude: 71° 08' 01.75" W
Elevation -14.44 M HAE
PDOP: 5.17
Filename: F111713A

Access to the sediment sampling locations was off of an industrial park located on Wildwood Avenue. Sampling equipment was carried over the Boston commuter railroad tracks and down a steep, but small, decline. The location was about 75 feet from the railroad tracks and about 6 feet from the shoreline. This particular location was outside the main river channel. Nearby was a rather extensive wetland consisting mainly of common reed and cat-tail in the standing water portion while along the shoreline was mostly oaks, hemlocks, etc. There was evidence of beaver activity which included tracks and felled sapling trees. The sediment sample itself was very black and organic in nature. EPA Project Manager, Andrew Beliveau, commented that this location may have high metals concentrations from the Industri-plex Superfund site.

Project name: Wells G&H Sediment sampling
Sample location: SD 13-03
Date: November 17, 1997
Time: 0945 hrs
Weather: Sunny, cold, and windy
Latitude: 42° 29' 48.94" N
Longitude: 71° 08' 01.16" W
Elevation -5.67 M HAE
PDOP: 6.09
Filename: F111714A

Access to the sediment sampling locations was again at the rear of an industrial park located on Wildwood Avenue. Sampling equipment was carried over the Boston commuter railroad tracks and down a steep, but small, decline. The location was about 40 feet across the peninsula from the previous location SD 13-01 and located more in the main river channel. This sampling location was about 125 feet from the railroad tracks and about 8 feet from the shoreline. Just across the main river channel lies an unbroken wetland again consisting mostly of common reed and cat-tails. Similar to the previous location, there was evidence

of beaver activity which included tracks and felled sapling trees. The sediment sample itself was fibrous with roots and mucky. EPA Project Manager, Andrew Beliveau, noted that this location also may have high metals concentrations from the Industri-plex Superfund site.

Project name: Wells G&H Sediment sampling
Sample location: SD-06-03
Date: November 18, 1997
Time: 0855 hrs
Weather: Overcast 35°
Latitude: 42° 27' 18.12" N
Longitude: 71° 08' 05.77" W
Elevation: -21.81 M HAE
PDOP: 5.69
Filename: F111813A

The pond, which is fed by the Aberjona River, is located essentially in Winchester center and directly across the street from the High School. The sampling location was in close proximity to the eastern shoreline which had a narrow swath of cattails and other assorted wetland vegetation. All along the perimeter was evidence of suburban encroachment. The inlet to the pond lies to the north with a weir restricting water flow at the south end of the pond. Approximately 150 feet to the north of the sediment location was an outfall, most likely from the nearby street. The samplers commented on the "pudding-like quality" of the sediment. The sample was collected in 3 to 4 feet of water but as one moved towards the center the pond became noticeably shallower ~1 foot.

Project name: Wells G&H Sediment sampling
Sample location: SD-25-02
Date: November 18, 1997
Time: 1150 hrs
Weather: Overcast 35°
Latitude: 42° 28' 22. 41" N
Longitude: 71° 09' 29.11" W
Elevation: -14.88 M HAE
PDOP: 6.30
Filename: F111816A

The sediment sample was collected from Horn Pond in the town of Woburn. To the southeast, a small point juts into the pond and the sample was collected in a line from the maple and willow trees on shore. This was the previous location as noted by Foster-Wheeler. Water level was way down according to the residents that live nearby. Initial attempts to collect sediment in waders was fruitless as the substrate was rocky. Next, the sampling team elected to use the boat and move offshore slightly and this proved beneficial but still the collection was slow in comparison to earlier locations. The sample was exceptionally soupy and ESAT requested M&E to pour off some liquid before placing the sediment in the toxicity test jars. In addition, this location was designated as the pond/wetland reference location; however, just on the other side of the point there was much rusting metal debris and assorted garbage.

Project name: Wells G&H Sediment sampling
Sample location: SD-FB (Fowle Brook)
Date: November 18, 1997
Time: 1245 hrs
Weather: Overcast 35°
Latitude: 42° 28' 18.06" N
Longitude: 71° 09' 56.99" W
Elevation: -3.25 M HAE
PDOP: 3.75

Filename: F111817A

This location had not been previously sampled, but was a replacement reference location for SD-24. Previous analytical results showed that this SD-24 location was inappropriate due to elevated concentrations of PAHs. This location was selected after a discussion with Ken Munney, USFWS who had suggested sampling in Fowle Brook downstream of the foot bridge; and Patti Tyler, EPA-WAM. Reconnaissance of this area revealed areas where recent rains had scoured the banks and the sediment substrate was otherwise sandy and not appropriate as a benthic habitat. Instead, the sediment sample was collected just upstream of the foot-bridge in a depositional slough. This area had no noticeable suburban encroachment and the quality of the sediment was, at first glance, quite good. There was a good mix of sand, fines, and decomposed organic material with some plant matter intermixed. Please note that this location was not collected for chemical analyses by M&E, so the only chemical data that exists for this location was some XRF data which was collected previously by a researcher at MIT.

Project name: Wells G&H Sediment sampling
Sample location: SD 18-02
Date: November 18, 1997
Time: 1022 hrs
Weather: Partly sunny, approx. 45° F, light wind
Latitude: 42° 29' 34.80"
Longitude: 71° 07' 53.61"
Elevation -14.21 HAE
PDOP: 2.67
Filename: R111815A

Station 18-02 was located approximately 20 yards upstream of the point where the plank boardwalk ends on the Aberjona River, accessed from the Wildwood Avenue construction site. The sample station is in a small inlet located on a bend in the Aberjona River, in a depositional area with a water depth of approximately 6 inches. The station is approximately 30 yards downstream of Station 11-01. The marsh surrounds the river at this location, the plant communities varying with topography and drainage. Generally speaking, the eastern shore was dominated with loosestrife and sedges, and the western shore with cat-tails and phragmites. Both this station and Station 18-03 were difficult to locate because of the changes in vegetation since the previous sampling round.

Samples were collected using the pole-mounted Eckman sampler. A split sample was collected for sediment toxicity testing, from the plastic bucket used for compositing the sample. The sediment is a very dark brown, mucky, fibrous material with many reed parts and very little mineral matter. Two 2-liter jars were collected for sediment toxicity testing.

Project name: Wells G&H Sediment sampling
Sample location: SD 18-03
Date: November 18, 1997
Time: 1104 hrs
Weather: Partly sunny, approx. 45° F, light wind
Latitude: 42° 29' 32.84"
Longitude: 71° 07' 53.95"
Elevation -14.80 HAE
PDOP: 3.84
Filename: R111816A

Station 18-03 located approximately twenty yards downstream of the plank walkway to the marsh accessed from the Wildwood Avenue construction company property. The station is located on a transect formed by a series of tall 2"x4" boards sunk in the sediment of the marsh at intervals, starting from the construction property. The station is off the main river channel, in a back-water stream that meanders through sedges and loosestrife. Water depth is 2 to 4 inches, with no discernable current. The sediment is almost black

muck with fibers of roots, sedges, and deciduous tree or shrub leaves. A split sample consisting of two 2-liter jars was collected for sediment toxicity testing.

Project name: Wells G&H Sediment sampling
Sample location: SD-10-01
Date: November 19, 1997
Time: 0845 hrs
Weather: Sunny 35°
Latitude: 42° 29' 29.79"
Longitude: 71° 07' 45.20"
Elevation: -8.73 M HAE
PDOP: 5.22
Filename: F111913A

The sample was collected approximately 80 feet north of the Salem Street bridge. The water depth was about 2 feet and the location was slightly out of the main river channel. Nearby landmarks included a large willow on shore which was about 30 feet away. On the other side of the tree was some sort of automotive repair business. A small buffer of trees and shrubs lined the shoreline. Extensive wetlands consisting of common reed, cat-tails, and purple loostrife exist to the north and east. Waterfowl (Canada geese) foraged in this area. Sample consistency was mucky and the samplers noticed a slight sheen to the sample. A thick layer of ice had to be broken through in order to collect the sample. Unfortunately, this tended to stir the sediment into the water column.

Project name: Wells G&H Sediment sampling
Sample location: SD-10-02
Date: November 19, 1997
Time: 0905 hrs
Weather: Sunny 35°
Latitude: 42° 29' 29.97"
Longitude: 71° 07' 45.32"
Elevation: -11.55 M HAE
PDOP: 12.2
Filename: F111914A

The sample was collected exactly 24.2 feet north of SD 10-01 therefore the notes for SD 10-02 apply to this location as well.

Project name: Wells G&H Sediment sampling
Sample location: SD7-10
Date: November 19, 1997
Time: 0829 hrs
Weather: Clear, approx. 30° F, very light wind
Latitude: 42° 28' 08.22"
Longitude: 71° 07' 45.43"
Elevation -20.31 HAE
PDOP: 5.11
Filename: R111913A

Station 7-10 was located at the edge of the pond in Davidson Park in Winchester, Massachusetts. The station is approximately 2 feet from shore on the southern side of the pond, in approximately ten inches of water. The pond flows to the west to a small waterfall and a stream. The park is completely landscaped, with grass and concrete walkways. The vegetation surrounding the pond consists of regularly spaced, and

probably planted, red-osier dogwood, crabappple, weeping willow, and birch trees. A fringe of herbaceous vegetation is found at the edges of the pond. No emergent vegetation was evident. To the south of the pond is a residential area, and to the north is a railroad track. The sediment is black and mucky, with occasional spots of a sheen. No odor was associated with the sheen. Several large aquatic earthworms were encountered in the sample. A split sample consisting of two 2-liter jars was collected for sediment toxicity testing.

Project name: Wells G&H Sediment sampling
Sample location: SD 19-01
Date: November 19, 1997
Time: 1050 hrs
Weather: Clear, approx. 30° F, very light wind
Latitude: 42° 29' 38.89"
Longitude: 71° 07' 50.52"
Elevation -7.04 HAE
PDOP: 4.51
Filename: R111916A

Station 19-01 was located in a deciduous forested wetland to the west, and downhill of, Well G. Access to the station is via Rifle Range Road in Woburn. Standing water is a few inches deep in most of the wetland, except where sedges, loosestrife and red maple trees emerge. According to Jonathan Weir of Metcalf and Eddy, there was less standing water during previous visits to this station. A sheen is present in many areas of this wetland. The sheen is odorless, and breaks up when disturbed, suggesting that it does not have a petroleum origin. Emergent lily leaves are still present in the water in some places within the wetland.

The area staked as Station 19-01 proved to have too many sticks to allow for sampling. A location was selected to the north of the original location, in an area of standing water with sparse phragmites growth. The GPS reading is for the location actually sampled. A coring device was used to collect the sample due to the presence of sticks in the sediment. A split sample consisting of two 2-liter jars was collected for sediment toxicity testing.

Project name: Wells G&H Sediment sampling
Sample location: SD 12-01
Date: November 20, 1997
Time: 0834 hrs
Weather: Clear, approx. 25° F, no wind
Latitude: 42° 29' 45.12"
Longitude: 71° 07' 52.16"
Elevation -15.19 HAE
PDOP: 5.24
Filename: R112013A

Station 12-01 is located off Rifle Range Road, near Well H. The land slopes downward from Well H to a cat-tail marsh. The upland bordering the marsh has numerous aspen trees, many of which have been cut by beaver to fall into the marsh. A beaver lodge is visible near the main channel of the Aberjona River, about twenty yards from station 12-01. Several red-tailed hawks were circling the wetland near the sampling station. Birch, sweet pepperbush, and goldenrod also occur on this slope. Station 12-01 is approximately 20 feet from the base of the slope, in water approximately 8 to 12 inches deep. The sediment is a black muck, very fibrous, with leaves and sticks. The sediment was also very liquid. A split sample consisting of two 2-liter bottles was taken from the plastic compositing bucket for sediment toxicity testing.

Project name: Wells G&H Sediment sampling

Sample location: SD 12-03
Date: November 20, 1997
Time: 0911 hrs
Weather: Clear, approx. 30° F, very light wind
Latitude: 42° 29' 44.59"
Longitude: 71° 07' 52.84"
Elevation -11.30 HAE
PDOP: 4.11
Filename: R1112014A

Station 12-03 is located approximately 50 feet to the southwest of station 12-01 at the edge of the main channel of the Aberjona River. Access is via Rifle Range Road, and the station is near Well H. There is a bend in the river channel, and the station is a few feet off the channel, which is quite deep (not measured but over 5 feet deep). Water depth at the sampling station is approximately 3 feet. A beaver lodge is located downstream of the station. The sediment is firmer than the sediment at station 12-01, with a peatier, less wet consistency. The area around the sample is dominated by cat-tails, with some loosestrife. A split sample consisting of two 2-liter bottles was taken from the plastic compositing bucket for sediment toxicity testing.

Project name: Wells G&H Sediment sampling
Sample location: SD-07-02
Date: November 20, 1997
Time: 1030 hrs
Weather: Sunny, clear & cold
Latitude: 42°28' 04. 37" N
Longitude: 71°07' 49. 44" W
Elevation: -18.55 M HAE
PDOP: 2.61
Filename: F112015B

The next sediment location was in the same body of water in Davidson Park. The location, however, was near the east end of the pond near the small bridge that overhangs the inlet of the pond from which the stream discharges. The sediment sample was taken from a boat in approximately 3.4 feet depth of water. This location was approximately sixty-six feet from the small bridge and about forty feet from the north, south, and east shorelines. The sample was similar to the first sample collected in the middle of the pond. The sediment was characterized as soft muck, black in color, and inhabited by many worms. The sample, however, appeared to contain more water content than the previous sample, taken near the shoreline.

Project name: Wells G&H sediment sampling
Sample location: SD-07-05
Date: November 20, 1997
Time: 0930 hrs
Weather: Sunny, clear & cold
Latitude: 42°28' 06. 26" N
Longitude: 71°07 ' 48. 94" W
Elevation: -13.71 M HAE
PDOP: 2.73
Filename: F112015A

The SD-07-05 sediment sample was taken in a pond in Davidson Park. The entire shoreline of the pond was vegetated with scrubs. The first sample was taken four feet from the shoreline in 1.2 feet of water. This location was in the middle of the pond. The sediment was taken with an Eckman sampler. The sediment sample was characterized as soft muck, black in color, having a lot of water content, with very little organic matter. There were large numbers of worms found in this sample.

APPENDIX C

Photographs of Field Activities

Wells G and H, Woburn Massachusetts

November 11, 1997 through November 20, 1997

APPENDIX D

Chain-of-Custody Records

Wells G and H, Woburn Massachusetts

November 11, 1997 through November 20, 1997

ENVIRONMENTAL PROTECTION AGENCY

REGION 1

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
98070	Wells G+H

SAMPLERS: (Signature) John D. Vedar

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Toxicity Response 2-species	REMARKS
12-01	11-29-97	0830		X		2	X X	Metcalf + Eddy collected Sample, ES AT received
12-03	11-29-97	0910		X		2	X X	" "

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
John D. Vedar	11-30-97 12:00	Brent Thomas			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
[illegible]	11-25-97 2:06	Kathy Janet	11/25/97 2:06 pm		

Distribution: Original Accompanies Shipment; Copy to Coordinator Field F

ENVIRONMENTAL PROTECTION AGENCY

REGION 1

CHAIN OF CUSTODY RECORD

PROJ. NO. 98070 | PROJECT NAME Wells G&H

SAMPLERS: (Signature) John D. Vetter

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	TOX testing						REMARKS
SD-06	11/18	0900		✓	Judkins Pond	2	✓						Sediment
SD-25	11/18	1200		✓	Horn Pond	2	✓						Sediment
SD-FB	11/18	1245		✓	Fowle Brook	2	✓						Sediment
SD-10-01	11/19	0845		✓	Aberjona River @ Salem St.	2	✓						Sediment
SD10-02	11/19	0905		✓	Aberjona River @ Salem St	2	✓						Sediment
													~~Sediment~~ DUP

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
John D. Vetter	11/19/97 0915	[illegible]			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
[illegible]		Kathy Jarel	11/25/97 2:00pm		

Distribution: Original Accompanies Shipment; Copy to Coordinator File

ENVIRONMENTAL PROTECTION AGENCY

REGION 1

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
98070	Wells G+H Aberjona River

SAMPLERS: (Signature) JONATHON WEIER MLE

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Sediment + Porewater Toxicity	REMARKS
18-02	11/18/97	10:15		X	Aberjona River wildwood property Station 18-02	2	X	sample taken by M+E, received by ESAT for Sed. tox.
18-03	11/18/97	11:00		X	Aberjona River wildwood property Station 18-03	2	X	sample taken by M+E, record by ESAT for sed tox.

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	11/18/97 12:09				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
	11/25/97 2:06 pm	Kathy Hosek	11/25/97 2:06 pm		

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Fil

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ENVIRONMENTAL PROTECTION AGENCY

REGION 1

CHAIN OF CUSTODY RECORD

PROJ. NO. 98070 | PROJECT NAME Wells G + H Sediment Sampling 11/97

SAMPLERS: (Signature) x JONATHON WEIKEL

SEA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Sediment Toxicity Test - 2 species	REMARKS
~~10-07-03~~								
~~10-07-02~~	11-20-97	0830		X	Davidson Park - Lake	2	X	Metcalf and Eddy Collected Sample - ESAT received split
10-	11-20-97	0930		X	Davidson Park Lake	2	X	" " "

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
x	11-20-97 0900	x George E. Balog			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	11-20-97 1000	George E. Balog			
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
Brent Johnson for Balog	11/25/97 2:30	[illegible]	11/25/97 2:06pm		

Distribution: Original Accompanies Shipment; Copy to Coordinator File

ONMENTAL PROTECTION AGENCY

N 1

CHAIN OF CUSTODY RECORD

T NAME Wells GrtH
Mason Park

ture)

A. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CON-TAINERS	Sediment toxicity testing	REMARKS
7-10	11/15/97	0815		X	Davidson Park Station 7-10	2	X	Samples taken by Mitchell + Eddy Released by ESAT for sediment testing
19-01	11/15/97	10.50		X	Near WeH G off rifle range Road 19-01	2	X	" "

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
	11/19/97 1130				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
	11-25-97 2:00pm		11/25/97 2:00pm		

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Fil

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APPENDIX E

Sediment Toxicity Testing Standard Operating Procedure (SOP)

OMOE Biology Section SOP 2.7 Revision 1.0

Wells G and H, Woburn Massachusetts

STATIC BULK SEDIMENT TOXICITY TESTING PROCEDURES

Biology Section

New England Regional Laboratory

SOP number: 2.7
Revision number: 1
October 22, 1997
Filename:G:\allshare\bio-sops\busedtes.scp

1.0 Purpose of Method

This procedure is used to evaluate the toxicity of freshwater bulk sediments to the benthic community. A two species test is prescribed due to species sensitivity differences.

2.0 Summary of Method

Two species of benthic macroinvertebrates are exposed to sediments for a 10 day period. Sediment and overlying water are placed in each of 8 replicates/sample/species and allowed to settle overnight. The following day, after water renewal, test organisms are introduced to each test vessel. Test chemistry is performed on the overlying water on a daily basis for the duration of the test. The test is ended, determining the number of surviving organisms. Subsequent to test termination, survival and growth endpoints are examined statistically. Procedures follow those described in the EPA document, Methods For Measuring The Toxicity and Bioaccumulation of Sediment-associated contaminants with Freshwater Invertebrates, EPA/600/R-94/024, June 1994.

3.0 Apparatus/Materials

a. 300 ml lipless test vessels

b. turbulence reducers

c. aluminum pans

d. drying oven

e. muffle oven

f. analytical balance

g. pH/specific ion electrode meter, DO meter and conductivity meter

h. ammonia probe

i. pH probe

j. DO probe

k. environmental chamber

3.0 Apparatus/Materials (cont'd)

l. precleaned nalgene trays

m. precleaned spatulas

n. crystallizing dishes

o. 6.0 ml disposable transfer pipets

p. forceps

q. light table

r. # 35 sieves

s. Hyallela azteca, 3rd and 4th instar (<7 days old): 2-3 mm in length

t. Chironomus tentans, 2nd and 3rd instar larvae, 50% of which are 2nd instar

4.0 Reagents

a. laboratory control sediment (see artificial sediment SOP)

b. deionized water

c. pH buffers

d. conductivity standards

e. ammonium chloride standard

f. 0.02N H_2SO_4

g. calgamite

h. 10N NaOH

i. 0.01M EDTA

5.0 Procedure

5.1 SEDIMENT STORAGE

a. Solid-phase sediment will be stored at 4°C in air-tight containers in the dark. All samples must be accompanied with proper identification and sample tracking information. Storage of sediments will be for no longer than 2 weeks prior to testing.

5.2 ENVIRONMENTAL CONTROLS WHILE TESTING

See the EPA method referenced for environmental controls specified.

5.3 SAMPLE PREPARATION and DISTRIBUTION

a. The day before the toxicity test starts (Day -1), sediments are poured from the 2 liter nalgene containers and homogenized to a uniform distribution, in a large precleaned nalgene tray, making sure that complete mixing is achieved. Excess sediments will be returned to the sample containers and held in the biology trig until testing is complete.

b. One hundred ml of each test sediment, reference sediment, and laboratory control sediment is added to each of 8 replicates per species. The sediment in each test vessel should be smoothed using a spoon or spatula. Next, carefully add 175 ml of overlying water to each vessel. The sediments are then allowed to settle for 12-24 hours. Water quality parameters should be measured prior to the addition of the test organisms.

5.4 ORGANISM INTRODUCTION

a. Test organisms are randomly selected from the test population for inoculation into the test. Each replicate will receive 20 organisms. No more than 5 individuals should be placed in a vessel during a complete pass of all sample replicates. With a 5 ml disposable transfer pipet, test organisms are **very** carefully transferred from the test population into the test vessel, **being sure to release the organisms below the surface of the overlying water.**

5.4.a (cont'd)

Note: If the test overlying water hardness is 1/2 or less than the culture water, then acclimating with a 1:1 dilution of the test population with overlying water on a 2 hour schedule until the overlying water is approximated is required.

Note: Inspect the test chambers <2 hours after introduction to insure that organisms are not trapped in the surface tension of the water. If floaters are detected, replace with new organisms.

5.5 TEST CHEMISTRY (See test chemistry SOP for details)

a. Test chemistry will be performed on a daily basis and results will be recorded in the test chemistry log book.

1) Initial test chemistry is performed on an overlying water composite from each sample prior to the introduction of test organisms. Chemical analyses will consist of the determination of pH, temperature, conductivity, dissolved oxygen(DO), hardness, alkalinity and ammonia.

2) Daily test chemistry consisting of a DO, temperature and conductivity measurement of overlying water will take place in the morning after renewal.

3) Final test chemistry will be done on a composite of replicates for each sample per species. Parameters tested will be identical to initial parameters.

Note: In order to accurately measure chemical parameters under test conditions, beakers of water to be tested should be kept in the environmental chamber until ready to perform the analyses.

Note: If the DO concentration on any sample falls below 40% of saturation, that species specific set of replicates must be aerated.

5.6 Feeding

a. Feeding of each replicate is performed daily following the morning renewal.

5.6 a (cont'd)

1) C. tentans is fed 1.0 ml of Tetramin of a 20 g/L suspension daily. *Feeding for all replicates is suspended for a day or more if fungus appears on sediment.*

2) H. azteca is fed 1.5 ml of YAT daily. *Feeding for all replicates is suspended for a day or more if fungus appears on sediment.*

5.7 Renewal

a. A 50% renewal using turbulence reducers to minimize resuspension is performed in the early morning and late afternoon. Renewal water is transferred from the drum in the Wet Lab to the environmental chamber between renewal so that the water will be at the test temperature.

5.8 TERMINATING SEDIMENT TESTS

a. Removal of sediment from the test chambers will be handled with the same protective garb used in setting up the test.

b. There are various techniques that can be used for retrieval of test organisms. H. azteca are simple counted. C. tentans are counted and then are rinsed clean and placed on muffled, preweighted, and numbered aluminum pans.

The replicate #, species, sample ID and number of organisms recovered are documented on tally sheets. The retrieval process should take place in a white plastic tray on a light table for increased visibility. Approximately 50% of the overlying water is poured into a white translucent tray on the light table. All organisms detected are counted and, in the case of C. tentans, placed on aluminum trays. Next, since the majority of organisms dwell in the upper few millimeters of sediment, the beakers can be swirled to lift this layer into water column and then poured into the sieve or translucent tray placed on a light table. All organisms are retrieved as prescribed. This suspension process is repeated, adding additional water to the beaker if necessary, with a thin layer at a time being poured into the tray.

5.8 (cont'd)

c. Once all organisms are retrieved or the test vessel finished, and the total number of organisms tallied, the label can be removed, the vessel is rinsed, with the rinsate being poured into a waste bucket, and the vessel is placed on the wash table in the Wet Lab.

d. All tally sheets are to be copied and the copies stapled into the specific project section of the sample project log book.

5.9 ENDPOINTS and OBSERVATIONS

Endpoints for this test are survival (both species) and growth (C. tentans) as ash free weight. Make notes of behavioral changes during the conduct of the test i.e. floating on surface, sediment avoidance.

6.0 Safety

a. All workers involved with handling and testing contaminated sediment must undergo health monitoring annually.

b. Hands should always be kept away from the eyes and mouth ie. no fingernail biting. After removing gloves, and possibly contaminated lab clothing, dispose of it in a trash bag marked non-hazardous, and wash hands with soap.

c. Lab coats must be worn at all times when working with sediments. Tyvec may be worn during sediment manipulation and mixing. The sediment may be checked with an HNU to determine if respirator use is necessary. Gloves must be worn to avoid skin contamination. Latex, rubber and vinyl gloves however may not provide full protection. Wear latex liners with nitrile or other protective glove if necessary. Safety glasses must be worn during the manipulation of sediments. If mixing is messy, face shields may be worn.

d. Mixing of sediment will occur under a hood if the potential is generating toxic aerosols, fumes or dusts exist.

7.0 Waste

a. Overlying water waste can be placed in the "dirty tank" unless suspected of being toxic or otherwise hazardous. If suspected of being hazardous, the overlying water waste should be isolated in a properly labeled drum and the EIA. and chemistry groups contacted to schedule sampling of the drum and analyses. When the analytical data is made available, it is to be forwarded to the H&S officer for review and ultimate disposal.

b. Sediment waste should be collected in labeled drums put into the Wet Lab next to the "dirty tank" and the biology lab manager contacted when sed waste is available for disposal.

c. Chemical waste from test activities is disposed of as per the test chem SOP (testchem.sop)

8.0 QA/QC

a. An artificial sediment is prepared and used as a laboratory control for each species during each test. The material used is of high quality. Test eccceptability criteria for survival of each species must be met on exposure to this control or the test may be invalidated.

b. Facility QC is documented through the monitoring and recording of temperature in the environmental chamber.

c. Organisms provided by this laboratory undergo water column reference toxicant testing for each tank of cultures to document the quality of the test organisms. Organisms from outside laboratories have documentation of QC testing available on request.

d. Test chemistry is performed on overlying waste water on a daily basis. Based on the results, response would include, aeration of all beakers associated with the specific sample and species or if problems indicated by the development of fungi, food would be reduced or eliminated.

e. Calibration of instrumentation used during the test is performed and documented. If problems are identified they are corrected prior to test measurement being performed or so noted if impossible to correct.

APPENDIX F

Toxicity Test Routine Chemistry Summary

Wells G and H, Woburn Massachusetts

Wells G&H Sediment Toxicity Test Chemistry - Day 0 (12/01/97) - C. tentans							
	Temp. (Degrees)	DO (mg/l)	S/C (mhos/cm)	pH (Units)	Alk. (mg CaCO3/L)	Hardness (mg CaCO3/L)	Ammonia (ppm)
Art.Sed.	23.1	6.7	319	7.1	78	104	0.2
SDFBRK	23.4	6.0	294	6.7	36	68	1.5
SD06	23.3	6.3	410	7.0	87	106	13.0
SD07-02	23.4	5.3	311	7.1	43	74	2.2
SD10	23.3	5.6	266	7.1	54	86	1.8
SD12-03	23.2	4.8	295	6.9	35	70	2.0
SD18-02	23.4	5.0	306	7.0	52	84	1.2
SD19-01	23.4	6.0	287	7.1	38	72	1.3
SD25	23.3	6.0	303	7.1	52	80	1.7

Wells G&H Sediment Toxicity Test Chemistry - Day 0 (12/02/97) - H. azteca							
	Temp. (Degrees)	DO (mg/l)	S/C (mhos/cm)	pH (Units)	Alk. (mg CaCO3/L)	Hardness (mg CaCO3/L)	Ammonia (ppm)
ART.SED	23.2	10.7	361	7.1	78	104	0.2
SDFBRK	23.3	10.3	310	7.2	36	68	1.5
SD-06	23.3	9.3	541	7.0	87	106	13.0
SD07-02	23.3	9.5	349	7.2	43	74	2.2
SD10	23.2	9.2	317	7.2	54	86	1.8
SD12-03	23.3	8.1	319	7.1	35	70	2.0
SD18-02	23.2	7.4	339	7.0	52	84	1.2
SD19-01	23.2	7.7	305	7.1	38	72	1.3
SD25	23.3	7.1	320	7.1	52	80	1.7

Wells G&H Sediment Toxicity Test Chemistry - Day 1 (12/02/97) C. tentans			
	Temp. (Degrees)	DO (mg/l)	S/C (mhos/cm)
Art. Sed.	23.0	8.8	322
SDFBRK	23.1	8.7	302
SD06	23.2	8.4	402
SD07-02	23.2	8.0	319
SD10	23.1	8.0	275
SD12-03	23.2	7.3	297
SD18-02	23.1	7.5	308
SD19-01	23.1	8.3	294
SD25	23.2	8.1	306

Wells G&H Sediment Toxicity Test Chemistry - Day 1 (12/03/97) - H. azteca			
	Temp. (Degrees)	DO (mg/l)	S/C (mhos/cm)
ART.SED.	23.2	6.3	368
SDFBRK	23.2	5.3	308
SD06	23.1	5.4	490
SD07-02	23.1	5.2	335
SD10	23.2	5.3	321
SD12-03	23.1	5.1	318
SD18-02	23.2	5.2	342
SD19-01	23.3	5.4	300
SD25	23.4	5.2	321

Wells G&H Sediment Toxicity Test Chemistry - Day 2 (12/03/97) - C. tentans			
	Temp. (Degrees)	DO (mg/l)	S/C (mhos/cm)
ART.SED	23.2	6.2	339
SDFBRK	23.3	5.6	292
SD06	23.4	5.6	401
SD07-02	23.4	5.2	313
SD10	23.3	5.0	291
SD12-03	23.4	5.5	323
SD18-02	23.4	5.7	289
SD19-01	23.3	5.3	310
SD25	23.3	5.4	301

J.Wells G&H Sediment Toxicity Test Chemistry - Day 2 (12/04/97) - H. Azteca			
	Temp. (Degrees)	DO (mg/l)	S/C (mhos/cm)
ART.SED	21.9	6.0	353
SDFBRK	22.2	5.2	301
SD06	21.9	5.4	406
SD07-02	22.0	4.9	317
SD10	22.1	5.2	320
SD12-03	22.3	5.0	309
SD18-02	21.9	4.9	320
SD19-01	21.9	5.4	294
SD25	21.7	5.9	309

Wells G&H Sediment Toxicity Test Chemistry - Day 3 (12/04/97) - C. tentans			
	Temp. (Degrees)	DO (mg/l)	S/C (mhos/cm)
ART.SED.	22.2	6.6	333
SDFBRK	22.0	6.0	288
SD06	22.2	5.1	374
SD07-02	22.1	4.5	306
SD10	22.1	5.1	316
SD12-03	21.9	5.0	282
SD18-02	21.9	4.0	301
SD19-01	22.0	5.3	283
SD25	22.1	5.4	296

Wells G&H Sediment Toxicity Test Chemistry - Day 3 (12/05/97) - H. azteca			
	Temp. (Degrees)	DO (mg/l)	S/C (mhos/cm)
ART.SED	22.0	5.6	339
SD06	22.0	5.5	362
SD07-02	22.0	4.7	313
SD10	22.0	5.6	315
SD12-03	22.0	5.1	302
SD18-02	22.0	4.9	302
SD19-01	21.0	5.6	296
SD25	21.0	5.7	308
SDFBRK	21.0	5.9	299

Wells G&H Sediment Toxicity Test Chemistry - Day 4 (12/05/97) - Ceriodaphnia dubia			
	Temp. (Degrees)	DO (mg/l)	S/C (mhos/cm)
ART.SED	22.0	5.0	340
SD06	22.0	5.0	350
SD07-02	22.0	5.2	302
SD10	22.0	5.1	318
SD12-03	22.0	4.5	292
SD18-02	22.0	5.0	306
SD19-01	22.0	5.3	286
SD25	22.0	4.4	299
SDFBRK	22.0	4.1	287

Wells G&H Sediment Toxicity Test Chemistry - Day 4 (12/06/97) - H. azteca			
	Temp. (Degrees)	DO (mg/l)	S/C (mhos/cm)
ART.SED	22.1	5.3	338
SD06	22.1	5.2	343
SD07-02	22.0	5.3	306
SD10	22.2	5.5	310
SD12-03	22.2	5.4	302
SD18-02	22.0	5.2	309
SD19-01	22.2	5.8	293
SD25	22.0	5.7	309
SDFBRK	22.2	5.9	297

Wells G&H Sediment Toxicity Test Chemistry - Day 5 (12/06/97) - Chentans			
	Temp. (Degrees)	DO (mg/l)	S/C (mhos/cm)
ART.SED	22.1	4.8	339
SD06	22.0	4.7	332
SD07-02	22.1	4.0	298
SD10	21.9	4.1	306
SD12-03	22.2	4.3	281
SD18-02	22.2	4.3	298
SD19-01	22.2	4.7	292
SD25	22.2	5.2	298
SDFBRK	22.2	4.6	286

Wells G&H Sediment Toxicity Test Chemistry - Day 5 (12/07/97) - H. azteca			
	Temp (Degrees)	DO (mg/l)	S/C (mhos/cm)
ART.SED	21.6	4.8	339
SD06	21.6	4.7	332
SD07-02	22.4	4.0	298
SD10	—	—	—
SD12-03	22.3	4.9	297
SD18-02	21.3	5.0	302
SD19-01	22.3	5.1	293
SD25	21.9	5.2	292
SDFBRK	22.5	6.3	297

Wells G&H Sediment Toxicity Test Chemistry - Day 6 (12/07/97) - C.tentans			
	Temp. (Degrees)	DO (mg/l)	S/C (mhos/cm)
ART.SED	22.0	4.8	347
SD06	22.9	4.8	321
SD07-02	22.7	4.8	295
SD10	22.4	4.9	306
SD12-03	22.6	4.9	287
SD18-02	22.5	4.0	296
SD19-01	22.7	5.3	280
SD25	21.6	4.9	285
SDFBRK	22.3	4.7	275

Wells G&H Sediment Toxicity Test Chemistry - Day 6 (12/08/97) - H. azteca			
	Temp (Degrees)	DO (mg/l)	S/C (mhos/cm)
ART.SED	21.8	4.8	339
SD06	21.8	5.6	325
SD07-02	22.1	4.9	302
SD10	22.1	5.1	303
SD12-03	22.1	5.2	301
SD18-02	21.9	4.7	306
SD19-01	22.3	5.0	279
SD25	21.8	5.9	299
SDFBRK	22.7	5.0	296

Wells G&H Sediment Toxicity Test Chemistry - Day 7 (12/08/97) - C.tentans			
	Temp. (Degrees)	DO (mg/l)	S/C (mhos/cm)
ART.SED	22.6	4.8	324
SD06	21.7	5.8	310
SD07-02	22.1	5.5	294
SD10	22.5	4.3	279
SD12-03	21.2	5.3	274
SD18-02	22.1	4.0	279
SD19-01	22.0	5.7	280
SD25	22.4	4.3	280
SDFBRK	22.1	4.3	272

Wells G&H Sediment Toxicity Test Chemistry - Day 7 (12/09/97) - H. azteca			
	Temp. (Degrees)	DO (mg/l)	S/C (mhos/cm)
ART.SED	22.0	4.3	343
SD06	22.5	5.6	317
SD07-02	22.7	5.2	303
SD10	22.9	4.8	295
SD12-03	22.7	5.4	293
SD18-02	22.5	5.1	296
SD19-01	22.8	5.2	297
SD25	22.4	5.5	293
SDFBRK	22.9	5.0	298

Wells G&H Sediment Toxicity Test Chemistry - Day 8 (12/09/97) - Ctenitons			
	Temp. (Degrees)	DO (mg/l)	S/C (mhos/cm)
ART.SED	22.5	4.5	328
SD06	22.2	4.0	295
SD07-02	22.1	4.2	271
SD10	22.3	4.6	291
SD12-03	22.5	4.8	277
SD18-02	22.4	3.1	281
SD19-01	22.5	4.9	302
SD25	22.0	4.7	279
SDFBRK	22.0	4.7	272

Wells G&H Sediment Toxicity Test Chemistry - Day 8 (12/18/97) - H. azteca			
	Temp (Degrees)	DO (mg/l)	S/C (mhos/cm)
ART.SED	23.0	3.5	355
SD06	23.1	3.5	299
SD07-02	23.1	5.0	300
SD10	23.0	5.4	301
SD12-03	23.1	5.3	294
SD18-02	23.0	5.2	286
SD19-01	23.0	5.5	303
SD25	22.9	5.3	302
SDFBRK	23.0	5.4	283

Wells G&H Sediment Toxicity Test Chemistry - Day 9 (12/10/97) - Chemistry			
	Temp. (Degrees)	DO (mg/l)	S/C (mhos/cm)
ART.SED	23.0	4.0	328
SD06	23.2	4.4	310
SD07-02	23.2	4.4	285
SD10	23.3	4.7	293
SD12-03	23.2	4.8	283
SD18-02	23.3	4.8	289
SD19-01	23.1	5.3	276
SD25	23.2	4.3	291
SDFBRK	23.2	5.2	275

Wells G&H Sediment Toxicity Test Chemistry - Day 9 (12/11/97) - H. azteca			
	Temp. (Degrees)	DO (mg/l)	S/C (mhos/cm)
ART.SED	22.8	1.2	330
SD06	22.8	4.9	324
SD07-02	23.0	4.4	310
SD10	22.4	5.7	304
SD12-03	23.1	4.9	302
SD18-02	22.6	5.2	307
SD19-01	22.9	2.9	296
SD25	22.7	5.3	306
SDFBRK	22.9	4.6	300

APPENDIX G

Toxicity Test Statistical Analysis

Wells G and H, Woburn Massachusetts

as an approximate test (average df are used).

.s G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

Bartletts test for homogeneity of variance

Calculated B statistic = 50.38
Table Chi-square value = 20.09 (alpha = 0.01)
Table Chi-square value = 15.51 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 7.00
Used for Chi-square table value ==> df (#groups-1) = 8

Data FAIL homogeneity test at 0.01 level. Try another transformation.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

TITLE: Wells G&H Sed Tox C. Tentans Survival 12/97
?: C:ghct12.97
(SFORM: ARC SINE(SQUARE ROOT(Y)) NUMBER OF GROUPS: 9

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	Art Sed	1	1.0000	1.4120
1	Art Sed	2	0.9000	1.2490
1	Art Sed	3	1.0000	1.4120
1	Art Sed	4	1.0000	1.4120
1	Art Sed	5	0.9000	1.2490
1	Art Sed	6	0.9000	1.2490
1	Art Sed	7	0.9000	1.2490
1	Art Sed	8	0.9000	1.2490
2	SD06	1	1.0000	1.4120
2	SD06	2	0.9000	1.2490
2	SD06	3	1.0000	1.4120
2	SD06	4	1.0000	1.4120
2	SD06	5	0.9000	1.2490
2	SD06	6	0.9000	1.2490
2	SD06	7	1.0000	1.4120
2	SD06	8	0.9000	1.2490
3	SD07	1	1.0000	1.4120
3	SD07	2	1.0000	1.4120
3	SD07	3	0.9000	1.2490
	SD07	4	0.9000	1.2490
	SD07	5	0.9000	1.2490
3	SD07	6	1.0000	1.4120
3	SD07	7	0.8000	1.1071
3	SD07	8	0.9000	1.2490
4	SD10	1	0.8000	1.1071

4	SD10	2	0.9000	1.2490
4	SD10	3	0.9000	1.2490
4	SD10	4	1.0000	1.4120
	SD10	5	0.9000	1.2490
	SD10	6	1.0000	1.4120
4	SD10	7	0.9000	1.2490
4	SD10	8	0.8000	1.1071
5	SD12	1	0.7000	0.9912
5	SD12	2	0.9000	1.2490
5	SD12	3	0.7000	0.9912
5	SD12	4	0.8000	1.1071
5	SD12	5	1.0000	1.4120
5	SD12	6	0.9000	1.2490
5	SD12	7	0.7000	0.9912
5	SD12	8	1.0000	1.4120
6	SD18	1	0.9000	1.2490
6	SD18	2	0.8000	1.1071
6	SD18	3	1.0000	1.4120
6	SD18	4	0.7000	0.9912
6	SD18	5	0.8000	1.1071
6	SD18	6	1.0000	1.4120
6	SD18	7	0.9000	1.2490
6	SD18	8	0.7000	0.9912
7	SD19	1	1.0000	1.4120
7	SD19	2	0.9000	1.2490
7	SD19	3	1.0000	1.4120
7	SD19	4	0.8000	1.1071
7	SD19	5	0.8000	1.1071
7	SD19	6	0.7000	0.9912
	SD19	7	1.0000	1.4120
	SD19	8	0.8000	1.1071
8	SD25	1	0.9000	1.2490
8	SD25	2	1.0000	1.4120
8	SD25	3	0.9000	1.2490
8	SD25	4	1.0000	1.4120
8	SD25	5	1.0000	1.4120
8	SD25	6	0.9000	1.2490
8	SD25	7	0.9000	1.2490
8	SD25	8	1.0000	1.4120
9	SDFB	1	0.0000	0.1588
9	SDFB	2	1.0000	1.4120
9	SDFB	3	0.6000	0.8861
9	SDFB	4	1.0000	1.4120
9	SDFB	5	1.0000	

	1.4120			
9	SDFB	6	1.0000	1.4120
9	SDFB	7	0.4000	0.6847
	SDFB	8	0.1000	0.3218

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	Art Sed	8	1.249	1.412	1.310
2	SD06	8	1.249	1.412	1.331
3	SD07	8	1.107	1.412	1.292
4	SD10	8	1.107	1.412	1.254
5	SD12	8	0.991	1.412	1.175
6	SD18	8	0.991	1.412	1.190
7	SD19	8	0.991	1.412	1.225
8	SD25	8	1.249	1.412	1.331
9	SDFB	8	0.159	1.412	0.962

Wells G&H Sed Tox C. Tentans Survival 12/97
: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
1	Art Sed	0.007	0.084	0.030
2	SD06	0.008	0.087	0.031
3	SD07	0.012	0.110	0.039
4	SD10	0.013	0.115	0.041
5	SD12	0.033	0.181	0.064
6	SD18	0.028	0.168	0.060
7	SD19	0.029	0.170	0.060
8	SD25	0.008	0.087	0.031
9	SDFB	0.278	0.528	0.186

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

STEELS MANY-ONE RANK TEST - Ho:Control<Treatment

JP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	df	S:3
1	Art Sed	1.310				
2	SD06	1.331	72.00	45.00	8.00	
3	SD07	1.292	65.50	45.00	8.00	

4	SD10	1.254	59.00	45.00	8.00
5	SD12	1.175	54.00	45.00	8.00
6	SD18	1.190	54.00	45.00	8.00
	SD19	1.225	58.00	45.00	8.00
	SD25	1.331	72.00	45.00	8.00
9	SDFB	0.962	62.00	45.00	8.00

Critical values use k = 8, are 1 tailed, and alpha = 0.05

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

WILCOXON RANK SUM TEST W/ BONFERRONI ADJUSTMENT - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	REPS	SIG
1	Art Sed	1.310				
2	SD06	1.331	72.00	44.00	8	
3	SD07	1.292	65.50	44.00	8	
4	SD10	1.254	59.00	44.00	8	
5	SD12	1.175	54.00	44.00	8	
6	SD18	1.190	54.00	44.00	8	
7	SD19	1.225	58.00	44.00	8	
8	SD25	1.331	72.00	44.00	8	
9	SDFB	0.962	62.00	44.00	8	

itical values use k = 8, are 1 tailed, and alpha = 0.05

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

square test for normality: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	4.824	17.424	27.504	17.424	4.824
OBSERVED	2	26	17	27	0

Calculated Chi-Square goodness of fit test statistic = 19.9727
Table Chi-Square value (alpha = 0.01) = 13.277

Data FAIL normality test. Try another transformation.

Warning - The two homogeneity tests are sensitive to non-normal data and should not be performed.

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

Shapiro-Wilks test for normality

******** Shapiro-Wilks Test is aborted ********

This test can not be performed because total number of replicates is greater than 50.

Total number of replicates = 72

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

Hartley test for homogeneity of variance

Calculated H statistic (max Var/min Var) = 39.11
Closest, conservative, Table H statistic = 23.0 (alpha = 0.01)

Used for Table H ==> R (# groups) = 9, df (# reps-1) = 7
Actual values ==> R (# groups) = 9, df (# avg reps-1) = 7.00

Data FAIL homogeneity test. Try another transformation.

NOTE: This test requires equal replicate sizes. If they are unequal but do not differ greatly, the Hartley test may still be used

as an approximate test (average df are used).

.s G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: NO TRANSFORMATION

Bartletts test for homogeneity of variance

Calculated B statistic = 66.83
Table Chi-square value = 20.09 (alpha = 0.01)
Table Chi-square value = 15.51 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 7.00
Used for Chi-square table value ==> df (#groups-1) = 8

Data FAIL homogeneity test at 0.01 level. Try another transformation.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: NO TRANSFORMATION

square test for normality: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	4.824	17.424	27.504	17.424	4.824
OBSERVED	2	26	17	27	0

Calculated Chi-Square goodness of fit test statistic = 19.9727
Table Chi-Square value (alpha = 0.01) = 13.277

Data FAIL normality test. Try another transformation.

Warning - The two homogeneity tests are sensitive to non-normal data and should not be performed.

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: NO TRANSFORMATION

Shapiro-Wilks test for normality

******** Shapiro-Wilks Test is aborted ********

This test can not be performed because total number of replicates is greater than 50.

Total number of replicates = 72

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: NO TRANSFORMATION

Hartley test for homogeneity of variance

Calculated H statistic (max Var/min Var) = 68.20
Closest, conservative, Table H statistic = 23.0 (alpha = 0.01)

Used for Table H ==> R (# groups) = 9, df (# reps-1) = 7
Actual values ==> R (# groups) = 9, df (# avg reps-1) = 7.00

Data FAIL homogeneity test. Try another transformation.

NOTE: This test requires equal replicate sizes. If they are unequal but do not differ greatly, the Hartley test may still be used

E: Wells G&H Sed Tox C. Tentans Survival 12/97
C:ghct12.97
TRANSFORM: ARC SINE(SQUARE ROOT(Y)) NUMBER OF GROUPS: 9

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	SD25	1	0.9000	1.2490
1	SD25	2	1.0000	1.4120
1	SD25	3	0.9000	1.2490
1	SD25	4	1.0000	1.4120
1	SD25	5	1.0000	1.4120
1	SD25	6	0.9000	1.2490
1	SD25	7	0.9000	1.2490
1	SD25	8	1.0000	1.4120
2	SD06	1	1.0000	1.4120
2	SD06	2	0.9000	1.2490
2	SD06	3	1.0000	1.4120
2	SD06	4	1.0000	1.4120
2	SD06	5	0.9000	1.2490
2	SD06	6	0.9000	1.2490
2	SD06	7	1.0000	1.4120
2	SD06	8	0.9000	1.2490
3	SD07	1	1.0000	1.4120
3	SD07	2	1.0000	1.4120
3	SD07	3	0.9000	1.2490
	SD07	4	0.9000	1.2490
	SD07	5	0.9000	1.2490
3	SD07	6	1.0000	1.4120
3	SD07	7	0.8000	1.1071
3	SD07	8	0.9000	1.2490
4	SD10	1	0.8000	1.1071
4	SD10	2	0.9000	1.2490
4	SD10	3	0.9000	1.2490
4	SD10	4	1.0000	1.4120
4	SD10	5	0.9000	1.2490
4	SD10	6	1.0000	1.4120
4	SD10	7	0.9000	1.2490
4	SD10	8	0.8000	1.1071
5	SD12	1	0.7000	0.9912
5	SD12	2	0.9000	1.2490
5	SD12	3	0.7000	0.9912
5	SD12	4	0.8000	1.1071
5	SD12	5	1.0000	1.4120
5	SD12	6	0.9000	1.2490
5	SD12	7	0.7000	0.9912
5	SD12	8	1.0000	1.4120
6	SD18	1	0.9000	1.2490
6	SD18	2	0.8000	1.1071
6	SD18	3	1.0000	1.4120
6	SD18	4	0.7000	0.9912
	SD18	5	0.8000	1.1071
	SD18	6	1.0000	1.4120
6	SD18	7	0.9000	1.2490
6	SD18	8	0.7000	0.9912
7	SD19	1	1.0000	1.4120
7	SD19	2	0.9000	1.2490

7	SD19	3	1.0000	1.4120
7	SD19	4	0.8000	1.1071
7	SD19	5	0.8000	1.1071
	SD19	6	0.7000	0.9912
	SD19	7	1.0000	1.4120
7	SD19	8	0.8000	1.1071
8	ARTSED	1	1.0000	1.4120
8	ARTSED	2	0.9000	1.2490
8	ARTSED	3	1.0000	1.4120
8	ARTSED	4	1.0000	1.4120
8	ARTSED	5	0.9000	1.2490
8	ARTSED	6	0.9000	1.2490
8	ARTSED	7	0.9000	1.2490
8	ARTSED	8	0.9000	1.2490
9	SDFB	1	0.0000	0.1588
9	SDFB	2	1.0000	1.4120
9	SDFB	3	0.6000	0.8861
9	SDFB	4	1.0000	1.4120
9	SDFB	5	1.0000	1.4120
9	SDFB	6	1.0000	1.4120
9	SDFB	7	0.4000	0.6847
9	SDFB	8	0.1000	0.3218

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	SD25	8	1.249	1.412	1.331
2	SD06	8	1.249	1.412	1.331
3	SD07	8	1.107	1.412	1.292
4	SD10	8	1.107	1.412	1.254
5	SD12	8	0.991	1.412	1.175
6	SD18	8	0.991	1.412	1.190
7	SD19	8	0.991	1.412	1.225
8	ARTSED	8	1.249	1.412	1.310
9	SDFB	8	0.159	1.412	0.962

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
	SD25	0.008	0.087	0.031
	SD06	0.008	0.087	0.031
3	SD07	0.012	0.110	0.039
4	SD10	0.013	0.115	0.041
5	SD12	0.033	0.181	0.064
6	SD18	0.028	0.168	0.060

7	SD19	0.029	0.170	0.060
8	ARTSED	0.007	0.084	0.030
9	SDFB	0.278	0.528	0.186

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

STEELS MANY-ONE RANK TEST - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	df	SIG
1	SD25	1.331				
2	SD06	1.331	68.00	45.00	8.00	
3	SD07	1.292	62.00	45.00	8.00	
4	SD10	1.254	56.00	45.00	8.00	
5	SD12	1.175	52.00	45.00	8.00	
6	SD18	1.190	52.00	45.00	8.00	
7	SD19	1.225	56.00	45.00	8.00	
8	ARTSED	1.310	64.00	45.00	8.00	
9	SDFB	0.962	60.00	45.00	8.00	

Critical values use k = 8, are 1 tailed, and alpha = 0.05

s G&H Sed Tox C. Tentans Survival 12/97
: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

WILCOXON RANK SUM TEST W/ BONFERRONI ADJUSTMENT - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	REPS	SIG
1	SD25	1.331				
2	SD06	1.331	68.00	44.00	8	
3	SD07	1.292	62.00	44.00	8	
4	SD10	1.254	56.00	44.00	8	
5	SD12	1.175	52.00	44.00	8	
6	SD18	1.190	52.00	44.00	8	
7	SD19	1.225	56.00	44.00	8	
8	ARTSED	1.310	64.00	44.00	8	
9	SDFB	0.962	60.00	44.00	8	

Critical values use k = 8, are 1 tailed, and alpha = 0.05

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: NO TRANSFORMATION

square test for normality: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	4.824	17.424	27.504	17.424	4.824
OBSERVED	2	26	17	27	0

Calculated Chi-Square goodness of fit test statistic = 19.9727
Table Chi-Square value (alpha = 0.01) = 13.277

Data FAIL normality test. Try another transformation.

Warning - The two homogeneity tests are sensitive to non-normal data and should not be performed.

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: NO TRANSFORMATION

Shapiro-Wilks test for normality

******** Shapiro-Wilks Test is aborted ********

This test can not be performed because total number of replicates is greater than 50.

Total number of replicates = 72

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: NO TRANSFORMATION

Hartley test for homogeneity of variance

Calculated H statistic (max Var/min Var) = 68.20
Closest, conservative, Table H statistic = 23.0 (alpha = 0.01)

Used for Table H ==> R (# groups) = 9, df (# reps-1) = 7
Actual values ==> R (# groups) = 9, df (# avg reps-1) = 7.00

Data FAIL homogeneity test. Try another transformation.

NOTE: This test requires equal replicate sizes. If they are unequal but do not differ greatly, the Hartley test may still be used

as an approximate test (average df are used).

.s G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: NO TRANSFORMATION

Bartletts test for homogeneity of variance

Calculated B statistic = 66.83
Table Chi-square value = 20.09 (alpha = 0.01)
Table Chi-square value = 15.51 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 7.00
Used for Chi-square table value ==> df (#groups-1) = 8

Data FAIL homogeneity test at 0.01 level. Try another transformation.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

·square test for normality: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	4.824	17.424	27.504	17.424	4.824
OBSERVED	2	26	17	27	0

Calculated Chi-Square goodness of fit test statistic = 19.9727
Table Chi-Square value (alpha = 0.01) = 13.277

Data FAIL normality test. Try another transformation.

Warning - The two homogeneity tests are sensitive to non-normal data and should not be performed.

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

Shapiro-Wilks test for normality

******** Shapiro-Wilks Test is aborted ********

This test can not be performed because total number of replicates is greater than 50.

Total number of replicates = 72

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

Hartley test for homogeneity of variance

Calculated H statistic (max Var/min Var) = 39.11
Closest, conservative, Table H statistic = 23.0 (alpha = 0.01)

Used for Table H ==> R (# groups) = 9, df (# reps-1) = 7
Actual values ==> R (# groups) = 9, df (# avg reps-1) = 7.00

Data FAIL homogeneity test. Try another transformation.

NOTE: This test requires equal replicate sizes. If they are unequal but do not differ greatly, the Hartley test may still be used

as an approximate test (average df are used).

ıs G&H Sed Tox C. Tentans Survival 12/97
ı.ıe: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

Bartletts test for homogeneity of variance

Calculated B statistic = 50.38
Table Chi-square value = 20.09 (alpha = 0.01)
Table Chi-square value = 15.51 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 7.00
Used for Chi-square table value ==> df (#groups-1) = 8

Data FAIL homogeneity test at 0.01 level. Try another transformation.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

E: Wells G&H Sed Tox C. Tentans Survival 12/97
: C:ghct12.97
TRANSFORM: ARC SINE(SQUARE ROOT(Y)) NUMBER OF GROUPS: 9

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	SDFB	1	0.0000	0.1588
1	SDFB	2	1.0000	1.4120
1	SDFB	3	0.6000	0.8861
1	SDFB	4	1.0000	1.4120
1	SDFB	5	1.0000	1.4120
1	SDFB	6	1.0000	1.4120
1	SDFB	7	0.4000	0.6847
1	SDFB	8	0.1000	0.3218
2	SD06	1	1.0000	1.4120
2	SD06	2	0.9000	1.2490
2	SD06	3	1.0000	1.4120
2	SD06	4	1.0000	1.4120
2	SD06	5	0.9000	1.2490
2	SD06	6	0.9000	1.2490
2	SD06	7	1.0000	1.4120
2	SD06	8	0.9000	1.2490
3	SD07	1	1.0000	1.4120
3	SD07	2	1.0000	1.4120
3	SD07	3	0.9000	1.2490
	SD07	4	0.9000	1.2490
	SD07	5	0.9000	1.2490
3	SD07	6	1.0000	1.4120
3	SD07	7	0.8000	1.1071
3	SD07	8	0.9000	1.2490
4	SD10	1	0.8000	1.1071
4	SD10	2	0.9000	1.2490
4	SD10	3	0.9000	1.2490
4	SD10	4	1.0000	1.4120
4	SD10	5	0.9000	1.2490
4	SD10	6	1.0000	1.4120
4	SD10	7	0.9000	1.2490
4	SD10	8	0.8000	1.1071
5	SD12	1	0.7000	0.9912
5	SD12	2	0.9000	1.2490
5	SD12	3	0.7000	0.9912
5	SD12	4	0.8000	1.1071
5	SD12	5	1.0000	1.4120
5	SD12	6	0.9000	1.2490
5	SD12	7	0.7000	0.9912
5	SD12	8	1.0000	1.4120
6	SD18	1	0.9000	1.2490
6	SD18	2	0.8000	1.1071
6	SD18	3	1.0000	1.4120
6	SD18	4	0.7000	0.9912
	SD18	5	0.8000	1.1071
	SD18	6	1.0000	1.4120
6	SD18	7	0.9000	1.2490
6	SD18	8	0.7000	0.9912
7	SD19	1	1.0000	1.4120
7	SD19	2	0.9000	1.2490

1	SDFB	1	0.0000	0.1588
1	SDFB	2	1.0000	1.4120
	SDFB	3	0.6000	0.8861
	SDFB	4	1.0000	1.4120
1	SDFB	5	1.0000	1.4120
1	SDFB	6	1.0000	1.4120
1	SDFB	7	0.4000	0.6847
1	SDFB	8	0.1000	0.3218
2	SD06	1	1.0000	1.4120
2	SD06	2	0.9000	1.2490
2	SD06	3	1.0000	1.4120
2	SD06	4	1.0000	1.4120
2	SD06	5	0.9000	1.2490
2	SD06	6	0.9000	1.2490
2	SD06	7	1.0000	1.4120
2	SD06	8	0.9000	1.2490
3	SD07	1	1.0000	1.4120
3	SD07	2	1.0000	1.4120
3	SD07	3	0.9000	1.2490
3	SD07	4	0.9000	1.2490
3	SD07	5	0.9000	1.2490
3	SD07	6	1.0000	1.4120
3	SD07	7	0.8000	1.1071
3	SD07	8	0.9000	1.2490
4	SD10	1	0.8000	1.1071
4	SD10	2	0.9000	1.2490
4	SD10	3	0.9000	1.2490
4	SD10	4	1.0000	1.4120
	SD10	5	0.9000	1.2490
	SD10	6	1.0000	1.4120
4	SD10	7	0.9000	1.2490
4	SD10	8	0.8000	1.1071
5	SD12	1	0.7000	0.9912
5	SD12	2	0.9000	1.2490
5	SD12	3	0.7000	0.9912
5	SD12	4	0.8000	1.1071
5	SD12	5	1.0000	1.4120
5	SD12	6	0.9000	1.2490
5	SD12	7	0.7000	0.9912
5	SD12	8	1.0000	1.4120
6	SD18	1	0.9000	1.2490
6	SD18	2	0.8000	1.1071
6	SD18	3	1.0000	1.4120
6	SD18	4	0.7000	0.9912
6	SD18	5	0.8000	1.1071
6	SD18	6	1.0000	1.4120
6	SD18	7	0.9000	1.2490
6	SD18	8	0.7000	0.9912
7	SD19	1	1.0000	1.4120
7	SD19	2	0.9000	1.2490
7	SD19	3	1.0000	1.4120
7	SD19	4	0.8000	1.1071
7	SD19	5	0.8000	1.1071
	SD19	6	0.7000	0.9912
	SD19	7	1.0000	1.4120
/	SD19	8	0.8000	1.1071
8	SD25	1	0.9000	1.2490
8	SD25	2	1.0000	1.4120
8	SD25	3	0.9000	1.2490

7	SD19	3	1.0000	1.4120
7	SD19	4	0.8000	1.1071
7	SD19	5	0.8000	1.1071
	SD19	6	0.7000	0.9912
	SD19	7	1.0000	1.4120
7	SD19	8	0.8000	1.1071
8	SD25	1	0.9000	1.2490
8	SD25	2	1.0000	1.4120
8	SD25	3	0.9000	1.2490
8	SD25	4	1.0000	1.4120
8	SD25	5	1.0000	1.4120
8	SD25	6	0.9000	1.2490
8	SD25	7	0.9000	1.2490
8	SD25	8	1.0000	1.4120
9	SDFB	1	0.0000	0.1588
9	SDFB	2	1.0000	1.4120
9	SDFB	3	0.6000	0.8861
9	SDFB	4	1.0000	1.4120
9	SDFB	5	1.0000	1.4120
9	SDFB	6	1.0000	1.4120
9	SDFB	7	0.4000	0.6847
9	SDFB	8	0.1000	0.3218

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	SDFB	8	0.159	1.412	0.962
2	SD06	8	1.249	1.412	1.331
3	SD07	8	1.107	1.412	1.292
4	SD10	8	1.107	1.412	1.254
5	SD12	8	0.991	1.412	1.175
6	SD18	8	0.991	1.412	1.190
7	SD19	8	0.991	1.412	1.225
8	SD25	8	1.249	1.412	1.331
9	SDFB	8	0.159	1.412	0.962

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
	SDFB	0.278	0.528	0.186
	SD06	0.008	0.087	0.031
3	SD07	0.012	0.110	0.039
4	SD10	0.013	0.115	0.041
5	SD12	0.033	0.181	0.064
6	SD18	0.028	0.168	0.060

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: NO TRANSFORMATION

square test for normality: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	4.824	17.424	27.504	17.424	4.824
OBSERVED	2	24	18	28	0

Calculated Chi-Square goodness of fit test statistic = 18.6626
Table Chi-Square value (alpha = 0.01) = 13.277

Data FAIL normality test. Try another transformation.

Warning - The two homogeneity tests are sensitive to non-normal data and should not be performed.

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: NO TRANSFORMATION

Shapiro-Wilks test for normality

******** Shapiro-Wilks Test is aborted ********

This test can not be performed because total number of replicates is greater than 50.

Total number of replicates = 72

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: NO TRANSFORMATION

Hartley test for homogeneity of variance

Calculated H statistic (max Var/min Var) = 63.94
Closest, conservative, Table H statistic = 23.0 (alpha = 0.01)

Used for Table H ==> R (# groups) = 9, df (# reps-1) = 7
Actual values ==> R (# groups) = 9, df (# avg reps-1) = 7.00

Data FAIL homogeneity test. Try another transformation.

NOTE: This test requires equal replicate sizes. If they are unequal but do not differ greatly, the Hartley test may still be used

as an approximate test (average df are used).

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: NO TRANSFORMATION

Bartletts test for homogeneity of variance

Calculated B statistic = 71.55
Table Chi-square value = 20.09 (alpha = 0.01)
Table Chi-square value = 15.51 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 7.00
Used for Chi-square table value ==> df (#groups-1) = 8

Data FAIL homogeneity test at 0.01 level. Try another transformation.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

-square test for normality: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	4.824	17.424	27.504	17.424	4.824
OBSERVED	3	23	18	28	0

Calculated Chi-Square goodness of fit test statistic = 17.0016
Table Chi-Square value (alpha = 0.01) = 13.277

Data FAIL normality test. Try another transformation.

Warning - The two homogeneity tests are sensitive to non-normal data and should not be performed.

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

Shapiro-Wilks test for normality

******** Shapiro-Wilks Test is aborted ********

This test can not be performed because total number of replicates is greater than 50.

Total number of replicates = 72

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

Hartley test for homogeneity of variance

Calculated H statistic (max Var/min Var) = 36.67
Closest, conservative, Table H statistic = 23.0 (alpha = 0.01)

Used for Table H ==> R (# groups) = 9, df (# reps-1) = 7
Actual values ==> R (# groups) = 9, df (# avg reps-1) = 7.00

Data FAIL homogeneity test. Try another transformation.

NOTE: This test requires equal replicate sizes. If they are unequal but do not differ greatly, the Hartley test may still be used as an approximate test (average df are used).

ls G&H Sed Tox C. Tentans Survival 12/97
e: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

Bartletts test for homogeneity of variance

Calculated B statistic = 56.04
Table Chi-square value = 20.09 (alpha = 0.01)
Table Chi-square value = 15.51 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 7.00
Used for Chi-square table value ==> df (#groups-1) = 8

Data FAIL homogeneity test at 0.01 level. Try another transformation.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

7	SD19	0.029	0.170	0.060
8	SD25	0.008	0.087	0.031
9	SDFB	0.278	0.528	0.186

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

STEELS MANY-ONE RANK TEST - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	df	SIG
1	SDFB	0.962				
2	SD06	1.331	76.00	45.00	8.00	
3	SD07	1.292	74.00	45.00	8.00	
4	SD10	1.254	72.00	45.00	8.00	
5	SD12	1.175	72.00	45.00	8.00	
6	SD18	1.190	72.00	45.00	8.00	
7	SD19	1.225	74.00	45.00	8.00	
8	SD25	1.331	76.00	45.00	8.00	
9	SDFB	0.962	68.00	45.00	8.00	

Critical values use k = 8, are 1 tailed, and alpha = 0.05

ls G&H Sed Tox C. Tentans Survival 12/97
e: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

WILCOXON RANK SUM TEST W/ BONFERRONI ADJUSTMENT - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	REPS	SIG
1	SDFB	0.962				
2	SD06	1.331	76.00	44.00	8	
3	SD07	1.292	74.00	44.00	8	
4	SD10	1.254	72.00	44.00	8	
5	SD12	1.175	72.00	44.00	8	
6	SD18	1.190	72.00	44.00	8	
7	SD19	1.225	74.00	44.00	8	
8	SD25	1.331	76.00	44.00	8	
9	SDFB	0.962	68.00	44.00	8	

Critical values use k = 8, are 1 tailed, and alpha = 0.05

LE: Wells G&H Sed Tox C. Tentans Survival 12/97
E: C:ghct12.97
TRANSFORM: ARC SINE(SQUARE ROOT(Y)) NUMBER OF GROUPS: 9

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE

8	SD25	4	1.0000	1.4120
8	SD25	5	1.0000	1.4120
8	SD25	6	0.9000	1.2490
	SD25	7	0.9000	1.2490
	SD25	8	1.0000	1.4120
9	SDFB	1	0.0000	0.1588
9	SDFB	2	1.0000	1.4120
9	SDFB	3	0.6000	0.8861
9	SDFB	4	1.0000	1.4120
9	SDFB	5	1.0000	1.4120
9	SDFB	6	1.0000	1.4120
9	SDFB	7	0.4000	0.6847
9	SDFB	8	0.1000	0.3218

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	SDFB	8	0.159	1.412	0.962
2	SD06	8	1.249	1.412	1.331
3	SD07	8	1.107	1.412	1.292
4	SD10	8	1.107	1.412	1.254
5	SD12	8	0.991	1.412	1.175
	SD18	8	0.991	1.412	1.190
	SD19	8	0.991	1.412	1.225
8	SD25	8	1.249	1.412	1.331
9	SDFB	8	0.159	1.412	0.962

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
1	SDFB	0.278	0.528	0.186
2	SD06	0.008	0.087	0.031
3	SD07	0.012	0.110	0.039
4	SD10	0.013	0.115	0.041
5	SD12	0.033	0.181	0.064
6	SD18	0.028	0.168	0.060
7	SD19	0.029	0.170	0.060
8	SD25	0.008	0.087	0.031
9	SDFB	0.278	0.528	0.186

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

STEELS MANY-ONE RANK TEST - Ho:Control<Treatment

JP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	df	SIG
1	SDFB	0.962				
2	SD06	1.331	76.00	45.00	8.00	
3	SD07	1.292	74.00	45.00	8.00	
4	SD10	1.254	72.00	45.00	8.00	
5	SD12	1.175	72.00	45.00	8.00	
6	SD18	1.190	72.00	45.00	8.00	
7	SD19	1.225	74.00	45.00	8.00	
8	SD25	1.331	76.00	45.00	8.00	
9	SDFB	0.962	68.00	45.00	8.00	

Critical values use k = 8, are 1 tailed, and alpha = 0.05

Wells G&H Sed Tox C. Tentans Survival 12/97
File: C:ghct12.97 Transform: ARC SINE(SQUARE ROOT(Y))

WILCOXON RANK SUM TEST W/ BONFERRONI ADJUSTMENT - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	REPS	SIG
1	SDFB	0.962				
	SD06	1.331	76.00	44.00	8	
	SD07	1.292	74.00	44.00	8	
4	SD10	1.254	72.00	44.00	8	
5	SD12	1.175	72.00	44.00	8	
6	SD18	1.190	72.00	44.00	8	
7	SD19	1.225	74.00	44.00	8	
8	SD25	1.331	76.00	44.00	8	
9	SDFB	0.962	68.00	44.00	8	

Critical values use k = 8, are 1 tailed, and alpha = 0.05

E: Wells G&H Sed Tox C. tentans growth 12/97
: C:ghct12.97
TRANSFORM: NO TRANSFORM NUMBER OF GROUPS: 9

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	SDFB	1	0.9200	0.9200
1	SDFB	2	1.1800	1.1800
1	SDFB	3	1.0800	1.0800
1	SDFB	4	0.8800	0.8800
1	SDFB	5	0.9700	0.9700
1	SDFB	6	1.3800	1.3800
1	SDFB	7	1.0000	1.0000
1	SDFB	8	0.0000	0.0000
2	SD06	1	0.7600	0.7600
2	SD06	2	0.6100	0.6100
2	SD06	3	0.5800	0.5800
2	SD06	4	0.7000	0.7000
2	SD06	5	0.6900	0.6900
2	SD06	6	0.6100	0.6100
2	SD06	7	0.5200	0.5200
2	SD06	8	0.6000	0.6000
3	SD07	1	0.7800	0.7800
3	SD07	2	0.9200	0.9200
3	SD07	3	0.9000	0.9000
	SD07	4	0.9200	0.9200
	SD07	5	0.8000	0.8000
3	SD07	6	0.9200	0.9200
3	SD07	7	0.7800	0.7800
3	SD07	8	0.5200	0.5200
4	SD10	1	0.6800	0.6800
4	SD10	2	0.6400	0.6400
4	SD10	3	0.7000	0.7000
4	SD10	4	0.5100	0.5100
4	SD10	5	0.5600	0.5600
4	SD10	6	0.5300	0.5300
4	SD10	7	0.6000	0.6000
4	SD10	8	0.6600	0.6600
5	SD12	1	0.7900	0.7900
5	SD12	2	0.5300	0.5300
5	SD12	3	0.5800	0.5800
5	SD12	4	0.7100	0.7100
5	SD12	5	0.7000	0.7000
5	SD12	6	0.7300	0.7300
5	SD12	7	0.7400	0.7400
5	SD12	8	1.1200	1.1200
6	SD18	1	0.9300	0.9300
6	SD18	2	0.8000	0.8000
6	SD18	3	0.6600	0.6600
6	SD18	4	0.8300	0.8300
	SD18	5	0.7000	0.7000
	SD18	6	0.8600	0.8600
6	SD18	7	0.8800	0.8800
6	SD18	8	0.9400	0.9400
7	SD19	1	0.5700	0.5700
7	SD19	2	0.6600	0.6600

7	SD19	3	0.6200	0.6200
7	SD19	4	0.5400	0.5400
7	SD19	5	0.6600	0.6600
	SD19	6	0.9600	0.9600
	SD19	7	0.5800	0.5800
7	SD19	8	0.6400	0.6400
8	SD25	1	1.0700	1.0700
8	SD25	2	0.9800	0.9800
8	SD25	3	1.1600	1.1600
8	SD25	4	0.7500	0.7500
8	SD25	5	1.3000	1.3000
8	SD25	6	1.3200	1.3200
8	SD25	7	0.7700	0.7700
8	SD25	8	1.0300	1.0300
9	ARTSED	1	0.3300	0.3300
9	ARTSED	2	0.3900	0.3900
9	ARTSED	3	0.3400	0.3400
9	ARTSED	4	0.4900	0.4900
9	ARTSED	5	0.6200	0.6200
9	ARTSED	6	0.6400	0.6400
9	ARTSED	7	0.5300	0.5300
9	ARTSED	8	0.6100	0.6100

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: NO TRANSFORM

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	SDFB	8	0.000	1.380	0.926
2	SD06	8	0.520	0.760	0.634
3	SD07	8	0.520	0.920	0.818
4	SD10	8	0.510	0.700	0.610
5	SD12	8	0.530	1.120	0.738
6	SD18	8	0.660	0.940	0.825
7	SD19	8	0.540	0.960	0.654
8	SD25	8	0.750	1.320	1.048
9	ARTSED	8	0.330	0.640	0.494

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: NO TRANSFORM

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
	SDFB	0.166	0.407	0.144
	SD06	0.006	0.077	0.027
3	SD07	0.019	0.136	0.048
4	SD10	0.005	0.071	0.025
5	SD12	0.031	0.177	0.063
6	SD18	0.010	0.101	0.036

7	SD19	0.017	0.131	0.046
8	SD25	0.046	0.214	0.076
9	ARTSED	0.016	0.127	0.045

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: NO TRANSFORM

STEELS MANY-ONE RANK TEST - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	df	SIG
1	SDFB	0.926				
2	SD06	0.634	44.00	45.00	8.00	*
3	SD07	0.818	49.50	45.00	8.00	
4	SD10	0.610	44.00	45.00	8.00	*
5	SD12	0.738	49.00	45.00	8.00	
6	SD18	0.825	48.50	45.00	8.00	
7	SD19	0.654	46.00	45.00	8.00	
8	SD25	1.048	72.00	45.00	8.00	
9	ARTSED	0.494	44.00	45.00	8.00	*

Critical values use k = 8, are 1 tailed, and alpha = 0.05

ls G&H Sed Tox C. tentans growth 12/97
e: C:ghct12.97 Transform: NO TRANSFORM

WILCOXON RANK SUM TEST W/ BONFERRONI ADJUSTMENT - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	REPS	SIG
1	SDFB	0.926				
2	SD06	0.634	44.00	44.00	8	*
3	SD07	0.818	49.50	44.00	8	
4	SD10	0.610	44.00	44.00	8	*
5	SD12	0.738	49.00	44.00	8	
6	SD18	0.825	48.50	44.00	8	
7	SD19	0.654	46.00	44.00	8	
8	SD25	1.048	72.00	44.00	8	
9	ARTSED	0.494	44.00	44.00	8	*

Critical values use k = 8, are 1 tailed, and alpha = 0.05

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: NO TRANSFORMATION

·square test for normality: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	4.824	17.424	27.504	17.424	4.824
OBSERVED	3	16	30	20	3

Calculated Chi-Square goodness of fit test statistic = 2.1031
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test. Continue analysis.

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: NO TRANSFORMATION

Shapiro-Wilks test for normality

******** Shapiro-Wilks Test is aborted ********

's test can not be performed because total number of replicates
greater than 50.

Total number of replicates = 72

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: NO TRANSFORMATION

Hartley test for homogeneity of variance

Calculated H statistic (max Var/min Var) = 32.81
Closest, conservative, Table H statistic = 23.0 (alpha = 0.01)

Used for Table H ==> R (# groups) = 9, df (# reps-1) = 7
Actual values ==> R (# groups) = 9, df (# avg reps-1) = 7.00

Data FAIL homogeneity test. Try another transformation.

TE: This test requires equal replicate sizes. If they are unequal
but do not differ greatly, the Hartley test may still be used
as an approximate test (average df are used).

E: Wells G&H Sed Tox C. tentans growth 12/97
C:ghct12.97
TRANSFORM: SQUARE ROOT(Y) NUMBER OF GROUPS: 9

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	SD25	1	1.0700	1.0344
1	SD25	2	0.9800	0.9899
1	SD25	3	1.1600	1.0770
1	SD25	4	0.7500	0.8660
1	SD25	5	1.3000	1.1402
1	SD25	6	1.3200	1.1489
1	SD25	7	0.7700	0.8775
1	SD25	8	1.0300	1.0149
2	SD06	1	0.7600	0.8718
2	SD06	2	0.6100	0.7810
2	SD06	3	0.5800	0.7616
2	SD06	4	0.7000	0.8367
2	SD06	5	0.6900	0.8307
2	SD06	6	0.6100	0.7810
2	SD06	7	0.5200	0.7211
2	SD06	8	0.6000	0.7746
3	SD07	1	0.7800	0.8832
3	SD07	2	0.9200	0.9592
3	SD07	3	0.9000	0.9487
	SD07	4	0.9200	0.9592
	SD07	5	0.8000	0.8944
3	SD07	6	0.9200	0.9592
3	SD07	7	0.7800	0.8832
3	SD07	8	0.5200	0.7211
4	SD10	1	0.6800	0.8246
4	SD10	2	0.6400	0.8000
4	SD10	3	0.7000	0.8367
4	SD10	4	0.5100	0.7141
4	SD10	5	0.5600	0.7483
4	SD10	6	0.5300	0.7280
4	SD10	7	0.6000	0.7746
4	SD10	8	0.6600	0.8124
5	SD12	1	0.7900	0.8888
5	SD12	2	0.5300	0.7280
5	SD12	3	0.5800	0.7616
5	SD12	4	0.7100	0.8426
5	SD12	5	0.7000	0.8367
5	SD12	6	0.7300	0.8544
5	SD12	7	0.7400	0.8602
5	SD12	8	1.1200	1.0583
6	SD18	1	0.9300	0.9644
6	SD18	2	0.8000	0.8944
6	SD18	3	0.6600	0.8124
6	SD18	4	0.8300	0.9110
	SD18	5	0.7000	0.8367
	SD18	6	0.8600	0.9274
6	SD18	7	0.8800	0.9381
6	SD18	8	0.9400	0.9695
7	SD19	1	0.5700	0.7550
7	SD19	2	0.6600	0.8124

7	SD19	3	0.6200	0.7874
7	SD19	4	0.5400	0.7348
7	SD19	5	0.6600	0.8124
	SD19	6	0.9600	0.9798
	SD19	7	0.5800	0.7616
7	SD19	8	0.6400	0.8000
8	ARTSED	1	0.3300	0.5745
8	ARTSED	2	0.3900	0.6245
8	ARTSED	3	0.3400	0.5831
8	ARTSED	4	0.4900	0.7000
8	ARTSED	5	0.6200	0.7874
8	ARTSED	6	0.6400	0.8000
8	ARTSED	7	0.5300	0.7280
8	ARTSED	8	0.6100	0.7810
9	SDFB	1	0.0000	0.0000
9	SDFB	2	0.9200	0.9592
9	SDFB	3	1.1800	1.0863
9	SDFB	4	1.0800	1.0392
9	SDFB	5	0.8800	0.9381
9	SDFB	6	0.9700	0.9849
9	SDFB	7	1.3800	1.1747
9	SDFB	8	1.0000	1.0000

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	SD25	8	0.866	1.149	1.019
2	SD06	8	0.721	0.872	0.795
3	SD07	8	0.721	0.959	0.901
4	SD10	8	0.714	0.837	0.780
5	SD12	8	0.728	1.058	0.854
6	SD18	8	0.812	0.970	0.907
7	SD19	8	0.735	0.980	0.805
8	ARTSED	8	0.574	0.800	0.697
9	SDFB	8	0.000	1.175	0.898

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
	SD25	0.011	0.107	0.038
	SD06	0.002	0.048	0.017
3	SD07	0.006	0.081	0.028
4	SD10	0.002	0.046	0.016
5	SD12	0.010	0.098	0.035
6	SD18	0.003	0.057	0.020

7	SD19	0.006	0.076	0.027
8	ARTSED	0.009	0.093	0.033
9	SDFB	0.137	0.371	0.131

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	8	0.559	0.070	3.333
Within (Error)	63	1.308	0.021	
Total	71	1.867		

Critical F value = 2.10 (0.05,8,60)
Since F > Critical F REJECT Ho:All groups equal

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

DUNNETTS TEST - TABLE 1 OF 2 Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	SD25	1.019	1.048		
2	SD06	0.795	0.634	3.089	*
3	SD07	0.901	0.818	1.623	
4	SD10	0.780	0.610	3.295	*
5	SD12	0.854	0.738	2.274	
6	SD18	0.907	0.825	1.544	
7	SD19	0.805	0.654	2.942	*
8	ARTSED	0.697	0.494	4.434	*
9	SDFB	0.898	0.926	1.667	

Dunnett table value = 2.44 (1 Tailed Value, P=0.05, df=60,8)

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

DUNNETTS TEST - TABLE 2 OF 2 Ho:Control<Treatment

UP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	SD25	8			
2	SD06	8	0.177	16.9	0.414
3	SD07	8	0.177	16.9	0.230

4	SD10	8	0.177	16.9	0.438
5	SD12	8	0.177	16.9	0.310
6	SD18	8	0.177	16.9	0.222
	SD19	8	0.177	16.9	0.394
	ARTSED	8	0.177	16.9	0.554
9	SDFB	8	0.177	16.9	0.121

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	8	0.559	0.070	3.333
Within (Error)	63	1.308	0.021	
Total	71	1.867		

Critical F value = 2.10 (0.05,8,60)
Since F > Critical F REJECT Ho:All groups equal

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

BONFERRONI T-TEST - TABLE 1 OF 2 Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	SD25	1.019	1.048		
2	SD06	0.795	0.634	3.089	*
3	SD07	0.901	0.818	1.623	
4	SD10	0.780	0.610	3.295	*
5	SD12	0.854	0.738	2.274	
6	SD18	0.907	0.825	1.544	
7	SD19	0.805	0.654	2.942	*
8	ARTSED	0.697	0.494	4.434	*
9	SDFB	0.898	0.926	1.667	

Bonferroni T table value = 2.58 (1 Tailed Value, P=0.05, df=60,8)

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

BONFERRONI T-TEST - TABLE 2 OF 2 Ho:Control<Treatment

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL

1	SD25	8			
2	SD06	8	0.187	17.8	0.414
3	SD07	8	0.187	17.8	0.230
	SD10	8	0.187	17.8	0.438
	SD12	8	0.187	17.8	0.310
6	SD18	8	0.187	17.8	0.222
7	SD19	8	0.187	17.8	0.394
8	ARTSED	8	0.187	17.8	0.554
9	SDFB	8	0.187	17.8	0.121

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

STEELS MANY-ONE RANK TEST - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	df	SIG
1	SD25	1.019				
2	SD06	0.795	37.00	45.00	8.00	*
3	SD07	0.901	50.00	45.00	8.00	
4	SD10	0.780	36.00	45.00	8.00	*
5	SD12	0.854	43.00	45.00	8.00	*
6	SD18	0.907	48.00	45.00	8.00	
7	SD19	0.805	38.00	45.00	8.00	*
8	ARTSED	0.697	36.00	45.00	8.00	*
	SDFB	0.898	64.00	45.00	8.00	

Critical values use k = 8, are 1 tailed, and alpha = 0.05

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

WILCOXON RANK SUM TEST W/ BONFERRONI ADJUSTMENT - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	REPS	SIG
1	SD25	1.019				
2	SD06	0.795	37.00	44.00	8	*
3	SD07	0.901	50.00	44.00	8	
4	SD10	0.780	36.00	44.00	8	*
5	SD12	0.854	43.00	44.00	8	*
6	SD18	0.907	48.00	44.00	8	
7	SD19	0.805	38.00	44.00	8	*
8	ARTSED	0.697	36.00	44.00	8	*
9	SDFB	0.898	64.00	44.00	8	

Critical values use k = 8, are 1 tailed, and alpha = 0.05

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: NO TRANSFORMATION

·square test for normality: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	4.824	17.424	27.504	17.424	4.824
OBSERVED	3	16	30	20	3

Calculated Chi-Square goodness of fit test statistic = 2.1031
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test. Continue analysis.

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: NO TRANSFORMATION

Shapiro-Wilks test for normality

******** Shapiro-Wilks Test is aborted ********

; test can not be performed because total number of replicates
greater than 50.

Total number of replicates = 72

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: NO TRANSFORMATION

Hartley test for homogeneity of variance

Calculated H statistic (max Var/min Var) = 32.81
Closest, conservative, Table H statistic = 23.0 (alpha = 0.01)

Used for Table H ==> R (# groups) = 9, df (# reps-1) = 7
Actual values ==> R (# groups) = 9, df (# avg reps-1) = 7.00

Data FAIL homogeneity test. Try another transformation.

E: This test requires equal replicate sizes. If they are unequal but do not differ greatly, the Hartley test may still be used as an approximate test (average df are used).

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: NO TRANSFORMATION

Bartletts test for homogeneity of variance

Calculated B statistic = 35.70
Table Chi-square value = 20.09 (alpha = 0.01)
Table Chi-square value = 15.51 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 7.00
Used for Chi-square table value ==> df (#groups-1) = 8

Data FAIL homogeneity test at 0.01 level. Try another transformation.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

T E: Wells G&H Sed Tox C. tentans growth 12/97
: C:ghct12.97
TRANSFORM: SQUARE ROOT(Y) NUMBER OF GROUPS: 9

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	SD25	1	1.0700	1.0344
1	SD25	2	0.9800	0.9899
1	SD25	3	1.1600	1.0770
1	SD25	4	0.7500	0.8660
1	SD25	5	1.3000	1.1402
1	SD25	6	1.3200	1.1489
1	SD25	7	0.7700	0.8775
1	SD25	8	1.0300	1.0149
2	SD06	1	0.7600	0.8718
2	SD06	2	0.6100	0.7810
2	SD06	3	0.5800	0.7616
2	SD06	4	0.7000	0.8367
2	SD06	5	0.6900	0.8307
2	SD06	6	0.6100	0.7810
2	SD06	7	0.5200	0.7211
2	SD06	8	0.6000	0.7746
3	SD07	1	0.7800	0.8832
3	SD07	2	0.9200	0.9592
3	SD07	3	0.9000	0.9487
	SD07	4	0.9200	0.9592
	SD07	5	0.8000	0.8944
3	SD07	6	0.9200	0.9592
3	SD07	7	0.7800	0.8832
3	SD07	8	0.5200	0.7211
4	SD10	1	0.6800	0.8246
4	SD10	2	0.6400	0.8000
4	SD10	3	0.7000	0.8367
4	SD10	4	0.5100	0.7141
4	SD10	5	0.5600	0.7483
4	SD10	6	0.5300	0.7280
4	SD10	7	0.6000	0.7746
4	SD10	8	0.6600	0.8124
5	SD12	1	0.7900	0.8888
5	SD12	2	0.5300	0.7280
5	SD12	3	0.5800	0.7616
5	SD12	4	0.7100	0.8426
5	SD12	5	0.7000	0.8367
5	SD12	6	0.7300	0.8544
5	SD12	7	0.7400	0.8602
5	SD12	8	1.1200	1.0583
6	SD18	1	0.9300	0.9644
6	SD18	2	0.8000	0.8944
6	SD18	3	0.6600	0.8124
6	SD18	4	0.8300	0.9110
	SD18	5	0.7000	0.8367
	SD18	6	0.8600	0.9274
6	SD18	7	0.8800	0.9381
6	SD18	8	0.9400	0.9695
7	SD19	1	0.5700	0.7550
7	SD19	2	0.6600	0.8124

7	SD19	3	0.6200	0.7874
7	SD19	4	0.5400	0.7348
7	SD19	5	0.6600	0.8124
	SD19	6	0.9600	0.9798
	SD19	7	0.5800	0.7616
7	SD19	8	0.6400	0.8000
8	ARTSED	1	0.3300	0.5745
8	ARTSED	2	0.3900	0.6245
8	ARTSED	3	0.3400	0.5831
8	ARTSED	4	0.4900	0.7000
8	ARTSED	5	0.6200	0.7874
8	ARTSED	6	0.6400	0.8000
8	ARTSED	7	0.5300	0.7280
8	ARTSED	8	0.6100	0.7810
9	SDFB	1	0.0000	0.0000
9	SDFB	2	0.9200	0.9592
9	SDFB	3	1.1800	1.0863
9	SDFB	4	1.0800	1.0392
9	SDFB	5	0.8800	0.9381
9	SDFB	6	0.9700	0.9849
9	SDFB	7	1.3800	1.1747
9	SDFB	8	1.0000	1.0000

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	SD25	8	0.866	1.149	1.019
2	SD06	8	0.721	0.872	0.795
3	SD07	8	0.721	0.959	0.901
4	SD10	8	0.714	0.837	0.780
5	SD12	8	0.728	1.058	0.854
6	SD18	8	0.812	0.970	0.907
7	SD19	8	0.735	0.980	0.805
8	ARTSED	8	0.574	0.800	0.697
9	SDFB	8	0.000	1.175	0.898

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
	SD25	0.011	0.107	0.038
	SD06	0.002	0.048	0.017
3	SD07	0.006	0.081	0.028
4	SD10	0.002	0.046	0.016
5	SD12	0.010	0.098	0.035
6	SD18	0.003	0.057	0.020

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	SD25	8	1.048	1.019	1.019
2	SD06	8	0.634	0.795	0.848
3	SD07	8	0.818	0.901	0.848
4	SD10	8	0.610	0.780	0.847
5	SD12	8	0.738	0.854	0.847
6	SD18	8	0.825	0.907	0.847
7	SD19	8	0.654	0.805	0.805
8	ARTSED	8	0.494	0.697	0.798
9	SDFB	8	0.926	0.898	0.798

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
SD25	1.019				
SD06	0.848	2.369	*	1.67	k= 1, v=63
SD07	0.848	2.369	*	1.75	k= 2, v=63
SD10	0.847	2.384	*	1.77	k= 3, v=63
SD12	0.847	2.384	*	1.78	k= 4, v=63
SD18	0.847	2.384	*	1.79	k= 5, v=63
SD19	0.805	2.958	*	1.79	k= 6, v=63
ARTSED	0.798	3.068	*	1.80	k= 7, v=63
SDFB	0.798	3.068	*	1.80	k= 8, v=63

s = 0.144
Note: df used for table values are approximate when v > 20.

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

STEELS MANY-ONE RANK TEST - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	df	SIG
1	SD25	1.019				
2	SD06	0.795	37.00	45.00	8.00	*
3	SD07	0.901	50.00	45.00	8.00	
4	SD10	0.780	36.00	45.00	8.00	*
	SD12	0.854	43.00	45.00	8.00	*
	SD18	0.907	48.00	45.00	8.00	
7	SD19	0.805	38.00	45.00	8.00	*
8	ARTSED	0.697	36.00	45.00	8.00	*
9	SDFB	0.898	64.00	45.00	8.00	

Critical values use k = 8, are 1 tailed, and alpha = 0.05

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

WILCOXON RANK SUM TEST W/ BONFERRONI ADJUSTMENT - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	REPS	SIG
1	SD25	1.019				
2	SD06	0.795	37.00	44.00	8	*
3	SD07	0.901	50.00	44.00	8	
4	SD10	0.780	36.00	44.00	8	*
5	SD12	0.854	43.00	44.00	8	*
6	SD18	0.907	48.00	44.00	8	
7	SD19	0.805	38.00	44.00	8	*
8	ARTSED	0.697	36.00	44.00	8	*
9	SDFB	0.898	64.00	44.00	8	

Critical values use k = 8, are 1 tailed, and alpha = 0.05

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

KRUSKAL-WALLIS ANOVA BY RANKS - TABLE 1 OF 2

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	RANK SUM
1	SD25	1.019	1.048	484.000
2	SD06	0.795	0.634	194.500
3	SD07	0.901	0.818	363.500
4	SD10	0.780	0.610	170.500
5	SD12	0.854	0.738	291.500
6	SD18	0.907	0.825	380.000
7	SD19	0.805	0.654	210.500
8	ARTSED	0.697	0.494	94.500
9	SDFB	0.898	0.926	439.000

Calculated H Value = 39.692 Critical H Value Table = 15.510
Since Calc H > Crit H REJECT Ho:All groups are equal.

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

DUNNS MULTIPLE COMPARISON - KRUSKAL-WALLIS - TABLE 2 OF 2

GROUP	IDENTIFICATION	TRANSFORMED MEAN	ORIGINAL MEAN	GROUP 0 0 0 0 0 0 0 0 0 8 4 2 7 5 9 3 6 1 - - - - - - - - -
8	ARTSED	0.697	0.494	\

1	SD25	8			
2	SD06	8	0.187	17.8	0.414
3	SD07	8	0.187	17.8	0.230
	SD10	8	0.187	17.8	0.438
	SD12	8	0.187	17.8	0.310
6	SD18	8	0.187	17.8	0.222
7	SD19	8	0.187	17.8	0.394
8	ARTSED	8	0.187	17.8	0.554
9	SDFB	8	0.187	17.8	0.121

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	8	0.559	0.070	3.333
Within (Error)	63	1.308	0.021	
Total	71	1.867		

Critical F value = 2.10 (0.05,8,60)
Since F > Critical F REJECT Ho:All groups equal

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

TUKEY method of multiple comparisons

GROUP	IDENTIFICATION	TRANSFORMED MEAN	ORIGINAL MEAN	GROUP 8	4	2	7	5	9	3	6	1
8	ARTSED	0.697	0.494	\								
4	SD10	0.780	0.610	.	\							
2	SD06	0.795	0.634	.	.	\						
7	SD19	0.805	0.654	.	.	.	\					
5	SD12	0.854	0.738	.	.	.	.	\				
9	SDFB	0.898	0.926	.	.	.	.	.	\			
3	SD07	0.901	0.818	.	.	.	.	.	.	\		
6	SD18	0.907	0.825	.	.	.	.	.	.	.	\	
1	SD25	1.019	1.048	*	*	.	.	.	.	.	.	\

* = significant difference (p=0.05) . = no significant difference
Tukey value (9,63) = 4.55 s = 0.021

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

4	SD10	8	0.177	16.9	0.438
5	SD12	8	0.177	16.9	0.310
	SD18	8	0.177	16.9	0.222
	SD19	8	0.177	16.9	0.394
	ARTSED	8	0.177	16.9	0.554
9	SDFB	8	0.177	16.9	0.121

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	8	0.559	0.070	3.333
Within (Error)	63	1.308	0.021	
Total	71	1.867		

Critical F value = 2.10 (0.05,8,60)
Since F > Critical F REJECT Ho:All groups equal

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

BONFERRONI T-TEST - TABLE 1 OF 2 Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	SD25	1.019	1.048		
2	SD06	0.795	0.634	3.089	*
3	SD07	0.901	0.818	1.623	
4	SD10	0.780	0.610	3.295	*
5	SD12	0.854	0.738	2.274	
6	SD18	0.907	0.825	1.544	
7	SD19	0.805	0.654	2.942	*
8	ARTSED	0.697	0.494	4.434	*
9	SDFB	0.898	0.926	1.667	

Bonferroni T table value = 2.58 (1 Tailed Value, P=0.05, df=60,8)

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

BONFERRONI T-TEST - TABLE 2 OF 2 Ho:Control<Treatment

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL

7	SD19	0.006	0.076	0.027
8	ARTSED	0.009	0.093	0.033
9	SDFB	0.137	0.371	0.131

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	8	0.559	0.070	3.333
Within (Error)	63	1.308	0.021	
Total	71	1.867		

Critical F value = 2.10 (0.05,8,60)
Since F > Critical F REJECT Ho:All groups equal

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

DUNNETTS TEST - TABLE 1 OF 2 Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	SD25	1.019	1.048		
2	SD06	0.795	0.634	3.089	*
3	SD07	0.901	0.818	1.623	
4	SD10	0.780	0.610	3.295	*
5	SD12	0.854	0.738	2.274	
6	SD18	0.907	0.825	1.544	
7	SD19	0.805	0.654	2.942	*
8	ARTSED	0.697	0.494	4.434	*
9	SDFB	0.898	0.926	1.667	

Dunnett table value = 2.44 (1 Tailed Value, P=0.05, df=60,8)

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

DUNNETTS TEST - TABLE 2 OF 2 Ho:Control<Treatment

UP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	SD25	8			
2	SD06	8	0.177	16.9	0.414
3	SD07	8	0.177	16.9	0.230

TLE: Wells G&H Sed Tox C. tentans growth 12/97
E: C:ghct12.97
TRANSFORM: SQUARE ROOT(Y) NUMBER OF GROUPS: 9

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	ARTSED	1	0.3300	0.5745
1	ARTSED	2	0.3900	0.6245
1	ARTSED	3	0.3400	0.5831
1	ARTSED	4	49.0000	7.0000
1	ARTSED	5	0.6200	0.7874
1	ARTSED	6	0.6400	0.8000
1	ARTSED	7	0.5300	0.7280
1	ARTSED	8	0.6100	0.7810
2	SD06	1	0.7600	0.8718
2	SD06	2	0.6100	0.7810
2	SD06	3	0.5800	0.7616
2	SD06	4	0.7000	0.8367
2	SD06	5	0.6900	0.8307
2	SD06	6	0.6100	0.7810
2	SD06	7	0.5200	0.7211
2	SD06	8	0.6000	0.7746
3	SD07	1	0.7800	0.8832
3	SD07	2	0.9200	0.9592
3	SD07	3	0.9000	0.9487
	SD07	4	0.9200	0.9592
	SD07	5	0.8000	0.8944
3	SD07	6	0.9200	0.9592
3	SD07	7	0.7800	0.8832
3	SD07	8	0.5200	0.7211
4	SD10	1	0.6800	0.8246
4	SD10	2	0.6400	0.8000
4	SD10	3	0.7000	0.8367
4	SD10	4	0.5100	0.7141
4	SD10	5	0.5600	0.7483
4	SD10	6	0.5300	0.7280
4	SD10	7	0.6000	0.7746
4	SD10	8	0.6600	0.8124
5	SD12	1	0.7900	0.8888
5	SD12	2	0.5300	0.7280
5	SD12	3	0.5800	0.7616
5	SD12	4	0.7100	0.8426
5	SD12	5	0.7000	0.8367
5	SD12	6	0.7300	0.8544
5	SD12	7	0.7400	0.8602
5	SD12	8	1.1200	1.0583
6	SD18	1	0.9300	0.9644
6	SD18	2	0.8000	0.8944
6	SD18	3	0.6600	0.8124
6	SD18	4	0.8300	0.9110
	SD18	5	0.7000	0.8367
	SD18	6	0.8600	0.9274
6	SD18	7	0.8800	0.9381
6	SD18	8	0.9400	0.9695
7	SD19	1	0.5700	0.7550
7	SD19	2	0.6600	0.8124

7	SD19	3	0.6200	0.7874
7	SD19	4	0.5400	0.7348
7	SD19	5	0.6600	0.8124
	SD19	6	0.9600	0.9798
	SD19	7	0.5800	0.7616
7	SD19	8	0.6400	0.8000
8	SD25	1	1.0700	1.0344
8	SD25	2	0.9800	0.9899
8	SD25	3	1.1600	1.0770
8	SD25	4	0.7500	0.8660
8	SD25	5	1.3000	1.1402
8	SD25	6	1.3200	1.1489
8	SD25	7	0.7700	0.8775
8	SD25	8	1.0300	1.0149
9	SDFB	1	0.0000	0.0000
9	SDFB	2	0.9200	0.9592
9	SDFB	3	1.1800	1.0863
9	SDFB	4	1.0800	1.0392
9	SDFB	5	0.8800	0.9381
9	SDFB	6	0.9700	0.9849
9	SDFB	7	1.3800	1.1747
9	SDFB	8	1.0000	1.0000

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	ARTSED	8	0.574	7.000	1.485
2	SD06	8	0.721	0.872	0.795
3	SD07	8	0.721	0.959	0.901
4	SD10	8	0.714	0.837	0.780
5	SD12	8	0.728	1.058	0.854
6	SD18	8	0.812	0.970	0.907
7	SD19	8	0.735	0.980	0.805
8	SD25	8	0.866	1.149	1.019
9	SDFB	8	0.000	1.175	0.898

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
	ARTSED	4.975	2.230	0.789
	SD06	0.002	0.048	0.017
3	SD07	0.006	0.081	0.028
4	SD10	0.002	0.046	0.016
5	SD12	0.010	0.098	0.035
6	SD18	0.003	0.057	0.020

7	SD19	0.006	0.076	0.027
8	SD25	0.011	0.107	0.038
9	SDFB	0.137	0.371	0.131

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

STEELS MANY-ONE RANK TEST - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	df	SIG
1	ARTSED	1.485				
2	SD06	0.795	77.00	45.00	8.00	
3	SD07	0.901	88.00	45.00	8.00	
4	SD10	0.780	78.00	45.00	8.00	
5	SD12	0.854	85.50	45.00	8.00	
6	SD18	0.907	92.00	45.00	8.00	
7	SD19	0.805	81.00	45.00	8.00	
8	SD25	1.019	92.00	45.00	8.00	
9	SDFB	0.898	85.00	45.00	8.00	

Critical values use k = 8, are 1 tailed, and alpha = 0.05

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

WILCOXON RANK SUM TEST W/ BONFERRONI ADJUSTMENT - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	REPS	SIG
1	ARTSED	1.485				
2	SD06	0.795	77.00	44.00	8	
3	SD07	0.901	88.00	44.00	8	
4	SD10	0.780	78.00	44.00	8	
5	SD12	0.854	85.50	44.00	8	
6	SD18	0.907	92.00	44.00	8	
7	SD19	0.805	81.00	44.00	8	
8	SD25	1.019	92.00	44.00	8	
9	SDFB	0.898	85.00	44.00	8	

Critical values use k = 8, are 1 tailed, and alpha = 0.05

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: NO TRANSFORMATION

Bartletts test for homogeneity of variance

Calculated B statistic = 35.70
Table Chi-square value = 20.09 (alpha = 0.01)
Table Chi-square value = 15.51 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 7.00
Used for Chi-square table value ==> df (#groups-1) = 8

Data FAIL homogeneity test at 0.01 level. Try another transformation.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

ι square test for normality: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	4.824	17.424	27.504	17.424	4.824
OBSERVED	4	12	35	17	4

Calculated Chi-Square goodness of fit test statistic = 4.0233
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test. Continue analysis.

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

Shapiro-Wilks test for normality

******** Shapiro-Wilks Test is aborted ********

test can not be performed because total number of replicates
greater than 50.

Total number of replicates = 72

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

Hartley test for homogeneity of variance

Calculated H statistic (max Var/min Var) = 2365.14
Closest, conservative, Table H statistic = 23.0 (alpha = 0.01)

Used for Table H ==> R (# groups) = 9, df (# reps-1) = 7
Actual values ==> R (# groups) = 9, df (# avg reps-1) = 7.00

Data FAIL homogeneity test. Try another transformation.

E: This test requires equal replicate sizes. If they are unequal but do not differ greatly, the Hartley test may still be used as an approximate test (average df are used).

Wells G&H Sed Tox C. tentans growth 12/97
File: C:ghct12.97 Transform: SQUARE ROOT(Y)

Bartletts test for homogeneity of variance

Calculated B statistic = 216.94
Table Chi-square value = 20.09 (alpha = 0.01)
Table Chi-square value = 15.51 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 7.00
Used for Chi-square table value ==> df (#groups-1) = 8

Data FAIL homogeneity test at 0.01 level. Try another transformation.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

Wells G&H Sed Tox H. Azteca Survival
File: C:\ghha.tox Transform: ARC SINE(SQUARE ROOT(Y))

Bartletts test for homogeneity of variance

Calculated B statistic = 13.89
Table Chi-square value = 20.09 (alpha = 0.01)
Table Chi-square value = 15.51 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 7.00
Used for Chi-square table value ==> df (#groups-1) = 8

Data PASS homogeneity test at 0.01 level. Continue analysis.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

TITLE: Wells G&H Sed Tox H. Azteca Survival
FILE: C:\ghha.tox
TRANSFORM: ARC SINE(SQUARE ROOT(Y)) NUMBER OF GROUPS: 9

	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	SD25	1	1.0000	1.4120
1	SD25	2	1.0000	1.4120
1	SD25	3	1.0000	1.4120
1	SD25	4	1.0000	1.4120
1	SD25	5	1.0000	1.4120
1	SD25	6	0.8000	1.1071
1	SD25	7	1.0000	1.4120
1	SD25	8	1.0000	1.4120
2	SD06	1	1.0000	1.4120
2	SD06	2	0.9000	1.2490
2	SD06	3	1.0000	1.4120
2	SD06	4	0.9000	1.2490
2	SD06	5	1.0000	1.4120
2	SD06	6	1.0000	1.4120
2	SD06	7	0.9000	1.2490
2	SD06	8	1.0000	1.4120
3	SD07	1	1.0000	1.4120
3	SD07	2	0.7000	0.9912
3	SD07	3	0.7000	0.9912
3	SD07	4	1.0000	1.4120
3	SD07	5	0.8000	1.1071
3	SD07	6	1.0000	1.4120
	SD07	7	0.8000	1.1071
	SD07	8	0.7000	0.9912
	SD10	1	0.9000	1.2490
4	SD10	2	0.9000	1.2490
4	SD10	3	1.0000	1.4120
4	SD10	4	1.0000	1.4120

4	SD10	5	0.9000	1.2490
4	SD10	6	0.8000	1.1071
4	SD10	7	0.8000	1.1071
	SD10	8	0.8000	1.1071
	SD12	1	1.0000	1.4120
5	SD12	2	0.9000	1.2490
5	SD12	3	1.0000	1.4120
5	SD12	4	0.6000	0.8861
5	SD12	5	0.9000	1.2490
5	SD12	6	1.0000	1.4120
5	SD12	7	0.9000	1.2490
5	SD12	8	0.8000	1.1071
6	SD18	1	0.3000	0.5796
6	SD18	2	0.4000	0.6847
6	SD18	3	1.0000	1.4120
6	SD18	4	0.9000	1.2490
6	SD18	5	0.8000	1.1071
6	SD18	6	0.9000	1.2490
6	SD18	7	0.7000	0.9912
6	SD18	8	0.9000	1.2490
7	SD19	1	1.0000	1.4120
7	SD19	2	1.0000	1.4120
7	SD19	3	1.0000	1.4120
7	SD19	4	0.9000	1.2490
7	SD19	5	1.0000	1.4120
7	SD19	6	0.8000	1.1071
7	SD19	7	0.8000	1.1071
7	SD19	8	0.8000	1.1071
8	Artsed	1	0.8000	1.1071
	Artsed	2	0.7000	0.9912
	Artsed	3	0.9000	1.2490
8	Artsed	4	0.5000	0.7854
8	Artsed	5	0.6000	0.8861
8	Artsed	6	0.9000	1.2490
8	Artsed	7	0.8000	1.1071
8	Artsed	8	0.9000	1.2490
9	SDFB	1	0.9000	1.2490
9	SDFB	2	1.0000	1.4120
9	SDFB	3	1.0000	1.4120
9	SDFB	4	0.6000	0.8861
9	SDFB	5	1.0000	1.4120
9	SDFB	6	1.0000	1.4120
9	SDFB	7	0.9000	1.2490
9	SDFB	8	0.9000	1.2490

Wells G&H Sed Tox H. Azteca Survival
File: C:\ghha.tox Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
	SD25	8	1.107	1.412	1.374
2	SD06	8	1.249	1.412	1.351
3	SD07	8	0.991	1.412	1.178
4	SD10	8	1.107	1.412	1.237
5	SD12	8	0.886	1.412	1.247

Wells G&H Sed Tox H. Azteca Survival
File: C:\ghha.tox Transform: ARC SINE(SQUARE ROOT(Y))

·square test for normality: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	4.824	17.424	27.504	17.424	4.824
OBSERVED	5	15	24	28	0

Calculated Chi-Square goodness of fit test statistic = 12.0335
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test. Continue analysis.

Wells G&H Sed Tox H. Azteca Survival
File: C:\ghha.tox Transform: ARC SINE(SQUARE ROOT(Y))

Shapiro-Wilks test for normality

******** Shapiro-Wilks Test is aborted ********

ʒ test can not be performed because total number of replicates
ɟreater than 50.

Total number of replicates = 72

Wells G&H Sed Tox H. Azteca Survival
File: C:\ghha.tox Transform: ARC SINE(SQUARE ROOT(Y))

Hartley test for homogeneity of variance

Calculated H statistic (max Var/min Var) = 12.24
Closest, conservative, Table H statistic = 23.0 (alpha = 0.01)

Used for Table H ==> R (# groups) = 9, df (# reps-1) =
Actual values ==> R (# groups) = 9, df (# avg reps-1) =

Data PASS homogeneity test. Continue analysis.

E: This test requires equal replicate sizes. If they are unequal but do not differ greatly, the Hartley test may still be used as an approximate test (average df are used).

6	SD18	8	0.580	1.412	1.065
7	SD19	8	1.107	1.412	1.277
8	Artsed	8	0.785	1.249	1.078
	SDFB	8	0.886	1.412	1.285

Wells G&H Sed Tox H. Azteca Survival
File: C:\ghha.tox Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
1	SD25	0.012	0.108	0.038
2	SD06	0.007	0.084	0.030
3	SD07	0.040	0.200	0.071
4	SD10	0.016	0.127	0.045
5	SD12	0.033	0.182	0.064
6	SD18	0.087	0.295	0.104
7	SD19	0.023	0.151	0.053
8	Artsed	0.031	0.177	0.063
9	SDFB	0.033	0.180	0.064

ls G&H Sed Tox H. Azteca Survival
: C:\ghha.tox Transform: ARC SINE(SQUARE ROOT(Y))

STEELS MANY-ONE RANK TEST - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	df	SIG
1	SD25	1.374				
2	SD06	1.351	61.50	45.00	8.00	
3	SD07	1.178	50.50	45.00	8.00	
4	SD10	1.237	49.50	45.00	8.00	
5	SD12	1.247	53.00	45.00	8.00	
6	SD18	1.065	44.00	45.00	8.00	*
7	SD19	1.277	56.50	45.00	8.00	
8	Artsed	1.078	40.00	45.00	8.00	*
9	SDFB	1.285	57.00	45.00	8.00	

Critical values use k = 8, are 1 tailed, and alpha = 0.05

8	SD25	5	1.0000	1.4120
8	SD25	6	0.8000	1.1071
8	SD25	7	1.0000	1.4120
	SD25	8	1.0000	1.4120
	SDFB	1	0.9000	1.2490
>	SDFB	2	1.0000	1.4120
9	SDFB	3	1.0000	1.4120
9	SDFB	4	0.6000	0.8861
9	SDFB	5	1.0000	1.4120
9	SDFB	6	1.0000	1.4120
9	SDFB	7	0.9000	1.2490
9	SDFB	8	0.9000	1.2490

Wells G&H Sed Tox H. Azteca Survival
File: C:\ghha.tox Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	SDFB	8	0.886	1.412	1.285
2	SD06	8	1.249	1.412	1.351
3	SD07	8	0.991	1.412	1.178
4	SD10	8	1.107	1.412	1.237
5	SD12	8	0.886	1.412	1.247
6	SD18	8	0.580	1.412	1.065
	SD19	8	1.107	1.412	1.277
	SD25	8	1.107	1.412	1.374
>	SDFB	8	0.886	1.412	1.285

Wells G&H Sed Tox H. Azteca Survival
File: C:\ghha.tox Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
1	SDFB	0.033	0.180	0.064
2	SD06	0.007	0.084	0.030
3	SD07	0.040	0.200	0.071
4	SD10	0.016	0.127	0.045
5	SD12	0.033	0.182	0.064
6	SD18	0.087	0.295	0.104
7	SD19	0.023	0.151	0.053
8	SD25	0.012	0.108	0.038
9	SDFB	0.033	0.180	0.064

Wells G&H Sed Tox H. Azteca Survival
File: C:\ghha.tox Transform: ARC SINE(SQUARE ROOT(Y))

1	SDFB	1	0.9000	1.2490
1	SDFB	2	1.0000	1.4120
1	SDFB	3	1.0000	1.4120
	SDFB	4	0.6000	0.8861
	SDFB	5	1.0000	1.4120
1	SDFB	6	1.0000	1.4120
1	SDFB	7	0.9000	1.2490
1	SDFB	8	0.9000	1.2490
2	SD06	1	1.0000	1.4120
2	SD06	2	0.9000	1.2490
2	SD06	3	1.0000	1.4120
2	SD06	4	0.9000	1.2490
2	SD06	5	1.0000	1.4120
2	SD06	6	1.0000	1.4120
2	SD06	7	0.9000	1.2490
2	SD06	8	1.0000	1.4120
3	SD07	1	1.0000	1.4120
3	SD07	2	0.7000	0.9912
3	SD07	3	0.7000	0.9912
3	SD07	4	1.0000	1.4120
3	SD07	5	0.8000	1.1071
3	SD07	6	1.0000	1.4120
3	SD07	7	0.8000	1.1071
3	SD07	8	0.7000	0.9912
4	SD10	1	0.9000	1.2490
4	SD10	2	0.9000	1.2490
4	SD10	3	1.0000	1.4120
4	SD10	4	1.0000	1.4120
4	SD10	5	0.9000	1.2490
	SD10	6	0.8000	1.1071
	SD10	7	0.8000	1.1071
4	SD10	8	0.8000	1.1071
5	SD12	1	1.0000	1.4120
5	SD12	2	0.9000	1.2490
5	SD12	3	1.0000	1.4120
5	SD12	4	0.6000	0.8861
5	SD12	5	0.9000	1.2490
5	SD12	6	1.0000	1.4120
5	SD12	7	0.9000	1.2490
5	SD12	8	0.8000	1.1071
6	SD18	1	0.3000	0.5796
6	SD18	2	0.4000	0.6847
6	SD18	3	1.0000	1.4120
6	SD18	4	0.9000	1.2490
6	SD18	5	0.8000	1.1071
6	SD18	6	0.9000	1.2490
6	SD18	7	0.7000	0.9912
6	SD18	8	0.9000	1.2490
7	SD19	1	1.0000	1.4120
7	SD19	2	1.0000	1.4120
7	SD19	3	1.0000	1.4120
7	SD19	4	0.9000	1.2490
7	SD19	5	1.0000	1.4120
7	SD19	6	0.8000	1.1071
	SD19	7	0.8000	1.1071
	SD19	8	0.8000	1.1071
8	SD25	1	1.0000	1.4120
8	SD25	2	1.0000	1.4120
8	SD25	3	1.0000	1.4120
8	SD25	4	1.0000	1.4120

Total number of replicates = 72

Wells G&H Sed Tox H. Azteca Survival
File: C:\ghha.tox Transform: ARC SINE(SQUARE ROOT(Y))

Hartley test for homogeneity of variance

Calculated H statistic (max Var/min Var) = 12.24
Closest, conservative, Table H statistic = 23.0 (alpha = 0.01)

Used for Table H ==> R (# groups) = 9, df (# reps-1) = 7
Actual values ==> R (# groups) = 9, df (# avg reps-1) = 7.00

Data PASS homogeneity test. Continue analysis.

NOTE: This test requires equal replicate sizes. If they are unequal
but do not differ greatly, the Hartley test may still be used
as an approximate test (average df are used).

ls G&H Sed Tox H. Azteca Survival
: C:\ghha.tox Transform: ARC SINE(SQUARE ROOT(Y))

Bartletts test for homogeneity of variance

Calculated B statistic = 13.89
Table Chi-square value = 20.09 (alpha = 0.01)
Table Chi-square value = 15.51 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 7.00
Used for Chi-square table value ==> df (#groups-1) = 8

Data PASS homogeneity test at 0.01 level. Continue analysis.

NOTE: If groups have unequal replicate sizes the average replicate size is
used to calculate the B statistic (see above).

TITLE: Wells G&H Sed Tox H. Azteca Survival
E: C:\ghha.tox
ISFORM: ARC SINE(SQUARE ROOT(Y)) NUMBER OF GROUPS: 9

GRP	IDENTIFICATION	REP	VALUE	TRANS VALUE

as an approximate test (average df are used).

.s G&H Sed Tox H. Azteca Survival
File: C:\ghha.tox Transform: NO TRANSFORMATION

Bartletts test for homogeneity of variance

Calculated B statistic = 22.96
Table Chi-square value = 20.09 (alpha = 0.01)
Table Chi-square value = 15.51 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 7.00
Used for Chi-square table value ==> df (#groups-1) = 8

Data FAIL homogeneity test at 0.01 level. Try another transformation.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

Wells G&H Sed Tox H. Azteca Survival
File: C:\ghha.tox Transform: ARC SINE(SQUARE ROOT(Y))

-square test for normality: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	4.824	17.424	27.504	17.424	4.824
OBSERVED	5	14	24	29	0

Calculated Chi-Square goodness of fit test statistic = 13.6404
Table Chi-Square value (alpha = 0.01) = 13.277

Data FAIL normality test. Try another transformation.

Warning - The two homogeneity tests are sensitive to non-normal data and should not be performed.

Wells G&H Sed Tox H. Azteca Survival
File: C:\ghha.tox Transform: ARC SINE(SQUARE ROOT(Y))

Shapiro-Wilks test for normality

******** Shapiro-Wilks Test is aborted ********

This test can not be performed because total number of replicates is greater than 50.

Wells G&H Sed Tox H. Azteca Survival
File: C:\ghha.tox Transform: NO TRANSFORMATION

·square test for normality: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	4.824	17.424	27.504	17.424	4.824
OBSERVED	5	14	24	29	0

Calculated Chi-Square goodness of fit test statistic = 13.6404
Table Chi-Square value (alpha = 0.01) = 13.277

Data FAIL normality test. Try another transformation.

Warning - The two homogeneity tests are sensitive to non-normal data and should not be performed.

Wells G&H Sed Tox H. Azteca Survival
File: C:\ghha.tox Transform: NO TRANSFORMATION

Shapiro-Wilks test for normality

******** Shapiro-Wilks Test is aborted ********

This test can not be performed because total number of replicates is greater than 50.

Total number of replicates = 72

Wells G&H Sed Tox H. Azteca Survival
File: C:\ghha.tox Transform: NO TRANSFORMATION

Hartley test for homogeneity of variance

Calculated H statistic (max Var/min Var) = 24.47
Closest, conservative, Table H statistic = 23.0 (alpha = 0.01)

Used for Table H ==> R (# groups) = 9, df (# reps-1) = 7
Actual values ==> R (# groups) = 9, df (# avg reps-1) = 7.00

Data FAIL homogeneity test. Try another transformation.

NOTE: This test requires equal replicate sizes. If they are unequal but do not differ greatly, the Hartley test may still be used

STEELS MANY-ONE RANK TEST - Ho:Control<Treatment

UP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	df	SIG
1	SDFB	1.285				
2	SD06	1.351	73.50	45.00	8.00	
3	SD07	1.178	59.00	45.00	8.00	
4	SD10	1.237	58.50	45.00	8.00	
5	SD12	1.247	63.00	45.00	8.00	
6	SD18	1.065	51.50	45.00	8.00	
7	SD19	1.277	65.50	45.00	8.00	
8	SD25	1.374	79.00	45.00	8.00	
9	SDFB	1.285	68.00	45.00	8.00	

Critical values use k = 8, are 1 tailed, and alpha = 0.05

Wells G&H Sed Tox H. Azteca Survival
File: C:\ghha.tox Transform: ARC SINE(SQUARE ROOT(Y))

letts test for homogeneity of variance

Calculated B statistic = 13.89
Table Chi-square value = 20.09 (alpha = 0.01)
Table Chi-square value = 15.51 (alpha = 0.05)

Average df used in calculation ==> df (avg n - 1) = 7.00
Used for Chi-square table value ==> df (#groups-1) = 8

Data PASS homogeneity test at 0.01 level. Continue analysis.

NOTE: If groups have unequal replicate sizes the average replicate size is used to calculate the B statistic (see above).

TITLE: Wells G&H Sed Tox H. Azteca Survival
FILE: C:\ghha.tox
TRANSFORM: ARC SINE(SQUARE ROOT(Y)) NUMBER OF GROUPS: 9

	IDENTIFICATION	REP	VALUE	TRANS VALUE
1	Art Sed	1	0.8000	1.1071
1	Art Sed	2	0.7000	0.9912
1	Art Sed	3	0.9000	1.2490
1	Art Sed	4	0.5000	0.7854
1	Art Sed	5	0.6000	0.8861
1	Art Sed	6	0.9000	1.2490
1	Art Sed	7	0.8000	1.1071
1	Art Sed	8	0.9000	1.2490
2	SD06	1	1.0000	1.4120
2	SD06	2	0.9000	1.2490
2	SD06	3	1.0000	1.4120
2	SD06	4	0.9000	1.2490
2	SD06	5	1.0000	1.4120
2	SD06	6	1.0000	1.4120
2	SD06	7	0.9000	1.2490
2	SD06	8	1.0000	1.4120
3	SD07	1	1.0000	1.4120
3	SD07	2	0.7000	0.9912
3	SD07	3	0.7000	0.9912
3	SD07	4	1.0000	1.4120
3	SD07	5	0.8000	1.1071
3	SD07	6	1.0000	1.4120
	SD07	7	0.8000	1.1071
	SD07	8	0.7000	0.9912
	SD10	1	0.9000	1.2490
4	SD10	2	0.9000	1.2490
4	SD10	3	1.0000	1.4120
4	SD10	4	1.0000	1.4120

4	SD10	5	0.9000	1.2490
4	SD10	6	0.8000	1.1071
4	SD10	7	0.8000	1.1071
	SD10	8	0.8000	1.1071
	SD12	1	1.0000	1.4120
5	SD12	2	0.9000	1.2490
5	SD12	3	1.0000	1.4120
5	SD12	4	0.6000	0.8861
5	SD12	5	0.9000	1.2490
5	SD12	6	1.0000	1.4120
5	SD12	7	0.9000	1.2490
5	SD12	8	0.8000	1.1071
6	SD18	1	0.3000	0.5796
6	SD18	2	0.4000	0.6847
6	SD18	3	1.0000	1.4120
6	SD18	4	0.9000	1.2490
6	SD18	5	0.8000	1.1071
6	SD18	6	0.9000	1.2490
6	SD18	7	0.7000	0.9912
6	SD18	8	0.9000	1.2490
7	SD19	1	1.0000	1.4120
7	SD19	2	1.0000	1.4120
7	SD19	3	1.0000	1.4120
7	SD19	4	0.9000	1.2490
7	SD19	5	1.0000	1.4120
7	SD19	6	0.8000	1.1071
7	SD19	7	0.8000	1.1071
7	SD19	8	0.8000	1.1071
8	SD25	1	1.0000	1.4120
	SD25	2	1.0000	1.4120
	SD25	3	1.0000	1.4120
8	SD25	4	1.0000	1.4120
8	SD25	5	1.0000	1.4120
8	SD25	6	0.8000	1.1071
8	SD25	7	1.0000	1.4120
8	SD25	8	1.0000	1.4120
9	SDFB	1	0.9000	1.2490
9	SDFB	2	1.0000	1.4120
9	SDFB	3	1.0000	1.4120
9	SDFB	4	0.6000	0.8861
9	SDFB	5	1.0000	1.4120
9	SDFB	6	1.0000	1.4120
9	SDFB	7	0.9000	1.2490
9	SDFB	8	0.9000	1.2490

Wells G&H Sed Tox H. Azteca Survival
File: C:\ghha.tox Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 1 of 2

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
	Art Sed	8	0.785	1.249	1.078
2	SD06	8	1.249	1.412	1.351
3	SD07	8	0.991	1.412	1.178
4	SD10	8	1.107	1.412	1.237
5	SD12	8	0.886	1.412	1.247

Wells G&H Sed Tox H. Azteca Survival
File: C:\ghha.tox Transform: ARC SINE(SQUARE ROOT(Y))

square test for normality: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	4.824	17.424	27.504	17.424	4.824
OBSERVED	5	15	24	28	0

Calculated Chi-Square goodness of fit test statistic = 12.0335
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test. Continue analysis.

Wells G&H Sed Tox H. Azteca Survival
File: C:\ghha.tox Transform: ARC SINE(SQUARE ROOT(Y))

Shapiro-Wilks test for normality

******** Shapiro-Wilks Test is aborted ********

s test can not be performed because total number of replicates greater than 50.

Total number of replicates = 72

Wells G&H Sed Tox H. Azteca Survival
File: C:\ghha.tox Transform: ARC SINE(SQUARE ROOT(Y))

Hartley test for homogeneity of variance

Calculated H statistic (max Var/min Var) = 12.24
Closest, conservative, Table H statistic = 23.0 (alpha = 0.01)

Used for Table H ==> R (# groups) = 9, df (# reps-1) = 7
Actual values ==> R (# groups) = 9, df (# avg reps-1) = 7.00

Data PASS homogeneity test. Continue analysis.

E: This test requires equal replicate sizes. If they are unequal but do not differ greatly, the Hartley test may still be used as an approximate test (average df are used).

6	SD18	8	0.580	1.412	1.065
7	SD19	8	1.107	1.412	1.277
8	SD25	8	1.107	1.412	1.374
	SDFB	8	0.886	1.412	1.285

Wells G&H Sed Tox H. Azteca Survival
File: C:\ghha.tox Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS ON TRANSFORMED DATA TABLE 2 of 2

GRP	IDENTIFICATION	VARIANCE	SD	SEM
1	Art Sed	0.031	0.177	0.063
2	SD06	0.007	0.084	0.030
3	SD07	0.040	0.200	0.071
4	SD10	0.016	0.127	0.045
5	SD12	0.033	0.182	0.064
6	SD18	0.087	0.295	0.104
7	SD19	0.023	0.151	0.053
8	SD25	0.012	0.108	0.038
9	SDFB	0.033	0.180	0.064

ls G&H Sed Tox H. Azteca Survival
e: C:\ghha.tox Transform: ARC SINE(SQUARE ROOT(Y))

STEELS MANY-ONE RANK TEST - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	df	SIG
1	Art Sed	1.078				
2	SD06	1.351	95.50	45.00	8.00	
3	SD07	1.178	75.50	45.00	8.00	
4	SD10	1.237	83.50	45.00	8.00	
5	SD12	1.247	85.00	45.00	8.00	
6	SD18	1.065	70.00	45.00	8.00	
7	SD19	1.277	86.50	45.00	8.00	
8	SD25	1.374	96.00	45.00	8.00	
9	SDFB	1.285	89.00	45.00	8.00	

Critical values use k = 8, are 1 tailed, and alpha = 0.05

APPENDIX B. DATA SUMMARY TABLES

Volatile Organic Compounds

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Volatile Organic Analyses (modified 8260A)
Sediment Matrix
(ug/kg)

M&E SAMPLE ID:		SED-01-06	SED-01-07	SED-02-01	SED-02-02	SED-03-02	SED-04-02
DAS SAMPLE NUMBER:		DAM322	DAM323	DAM326	DAM327	DAM325	DAM333
REMARKS:		-----	-----	-----	-----	-----	-----
ANALYTE	**RL**						
Vinyl chloride	0.30	197 UJ	228 UJ	77 UJ	159 UJ	132 UJ	180 U
1,1-Dichloroethene	0.30	197 UJ	228 UJ	77 UJ	159 UJ	132 UJ	180 U
Methylene chloride	0.30	197 UJ	228 UJ	77 UJ	159 UJ	132 UJ	180 U
trans-1,2-Dichloroethene	0.30	197 UJ	228 UJ	77 UJ	159 UJ	132 UJ	180 U
1,1-Dichloroethane	0.30	197 UJ	228 UJ	77 UJ	159 UJ	132 UJ	180 U
cis-1,2-Dichloroethene	0.10	62 J	58 J	26 UJ	53 UJ	28 J	60 UJ
Chloroform	0.10	66 UJ	76 UJ	26 UJ	53 UJ	44 UJ	60 UJ
1,1,1-Trichloroethane	0.30	197 UJ	228 UJ	77 UJ	159 UJ	132 UJ	180 U
1,2-Dichloroethane	0.30	197 UJ	228 UJ	77 UJ	159 UJ	132 UJ	180 U
Benzene	0.04	26 UJ	30 UJ	10 UJ	21 UJ	9 J	24 UJ
Trichloroethene	0.10	37 J	76 UJ	26 UJ	53 UJ	44 UJ	60 UJ
1,1,2-Trichloroethane	0.10	66 UJ	76 UJ	26 UJ	53 UJ	44 UJ	60 UJ
Tetrachloroethene	0.30	197 UJ	228 UJ	77 UJ	159 UJ	132 UJ	180 U
1,1,1,2-Tetrachloroethane	0.04	26 UJ	30 UJ	10 UJ	21 UJ	18 UJ	24 UJ
Ethylbenzene	0.04	26 UJ	30 UJ	10 UJ	21 UJ	18 UJ	24 UJ
m/p-Xylene	0.10	66 UJ	76 UJ	26 UJ	53 UJ	44 UJ	60 UJ
o-Xylene	0.10	66 UJ	76 UJ	26 UJ	53 UJ	44 UJ	60 UJ
1,1,2,2-Tetrachloroethane	0.10	66 UJ	76 UJ	26 UJ	53 UJ	44 UJ	60 UJ
Naphthalene	0.30	197 UJ	228 UJ	77 UJ	159 UJ	132 UJ	180 U
DILUTION FACTOR:		655.0	761.1	257.0	530.8	438.7	599.7
SAMPLE WEIGHT (g):		30.8	23.6	33.2	27.5	35.0	27.8
PERCENT MOISTURE (%):		86	86	69	82	81	84
LEVEL:		Low	Low	Low	Low	Low	Low
DATE SAMPLED:		11/12/97	11/12/97	11/13/97	11/13/97	11/13/97	11/14/97
DATE ANALYZED:		11/23/97	11/23/97	11/21/97	11/21/97	11/24/97	11/28/97

NOTES:
RL - Reporting Limit
J - Quantitation is approximate due to limitations identified in the quality control review
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review

SITE: Wells G&H (Operable Unit 3)
CASE NO [illegible]19M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Volatile Organic Analyses (modified 8260A)
Sediment Matrix
(ug/kg)

M&E SAMPLE ID:		SED-04-03	SED-05-03	SED-06-03	SED-07-02	SED-07-05	SED-07-10
DAS SAMPLE NUMBER:		DAM334	DAM328	DAM345	DAM359	DAM360	DAM353
REMARKS:		-----	-----	-----	-----	-----	-----
ANALYTE	**RL**						
Vinyl chloride	0.30	221 U	28 U	96 U	74 UJ	79 UJ	101 UJ
1,1-Dichloroethene	0.30	221 U	28 U	96 U	74 UJ	79 UJ	101 UJ
Methylene chloride	0.30	221 U	28 U	96 U	74 UJ	79 UJ	101 UJ
trans-1,2-Dichloroethene	0.30	221 U	28 U	96 U	74 UJ	79 UJ	101 UJ
1,1-Dichloroethane	0.30	221 U	28 U	96 U	74 UJ	79 UJ	101 UJ
cis-1,2-Dichloroethene	0.10	74 UJ	7 J	38 J	20 J	18 J	24 J
Chloroform	0.10	224 UJ	9 UJ	32 UJ	25 UJ	26 UJ	34 UJ
1,1,1-Trichloroethane	0.30	221 U	28 U	96 U	74 UJ	79 UJ	101 UJ
1,2-Dichloroethane	0.30	221 U	28 U	96 U	74 UJ	79 UJ	101 UJ
Benzene	0.04	32 UJ	6 J	17 J	10 UJ	11 UJ	13 UJ
Trichloroethene	0.10	74 UJ	6 J	52 J	16 J	24 J	35 J
1,1,2-Trichloroethane	0.10	74 UJ	9 UJ	32 UJ	25 UJ	26 UJ	34 UJ
Tetrachloroethene	0.30	221 U	28 U	96 U	74 UJ	79 UJ	101 UJ
1,1,1,2-Tetrachloroethane	0.04	29 UJ	4 UJ	13 UJ	10 UJ	11 UJ	13 UJ
Ethylbenzene	0.04	29 UJ	5 J	9 J	5 J	11 UJ	13 UJ
m/p-Xylene	0.10	74 UJ	10 J	25 J	25 UJ	26 UJ	34 UJ
o-Xylene	0.10	74 UJ	9 UJ	32 UJ	25 UJ	26 UJ	34 UJ
1,1,2,2-Tetrachloroethane	0.10	74 UJ	9 UJ	32 UJ	25 UJ	26 UJ	34 UJ
Naphthalene	0.30	221 U	17 J	70 J	74 UJ	79 UJ	101 UJ
DILUTION FACTOR:		735.8	94.3	320.6	248.3	263.0	336.9
SAMPLE WEIGHT (g):		22.1	44.5	26.1	33.0	36.8	32.1
PERCENT MOISTURE (%):		85	42	71	68	71	75
LEVEL:		Low	Low	Low	Low	Low	Low
DATE SAMPLED:		11/14/97	11/13/97	11/18/97	11/20/97	11/20/97	11/19/97
DATE ANALYZED:		11/24/97	11/21/97	12/1/97	12/2/97	12/2/97	12/1/97

NOTES:
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J - Quantitation is approximate due to limitations identified in the quality control review
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Volatile Organic Analyses (modified 8260A)
Sediment Matrix
(ug/kg)

M&E SAMPLE ID:		SED-10-01	SED-10-02	SED-10-04	SED-11-01	SED-12-01	SED-12-03
DAS SAMPLE NUMBER:		DAM351	DAM352	DAM355	DAM336	DAM357	DAM358
REMARKS:		FD of SED-10-04	-----	FD of SED-10-01	-----	-----	-----
ANALYTE	**RL**						
Vinyl chloride	**0.30**	330 U	278 U	312 U	171 U	309 U	124 U
1,1-Dichloroethene	**0.30**	330 U	278 U	312 U	171 U	309 U	124 U
Methylene chloride	**0.30**	330 U	278 U	312 U	171 U	309 U	124 U
trans-1,2-Dichloroethene	**0.30**	330 U	278 U	312 U	387	309 U	124 U
1,1-Dichloroethane	**0.30**	330 U	278 U	312 U	171 U	309 U	124 U
cis-1,2-Dichloroethene	**0.10**	110 UJ	93 UJ	64 J	170 J	417 J	25 J
Chloroform	**0.10**	110 UJ	93 UJ	104 UJ	154 UJ	103 UJ	41 UJ
1,1,1-Trichloroethane	**0.30**	330 U	278 U	312 U	171 U	309 U	124 U
1,2-Dichloroethane	**0.30**	330 U	278 U	312 U	171 U	309 U	124 U
Benzene	**0.04**	44 UJ	21 J	42 UJ	23 UJ	41 UJ	9 J
Trichloroethene	**0.10**	110 UJ	60 J	104 UJ	103 UJ	53 J	41 UJ
1,1,2-Trichloroethane	**0.10**	110 UJ	93 UJ	104 UJ	57 UJ	103 UJ	41 UJ
Tetrachloroethene	**0.30**	330 U	278 U	312 U	171 U	309 U	124 U
1,1,1,2-Tetrachloroethane	**0.04**	44 UJ	37 UJ	42 UJ	23 UJ	41 UJ	16 UJ
Ethylbenzene	**0.04**	44 UJ	37 UJ	42 UJ	23 UJ	41 UJ	16 UJ
m/p-Xylene	**0.10**	110 UJ	93 UJ	104 UJ	57 UJ	103 UJ	41 UJ
o-Xylene	**0.10**	110 UJ	93 UJ	104 UJ	57 UJ	103 UJ	41 UJ
1,1,2,2-Tetrachloroethane	**0.10**	110 UJ	93 UJ	104 UJ	57 UJ	103 UJ	41 UJ
Naphthalene	**0.30**	330 U	278 U	312 U	171 U	309 U	124 U
DILUTION FACTOR:		1098.7	925.0	1041.5	569.9	1029.7	412.5
SAMPLE WEIGHT (g):		28.1	26.2	31.1	34.9	31.8	35.3
PERCENT MOISTURE (%):		91	89	91	85	91	80
LEVEL:		Low	Low	Low	Low	Low	Low
DATE SAMPLED:		11/19/97	11/19/97	11/19/97	11/14/97	11/20/97	11/20/97
DATE ANALYZED:		11/28/97	12/2/97	12/2/97	11/21/97	12/1/97	12/1/97

NOTES:
RL - Reporting Limit
J - Quantitation is approximate due to limitations identified in the quality control review
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Volatile Organic Analyses (modified 8260A)
Sediment Matrix
(ug/kg)

M&E SAMPLE ID:		SED-13-01	SED-13-03	SED-15-01	SED-18-02	SED-18-03	SED-19-01
DAS SAMPLE NUMBER:		DAM341	DAM342	DAM340	DAM347	DAM348	DAM354
REMARKS:		-----	-----	-----	-----	-----	-----
ANALYTE	RL						
Vinyl chloride	0.30	104 UJ	97 UJ	190 UJ	178 U	229 U	237 UJ
1,1-Dichloroethene	0.30	104 UJ	97 UJ	190 UJ	178 U	229 U	237 UJ
Methylene chloride	0.30	104 UJ	97 UJ	190 UJ	178 U	229 U	237 UJ
trans-1,2-Dichloroethene	0.30	104 UJ	97 UJ	190 UJ	178 U	229 U	237 UJ
1,1-Dichloroethane	0.30	104 UJ	97 UJ	190 UJ	178 U	229 U	237 UJ
cis-1,2-Dichloroethene	0.10	35 UJ	23 J	187 J	37 J	76 UJ	82 J
Chloroform	0.10	35 UJ	32 UJ	63 UJ	59 UJ	76 UJ	79 UJ
1,1,1-Trichloroethane	0.30	104 UJ	97 UJ	190 UJ	178 U	229 U	237 UJ
1,2-Dichloroethane	0.30	104 UJ	97 UJ	190 UJ	178 U	229 U	237 UJ
Benzene	0.04	8 J	7 J	25 UJ	24 UJ	31 UJ	32 UJ
Trichloroethene	0.10	35 UJ	37 J	206 J	59 UJ	76 UJ	42 J
1,1,2-Trichloroethane	0.10	35 UJ	32 UJ	63 UJ	59 UJ	76 UJ	79 UJ
Tetrachloroethene	0.30	108 UJ	97 UJ	190 UJ	178 U	229 U	237 UJ
1,1,1,2-Tetrachloroethane	0.04	14 UJ	13 UJ	25 UJ	24 UJ	31 UJ	32 UJ
Ethylbenzene	0.04	9 J	13 UJ	25 UJ	24 UJ	31 UJ	32 UJ
m/p-Xylene	0.10	35 UJ	32 UJ	63 UJ	59 UJ	76 UJ	79 UJ
o-Xylene	0.10	35 UJ	32 UJ	63 UJ	59 UJ	76 UJ	79 UJ
1,1,2,2-Tetrachloroethane	0.10	35 UJ	32 UJ	63 UJ	59 UJ	76 UJ	79 UJ
Naphthalene	0.30	104 UJ	97 UJ	190 UJ	178 U	229 U	237 UJ
DILUTION FACTOR:		346.0	323.7	634.8	592.9	763.1	790.4
SAMPLE WEIGHT (g):		33.3	31.8	32.7	32.3	23.5	29.5
PERCENT MOISTURE (%):		76	74	86	85	86	88
LEVEL:		Low	Low	Low	Low	Low	Low
DATE SAMPLED:		11/17/97	11/17/97	11/17/97	11/18/97	11/18/97	11/19/97
DATE ANALYZED:		11/28/97	11/28/97	12/1/97	11/28/97	11/28/97	12/1/97

NOTES:
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SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Volatile Organic Analyses (modified 8260A)
Sediment Matrix
(ug/kg)

M&E SAMPLE ID:		SED-20-01	SED-21-01	SED-21-05	SED-22-02	SED-24-03	SED-25-02
DAS SAMPLE NUMBER:		DAM339	DAM335	DAM337	DAM321	DAM320	DAM346
REMARKS:		-----	FD of SED-21-05	FD of SED-21-01	-----	-----	-----
ANALYTE	**RL**						
Vinyl chloride	0.30	343 U	225 UJ	229 U	205 U	69 U	36 UJ
1,1-Dichloroethene	0.30	343 U	225 UJ	229 U	205 U	69 U	36 UJ
Methylene chloride	0.30	343 U	225 UJ	229 U	205 U	69 U	36 UJ
trans-1,2-Dichloroethene	0.30	343 U	225 UJ	229 U	205 U	69 U	36 UJ
1,1-Dichloroethane	0.30	343 U	225 UJ	229 U	205 U	69 U	36 UJ
cis-1,2-Dichloroethene	0.10	562 J	75 UJ	76 UJ	73 J	23 UJ	12 UJ
Chloroform	0.10	114 UJ	75 UJ	76 UJ	68 UJ	23 UJ	12 UJ
1,1,1-Trichloroethane	0.30	343 U	225 UJ	229 U	205 U	69 U	36 UJ
1,2-Dichloroethane	0.30	343 U	225 UJ	229 U	205 U	69 U	36 UJ
Benzene	0.04	46 UJ	19 J	22 J	27 UJ	9 UJ	4 J
Trichloroethene	0.10	2025 J	75 UJ	76 UJ	803	23 UJ	12 UJ
1,1,2-Trichloroethane	0.10	114 UJ	75 UJ	76 UJ	68 UJ	23 UJ	12 UJ
Tetrachloroethene	0.30	790 U	225 UJ	229 U	3164	69 U	36 UJ
1,1,1,2-Tetrachloroethane	0.04	46 UJ	30 UJ	31 UJ	27 UJ	9 UJ	5 UJ
Ethylbenzene	0.04	46 UJ	30 UJ	31 UJ	27 UJ	9 UJ	5 UJ
m/p-Xylene	0.10	114 UJ	75 UJ	76 UJ	68 UJ	23 UJ	12 UJ
o-Xylene	0.10	114 UJ	75 UJ	76 UJ	68 UJ	23 UJ	12 UJ
1,1,2,2-Tetrachloroethane	0.10	114 UJ	75 UJ	76 UJ	68 UJ	23 UJ	12 UJ
Naphthalene	0.30	343 U	255 J	379	205 U	69 U	36 UJ
DILUTION FACTOR:		1141.7	748.9	763.5	684.9	229.2	118.4
SAMPLE WEIGHT (g):		26.2	32.7	31.5	24.9	35.6	38.2
PERCENT MOISTURE (%):		91	88	88	85	67	47
LEVEL:		Low	Low	Low	Low	Low	Low
DATE SAMPLED:		11/17/97	11/14/97	11/14/97	11/12/97	11/12/97	11/18/97
DATE ANALYZED:		11/24/97	11/24/97	11/28/97	11/23/97	11/21/97	11/28/97

NOTES:
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UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Volatile Organic Analyses (modified 8260A)
Trip Blank and Methanol Matrices
(ug/kg)

M&E SAMPLE ID:		SED-12-TB	SED-13-TB	SED-14-MB	SED-14-TB	SED-17-TB	SED-18-TB
DAS SAMPLE NUMBER:		DAM324	DAM329	DAM338	DAM332	DAM343	DAM350
REMARKS:		Trip Blank	Trip Blank	Methanol Blank	Trip Blank	Trip Blank	Trip Blank
ANALYTE	**RL**						
Vinyl chloride	0.30	15 U	15 U	15 U	15 U	15 U	15 U
1,1-Dichloroethene	0.30	15 U	15 U	15 U	15 U	15 U	15 U
Methylene chloride	0.30	15 U	15 U	15 U	15 U	15 U	15 U
trans-1,2-Dichloroethene	0.30	15 U	15 U	15 U	15 U	15 U	15 U
1,1-Dichloroethane	0.30	15 U	15 U	15 U	15 U	15 U	15 U
cis-1,2-Dichloroethene	0.10	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Chloroform	0.10	5 UJ	5 UJ	24 J	5 UJ	5 UJ	5 UJ
1,1,1-Trichloroethane	0.30	15 U	15 U	38	15 U	15 U	15 U
1,2-Dichloroethane	0.30	15 U	15 U	15 U	15 U	15 U	15 U
Benzene	0.04	2 UJ	2 UJ	2 J	2 UJ	2 UJ	2 UJ
Trichloroethene	0.10	5 UJ	5 UJ	3 J	5 UJ	5 UJ	5 UJ
1,1,2-Trichloroethane	0.10	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Tetrachloroethene	0.30	15 U	15 U	16 U	15 U	15 U	15 U
1,1,1,2-Tetrachloroethane	0.04	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ
Ethylbenzene	0.04	2 UJ	2 UJ	1 J	2 UJ	2 UJ	2 UJ
m/p-Xylene	0.10	5 UJ	5 UJ	4 J	5 UJ	5 UJ	5 UJ
o-Xylene	0.10	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
1,1,2,2-Tetrachloroethane	0.10	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
Naphthalene	0.30	15 U	15 U	15 U	15 U	15 U	15 U
DILUTION FACTOR:		50.0	50.0	50.0	50.0	50.0	50.0
SAMPLE WEIGHT (g):		NA	NA	NA	NA	NA	NA
PERCENT MOISTURE (%):		NA	NA	NA	NA	NA	NA
LEVEL:		Low	Low	Low	Low	Low	Low
DATE SAMPLED:		11/12/97	11/13/97	11/14/97	11/14/97	11/17/97	11/18/97
DATE ANALYZED:		11/21/97	11/21/97	11/28/97	11/23/97	11/28/97	11/28/97

NOTES:
RL - Reporting Limit
J - Quantitation is approximate due to limitations identified in the quality control review
MB - Contamination detected in field method blank
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the q control review

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Volatile Organic Analyses (modified 8260A)
Trip Blank and Methanol Matrices
(ug/kg)

M&E SAMPLE ID:		SED-19-TB	SED-20-TB
DAS SAMPLE NUMBER:		DAM356	DAM361
REMARKS:		Trip Blank	Trip Blank
ANALYTE	**RL**		
Vinyl chloride	0.30	15 U	15 U
1,1-Dichloroethene	0.30	15 U	15 U
Methylene chloride	0.30	15 U	15 U
trans-1,2-Dichloroethene	0.30	15 U	15 U
1,1-Dichloroethane	0.30	15 U	15 U
cis-1,2-Dichloroethene	0.10	5 UJ	5 UJ
Chloroform	0.10	5 UJ	5 UJ
1,1,1-Trichloroethane	0.30	15 U	15 U
1,2-Dichloroethane	0.30	15 U	15 U
Benzene	0.04	2 UJ	2 UJ
Trichloroethene	0.10	5 UJ	5 UJ
1,1,2-Trichloroethane	0.10	5 UJ	5 UJ
Tetrachloroethene	0.30	15 U	15 U
1,1,1,2-Tetrachloroethane	0.04	2 UJ	2 UJ
Ethylbenzene	0.04	2 UJ	2 UJ
m/p-Xylene	0.10	5 UJ	5 UJ
o-Xylene	0.10	5 UJ	5 UJ
1,1,2,2-Tetrachloroethane	0.10	5 UJ	5 UJ
Naphthalene	0.30	15 U	15 U
DILUTION FACTOR:		50.0	50.0
SAMPLE WEIGHT (g):		NA	NA
PERCENT MOISTURE (%):		NA	NA
LEVEL:		Low	Low
DATE SAMPLED:		11/19/97	11/20/97
DATE ANALYZED:		12/1/97	12/2/97

NOTES:
RL - Reporting Limit
J - Quantitation is approximate due to limitations identified in the quality control review
MB - Contamination detected in field method blank
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Volatile Organic Analyses (modified 8260A)
Aqueous Matrix
(ug/L)

M&E SAMPLE ID:		SED-17-EB	SED-20-EB
DAS SAMPLE NUMBER:		DAM344	DAM362
REMARKS:		Equip. Blank	Equip. blank
ANALYTE	**RL**		
Vinyl chloride	0.5	0.5 U	0.5 U
1,1-Dichloroethene	0.5	0.5 U	0.5 U
Methylene chloride	0.5	0.5 U	0.28 J
trans-1,2-Dichloroethene	0.5	0.5 U	0.5 U
1,1-Dichloroethane	0.5	0.5 U	0.5 U
cis-1,2-Dichloroethene	0.5	0.5 U	0.5 U
Chloroform	0.5	0.5 U	0.5 U
1,1,1-Trichloroethane	0.5	0.5 U	0.5 U
1,2-Dichloroethane	0.5	0.5 U	0.5 U
Benzene	0.5	0.5 U	0.5 U
Trichloroethene	0.5	0.5 U	0.5 U
1,1,2-Trichloroethane	0.5	0.5 U	0.5 U
Tetrachloroethene	0.5	0.5 U	0.5 U
1,1,1,2-Tetrachloroethane	0.5	0.5 U	0.5 U
Ethylbenzene	0.5	0.5 U	0.5 U
m/p-Xylene	0.5	0.5 U	0.5 U
o-Xylene	0.5	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.5	0.5 U	0.5 U
Naphthalene	0.5	0.5 U	0.5 U
DILUTION FACTOR:		1	1.0
LEVEL:		Low	Low
DATE SAMPLED:		11/17/97	11/20/97
DATE ANALYZED:		11/25/97	11/25/97

NOTES:
RL - Reporting Limit
J - Quantitation is approximate due to limitations identified in the quality control review
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review

Low Concentration PAHs

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration PAHs (OLM03.1)
Sediment Matrix
(ug/kg)

M&E SAMPLE ID:		SED-01-06	SED-01-07	SED-02-01	SED-02-02	SED-03-02	SED-04-02
DAS SAMPLE NUMBER:		DAM322	DAM323	DAM326	DAM327	DAM325	DAM333
REMARKS:		-----	-----	-----	-----	-----	-----
ANALYTE	**QL**						
Naphthalene	67	24 J	23 J	13 J	24 J	18 J	56 J
2-Methylnaphthalene	67	20 J	20 J	10 J	20 J	16 J	41 J
Acenaphthylene	67	33 J	37 J	19 J	57 J	39 J	170
Acenaphthene	67	33 J	32 J	R	30 J	45 J	110 J
Fluorene	67	89	89	44 J	97	150	290
Phenanthrene	67	840	900	390	970	1000	3200
Anthracene	67	92	100	62 J	140	120	420
Fluoranthene	67	2100	2200	1200	3000	2600	8300
Pyrene	67	1900	1900	1100	2500	2600	6700
Benzo(a)anthracene	67	1000	1100	590	1500	1300	3100
Chrysene	67	880	980	660	1400	1300	3700
Benzo(b)fluoranthene	67	1400	1600	720	1700	1400	5100
Benzo(k)fluoranthene	67	730	690	340	710	640	2100
Benzo(a)pyrene	67	930	920	620	1400	1000	4100
Indeno(1,2,3-cd)pyrene	67	580	640	420	860	620	2600
Dibenz(a,h)anthracene	67	120	110	60 J	150	110	720
Benzo(g,h,i)perylene	67	480	510	330	640	570	1900
DILUTION FACTOR:		1	1	1	1/2	1/2	1/4
SAMPLE WEIGHT (g):		176.5	150	88.2	142.9	176.5	166.7
PERCENT MOISTURE (%):		83	80	66	79	83	82
LEVEL:		Low	Low	Low	Low	Low	Low
DATE SAMPLED:		11/12/97	11/12/97	11/13/97	11/13/97	11/13/97	11/14/97
DATE EXTRACTED:		11/18/97	11/18/97	11/18/97	11/18/97	11/18/97	11/18/97
DATE ANALYZED:		12/18/97	12/18/97	12/18/97	12/18/97	12/18/97	12/18/97

NOTES:
QL - Quantitation Limits
J - Quantitation is approximate due to limitations identified in the quality control review
U - Value reported is the sample-specific detection limit
R - Value is rejected
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SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration PAHs (OLM03.1)
Sediment Matrix
(ug/kg)

M&E SAMPLE ID:		SED-04-03	SED-05-03	SED-05-05	SED-06-03	SED-07-02	SED-07-05
DAS SAMPLE NUMBER:		DAM334	DAM328	DAM331	DAM345	DAM359	DAM360
REMARKS:		-----	FD of SED-05-05	FD of SED-05-03	-----	-----	-----
ANALYTE	**QL**						
Naphthalene	67	96 J	34 J	35 J	53 J	61 J	57 J
2-Methylnaphthalene	67	70	41 J	70	40 J	45 J	44 J
Acenaphthylene	67	160	30 J	42 J	120	140	130
Acenaphthene	67	170 J	84 J	120 J	130 J	220 J	170 J
Fluorene	67	490	160 J	290 J	400	640	500
Phenanthrene	67	3400	1300 J	2200 J	5200	8500	4800
Anthracene	67	640	200	290	550	740	880
Fluoranthene	67	8500	1900	2600	9900	14000	14000
Pyrene	67	6000	1600	2600	7500	9500	9800
Benzo(a)anthracene	67	3200	830	1200	4200 J	6000	5200
Chrysene	67	3800	890	980	6900 J	6600	6000
Benzo(b)fluoranthene	67	6000	770	700	6100 J	8800 J	7800 J
Benzo(k)fluoranthene	67	3800	67 UJ	860 J	1300 J	4100 J	1800 J
Benzo(a)pyrene	67	3500	660	810	5100 J	6000	5700
Indeno(1,2,3-cd)pyrene	67	2500	340	370	2400 J	4200	4200
Dibenz(a,h)anthracene	67	890	95	130	720 J	1200 J	1400 J
Benzo(g,h,i)perylene	67	2100	280	330	1900 J	3300	3400
DILUTION FACTOR:		1/4	1	1/2	1/5	1/8	1/8
SAMPLE WEIGHT (g):		200	41.7	47.6	96.8	83.3	90.9
PERCENT MOISTURE (%):		85	28	37	69	64	67
LEVEL:		Low	Low	Low	Low	Low	Low
DATE SAMPLED:		11/14/97	11/13/97	11/13/97	11/18/97	11/20/97	11/20/97
DATE EXTRACTED:		11/18/97	11/18/97	11/18/97	11/24/97	11/24/97	11/24/97
DATE ANALYZED:		12/18/97	12/18/97	12/18/97	12/20/97	12/23/97	12/23/97

NOTES:
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SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration PAHs (OLM03.1)
Sediment Matrix
(ug/kg)

M&E SAMPLE ID:		SED-07-10	SED-10-01	SED-10-02	SED-10-04	SED-11-01	SED-12-01
DAS SAMPLE NUMBER:		DAM353	DAM351	DAM352	DAM355	DAM336	DAM357
REMARKS:		-----	FD of SED-10-04	-----	-----	-----	-----
ANALYTE	**QL**						
Naphthalene	67	72 J	86 J	26 J	56 J	29 J	26 J
2-Methylnaphthalene	67	59 J	37 J	67 U	29 J	13 J	12 J
Acenaphthylene	67	140	16 J	8 J	24 J	9 J	16 J
Acenaphthene	67	230 J	27 J	R	31 J	R	R
Fluorene	67	550	110	59 J	120 J	46 J	47 J
Phenanthrene	67	12000	600	210	780 J	260	570 J
Anthracene	67	890	93	49 J	100 J	54 J	69 J
Fluoranthene	67	23000	1600	570	2300 J	1000	1200 J
Pyrene	67	15000	1300	470	2000 J	950	1000 J
Benzo(a)anthracene	67	9600	500	210	660	410	560 J
Chrysene	67	10000	520	380	780	670	850 J
Benzo(b)fluoranthene	67	16000 J	830 J	290 J	1100 J	780	1500 J
Benzo(k)fluoranthene	67	2300 J	470 J	220 J	430 J	720	720 J
Benzo(a)pyrene	67	10000	540	250	700	520	1000 J
Indeno(1,2,3-cd)pyrene	67	6900	360	190	450	360	740 J
Dibenz(a,h)anthracene	67	2000	110	69	140	99	220 J
Benzo(g,h,i)perylene	67	5300	330	200	400	300	640 J
DILUTION FACTOR:		1/10	1	1	1	1	1
SAMPLE WEIGHT (g):		96.8	200	187.5	200	150	187.5
PERCENT MOISTURE (%):		69	85	84	85	80	84
LEVEL:		Low	Low	Low	Low	Low	Low
DATE SAMPLED:		11/19/97	11/19/97	11/19/97	11/19/97	11/14/97	11/20/97
DATE EXTRACTED:		11/24/97	11/24/97	11/24/97	11/24/97	11/18/97	11/24/97
DATE ANALYZED:		12/23/97	12/26/97	12/22/97	12/26/97	12/20/97	12/26/97

NOTES:
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SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration PAHs (OLM03.1)
Sediment Matrix
(ug/kg)

M&E SAMPLE ID:		SED-12-03	SED-13-01	SED-13-03	SED-15-01	SED-18-02	SED-18-03
DAS SAMPLE NUMBER:		DAM358	DAM341	DAM342	DAM340	DAM347	DAM348
REMARKS:		-----	-----	-----	-----	-----	-----
ANALYTE	**QL**						
Naphthalene	67	98 J	67 J	40 J	15 J	29 J	34 J
2-Methylnaphthalene	67	22 J	73	23 J	67 U	15 J	21 J
Acenaphthylene	67	14 J	31 J	26 J	67 U	16 J	23 J
Acenaphthene	67	R	89 J	22 J	R	30 J	29 J
Fluorene	67	59 J	220	67 J	50 J	110	94
Phenanthrene	67	460	2700	960	400	1400	1200
Anthracene	67	79	300	99	50 J	150	130
Fluoranthene	67	750	5200	2300	990	4000	3100
Pyrene	67	650	4000	1700	590	3100	2600
Benzo(a)anthracene	67	420	1700	750	200	1400	1400
Chrysene	67	610	1700	1100	410	2200	2000
Benzo(b)fluoranthene	67	780 J	1900 J	1100 J	440 J	2500 J	2400 J
Benzo(k)fluoranthene	67	440 J	850 J	570 J	270 J	1200 J	920 J
Benzo(a)pyrene	67	440	1700	890	180 J	1900	1900 J
Indeno(1,2,3-cd)pyrene	67	330	1000	610	170 J	1400	1500 J
Dibenz(a,h)anthracene	67	110	220	180	60 J	430	410 J
Benzo(g,h,i)perylene	67	290	820	540	150 J	1400	1600 J
DILUTION FACTOR:		1	1/4	1	1	1/2	1/2
SAMPLE WEIGHT (g):		120	83.3	115.3	272.7	157.9	176.5
PERCENT MOISTURE (%):		75	64	74	89	81	83
LEVEL:		Low	Low	Low	Low	Low	Low
DATE SAMPLED:		11/20/97	11/17/97	11/17/97	11/17/97	11/18/97	11/18/97
DATE EXTRACTED:		11/24/97	11/24/97	11/24/97	11/24/97	11/24/97	11/24/97
DATE ANALYZED:		12/26/97	12/20/97	12/20/97	12/20/97	12/22/97	12/22/97

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SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration PAHs (OLM03.1)
Sediment Matrix
(ug/kg)

M&E SAMPLE ID:		SED-19-01	SED-20-01	SED-21-01	SED-22-02	SED-24-03	SED-25-02
DAS SAMPLE NUMBER:		DAM354	DAM339	DAM335	DAM321	DAM320	DAM346
REMARKS:		-----	-----	-----	-----	-----	-----
ANALYTE	**QL**						
Naphthalene	67	12 J	14 J	1300 J	24 J	23 J	32 J
2-Methylnaphthalene	67	R	11 J	140	11 J	23 J	22 J
Acenaphthylene	67	R	67 UJ	38 J	8 J	44 J	22 J
Acenaphthene	67	R	R	67 J	R	50 J	69 J
Fluorene	67	14 J	29 J	240	23 J	130	120
Phenanthrene	67	160 J	240	600	490	1300	1600
Anthracene	67	18 J	26 J	420	46 J	250	330
Fluoranthene	67	410 J	720	1400	840	2600	2500
Pyrene	67	340 J	540 J	1300	610	2400	2300
Benzo(a)anthracene	67	130 J	210	390	300	960	1300
Chrysene	67	230 J	400	940	400	920	1400
Benzo(b)fluoranthene	67	290 J	330	980	440	880	1500 J
Benzo(k)fluoranthene	67	200 J	370	67 U	290	400	740 J
Benzo(a)pyrene	67	160 J	290 J	890 J	200	790 J	1300
Indeno(1,2,3-cd)pyrene	67	140 J	210 J	620 J	220	620 J	670
Dibenz(a,h)anthracene	67	46 J	97 J	240 J	44 J	120 J	220
Benzo(g,h,i)perylene	67	120 J	210 J	710 J	190	550 J	650
DILUTION FACTOR:		1	1	1	1	1	1/2
SAMPLE WEIGHT (g):		187.5	272.7	230.7	176.5	88.2	46.8
PERCENT MOISTURE (%):		84	89	87	83	66	36
LEVEL:		Low	Low	Low	Low	Low	Low
DATE SAMPLED:		11/19/97	11/14/97	11/14/97	11/12/97	11/12/97	11/18/97
DATE EXTRACTED:		11/24/97	11/18/97	11/18/97	11/18/97	11/18/97	11/24/97
DATE ANALYZED:		12/26/97	12/18/97	12/18/97	12/17/97	12/17/97	12/22/97

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SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration PAHs (OLM03.1)
Aqueous Matrix
(ug/L)

M&E SAMPLE ID:		SED-17-EB	SED-20-EB
DAS SAMPLE NUMBER:		DAM344	DAM362
REMARKS:		Equip. Blank	Equip. blank
ANALYTE	**QL**		
Naphthalene	**2.0**	2.0 U	2.0 U
2-Methylnaphthalene	**2.0**	2.0 U	2.0 U
Acenaphthylene	**2.0**	2.0 U	2.0 U
Acenaphthene	**2.0**	2.0 U	2.0 U
Fluorene	**2.0**	2.0 U	2.0 U
Phenanthrene	**2.0**	2.0 U	2.0 U
Anthracene	**2.0**	2.0 U	2.0 U
Fluoranthene	**2.0**	2.0 U	2.0 U
Pyrene	**2.0**	2.0 U	2.0 U
Benzo(a)anthracene	**2.0**	2.0 U	2.0 U
Chrysene	**2.0**	2.0 U	2.0 U
Benzo(b)fluoranthene	**2.0**	2.0 U	2.0 U
Benzo(k)fluoranthene	**2.0**	2.0 U	2.0 U
Benzo(a)pyrene	**2.0**	2.0 U	2.0 U
Indeno(1,2,3-cd)pyrene	**2.0**	2.0 U	2.0 U
Dibenz(a,h)anthracene	**2.0**	2.0 U	2.0 U
Benzo(g,h,i)perylene	**2.0**	2.0 U	2.0 U
DILUTION FACTOR:		1	1
LEVEL:		Low	Low
DATE SAMPLED:		11/14/97	11/20/97
DATE EXTRACTED:		11/24/97	11/24/97
DATE ANALYZED:		12/17/97	12/17/97

NOTES:
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U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration PAHs (OLM03.1)
Sediment Matrix
Tentatively Identified Compounds (TICs)

M&E SAMPLE ID:	SED-01-06	SED-01-07	SED-02-01	SED-02-02	SED-03-02	SED-04-02
DAS SAMPLE NUMBER:	DAM322	DAM323	DAM326	DAM327	DAM325	DAM333
REMARKS:	-----	-----	-----	-----	-----	-----
TENTATIVELY IDENTIFIED COMPOUNDS						
Unknown hydrocarbons	X	X	X	X	X	X
Unknown aromatics		X				
Unknown chlorinateds						
10-Octadecenoic acid, methyl ester						
11H-Benzo(a)fluorene		X			X	X
11H-Benzo(b)fluorene						
2-Pentadecanone, 6,10,14-trimethyl-						
4H-Cyclopenta(def)phenanthrene				X		X
9-Hexadecanoic acid, methyl ester						
9-Hexadecanoic acid, methyl ester, (z)-	X					X
9-Octadecenoic acid, (z)-, methyl ester						
9-Octadecenoic acid, 12-(acetyloxy)-, methyl ester, [r-(z)]-						X
9H-Fluorene, 4-methyl						
Anthracene, -methyl-						
Benzenamine, N-phenyl-						
Benzene, 1,1'-oxybis						
Benzene, ethenyl-, dimer						
Benzo(b)triphenylene				X		X
Benzo(c)phenanthrene		X				
Benzo(e)pyrene	X	X		X	X	X
Benzo(ghi)fluoranthene					X	X
Benzo[b]naphtho[1,2-d]thiophene						X
Chrysene, -methyl-						
Cyclohexane, 1-methyl-3-propyl-						
Dibenzothiophene						
Docosanoic acid, methyl ester				X	X	
Dodecanoic acid, hexadecyl ester						
Dodecanoic acid, methyl ester						
Eicosanoic acid, methyl ester				X	X	X
Heptadecanoic acid, 10-methyl-, methyl ester						
Heptadecanoic acid, 16-methyl-, methyl ester	X	X	X	X		X
Hexacosanoic acid, methyl ester	X	X	X	X	X	X
Hexadecanoic acid, 3,7,11,15-tetramethyl-, methyl ester						
Hexadecanoic acid, methyl ester						
Hydrazine, 1,1-diphenyl-2-(2,4,6-trinitrophenyl)-						
Naphthalene, -dimethyl-						
Naphthalene, -phenyl-		X				
Naphthalene, -trimethyl						
Naphthalene, 2-phenyl-						
Nonanal						
Octacosanoic acid, methyl ester	X	X	X	X	X	X
Octanal						
Phenanthrene, -dimethyl-						
Phenanthrene, -methyl-		X	X	X	X	X
Phenanthrene, -tetramethyl-						

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration PAHs (OLM03.1)
Sediment Matrix
Tentatively Identified Compounds (TICs)

M&E SAMPLE ID:	SED-01-06	SED-01-07	SED-02-01	SED-02-02	SED-03-02	SED-04-02
DAS SAMPLE NUMBER:	DAM322	DAM323	DAM326	DAM327	DAM325	DAM333
REMARKS:	-----	-----	-----	-----	-----	-----
Phenanthrene, 4-methyl-	X					
Pyrene, -methyl-		X		X	X	X
Squalene						
Tetracosanoic acid, methyl ester	X		X	X	X	X
Tetradecanoic acid, 12-methyl-, methyl ester						
Tetradecanoic acid, hexadecyl ester			X	X		
Tetradecanoic acid, methyl ester	X			X	X	X
Triacontanoic acid, methyl ester					X	
Triphenylene, 2-methyl-		X		X		
Undecanoic acid, 10-methyl-,methyl ester						
Unknown carboxylic acid methyl ester						
Unknown PAH						
Unknown PAH MW=226						
Unknown PAH MW=228						
Unknown PAH MW=234						
Unknown PAH MW=242						
Unknown PAH MW=252				X		
Unknown PAH MW=266					X	
Unknown PAH MW=276						
Unknown PAH MW=278						
Vitamin E						
DATE SAMPLED:	11/12/97	11/12/97	11/13/97	11/13/97	11/13/97	11/14/97

NOTES:
X - indicates that this TIC was reported in the sample

SITE: Wells ~~G&H~~ (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration PAHs (OLM03.1)
Sediment Matrix
Tentatively Identified Compounds (TICs)

M&E SAMPLE ID:	SED-04-03	SED-05-03	SED-05-05	SED-06-03	SED-07-02	SED-07-05
DAS SAMPLE NUMBER:	DAM334	DAM328	DAM331	DAM345	DAM359	DAM360
REMARKS:	-----	FD of SED-05-05	FD of SED-05-03	-----	-----	-----
TENTATIVELY IDENTIFIED COMPOUNDS						
Unknown hydrocarbons	X			X	X	X
Unknown aromatics		X				
Unknown chlorinateds						
10-Octadecenoic acid, methyl ester						
11H-Benzo(a)fluorene	X		X	X	X	X
11H-Benzo(b)fluorene					X	X
2-Pentadecanone, 6,10,14-trimethyl-	X				X	
4H-Cyclopenta(def)phenanthrene	X					
9-Hexadecanoic acid, methyl ester	X					
9-Hexadecanoic acid, methyl ester, (z)-	X			X		
9-Octadecenoic acid, (z)-, methyl ester						
9-Octadecenoic acid, 12-(acetyloxy)-, methyl ester, [r-(z)]-						
9H-Fluorene, 4-methyl		X				
Anthracene, -methyl-			X			
Benzenamine, N-phenyl-						
Benzene, 1,1'-oxybis						
Benzene, ethenyl-, dimer		X				
Benzo(b)triphenylene	X					
Benzo(c)phenanthrene						
Benzo(e)pyrene	X	X	X	X	X	X
Benzo(ghi)fluoranthene				X		
Benzo[b]naphtho[1,2-d]thiophene						
Chrysene, -methyl-			X			
Cyclohexane, 1-methyl-3-propyl-						
Dibenzothiophene						
Docosanoic acid, methyl ester				X	X	X
Dodecanoic acid, hexadecyl ester						
Dodecanoic acid, methyl ester				X	X	
Eicosanoic acid, methyl ester	X			X	X	X
Heptadecanoic acid, 10-methyl-, methyl ester						
Heptadecanoic acid, 16-methyl-, methyl ester	X			X	X	X
Hexacosanoic acid, methyl ester	X			X	X	
Hexadecanoic acid, 3,7,11,15-tetramethyl-, methyl ester						
Hexadecanoic acid, methyl ester				X		X
Hydrazine, 1,1-diphenyl-2-(2,4,6-trinitrophenyl)-		X				
Naphthalene, -dimethyl-		X	X			
Naphthalene, -phenyl-						
Naphthalene, -trimethyl			X			
Naphthalene, 2-phenyl-		X	X			
Nonanal						
Octacosanoic acid, methyl ester	X			X	X	X
Octanal						
Phenanthrene, -dimethyl-			X			
Phenanthrene, -methyl-		X	X		X	X
Phenanthrene, -tetramethyl-						

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration PAHs (OLM03.1)
Sediment Matrix
Tentatively Identified Compounds (TICs)

M&E SAMPLE ID:	SED-04-03	SED-05-03	SED-05-05	SED-06-03	SED-07-02	SED-07-05
DAS SAMPLE NUMBER:	DAM334	DAM328	DAM331	DAM345	DAM359	DAM360
REMARKS:	-----	FD of SED-05-05	FD of SED-05-03	-----	-----	-----
Phenanthrene, 4-methyl-						
Pyrene, -methyl-	X	X	X	X	X	X
Squalene	X					
Tetracosanoic acid, methyl ester	X		X	X	X	X
Tetradecanoic acid, 12-methyl-, methyl ester					X	
Tetradecanoic acid, hexadecyl ester						
Tetradecanoic acid, methyl ester	X			X		X
Triacontanoic acid, methyl ester						
Triphenylene, 2-methyl-		X			X	X
Undecanoic acid, 10-methyl-,methyl ester						X
Unknown carboxylic acid methyl ester						
Unknown PAH						
Unknown PAH MW=226						X
Unknown PAH MW=228						X
Unknown PAH MW=234				X	X	
Unknown PAH MW=242						
Unknown PAH MW=252	X			X	X	X
Unknown PAH MW=266						
Unknown PAH MW=276				X		
Unknown PAH MW=278						
Vitamin E	X				X	
DATE SAMPLED:	11/14/97	11/13/97	11/13/97	11/18/97	11/20/97	11/20/97

NOTES:
X - indicates that this TIC was reported in the sample

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration PAHs (OLM03.1)
Sediment Matrix
Tentatively Identified Compounds (TICs)

M&E SAMPLE ID:	SED-07-10	SED-10-01	SED-10-02	SED-10-04	SED-11-01	SED-12-01
DAS SAMPLE NUMBER:	DAM353	DAM351	DAM352	DAM355	DAM336	DAM357
REMARKS:	-----	FD of SED-10-04	-----	FD of SED-10-01	-----	-----
TENTATIVELY IDENTIFIED COMPOUNDS						
Unknown hydrocarbons	X	X	X	X	X	X
Unknown aromatics						
Unknown chlorinateds						
10-Octadecenoic acid, methyl ester						
11H-Benzo(a)fluorene	X					
11H-Benzo(b)fluorene						
2-Pentadecanone, 6,10,14-trimethyl-	X			X		
4H-Cyclopenta(def)phenanthrene					X	
9-Hexadecanoic acid, methyl ester						
9-Hexadecanoic acid, methyl ester, (z)-				X		X
9-Octadecenoic acid, (z)-, methyl ester						
9-Octadecenoic acid, 12-(acetyloxy)-, methyl ester, [r-(z)]-						
9H-Fluorene, 4-methyl						
Anthracene, -methyl-						
Benzenamine, N-phenyl-		X	X	X	X	
Benzene, 1,1'-oxybis			X			
Benzene, ethenyl-, dimer						
Benzo(b)triphenylene						
Benzo(c)phenanthrene						
Benzo(e)pyrene	X	X		X	X	X
Benzo(ghi)fluoranthene						
Benzo[b]naphtho[1,2-d]thiophene						
Chrysene, -methyl-						
Cyclohexane, 1-methyl-3-propyl-						
Dibenzothiophene					X	
Docosanoic acid, methyl ester	X	X	X	X	X	X
Dodecanoic acid, hexadecyl ester						
Dodecanoic acid, methyl ester	X	X	X	X		X
Eicosanoic acid, methyl ester	X	X	X	X		X
Heptadecanoic acid, 10-methyl-, methyl ester						
Heptadecanoic acid, 16-methyl-, methyl ester	X	X	X	X	X	X
Hexacosanoic acid, methyl ester					X	
Hexadecanoic acid, 3,7,11,15-tetramethyl-, methyl ester						X
Hexadecanoic acid, methyl ester	X	X	X	X		X
Hydrazine, 1,1-diphenyl-2-(2,4,6-trinitrophenyl)-						
Naphthalene, -dimethyl-						
Naphthalene, -phenyl-						
Naphthalene, -trimethyl						
Naphthalene, 2-phenyl-						
Nonanal						
Octacosanoic acid, methyl ester	X	X	X	X	X	X
Octanal						
Phenanthrene, -dimethyl-						
Phenanthrene, -methyl-	X					
Phenanthrene, -tetramethyl-						

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration PAHs (OLM03.1)
Sediment Matrix
Tentatively Identified Compounds (TICs)

M&E SAMPLE ID:	SED-07-10	SED-10-01	SED-10-02	SED-10-04	SED-11-01	SED-12-01
DAS SAMPLE NUMBER:	DAM353	DAM351	DAM352	DAM355	DAM336	DAM357
REMARKS:	-----	FD of SED-10-04	-----	FD of SED-10-01	-----	-----
Phenanthrene, 4-methyl-						
Pyrene, -methyl-	X				X	
Squalene						
Tetracosanoic acid, methyl ester	X	X	X	X		X
Tetradecanoic acid, 12-methyl-, methyl ester						X
Tetradecanoic acid, hexadecyl ester						
Tetradecanoic acid, methyl ester	X	X	X	X		X
Triacontanoic acid, methyl ester						
Triphenylene, 2-methyl-	X				X	
Undecanoic acid, 10-methyl-,methyl ester						
Unknown carboxylic acid methyl ester						
Unknown PAH						
Unknown PAH MW=226	X					
Unknown PAH MW=228	X					
Unknown PAH MW=234						
Unknown PAH MW=242						
Unknown PAH MW=252	X		X			
Unknown PAH MW=266						
Unknown PAH MW=276						
Unknown PAH MW=278						
Vitamin E	X					
DATE SAMPLED:	11/19/97	11/19/97	11/19/97	11/19/97	11/14/97	11/20/97

NOTES:
X - indicates that this TIC was reported in the sample

SITE: Well[illegible]H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration PAHs (OLM03.1)
Sediment Matrix
Tentatively Identified Compounds (TICs)

M&E SAMPLE ID:	SED-12-03	SED-13-01	SED-13-03	SED-15-01	SED-18-02	SED-18-03
DAS SAMPLE NUMBER:	DAM358	DAM341	DAM342	DAM340	DAM347	DAM348
REMARKS:	-----	-----	-----	-----	-----	-----
TENTATIVELY IDENTIFIED COMPOUNDS						
Unknown hydrocarbons	X	X	X	X	X	X
Unknown aromatics		X				
Unknown chlorinateds						
10-Octadecenoic acid, methyl ester						
11H-Benzo(a)fluorene						
11H-Benzo(b)fluorene						
2-Pentadecanone, 6,10,14-trimethyl-				X		
4H-Cyclopenta(def)phenanthrene						
9-Hexadecanoic acid, methyl ester						X
9-Hexadecanoic acid, methyl ester, (z)-	X				X	X
9-Octadecenoic acid, (z)-, methyl ester						
9-Octadecenoic acid, 12-(acetyloxy)-, methyl ester, [r-(z)]-						
9H-Fluorene, 4-methyl						
Anthracene, -methyl-						
Benzenamine, N-phenyl-					X	X
Benzene, 1,1'-oxybis						
Benzene, ethenyl-, dimer						
Benzo(b)triphenylene						
Benzo(c)phenanthrene						
Benzo(e)pyrene	X	X			X	X
Benzo(ghi)fluoranthene						
Benzo[b]naphtho[1,2-d]thiophene						
Chrysene, -methyl-						
Cyclohexane, 1-methyl-3-propyl-						
Dibenzothiophene						
Docosanoic acid, methyl ester	X	X	X	X	X	X
Dodecanoic acid, hexadecyl ester				X		
Dodecanoic acid, methyl ester	X		X	X		X
Eicosanoic acid, methyl ester	X	X	X	X	X	X
Heptadecanoic acid, 10-methyl-, methyl ester						
Heptadecanoic acid, 16-methyl-, methyl ester	X		X	X	X	X
Hexacosanoic acid, methyl ester	X					
Hexadecanoic acid, 3,7,11,15-tetramethyl-, methyl ester	X					
Hexadecanoic acid, methyl ester	X	X	X	X	X	X
Hydrazine, 1,1-diphenyl-2-(2,4,6-trinitrophenyl)-						
Naphthalene, -dimethyl-		X				
Naphthalene, -phenyl-						
Naphthalene, -trimethyl		X				
Naphthalene, 2-phenyl-						
Nonanal						
Octacosanoic acid, methyl ester	X		X		X	X
Octanal						
Phenanthrene, -dimethyl-						
Phenanthrene, -methyl-		X				
Phenanthrene, -tetramethyl-		X				

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration PAHs (OLM03.1)
Sediment Matrix
Tentatively Identified Compounds (TICs)

M&E SAMPLE ID:	SED-12-03	SED-13-01	SED-13-03	SED-15-01	SED-18-02	SED-18-03
DAS SAMPLE NUMBER:	DAM358	DAM341	DAM342	DAM340	DAM347	DAM348
REMARKS:	-----	-----	-----	-----	-----	-----
Phenanthrene, 4-methyl-						
Pyrene, -methyl-					X	X
Squalene						
Tetracosanoic acid, methyl ester	X	X	X		X	X
Tetradecanoic acid, 12-methyl-, methyl ester	X					X
Tetradecanoic acid, hexadecyl ester					X	X
Tetradecanoic acid, methyl ester	X	X	X	X	X	X
Triacontanoic acid, methyl ester						
Triphenylene, 2-methyl-						
Undecanoic acid, 10-methyl-,methyl ester					X	
Unknown carboxylic acid methyl ester			X			X
Unknown PAH				X		
Unknown PAH MW=226						
Unknown PAH MW=228						
Unknown PAH MW=234		X			X	
Unknown PAH MW=242					X	
Unknown PAH MW=252				X		
Unknown PAH MW=266						
Unknown PAH MW=276						
Unknown PAH MW=278						
Vitamin E						
DATE SAMPLED:	11/20/97	11/17/97	11/17/97	11/17/97	11/18/97	11/18/97

NOTES:
X - indicates that this TIC was reported in the sample

SITE: Wells ~~G~~H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration PAHs (OLM03.1)
Sediment Matrix
Tentatively Identified Compounds (TICs)

M&E SAMPLE ID:	SED-19-01	SED-20-01	SED-21-01	SED-22-02	SED-24-03	SED-25-02
DAS SAMPLE NUMBER:	DAM354	DAM339	DAM335	DAM321	DAM320	DAM346
REMARKS:	-----	-----	-----	-----	-----	-----
TENTATIVELY IDENTIFIED COMPOUNDS						
Unknown hydrocarbons	X	X	X	X	X	X
Unknown aromatics			X			
Unknown chlorinateds						
10-Octadecenoic acid, methyl ester		X				
11H-Benzo(a)fluorene						X
11H-Benzo(b)fluorene						X
2-Pentadecanone, 6,10,14-trimethyl-	X	X				
4H-Cyclopenta(def)phenanthrene						
9-Hexadecanoic acid, methyl ester						
9-Hexadecanoic acid, methyl ester, (z)-						
9-Octadecenoic acid, (z)-, methyl ester				X		
9-Octadecenoic acid, 12-(acetyloxy)-, methyl ester, [r-(z)]-						
9H-Fluorene, 4-methyl						
Anthracene, -methyl-						
Benzenamine, N-phenyl-						
Benzene, 1,1'-oxybis						
Benzene, ethenyl-, dimer						
Benzo(b)triphenylene						X
Benzo(c)phenanthrene						
Benzo(e)pyrene				X	X	X
Benzo(ghi)fluoranthene						
Benzo[b]naphtho[1,2-d]thiophene						
Chrysene, -methyl-						
Cyclohexane, 1-methyl-3-propyl-						
Dibenzothiophene						
Docosanoic acid, methyl ester	X				X	
Dodecanoic acid, hexadecyl ester						
Dodecanoic acid, methyl ester	X					
Eicosanoic acid, methyl ester	X	X	X	X	X	
Heptadecanoic acid, 10-methyl-, methyl ester			X			
Heptadecanoic acid, 16-methyl-, methyl ester	X	X		X		X
Hexacosanoic acid, methyl ester	X	X	X	X	X	
Hexadecanoic acid, 3,7,11,15-tetramethyl-, methyl ester						
Hexadecanoic acid, methyl ester	X					X
Hydrazine, 1,1-diphenyl-2-(2,4,6-trinitrophenyl)-						
Naphthalene, -dimethyl-			X			
Naphthalene, -phenyl-						
Naphthalene, -trimethyl			X			
Naphthalene, 2-phenyl-						
Nonanal			X			
Octacosanoic acid, methyl ester					X	X
Octanal			X			
Phenanthrene, -dimethyl-						
Phenanthrene, -methyl-					X	
Phenanthrene, -tetramethyl-	X				X	

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration PAHs (OLM03.1)
Sediment Matrix
Tentatively Identified Compounds (TICs)

M&E SAMPLE ID:	SED-19-01	SED-20-01	SED-21-01	SED-22-02	SED-24-03	SED-25-02
DAS SAMPLE NUMBER:	DAM354	DAM339	DAM335	DAM321	DAM320	DAM346
REMARKS:	-----	-----	-----	-----	-----	-----
Phenanthrene, 4-methyl-						X
Pyrene, -methyl-			X	X	X	X
Squalene						
Tetracosanoic acid, methyl ester	X		X	X	X	
Tetradecanoic acid, 12-methyl-, methyl ester						
Tetradecanoic acid, hexadecyl ester		X				
Tetradecanoic acid, methyl ester	X	X	X	X	X	
Triacontanoic acid, methyl ester						
Triphenylene, 2-methyl-					X	X
Undecanoic acid, 10-methyl-,methyl ester		X		X		
Unknown carboxylic acid methyl ester						
Unknown PAH						
Unknown PAH MW=226						
Unknown PAH MW=228						
Unknown PAH MW=234						X
Unknown PAH MW=242						X
Unknown PAH MW=252						X
Unknown PAH MW=266						
Unknown PAH MW=276						
Unknown PAH MW=278						X
Vitamin E						
DATE SAMPLED:	11/19/97	11/17/97	11/14/97	11/12/97	11/12/97	11/18/97

NOTES:
X - indicates that this TIC was reported in the sample

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration PAHs (OLM03.1)
Sediment Matrix
Tentatively Identified Compounds (TICs)

M&E SAMPLE ID:	SED-17-EB	SED-20-EB
DAS SAMPLE NUMBER:	DAM344	DAM362
REMARKS:	Equip. Blank	Equip. Blank
TENTATIVELY IDENTIFIED COMPOUNDS		
Unknown hydrocarbons		
Unknown aromatics		
Unknown chlorinateds	X	
10-Octadecenoic acid, methyl ester		
11H-Benzo(a)fluorene		
11H-Benzo(b)fluorene		
2-Pentadecanone, 6,10,14-trimethyl-		
4H-Cyclopenta(def)phenanthrene		
9-Hexadecanoic acid, methyl ester		
9-Hexadecanoic acid, methyl ester, (z)-		
9-Octadecenoic acid, (z)-, methyl ester		
9-Octadecenoic acid, 12-(acetyloxy)-, methyl ester, [r-(z)]-		
9H-Fluorene, 4-methyl		
Anthracene, -methyl-		
Benzenamine, N-phenyl-		
Benzene, 1,1'-oxybis		
Benzene, ethenyl-, dimer		
Benzo(b)triphenylene		
Benzo(c)phenanthrene		
Benzo(e)pyrene		
Benzo(ghi)fluoranthene		
Benzo[b]naphtho[1,2-d]thiophene		
Chrysene, -methyl-		
Cyclohexane, 1-methyl-3-propyl-	X	
Dibenzothiophene		
Docosanoic acid, methyl ester		
Dodecanoic acid, hexadecyl ester		
Dodecanoic acid, methyl ester		
Eicosanoic acid, methyl ester		
Heptadecanoic acid, 10-methyl-, methyl ester		
Heptadecanoic acid, 16-methyl-, methyl ester		
Hexadecanoic acid, methyl ester		
Hexadecanoic acid, 3,7,11,15-tetramethyl-, methyl ester		
Hexadecanoic acid, methyl ester		
Hydrazine, 1,1-diphenyl-2-(2,4,6-trinitrophenyl)-		
Naphthalene, -dimethyl-		
Naphthalene, -phenyl-		
Naphthalene, -trimethyl		
Naphthalene, 2-phenyl-		
Nonanal		
Octacosanoic acid, methyl ester		
Octanal		
Phenanthrene, -dimethyl-		
Phenanthrene, -methyl-		
Phenanthrene, -tetramethyl-		

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration PAHs (OLM03.1)
Sediment Matrix
Tentatively Identified Compounds (TICs)

M&E SAMPLE ID:	SED-17-EB	SED-20-EB
DAS SAMPLE NUMBER:	DAM344	DAM362
REMARKS:	Equip. Blank	Equip. Blank
Phenanthrene, 4-methyl-		
Pyrene, -methyl-		
Squalene		
Tetracosanoic acid, methyl ester		
Tetradecanoic acid, 12-methyl-, methyl ester		
Tetradecanoic acid, hexadecyl ester		
Tetradecanoic acid, methyl ester		
Triacontanoic acid, methyl ester		
Triphenylene, 2-methyl-		
Undecanoic acid, 10-methyl-,methyl ester		
Unknown carboxylic acid methyl ester		
Unknown PAH		
Unknown PAH MW=226		
Unknown PAH MW=228		
Unknown PAH MW=234		
Unknown PAH MW=242		
Unknown PAH MW=252		
Unknown PAH MW=266		
Unknown PAH MW=276		
Unknown PAH MW=278		
Vitamin E		
DATE SAMPLED:	11/17/97	11/20/97

NOTES:
X - indicates that this TIC was reported in the sample

Low Concentration PAHs (GC/MS/SIM)

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DAS SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration PAHs (SIM)
Sediment Matrix
(ug/kg)

M&E SAMPLE ID:		SED-02-01	SED-10-02	SED-11-01	SED-12-01	SED-12-03	SED-15-01
DAS SAMPLE NUMBER:		DAM326	DAM352	DAM336	DAM357	DAM358	DAM340
REMARKS:		-----	-----	-----	-----	-----	-----
ANALYTE	**QL**						
Naphthalene	1	13 UJ	30 UJ	32 J	24 J	120 J	15 UJ
2-Methylnaphthalene	1	12 J	10 U	16 J	13 J	25 J	10 J
Acenaphthylene	1	22 J	13 J	9 J	19 J	23 J	7 J
Acenaphthene	1	11 J	13	8 J	10 J	15 J	8 J
Fluorene	1	42 J	72 J	57 J	45 J	78 J	69 J
Dibenz(a,h)anthracene	2	69 J	42 J	97 J	320 J	150	34 J
DILUTION FACTOR:		1	10	1	1	1/20	1
SAMPLE WEIGHT (g):		88.2	187.5	150	187.5	120	272.7
PERCENT MOISTURE (%):		66	84	80	84	75	89
LEVEL:		Low	Low	Low	Low	Low	Low
DATE SAMPLED:		11/13/97	11/19/97	11/14/97	11/20/97	11/20/97	11/17/97
DATE EXTRACTED:		11/18/97	11/24/97	11/18/97	11/24/97	11/24/97	11/24/97
DATE ANALYZED:		12/27/97	12/29/97	12/29/97	12/30/97	12/30/97	12/28/97

NOTES:
QL - Quantitation Limits
J - Quantitation is approximate due to limitations identified in the quality control review
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration PAHs (SIM)
Sediment Matrix
(ug/kg)

M&E SAMPLE ID:		SED-19-01	SED-20-01	SED-22-02
DAS SAMPLE NUMBER:		DAM354	DAM339	DAM321
REMARKS:		-----	-----	-----
ANALYTE	**QL**			
Naphthalene	1	11 U	14 UJ	25 J
2-Methylnaphthalene	1	6 U	13 J	13 J
Acenaphthylene	1	1 J	6 J	12 J
Acenaphthene	1	3 J	6 J	11 J
Fluorene	1	14 J	36 J	26 J
Dibenz(a,h)anthracene	2	18 J	45 J	36 J
DILUTION FACTOR:		1/10	1	1
SAMPLE WEIGHT (g):		187.5	272.7	176.5
PERCENT MOISTURE (%):		84	89	83
LEVEL:		Low	Low	Low
DATE SAMPLED:		11/19/97	11/17/97	11/12/97
DATE EXTRACTED:		11/24/97	11/18/97	11/18/97
DATE ANALYZED:		12/30/97	12/28/97	12/27/97

NOTES:
QL - Quantitation Limits
J - Quantitation is approximate due to limitations identified in the quality control review
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review

Organochlorine Pesticides

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

EPA SUMMARY TABLES
Delivery of Analytical Services for
Organochlorine Pesticides
Sediment Matrix
(ug/kg)

M&E SAMPLE ID:		SED-01-06	SED-01-07	SED-02-01	SED-02-02	SED-03-02	SED-04-02
DAS SAMPLE NUMBER:		DAM322	DAM323	DAM326	DAM327	DAM325	DAM333
REMARKS:		-----	-----	-----	-----	-----	-----
ANALYTE	**QL**						
2,4'-DDT	0.33	0.31 U	0.31 U	0.32 UJ	0.33 U	3.2 U	3.9 U
4,4'-DDD	0.33	16 J	18 J	20 J	25 J	94	160
4,4'-DDE	0.33	24	28	26 J	30	29	91
4,4'-DDT	0.33	2.5 J	3.2 J	1.8 J	2.4 J	5.8 J	21 J
Aldrin	0.17	0.16 U	0.21 J	0.16 UJ	0.16 U	1.6 U	1.9 U
alpha-BHC	0.17	0.16 U	0.17 J	0.16 UJ	0.16 U	1.6 U	1.9 U
alpha-Chlordane	0.17	9.3 J	10 J	11 J	16	11 J	21
beta-BHC	0.17	0.16 U	0.16 U	0.16 UJ	0.16 U	1.6 U	1.9 U
delta-BHC	0.17	0.19 J	0.16 U	1.3 J	0.16 U	2.3 J	1.9 U
Dieldrin	0.33	0.50 J	0.61 J	0.45 J	0.47	3.2 U	3.9 U
Endosulfan I	0.17	0.16 U	0.16 U	0.16 UJ	0.17 U	1.6 U	1.9 U
Endosulfan II	0.33	0.41	0.66	0.21 J	0.28	3.2 U	3.9 U
Endosulfan Sulfate	0.33	0.67 J	0.78 J	0.47 J	0.33 U	3.2 U	3.9 U
Endrin	0.33	1.2 J	1.8 J	1.3 J	1.9	3.2 U	5.0 J
Endrin Aldehyde	0.33	3.4 J	3.2 J	1.6 J	1.9 J	3.2 U	11 J
Endrin Ketone	0.33	0.31 U	0.31 U	0.32 UJ	0.33 U	3.2 U	3.9 U
gamma-BHC	0.17	0.16 U	0.16 U	0.16 UJ	0.16 U	1.6 U	1.9 U
gamma-Chlordane	0.17	6.4 J	6.8 J	8.0 J	11 J	9.3 J	16 J
Heptachlor	0.17	0.16 U	0.16 U	0.16 UJ	0.16 U	1.6 U	1.9 U
Heptachlor Epoxide	0.17	0.16 U	0.16 U	0.16 UJ	0.16 U	1.6 U	1.9 U
Methoxychlor	1.7	1.6 U	1.6 U	1.6 UJ	1.6 U	16 U	19 U
Toxaphene	17.0	16 U	16 U	16 UJ	16 U	160 U	190 U
DILUTION FACTOR:		1/10	1/10	1/10	1/10	10/50	10/50
SAMPLE WEIGHT (kg):		0.053	0.053	0.042	0.032	0.049	0.035
PERCENT MOISTURE (%):		40	40	26	6.0	35	13
LEVEL:		Low	Low	Low	Low	Low	Low
DATE SAMPLED:		11/12/97	11/12/97	11/13/97	11/13/97	11/13/97	11/14/97
DATE EXTRACTED:		11/21/97	11/20/97	11/21/97	11/21/97	11/21/97	11/21/97
DATE ANALYZED:		12/18/97	12/18/97	12/18/97	12/18/97	12/14/97	12/14/97

NOTES:
QL - Quantitation Limits
J - Quantitation is approximate due to limitations identified in the quality control review
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Organochlorine Pesticides
Sediment Matrix
(ug/kg)

M&E SAMPLE ID:		SED-04-03	SED-05-03	SED-05-05	SED-06-03	SED-07-02	SED-07-05
DAS SAMPLE NUMBER:		DAM334	DAM328	DAM331	DAM345	DAM359	DAM360
REMARKS:		-----	FD of SED-05-05	FD of SED-05-03	-----	-----	-----
ANALYTE	**QL**						
2,4'-DDT	**0.33**	0.33 U	3.3 U	3.3 U	3.2 U	3.3 U	3.2 U
4,4'-DDD	**0.33**	37 J	180	180	79	47	39 J
4,4'-DDE	**0.33**	20 J	37	34	71	19 J	41
4,4'-DDT	**0.33**	4.4 J	9.7 J	8.8 J	15 J	21 J	18 J
Aldrin	**0.17**	0.30 J	1.7 U	1.7 U	1.6 U	1.6 U	1.6 U
alpha-BHC	**0.17**	0.16 U	1.7 U	1.7 U	1.6 U	1.6 U	1.6 U
alpha-Chlordane	**0.17**	29 J	9.1 J	17 J	80	49 J	64
beta-BHC	**0.17**	0.16 U	1.7 U	1.7 U	1.6 U	1.6 U	1.6 U
delta-BHC	**0.17**	1.3 J	3.0 J	4.3 J	25 J	1.6 U	24 J
Dieldrin	**0.33**	0.73 J	4.2 J	3.3 U	5.0 J	4.1 J	3.2 U
Endosulfan I	**0.17**	0.16 U	1.7 U	1.7 U	1.6 U	1.6 U	1.6 U
Endosulfan II	**0.33**	0.49	3.3 U	3.3 U	3.2 U	3.3 U	3.2 U
Endosulfan Sulfate	**0.33**	0.33 J	3.3 U	3.3 U	3.2 U	3.3 U	3.2 U
Endrin	**0.33**	3.2 J	3.3 U	3.3 U	17 J	8.6 J	17 J
Endrin Aldehyde	**0.33**	4.9 J	3.3 U	3.3 U	3.2 U	27 J	3.2 U
Endrin Ketone	**0.33**	0.33 U	3.3 U	3.3 U	3.2 U	3.3 U	3.2 U
gamma-BHC	**0.17**	0.16 U	1.7 U	1.7 U	1.6 U	1.6 U	1.6 U
gamma-Chlordane	**0.17**	22 J	7.3 J	16 J	48 J	41	38 J
Heptachlor	**0.17**	0.16 U	1.7 U	1.7 U	1.6 U	1.6 U	1.6 U
Heptachlor Epoxide	**0.17**	0.16 U	1.7 U	1.7 U	1.6 U	1.6 U	1.6 U
Methoxychlor	**1.7**	1.6 U	17 U	17 U	16 U	16 U	16 U
Toxaphene	**17.0**	16 U	170 U	170 U	160 U	160 U	160 U
DILUTION FACTOR:		1/10	10/50	10/50	10/50	10/50	10/50
SAMPLE WEIGHT (kg):		0.035	0.031	0.031	0.039	0.035	0.044
PERCENT MOISTURE (%):		12	3.0	3.0	21	13	28
LEVEL:		Low	Low	Low	Low	Low	Low
DATE SAMPLED:		11/14/97	11/13/97	11/13/97	11/18/97	11/20/97	11/20/97
DATE EXTRACTED:		11/21/97	11/21/97	11/21/97	11/24/97	11/24/97	11/24/97
DATE ANALYZED:		12/19/97	12/14/97	12/14/97	12/18/97	12/19/97	12/18/97

NOTES:
QL - Quantitation Limits
J - Quantitation is approximate due to limitations identified in the quality control review
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quali trol review

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

...A SUMMARY TABLES
Delivery of Analytical Services for
Organochlorine Pesticides
Sediment Matrix
(ug/kg)

M&E SAMPLE ID:		SED-07-10	SED-10-01	SED-10-02	SED-10-04	SED-11-01	SED-12-01
DAS SAMPLE NUMBER:		DAM353	DAM351	DAM352	DAM355	DAM336	DAM357
REMARKS:		-----	FD of SED-10-04	-----	FD of SED-10-01	-----	-----
ANALYTE	QL						
2,4'-DDT	0.33	3.2 U	3.4 U	0.35 U	3.3 U	0.33 UJ	0.33 U
4,4'-DDD	0.33	36	98 J	17	260 J	45 J	17
4,4'-DDE	0.33	33	90 J	5.1	230 J	15 J	4.0
4,4'-DDT	0.33	14 J	3.4 U	0.35 U	5.3 J	1.9 J	1.3 J
Aldrin	0.17	1.6 U	11 J	0.17 U	25 J	0.16 UJ	0.17 U
alpha-BHC	0.17	1.6 U	1.7 U	0.17 U	1.7 U	0.16 UJ	0.17 U
alpha-Chlordane	0.17	80	18 J	1.5 J	41 J	8.1 J	2.4 J
beta-BHC	0.17	1.6 U	1.7 U	0.17 U	1.7 U	0.16 UJ	0.17 U
delta-BHC	0.17	1.6 U	1.7 U	0.17 U	1.7 U	0.16 UJ	0.17 U
Dieldrin	0.33	3.2 U	13	0.35 U	15 J	1.4 J	0.78 J
Endosulfan I	0.17	1.6 U	1.7 U	0.17 U	1.7 U	0.44 J	0.17 U
Endosulfan II	0.33	3.2 U	3.4 U	0.35 U	3.3 U	0.51 J	0.33 U
Endosulfan Sulfate	0.33	3.2 U	3.4 U	0.35 U	3.3 U	0.72 J	0.33 U
Endrin	0.33	16 J	4.7 J	0.61 J	6.9	0.69 J	1.4 J
Endrin Aldehyde	0.33	3.2 U	6.4 J	1.7 J	17 J	1.7 J	1.8 J
Endrin Ketone	0.33	3.2 U	3.4 U	0.35 U	3.3 U	0.33 UJ	0.33 U
gamma-BHC	0.17	1.6 U	1.7 U	0.17 U	1.7 U	0.16 UJ	0.23 J
gamma-Chlordane	0.17	45 J	16 J	0.25 J	25 J	5.6 J	1.7 J
Heptachlor	0.17	1.6 U	1.7 U	0.17 U	1.7 U	0.16 UJ	0.17 U
Heptachlor Epoxide	0.17	1.6 U	1.7 U	0.54 J	2.3 J	0.16 UJ	0.46 J
Methoxychlor	1.7	16 U	17 U	1.7 U	17 U	1.6 UJ	1.7 U
Toxaphene	17.0	160 U	170 U	17 U	170 U	16 UJ	17 U
DILUTION FACTOR:		10/50	10/50	1/10	10/100	1/10	1/10
SAMPLE WEIGHT (kg):		0.044	0.043	0.037	0.038	0.036	0.045
PERCENT MOISTURE (%):		29	27	16	18	14	30
LEVEL:		Low	Low	Low	Low	Low	Low
DATE SAMPLED:		11/19/97	11/19/97	11/19/97	11/19/97	11/14/97	11/19/97
DATE EXTRACTED:		11/24/97	11/24/97	11/24/97	11/24/97	11/21/97	11/24/97
DATE ANALYZED:		12/19/97	12/19/97	12/20/97	12/19/97	12/19/97	12/20/97

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SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Organochlorine Pesticides
Sediment Matrix
(ug/kg)

M&E SAMPLE ID:		SED-12-03	SED-13-01	SED-13-03	SED-15-01	SED-18-02	SED-18-03
DAS SAMPLE NUMBER:		DAM358	DAM341	DAM342	DAM340	DAM347	DAM348
REMARKS:		-----	-----	-----	-----	-----	-----
ANALYTE	**QL**						
2,4'-DDT	**0.33**	0.32 U	0.31 UJ	3.3 U	0.33 UJ	0.33 U	0.34 U
4,4'-DDD	**0.33**	1.9	18 J	310	6.9 J	23 J	4.9 J
4,4'-DDE	**0.33**	0.90 J	17 J	130	3.8 J	28	30
4,4'-DDT	**0.33**	1.1 J	4.0 J	12 J	1.8 J	1.2 J	1.7 J
Aldrin	**0.17**	0.16 U	0.16 UJ	1.6 U	0.17 UJ	0.16 U	0.17 U
alpha-BHC	**0.17**	0.16 U	0.16 UJ	1.6 U	0.17 UJ	0.16 U	0.17 U
alpha-Chlordane	**0.17**	1.1 J	17 J	93	6.0 J	7.7 J	17 J
beta-BHC	**0.17**	0.16 U	0.16 UJ	1.6 U	0.17 UJ	0.16 U	0.17 U
delta-BHC	**0.17**	0.16 U	0.16 UJ	15 J	0.17 UJ	0.16 U	0.17 U
Dieldrin	**0.33**	0.32 U	1.4 J	11 J	0.57 J	0.33 J	0.94 J
Endosulfan I	**0.17**	0.16 U	0.16 UJ	1.6 U	0.45 J	0.16 U	0.17 U
Endosulfan II	**0.33**	0.32 U	0.39 J	3.3 U	0.33 UJ	0.33 U	0.34 U
Endosulfan Sulfate	**0.33**	0.32 U	0.38 J	3.3 U	0.33 UJ	0.33 U	0.41 J
Endrin	**0.33**	0.77 J	9.6 J	3.3 U	0.48 J	1.3 J	1.1 J
Endrin Aldehyde	**0.33**	0.87 J	2.2 J	7.5 J	2.0 J	2.4 J	3.6 J
Endrin Ketone	**0.33**	0.32 U	0.31 UJ	3.3 U	0.33 UJ	0.33 U	0.34 U
gamma-BHC	**0.17**	0.34 J	0.16 UJ	1.6 U	0.17 UJ	0.16 U	0.17 U
gamma-Chlordane	**0.17**	0.73 J	16 J	650 J	0.98 J	1.9 J	26 J
Heptachlor	**0.17**	0.16 U	0.16 UJ	1.6 U	0.17 UJ	0.16 U	0.17 U
Heptachlor Epoxide	**0.17**	0.27 J	0.40 J	1.6 U	0.17 J	0.16 U	0.17 U
Methoxychlor	**1.7**	1.6 U	1.6 UJ	16 U	1.7 UJ	1.6 U	1.7 U
Toxaphene	**17.0**	16 U	16 UJ	160 U	17 UJ	16 U	17 U
DILUTION FACTOR:		1	1/10	10/100	1/10	1/10	1/10
SAMPLE WEIGHT (kg):		0.036	0.05	0.034	0.058	0.032	0.053
PERCENT MOISTURE (%):		15	42	9.0	44	6.0	40
LEVEL:		Low	Low	Low	Low	Low	Low
DATE SAMPLED:		11/20/97	11/17/97	11/17/97	11/17/97	11/18/97	11/18/97
DATE EXTRACTED:		11/24/97	11/24/97	11/24/97	11/24/97	11/24/97	11/24/97
DATE ANALYZED:		12/20/97	12/19/97	12/18/97	12/19/97	12/20/97	12/20/97

NOTES:
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SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

[illegible]A SUMMARY TABLES
Delivery of Analytical Services for
Organochlorine Pesticides
Sediment Matrix
(ug/kg)

M&E SAMPLE ID:		SED-19-01	SED-20-01	SED-21-01	SED-22-02	SED-24-03	SED-25-02
DAS SAMPLE NUMBER:		DAM354	DAM339	DAM335	DAM321	DAM320	DAM346
REMARKS:		---	---	---	---	---	---
ANALYTE	**QL**						
2,4'-DDT	**0.33**	0.33 U	R	3.6 U	0.31 U	3.2 U	0.32 U
4,4'-DDD	**0.33**	9.0	8.4 J	35 J	9.6 J	390	11 J
4,4'-DDE	**0.33**	3.2	4.4	22	31	37	4.4 J
4,4'-DDT	**0.33**	0.33 U	4.6 J	4.4 J	2.7 J	24 J	2.1 J
Aldrin	**0.17**	0.16 U	R	1.6 U	0.15 U	1.6 U	0.16 U
alpha-BHC	**0.17**	0.16 U	0.16 U	1.6 U	0.15 U	1.6 U	0.16 U
alpha-Chlordane	**0.17**	0.98 J	12 J	29	1.2 J	2.0 J	1.3 J
beta-BHC	**0.17**	0.16 U	0.16 U	1.6 U	0.15 U	1.6 U	0.16 U
delta-BHC	**0.17**	0.16 U	0.16 U	1.8 J	0.16 J	1.6 U	0.16 U
Dieldrin	**0.33**	2.5 J	0.70 J	3.2 U	0.38 J	3.2 U	0.32 U
Endosulfan I	**0.17**	0.44 J	0.16 U	1.6 U	0.18 J	1.6 U	0.16 U
Endosulfan II	**0.33**	0.33 U	0.31 U	5.2	0.48 J	3.2 U	0.33 J
Endosulfan Sulfate	**0.33**	0.33 U	0.31 U	3.2 U	0.31 U	3.2 U	0.32 U
Endrin	**0.33**	0.92 J	0.97 J	3.6 J	0.31 U	3.2 U	0.98 J
Endrin Aldehyde	**0.33**	0.33 U	1.3 J	9.0 J	3.3 J	5.9 J	4.4 J
Endrin Ketone	**0.33**	0.33 U	0.31 U	3.2 U	0.31 U	3.2 U	0.32 U
gamma-BHC	**0.17**	0.16 U	0.16 U	1.6 U	0.15 U	1.6 U	0.16 U
gamma-Chlordane	**0.17**	0.59 J	6.8 J	19 J	0.19 J	4.2	1.3 J
Heptachlor	**0.17**	0.16 U	R	1.6 U	0.15 U	1.6 U	0.16 U
Heptachlor Epoxide	**0.17**	0.16 U	0.49 J	1.6 U	0.29 J	1.6 U	0.36 J
Methoxychlor	**1.7**	1.6 U	1.6 U	16 U	1.5 U	16 U	1.6 U
Toxaphene	**17.0**	16 U	16 U	160 U	15 U	160 U	16 U
DILUTION FACTOR:		1/10	1/10	1/10	1/10	10/100	1/10
SAMPLE WEIGHT (kg):		0.05	0.056	0.047	0.060	0.041	0.040
PERCENT MOISTURE (%):		38	43	32	46	24	22
LEVEL:		Low	Low	Low	Low	Low	Low
DATE SAMPLED:		11/19/97	11/17/97	11/14/97	11/12/97	11/12/97	11/18/97
DATE EXTRACTED:		11/24/97	11/21/97	11/21/97	11/21/97	11/21/97	11/24/97
DATE ANALYZED:		12/19/97	12/18/97	12/18/97	11/18/97	12/13/97	12/19/97

NOTES:
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SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Organochlorine Pesticides
Aqueous Matrix
(ug/l)

M&E SAMPLE ID:		SED-17-EB	SED-20-EB
DAS SAMPLE NUMBER:		DAM344	DAM362
REMARKS:		Equip. Blank	Equip. Blank
ANALYTE	QL		
2,4'-DDT	0.10	0.10 U	0.10 U
4,4'-DDD	0.10	0.10 U	0.10 U
4,4'-DDE	0.10	0.10 U	0.10 U
4,4'-DDT	0.10	0.10 U	0.10 U
Aldrin	0.050	0.050 U	0.050 U
alpha-BHC	0.050	0.050 U	0.050 U
alpha-Chlordane	0.050	0.050 U	0.050 U
beta-BHC	0.050	0.050 U	0.050 U
delta-BHC	0.050	0.050 U	0.050 U
Dieldrin	0.10	0.10 U	0.10 U
Endosulfan I	0.050	0.050 U	0.050 U
Endosulfan II	0.10	0.10 U	0.10 U
Endosulfan Sulfate	0.10	0.10 U	0.10 U
Endrin	0.10	0.10 U	0.10 U
Endrin Aldehyde	0.10	0.10 U	0.10 U
Endrin Ketone	0.10	0.10 U	0.10 U
gamma-BHC	0.050	0.050 U	0.050 U
gamma-Chlordane	0.050	0.050 U	0.050 U
Heptachlor	0.050	0.050 U	0.050 U
Heptachlor Epoxide	0.050	0.050 U	0.050 U
Methoxychlor	0.50	0.50 U	0.50 U
Toxaphene	5.0	5.0 U	5.0 U
DILUTION FACTOR:		1	1
LEVEL:		Low	Low
DATE SAMPLED:		11/17/97	11/20/97
DATE EXTRACTED:		11/24/97	11/24/97
DATE ANALYZED:		12/12/97	12/19/97

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PCBs

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
PCBs
Sediment Matrix
(ug/kg)

M&E SAMPLE ID:		SED-01-06	SED-01-07	SED-02-01	SED-02-02	SED-03-02	SED-04-02
DAS SAMPLE NUMBER:		DAM322	DAM323	DAM326	DAM327	DAM325	DAM333
REMARKS:		-----	-----	-----	-----	-----	-----
ANALYTE	QL						
Aroclor-1016	3.3	3.1 U	3.1 U	3.2 U	3.3 U	3.2 U	2.6 U
Aroclor-1221	6.7	6.2 U	6.3 U	6.4 U	6.6 U	6.3 U	5.2 U
Aroclor-1232	3.3	3.1 U	3.1 U	3.2 U	3.3 U	3.2 U	2.6 U
Aroclor-1242	3.3	3.1 U	3.1 U	3.2 U	3.3 U	3.2 U	2.6 U
Aroclor-1248	3.3	46 J	70 J	160 J	180 J	160 J	200 J
Aroclor-1254	3.3	3.1 U	3.1 U	3.2 U	3.3 U	3.2 U	2.6 U
Aroclor-1260	3.3	47	69 J	140	170	110	94
DILUTION FACTOR:		1/3	1/5	1/8	1/8	1/8	1/8
SAMPLE WEIGHT (kg):		0.053	0.053	0.042	0.032	0.049	0.035
PERCENT MOISTURE (%):		40	40	26	6.0	35	13
LEVEL:		Low	Low	Low	Low	Low	Low
DATE SAMPLED:		11/12/97	11/12/97	11/13/97	11/13/97	11/13/97	11/14/97
DATE EXTRACTED:		11/21/97	11/21/97	11/21/97	11/21/97	11/21/97	11/21/97
DATE ANALYZED:		12/11/97	12/11/97	12/12/97	12/13/97	12/11/97	12/13/97

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SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
PCBs
Sediment Matrix
(ug/kg)

M&E SAMPLE ID:		SED-04-03	SED-05-03	SED-05-05	SED-06-03	SED-07-02	SED-07-05
DAS SAMPLE NUMBER:		DAM334	DAM328	DAM331	DAM345	DAM359	DAM360
REMARKS:		-----	FD of SED-05-05	FD of SED-05-03	-----	-----	-----
ANALYTE	QL						
Aroclor-1016	3.3	3.3 U	3.3 U	3.4 U	3.2 U	3.3 U	3.2 U
Aroclor-1221	6.7	6.5 U	6.6 U	6.8 U	6.4 U	6.7 U	6.4 U
Aroclor-1232	3.3	3.3 U	3.3 U	3.4 U	3.2 U	3.3 U	3.2 U
Aroclor-1242	3.3	3.3 U	3.3 U	3.4 U	3.2 U	3.3 U	3.2 U
Aroclor-1248	3.3	44 J	120 J	120 J	120 J	37 J	29 J
Aroclor-1254	3.3	3.3 U	3.3 U	3.4 U	3.2 U	3.3 U	3.2 U
Aroclor-1260	3.3	160	77	72	82	95	74
DILUTION FACTOR:		1/10	1/4	1/4	1/2	1/6	1/5
SAMPLE WEIGHT (kg):		0.035	0.031	0.031	0.039	0.035	0.044
PERCENT MOISTURE (%):		12	3.0	3.0	21	13	28
LEVEL:		Low	Low	Low	Low	Low	Low
DATE SAMPLED:		11/14/97	11/13/97	11/13/97	11/18/97	11/20/97	11/20/97
DATE EXTRACTED:		11/21/97	11/21/97	11/21/97	11/24/97	11/24/97	11/24/97
DATE ANALYZED:		12/13/97	12/12/97	12/12/97	12/17/97	12/18/97	12/16/97

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SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
PCBs
Sediment Matrix
(ug/kg)

M&E SAMPLE ID:		SED-07-10	SED-10-01	SED-10-02	SED-10-04	SED-11-01	SED-12-01
DAS SAMPLE NUMBER:		DAM353	DAM351	DAM352	DAM355	DAM336	DAM357
REMARKS:		-----	FD of SED-10-04	-----	FD of SED-10-01	-----	-----
ANALYTE	**QL**						
Aroclor-1016	3.3	3.2 U	3.4 U	3.5 U	3.3 U	3.3 U	3.3 U
Aroclor-1221	6.7	6.4 U	6.8 U	6.9 U	6.6 U	6.5 U	6.7 U
Aroclor-1232	3.3	3.2 U	3.4 U	3.5 U	3.3 U	3.3 U	3.3 U
Aroclor-1242	3.3	3.2 U	3.4 U	3.5 U	3.3 U	3.3 U	3.3 U
Aroclor-1248	3.3	67 J	300 J	47 J	820 J	180 J	28 J
Aroclor-1254	3.3	3.2 U	3.4 U	3.5 U	3.3 U	3.3 U	3.3 U
Aroclor-1260	3.3	50	190 J	44	450 J	230	58
DILUTION FACTOR:		1/3	1/7	1/5	1/20	1/8	1/5
SAMPLE WEIGHT (kg):		0.044	0.043	0.037	0.038	0.036	0.045
PERCENT MOISTURE (%):		29	27	16	18	14	30
LEVEL:		Low	Low	Low	Low	Low	Low
DATE SAMPLED:		11/19/97	11/19/97	11/19/97	11/19/97	11/14/97	11/19/97
DATE EXTRACTED:		11/24/97	11/24/97	11/24/97	11/24/97	11/21/97	11/24/97
DATE ANALYZED:		12/16/97	12/17/97	12/17/97	12/17/97	12/19/97	12/17/97

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SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
PCBs
Sediment Matrix
(ug/kg)

M&E SAMPLE ID:		SED-12-03	SED-13-01	SED-13-03	SED-15-01	SED-18-02	SED-18-03
DAS SAMPLE NUMBER:		DAM358	DAM341	DAM342	DAM340	DAM347	DAM348
REMARKS:		-----	-----	-----	-----	-----	-----
ANALYTE	**QL**						
Aroclor-1016	3.3	3.2 U	3.1 U	3.3 U	3.3 U	3.3 U	3.4 U
Aroclor-1221	6.7	6.5 U	6.3 U	6.6 U	6.6 U	6.6 U	6.8 U
Aroclor-1232	3.3	3.2 U	3.1 U	3.3 U	3.3 U	3.3 U	3.4 U
Aroclor-1242	3.3	3.2 U	3.1 U	3.3 U	3.3 U	3.3 U	3.4 U
Aroclor-1248	3.3	15 J	25 J	170 J	43 J	60 J	170 J
Aroclor-1254	3.3	3.2 U	3.1 U	3.3 U	3.3 U	3.3 U	3.4 U
Aroclor-1260	3.3	18	79	250	83	90	190
DILUTION FACTOR:		1	1/3	1/5	1/5	1/3	1/5
SAMPLE WEIGHT (kg):		0.036	0.055	0.034	0.058	0.032	0.053
PERCENT MOISTURE (%):		15	42	9.0	44	6.0	40
LEVEL:		Low	Low	Low	Low	Low	Low
DATE SAMPLED:		11/20/97	11/17/97	11/17/97	11/17/97	11/18/97	11/18/97
DATE EXTRACTED:		11/24/97	11/24/97	11/24/97	11/24/97	11/24/97	11/24/97
DATE ANALYZED:		12/16/97	12/16/97	12/16/97	12/17/97	12/16/97	12/17/97

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SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
PCBs
Sediment Matrix
(ug/kg)

M&E SAMPLE ID:		SED-19-01	SED-20-01	SED-21-01	SED-22-02	SED-24-03	SED-25-02
DAS SAMPLE NUMBER:		DAM354	DAM339	DAM335	DAM321	DAM320	DAM346
REMARKS:		-----	-----	-----	-----	-----	-----
ANALYTE	**QL**						
Aroclor-1016	**3.3**	3.3 U	3.1 U	3.2 U	3.1 U	3.2 U	3.2 U
Aroclor-1221	**6.7**	6.6 U	6.2 U	6.3 U	6.2 U	6.4 U	6.4 U
Aroclor-1232	**3.3**	3.3 U	3.1 U	3.2 U	3.1 U	3.2 U	3.2 U
Aroclor-1242	**3.3**	3.3 U	3.1 U	3.2 U	3.1 U	3.2 U	3.2 U
Aroclor-1248	**3.3**	35 J	28 J	240 J	8.1 J	290 J	56 J
Aroclor-1254	**3.3**	3.3 U	3.1 U	3.2 U	3.1 U	3.2 U	3.2 U
Aroclor-1260	**3.3**	11	79	420	29	200	47
DILUTION FACTOR:		1	1/6	1/2	1/10	1/7	1/3
SAMPLE WEIGIIT (kg):		0.05	0.056	0.047	0.060	0.041	0.040
PERCENT MOISTURE (%):		38	43	32	46	24	22
LEVEL:		Low	Low	Low	Low	Low	Low
DATE SAMPLED:		11/19/97	11/17/97	11/14/97	11/12/97	11/12/97	11/18/97
DATE EXTRACTED:		11/24/97	11/21/97	11/21/97	11/21/97	11/21/97	11/24/97
DATE ANALYZED:		12/18/97	12/13/97	12/13/97	12/15/97	12/18/97	12/16/97

NOTES:
QL - Quantitation Limits
J - Quantitation is approximate due to limitations identified in the quality control review
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
PCBs
Aqeuous Matrix
(ug/l)

M&E SAMPLE ID:		SED-17-EB	SED-20-EB
DAS SAMPLE NUMBER:		DAM344	DAM362
REMARKS:		Equip. Blank	Equip. Blank
ANALYTE	**QL**		
Aroclor-1016	**1.0**	1.0 U	1.0 U
Aroclor-1221	**2.0**	2.0 U	2.0 U
Aroclor-1232	**1.0**	1.0 U	1.0 U
Aroclor-1242	**1.0**	1.0 U	1.0 U
Aroclor-1248	**1.0**	1.0 U	1.0 U
Aroclor-1254	**1.0**	1.0 U	1.0 U
Aroclor-1260	**1.0**	1.0 U	1.0 U
DILUTION FACTOR:		1	1
LEVEL:		Low	Low
DATE SAMPLED:		11/17/97	11/20/97
DATE EXTRACTED:		11/24/97	11/21/97
DATE ANALYZED:		12/13/97	12/18/97

NOTES:
QL - Quantitation Limits
J - Quantitation is approximate due to limitations identified in the quality control review
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review

Low Concentration Metals

SITE: Wel[illegible]H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration Metals (Totals)
Sediment Matrix
(mg/kg)

M&E SAMPLE ID:			SED-01-06	SED-01-07	SED-02-01	SED-02-02	SED-03-02	SED-04-02
DAS SAMPLE NUMBER:			DAM322	DAM323	DAM326	DAM327	DAM325	DAM333
REMARKS:			-----	-----	-----	-----	-----	-----
ANALYTE	**METHOD**	**CRQL**						
Silver	**F**	**0.020**	0.75 J	0.66 J	0.40 J	0.91 J	0.69 J	0.59 J
Aluminum	**P**	**4.0**	12200 J	13200 J	6570 J	11200 J	6720 J	17700 J
Arsenic	**P,F**	**0.20**	78.1	111	56.4	105	86.5	1570
Barium	**P**	**2.0**	85.8	95.1	50.6	81.2	84.6	77.3
Beryllium	**P,F**	**0.040**	0.87 J	0.98 J	0.47 J	0.91 J	0.59 J	1.7 J
Calcium	**P**	**8.0**	5420	7510	2610	4600	4410	5900
Cadmium	**P,F**	**0.010**	6.8	8.5	3.8	16.1	5.2	19.1
Cobalt	**P**	**2.0**	27.9 J	33.1 J	17.0 J	33.0 J	21.4 J	42.7 J
Chromium	**P**	**1.0**	148 J	192 J	103 J	190 J	200 J	3000 J
Copper	**P**	**1.0**	305	436	128	381	171	1080
Iron	**P**	**4.0**	31800 J	32500 J	16900 J	26000 J	21900 J	86200 J
Mercury	**AV**	**0.010**	1.0	1.1	0.37	1.1	0.71	13.6
Potassium	**P**	**80**	1190 J	1170 J	640 J	784 J	604 J	476 J
Magnesium	**P**	**10**	3480	3430	2150	2510	1790	1400
Manganese	**P**	**1.0**	479	595	206	390	503	803
Sodium	**P**	**50**	583	611	197	382	321	330
Nickel	**P**	**2.0**	40.4 J	41.3 J	21.5 J	31.0 J	26.7 J	41.2 J
Lead	**P,F**	**0.40**	413 J	477 J	225 J	449 J	345 J	425 J
Antimony	**P,F**	**0.30**	1.7 J	1.8 J	1.9 J	2.1 J	1.7 J	11.1 J
Selenium	**F**	**1.0**	5.1 J	1.4 J	1.6 J	2.0 J	4.2 J	1.8 J
Thallium	**F**	**0.40**	0.63 UJ	0.43 UJ	0.53 UJ	0.48 UJ	0.43 UJ	0.44 UJ
Vanadium	**P**	**1.0**	56.4	55.3	32.2	46.1	49.2	63.8
Zinc	**P**	**2.0**	2080 J	2370 J	992 J	5170 J	1420 J	4330 J
DATE SAMPLED:			11/12/97	11/12/97	11/12/97	11/12/97	11/12/97	11/12/97

NOTES:
CRQL - Contract Required Quantiation Limit
J - Quantitation is approximate due to limitations identified in the quality control review
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review
AV - Auto Cold Vapor Extraction
P - ICP/AE
F - Furnace
FD - Field Duplicate

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration Metals (Totals)
Sediment Matrix
(mg/kg)

M&E SAMPLE ID:			SED-04-03	SED-05-03	SED-05-05	SED-06-03	SED-07-02	SED-07-05
DAS SAMPLE NUMBER:			DAM334	DAM328	DAM331	DAM345	DAM359	DAM360
REMARKS:			-----	FD of SED-05-05	FD of SED-05-03	-----	-----	-----
ANALYTE	METHOD	CRQL						
Silver	F	0.020	0.91 J	0.18 J	0.73 J	0.18 J	0.86 J	0.91 J
Aluminum	P	4.0	11500 J	4860 J	4300 J	14300	13200	14700
Arsenic	P,F	0.20	98.6	9.8	9.9	135	111	98.3
Barium	P	2.0	175	40.8	37.8	130	110	118
Beryllium	P,F	0.040	0.86 J	0.32 J	0.27 J	1.0	0.95	1.0
Calcium	P	8.0	6310	1590	1090	5510	5310	6630
Cadmium	P,F	0.010	7.4	0.76	0.48	7.7	6.3	5.8
Cobalt	P	2.0	21.6 J	5.6 J	4.4 J	20.9	19.2	21.5
Chromium	P	1.0	240 J	90.0 J	46.9 J	403	291	277
Copper	P	1.0	323	45.9	40.4	389	306	304
Iron	P	4.0	31600 J	9520 J	8600 J	40600	33800	35400
Mercury	AV	0.010	1.7	0.23	0.22	2.6	2.3	2.0
Potassium	P	80	1120 J	681 J	390 J	1380	1310	1620
Magnesium	P	10	3470	2100	1590	4260	4180	5330
Manganese	P	1.0	1010	103	91.9	1630	517	495
Sodium	P	50	347	103	85.3	617 U	416 U	519 U
Nickel	P	2.0	33.6 J	11.2 J	10.8 J	32.2	35.2	37.5
Lead	P,F	0.40	487 J	1090 J	220 J	455	382	406
Antimony	P,F	0.30	1.8 J	2.4 J	0.68 UJ	2.5 J	2.6 J	2.8 J
Selenium	F	1.0	2.0 J	0.53 U	0.53 U	3.4 J	2.2 J	2.2 J
Thallium	F	0.40	0.43 UJ	0.04 UJ	0.04 UJ	0.77 U	0.81 U	0.44 U
Vanadium	P	1.0	55.7	26.3	20.8	60.2	56.7	62.6
Zinc	P	2.0	1590 J	144 J	126 J	1630	1500	1450
DATE SAMPLED:			11/12/97	11/12/97	11/13/97	11/18/97	11/20/97	11/20/97

NOTES:
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J - Quantitation is approximate due to limitations identified in the quality control review
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review
AV - Auto Cold Vapor Extraction
P - ICP/AE
F - Furnace
FD - Field duplicate

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration Metals (Totals)
Sediment Matrix
(mg/kg)

M&E SAMPLE ID:			SED-07-10	SED-10-01	SED-10-02	SED-10-04	SED-11-01	SED-12-01
DAS SAMPLE NUMBER:			DAM353	DAM351	DAM352	DAM355	DAM336	DAM357
REMARKS:			-----	FD of SED-10-04	-----	FD of SED-10-01	-----	-----
ANALYTE	METHOD	CRQL						
Silver	F	0.020	0.78 J	0.62 J	0.57 J	0.17 J	0.92 J	0.54 J
Aluminum	P	4.0	12500	30100	24400	28400	12600 J	26000
Arsenic	P,F	0.20	87.4	715	875	670	121	3230
Barium	P	2.0	89.8	99.2	53.4	126	149	78.8
Beryllium	P,F	0.040	0.86	2.0	1.7	2.1	0.97 J	2.0
Calcium	P	8.0	5840	9570	8590	9970	5800	8920
Cadmium	P,F	0.010	4.5	17.5	12.4	19.9	9.5	11.7
Cobalt	P	2.0	18.2	34.5	16.5	46.1	25.3 J	36.2
Chromium	P	1.0	238	3290	934	3580	303 J	2120
Copper	P	1.0	261	2590	1870	2040	402	2080
Iron	P	4.0	29100	45500	31900	57800	31700 J	90200
Mercury	AV	0.010	1.6	24.4	24.2	15.4	1.9	27.5
Potassium	P	80	1320	597	345 U	877	956 J	795
Magnesium	P	10	4420	2130	1500	2410	2980	1860
Manganese	P	1.0	397	570	409	760	728	776
Sodium	P	50	483 U	726 U	642 U	815	421	708 U
Nickel	P	2.0	31.5	41.4	18.4	50.1	32.8 J	28.3
Lead	P,F	0.40	326	975	559	787	606 J	1240
Antimony	P,F	0.30	2.4 J	17.7 J	13.9 J	10.2 J	1.5 UJ	68.0 J
Selenium	F	1.0	2.4 J	10.3	11.5	8.3 J	2.5 J	18.3
Thallium	F	0.40	0.76 U	1.7 U	1.3 U	2.6 U	0.44 UJ	1.2 U
Vanadium	P	1.0	54.6	75.5	47.8	78.4	58.8	107
Zinc	P	2.0	1190	3340	1570	4700	2260 J	2640
DATE SAMPLED:			11/19/97	11/19/97	11/19/97	11/19/97	11/12/97	11/20/97

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UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review
AV - Auto Cold Vapor Extraction
P - ICP/AE
F - Furnace
FD - Field Duplicate

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration Metals (Totals)
Sediment Matrix
(mg/kg)

M&E SAMPLE ID:			SED-12-03	SED-13-01	SED-13-03	SED-15-01	SED-18-02	SED-18-03
DAS SAMPLE NUMBER:			DAM358	DAM341	DAM342	DAM340	DAM347	DAM348
REMARKS:			-----	-----	-----	-----	-----	-----
ANALYTE	METHOD	CRQL						
Silver	F	0.020	1.2 J	0.21 J	0.32 J	0.29 J	0.74 J	0.62 J
Aluminum	P	4.0	27500	6430 J	14800 J	6100 J	20300	24100
Arsenic	P,F	0.20	4550	15.9	186	184	1180	839
Barium	P	2.0	52.5	63.8	107	65.6	143	169
Beryllium	P,F	0.040	1.7	0.45 J	1.1 J	0.76 J	1.8	2.3
Calcium	P	8.0	7160	3020	6950	13400	7300	6860
Cadmium	P,F	0.010	11.4	3.1	3.8	17.7	15.1	16.0
Cobalt	P	2.0	38.1	7.2 J	9.7 J	23.1 J	44.3	54.9
Chromium	P	1.0	[illegible]	61.2 J	562 J	537 J	3890	4340
Copper	P	1.0	[illegible]	113	450	306	1010	1310
Iron	P	4.0	107000	12800 J	20200 J	16000 J	99600	85100
Mercury	AV	0.010	44.8	0.25 J	14.3 J	1.3 J	7.5	5.5
Potassium	P	80	450 U	715 J	741 J	243 J	894	1050
Magnesium	P	10	1480	1930	2370	1300	2780	2930
Manganese	P	1.0	586	123	330	956	1630	1580
Sodium	P	50	493 U	622	798	642	648 U	551 U
Nickel	P	2.0	20.5	15.9 J	19.4 J	18.9 J	42.5	46.7
Lead	P,F	0.40	1220	340 J	771 J	157 J	469	678
Antimony	P,F	0.30	117 J	1.7 J	4.2 J	3.9 J	8.9 J	9.2 J
Selenium	F	1.0	30.3	0.53 J	3.1 J	1.2 UJ	8.0 J	9.0 J
Thallium	F	0.40	1.5 U	0.43 UJ	0.43 UJ	2.4 J	1.0 U	1.9 U
Vanadium	P	1.0	127	27.4	54.0	22.4	76.0	95.9
Zinc	P	2.0	4760	445 J	641 J	2490 J	4020	3600
DATE SAMPLED:			11/20/97	11/17/97	11/17/97	11/17/97	11/18/97	11/18/97

NOTES:
CRQL - Contract Required Quantiation Limit
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R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review
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P - ICP/AE
F - Furnace
FD - Field Duplicate

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration Metals (Totals)
Sediment Matrix
(mg/kg)

M&E SAMPLE ID:			SED-19-01	SED-20-01	SED-21-01	SED-22-02	SED-24-03	SED-25-02
DAS SAMPLE NUMBER:			DAM354	DAM339	DAM335	DAM321	DAM320	DAM346
REMARKS:			-----	-----	-----	-----	-----	-----
ANALYTE	**METHOD**	**CRQL**						
Silver	F	0.020	0.12 UJ	0.29 J	0.30 J	0.22 J	2.5 J	0.20 J
Aluminum	P	4.0	10100	13500 J	11300 J	2700 J	8440 J	7190
Arsenic	P,F	0.20	182	236	258	6.6	30.7	5.4
Barium	P	2.0	66.5	44.2	181	32.9	43.6	48.5
Beryllium	P,F	0.040	2.9	1.2 J	0.93 J	0.48 J	0.80 J	0.37
Calcium	P	8.0	11800	11100	8290	19600	2410	2150
Cadmium	P,F	0.010	7.4	15.3	14.1	0.61	2.0	0.78 J
Cobalt	P	2.0	18.7	28.3 J	26.9 J	2.7 J	12.1 J	8.1
Chromium	P	1.0	226	1090 J	5590 J	11.7 J	410 J	26.1
Copper	P	1.0	557	1060	613	26.0	130	52.7
Iron	P	4.0	19800	18500 J	20800 J	2710 J	13200 J	14700
Mercury	AV	0.010	0.98	1.3 J	0.15	0.50	0.71	0.10
Potassium	P	80	342 U	454 J	531 J	260 J	1170 J	1210
Magnesium	P	10	1300	1530	2170	1370	2880	3490
Manganese	P	1.0	677	711	268	36.7	131	190
Sodium	P	50	706 U	612	796	546	516	187 U
Nickel	P	2.0	14.6	27.5 J	29.8 J	9.2 J	23.7 J	14.6
Lead	P,F	0.40	197	450 J	546 J	3970 J	566 J	210
Antimony	P,F	0.30	5.2 J	3.8 J	2.0 J	8.0 J	1.2 J	0.64 J
Selenium	F	1.0	5.6	3.3 J	3.2 J	8.1 J	0.91 J	0.48 UJ
Thallium	F	0.40	1.5 U	0.44 UJ	0.44 UJ	0.44 UJ	0.12 UJ	0.14 U
Vanadium	P	1.0	25.4	38.2	46.2	38.8	80.3	29.7 J
Zinc	P	2.0	1080	2380 J	4940 J	34.2 J	251 J	178
DATE SAMPLED:			11/19/97	11/12/97	11/12/97	11/12/97	11/12/97	11/18/97

NOTES:
CRQL - Contract Required Quantiation Limit
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U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review
AV - Auto Cold Vapor Extraction
P - ICP/AE
F - Furnace
FD - Field Duplicate

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Low Concentration Metals (Totals)
Aqueous Matrix
(ug/L)

M&E SAMPLE ID:			SED-17-EB	SED-20-EB
DAS SAMPLE NUMBER:			DAM344	DAM362
REMARKS:			Equip. Blank	Equip. blank
ANALYTE	METHOD	CRQL		
Silver	F	0.4	0.74 U	0.58 UJ
Aluminum	P	40	38.2 UJ	53.4
Arsenic	P,F	4	1.4 U	1.4 U
Barium	P	20	0.64	0.53
Beryllium	P,F	0.8	0.10 U	0.10 U
Calcium	P	80	113 U	89.5 U
Cadmium	P,F	0.2	0.10 U	0.10 U
Cobalt	P	20	4.1 UJ	4.1 U
Chromium	P	10	2.5 UJ	0.60 U
Copper	P	10	7.9 U	1.2 U
Iron	P	40	56.7 UJ	36.9
Mercury	AV	0.1	0.10 U	0.10 UJ
Potassium	P	800	91.8 U	79.7 U
Magnesium	P	100	38.1 U	52.9
Manganese	P	10	1.5 U	0.56 U
Sodium	P	500	207 U	122 U
Nickel	P	20	1.6 UJ	1.6 U
Lead	P,F	8	0.60 UJ	0.60 U
Antimony	P,F	6	1.7 UJ	1.6 J
Selenium	F	20	1.1 UJ	1.5 J
Thallium	F	8	0.80 U	0.90 U
Vanadium	P	10	0.80 U	1.4 U
Zinc	P	20	7.8 UJ	3.0
DATE SAMPLED:			11/17/97	11/20/97

NOTES:
CRQL - Contract Required Quantiation Limit
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R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review
AV - Auto Cold Vapor Extraction
P - ICP/AE
F - Furnace
FD - Field Duplicate

AVS/SEM

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

[illegible] A SUMMARY TABLES
Delivery of Analytical Services for
Acid Volatile Sulfide and Selected Simultaneously Extracted Metals (AVS/SEM)
Sediment and Aqueous Matrices
(umoles/g)

M&E SAMPLE ID:			SED-01-06	SED-01-07	SED-02-01	SED-02-02	SED-03-02	SED-04-02	SED-04-03
DAS SAMPLE NUMBER:			DAM322	DAM323	DAM326	DAM327	DAM325	DAM333	DAM334
REMARKS:			-----	-----	-----	-----	-----	-----	-----
ANALYTE	METHOD	CRDL							
Sulfide	--	0.05	72.0	79.9	34.7	129	88.0	23.5	18.7
Arsenic	P	0.05	0.06 J	0.11 J	0.05 U	0.05 J	0.05 U	0.09 J	0.08 J
Cadmium	P	0.05	0.08 UJ	0.09 J	0.05 U	0.15 J	0.08 UJ	0.08 UJ	0.06 UJ
Copper	P	0.05	0.05 UJ	0.08 J	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ
Lead	P	0.05	1.87 J	2.13 J	0.83 J	1.88 J	1.69 J	1.96 J	1.60 J
Mercury	CV	0.05	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Nickel	P	0.05	0.86 J	0.23 J	0.14 J	0.49 J	0.98 J	0.24 J	0.34 J
Zinc	P	0.05	26.5 J	29.3 J	11.2 J	36.7 J	25.0 J	21.0 J	15.1 J
SEM/AVS Ratio *			0.41	0.40	0.35	0.30	0.32	0.99	0.91
DATE SAMPLED:			11/12/97	11/12/97	11/13/97	11/13/97	11/13/97	11/14/97	11/14/97
PERCENT MOISTURE (%)			84.9	83.8	65.4	79.6	82.6	83.1	81.1

NOTES:
CRDL - Contract Required Detection Limit
J - Quantitation is approximate due to limitations identified in the quality control review
NC - Not Calculated
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review
CV - Cold Vapor Extraction
P - ICP/Flame AE
FD - Field Duplicate

* SEM/AVS Ratio = sum of cadmium, copper, lead, mercury, nickel, and zinc detected concentrations divided by the sulfide concentration

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Acid Volatile Sulfide and Selected Simultaneously Extracted Metals (AVS/SEM)
Sediment and Aqueous Matrices
(umoles/g)

M&E SAMPLE ID:			SED-05-03	SED-05-05	SED-06-03	SED-07-02	SED-07-05	SED-07-10	SED-10-01
DAS SAMPLE NUMBER:			DAM328	DAM331	DAM345	DAM359	DAM360	DAM353	DAM351
REMARKS:			FD of SED-05-05	FD of SED-05-03	-----	-----	-----	-----	FD of SED-10-04
ANALYTE	METHOD	CRDL							
Sulfide	--	0.05	24.7	15.3	5.44	20.4	49.6	5.22	64.3
Arsenic	P	0.05	0.05 U	0.05 U	0.17 J	0.19 J	0.10 J	0.17 J	1.56 J
Cadmium	P	0.05	0.05 U	0.05 U	0.06	0.05 U	0.05	0.07	0.11
Copper	P	0.05	0.46 J	0.05 UJ	0.08	0.19	0.05 U	0.05 U	0.10
Lead	P	0.05	1.17 J	0.78 J	1.54	1.46	1.41	1.67	1.98 J
Mercury	CV	0.05	0.05 U	0.05 U	R	R	R	R	R
Nickel	P	0.05	0.10 J	0.06 J	0.39 J	0.47 J	0.30 J	0.25 J	0.34 J
Zinc	P	0.05	3.88 J	2.24 J	11.2 J	15.1 J	17.1 J	11.2 J	24.1 J
SEM/AVS Ratio *			0.23	0.20	2.44	0.84	0.38	2.53	0.41
DATE SAMPLED:			11/13/97	11/14/97	11/18/97	11/20/97	11/20/97	11/19/97	11/19/97
PERCENT MOISTURE (%)			24.9	30.6	73.9	68.0	73.1	71.7	86.7

NOTES:
CRDL - Contract Required Detection Limit
J - Quantitation is approximate due to limitations identified in the quality control review
NC - Not Calculated
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review
CV - Cold Vapor Extraction
P - ICP/Flame AE
FD - Field Duplicate

* SEM/AVS Ratio = sum of cadmium copper, lead, mercury, nickel, and zinc detected concentrations divided by the sulfide concentration

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Acid Volatile Sulfide and Selected Simultaneously Extracted Metals (AVS/SEM)
Sediment and Aqueous Matrices
(umoles/g)

M&E SAMPLE ID:			SED-10-02	SED-10-04	SED-11-01	SED-12-01	SED-12-03	SED-13-01	SED-13-03
DAS SAMPLE NUMBER:			DAM352	DAM355	DAM336	DAM357	DAM358	DAM341	DAM342
REMARKS:			-----	FD of SED-10-01	-----	-----	-----	-----	-----
ANALYTE	METHOD	CRDL							
Sulfide	--	0.05	5.15	64.8	15.7	35.8	11.6	4.80	3.79
Arsenic	P	0.05	4.53 J	0.80 J	2.98 J	3.40 J	2.99 J	0.05 U	0.50 J
Cadmium	P	0.05	0.05 U	0.12	0.10 UJ	0.05 U	0.08	0.05 U	0.05 U
Copper	P	0.05	0.61	0.05 U	1.45 J	1.27	0.62	0.05 UJ	0.59 J
Lead	P	0.05	1.87 J	1.53	1.29 J	1.54	3.26	1.17 J	2.79 J
Mercury	CV	0.05	R	R	0.05 U	R	R	0.05 U	0.05 U
Nickel	P	0.05	0.23 J	0.83 J	0.44 J	0.26 J	0.28 J	0.15 J	0.21 J
Zinc	P	0.05	9.56 J	25.0 J	17.8 J	13.0 J	13.3 J	5.79 J	4.96 J
SEM/AVS Ratio *			2.38	0.42	1.34	0.45	1.51	1.48	2.26
DATE SAMPLED:			11/19/97	11/19/97	11/14/97	11/20/97	11/20/97	11/17/97	11/17/97
PERCENT MOISTURE (%)			82.6	86.2	79.4	82.7	75.4	69.7	73.8

NOTES:
CRDL - Contract Required Detection Limit
J - Quantitation is approximate due to limitations identified in the quality control review
NC - Not Calcluated
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review
CV - Cold Vapor Extraction
P - ICP/Flame AE
FD - Field Duplicate

* SEM/AVS Ratio = sum of cadmium copper, lead, mercury, nickel, and zinc detected concentrations divided by the sulfide concentration

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Acid Volatile Sulfide and Selected Simultaneously Extracted Metals (AVS/SEM)
Sediment and Aqueous Matrices
(umoles/g)

M&E SAMPLE ID:			SED-15-01	SED-18-02	SED-18-03	SED-19-01	SED-20-01	SED-21-01	SED-22-02
DAS SAMPLE NUMBER:			DAM340	DAM347	DAM348	DAM354	DAM339	DAM335	DAM321
REMARKS:			-----	-----	-----	-----	-----	-----	-----
ANALYTE	METHOD	CRDL							
Sulfide	--	0.05	31.3	17.1	15.9	6.88	17.7	28.0	0.050 U
Arsenic	P	0.05	0.47 J	3.43 J	3.00 J	0.52 J	1.12 J	0.19 J	0.05 U
Cadmium	P	0.05	0.20 J	0.11	0.08	0.05 U	0.09 J	0.09 UJ	0.05 U
Copper	P	0.05	0.05 UJ	2.18	4.11	0.38	1.29 J	0.05 UJ	0.53 J
Lead	P	0.05	0.81 J	1.70	2.38	0.60	1.43 J	1.68 J	20.4 J
Mercury	CV	0.05	0.05 U	R	R	R	0.05 U	0.05 U	0.05 U
Nickel	P	0.05	0.52 J	0.47 J	0.61 J	0.15 J	0.72 J	0.17 J	0.35 J
Zinc	P	0.05	26.1 J	19.5 J	18.9 J	9.55 J	20.6 J	25.7 J	2.10 J
SEM/AVS Ratio *			0.88	1.40	1.64	1.55	1.36	0.99	467.6
DATE SAMPLED:			11/17/97	11/18/97	11/18/97	11/19/97	11/17/97	11/14/97	11/12/97
PERCENT MOISTURE (%)			88.2	83.7	83.8	83.8	88.4	85.1	83.3

NOTES:
CRDL - Contract Required Detection Limit
J - Quantitation is approximate due to limitations identified in the quality control review
NC - Not Calculated
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review
CV - Cold Vapor Extraction
P - ICP/Flame AE
FD - Field Duplicate

* SEM/AVS Ratio = sum of cadmium copper, lead, mercury, nickel, and zinc detected concentrations divided by the sulfide concentration

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

[illegible]A SUMMARY TABLES
Delivery of Analytical Services for
Acid Volatile Sulfide and Selected Simultaneously Extracted Metals (AVS/SEM)
Sediment and Aqueous Matrices
(umoles/g)

M&E SAMPLE ID:			SED-24-03	SED-25-02
DAS SAMPLE NUMBER:			DAM320	DAM346
REMARKS:			-----	-----
ANALYTE	METHOD	CRDL		
Sulfide	--	0.05	10.2	2.03
Arsenic	P	0.05	0.05 U	0.05 U
Cadmium	P	0.05	0.05 U	0.05 U
Copper	P	0.05	0.05 UJ	0.11
Lead	P	0.05	1.79 J	0.90
Mercury	CV	0.05	0.05 U	R
Nickel	P	0.05	0.38 J	0.05 J
Zinc	P	0.05	3.69 J	1.84 J
SEM/AVS Ratio *			0.57	1.43
DATE SAMPLED:			11/12/97	11/18/97
PERCENT MOISTURE (%)			69.6	44.7

NOTES:
CRDL - Contract Required Detection Limit
J - Quantitation is approximate due to limitations identified in the quality control review
NC - Not Calcluated
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review
CV - Cold Vapor Extraction
P - ICP/Flame AE
FD - Field Duplicate

* SEM/AVS Ratio = sum of cadmium copper, lead, mercury, nickel, and zinc detected concentrations divided by the sulfide concentration

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Acid Volatile Sulfide and Selected Simultaneously Extracted Metals (AVS/SEM)
Sediment and Aqueous Matrices
(umoles/g)

M&E SAMPLE ID:			SED-17-EB	SED-20-EB
DAS SAMPLE NUMBER:			DAM344	DAM362
REMARKS:			Eqt. Blank	Equip. Blank
ANALYTE	**METHOD**	**CRDL**		
Sulfide	--	0.05	0.050 U	0.050 U
Arsenic	P	0.05	0.05 U	0.05 U
Cadmium	P	0.05	0.05 U	0.05 U
Copper	P	0.05	0.05 U	0.05 U
Lead	P	0.05	0.05 U	0.05 U
Mercury	CV	0.05	0.05 U	0.05 U
Nickel	P	0.05	0.05 U	0.05 U
Zinc	P	0.05	0.05 U	0.05 U
SEM/AVS Ratio *			NC	NC
DATE SAMPLED:			11/17/97	11/20/97
PERCENT MOISTURE (%)			100.0	100.0

NOTES:
CRDL - Contract Required Detection Limit
J - Quantitation is approximate due to limitations identified in the quality control review
NC - Not Calcluated
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review
CV - Cold Vapor Extraction
P - ICP/Flame AE

* SEM/AVS Ratio = sum of cadmium, copper, lead, mercury, nickel, and zinc detected concentrations divided by the sulfide concentration

Total Combustible Organics

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Total Combustible Organics/Total Organic Carbon
Sediment Matrix

M&E SAMPLE ID:		SED-01-06	SED-01-07	SED-02-01	SED-02-02	SED-03-02	SED-04-02
DAS SAMPLE NUMBER:		DAM322	DAM323	DAM326	DAM327	DAM325	DAM333
REMARKS:		-----	-----	-----	-----	-----	-----
ANALYTE	RL						
Percent Moisture (%)	0.01	83.7	81.6	67.9	79.8	83.0	82.7
Percent Solids - Wet (%)	0.01	16.3	18.4	32.1	20.2	17.0	17.3
Percent Solids - Dry (%)	0.01	99.0	99.1	99.7	99.3	98.9	97.6
Total Combustible Organics (mg/kg)	2000	230000 J	152000 J	125000 J	160000 J	195000 J	193000 J
Total Organic Carbon (mg/kg)		NR	NR	NR	NR	NR	NR
pH	--	6.6 J	6.9 J	6.5 J	6.5 J	6.3 J	6.8 J
DILUTION FACTOR (for TCO):		1.0	1.0	1.0	1.0	1.0	1.0
DATE SAMPLED:		11/12/97	11/12/97	11/13/97	11/13/97	11/13/97	11/14/97
DATE TCO ANALYZED:		12/15/97	12/15/97	12/15/97	12/15/97	12/15/97	12/15/97

NOTES:
RL - Reporting Limit
TCO - Total Combustible Organics

J Quantitation is approximate due to limitations identified in the quality control review
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review
NR - Not required to be reported

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Total Combustible Organics/Total Organic Carbon
Sediment Matrix

M&E SAMPLE ID:		SED-04-03	SED-05-03	SED-05-05	SED-06-03	SED-07-02	SED-07-05
DAS SAMPLE NUMBER:		DAM334	DAM328	DAM331	DAM345	DAM359	DAM360
REMARKS:		-----	FD of SED-05-05	FD of SED-05-03	-----	-----	-----
ANALYTE	**RL**						
Percent Moisture (%)	**0.01**	82.4	25.5	20.3	73.4 J	69.6 J	73.7 J
Percent Solids - Wet (%)	**0.01**	17.6	74.5	79.7	26.6 J	30.4 J	26.3 J
Percent Solids - Dry (%)	**0.01**	98.6	NR	NR	99.5 J	99.5 J	97.1 J
Total Combustible Organics (mg/kg)	**2000**	255000 J	34200 J	84000 J	193000 J	194000 J	210000 J
Total Organic Carbon (mg/kg)		NR	NR	NR	NR	NR	NR
pH	--	6.6 J	6.3 J	6.4 J	6.6 J	5.6 J	5.6 J
DILUTION FACTOR (for TCO):		1.0	1.0	1.0	1.0	1.0	1.0
DATE SAMPLED:		11/14/97	11/13/97	11/14/97	11/18/97	11/20/97	11/20/97
DATE TCO ANALYZED:		12/15/97	12/15/97	12/15/97	12/22/97	12/22/97	12/22/97

NOTES:
RL - Reporting Limit
TCO - Total Combustible Organics

J - Quantitation is approximate due to limitations identified in the quality control review
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review
NR - Not required to be reported

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Total Combustible Organics/Total Organic Carbon
Sediment Matrix

M&E SAMPLE ID:		SED-07-10	SED-10-01	SED-10-02	SED-10-04	SED-11-01	SED-12-01
DAS SAMPLE NUMBER:		DAM353	DAM351	DAM352	DAM355	DAM336	DAM357
REMARKS:		-----	FD of SED-10-04	-----	FD of SED-10-01	-----	-----
ANALYTE	**RL**						
Percent Moisture (%)	0.01	74.0 J	88.0 J	85.5 J	87.3 J	83.0	84.2 J
Percent Solids - Wet (%)	0.01	26.0 J	12.0 J	14.5 J	12.7 J	17.0	15.8 J
Percent Solids - Dry (%)	0.01	99.6 J	77.0 J	99.5 J	84.0 J	98.4	98.1 J
Total Combustible Organics (mg/kg)	2000	218000 J	471000 J	463000 J	459000 J	387000 J	912000 J
Total Organic Carbon (mg/kg)		NR	NR	NR	NR	NR	NR
pH	--	6.5 J	5.5 J	5.4 J	5.5 J	6.3 J	4.5 J
DILUTION FACTOR (for TCO):		1.0	1.0	1.0	1.0	1.0	1.0
DATE SAMPLED:		11/19/97	11/19/97	11/19/97	11/19/97	11/14/97	11/19/97
DATE TCO ANALYZED:		12/22/97	12/22/97	12/22/97	12/22/97	12/15/97	12/22/97

NOTES:
RL - Reporting Limit
TCO - Total Combustible Organics

J - Quantitation is approximate due to limitations identified in the quality control review
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review
NR - Not required to be reported

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Total Combustible Organics/Total Organic Carbon
Sediment Matrix

M&E SAMPLE ID:		SED-12-03	SED-13-01	SED-13-03	SED-15-01	SED-18-02	SED-18-03
DAS SAMPLE NUMBER:		DAM358	DAM341	DAM342	DAM340	DAM347	DAM348
REMARKS:		-----	-----	-----	-----	-----	-----
ANALYTE	**RL**						
Percent Moisture (%)	0.01	76.7 J	62.2	75.6	86.4	85.7 J	84.3 J
Percent Solids - Wet (%)	0.01	23.3 J	37.8	24.4	13.6	14.3 J	15.7 J
Percent Solids - Dry (%)	0.01	93.4 J	99.2	98.8	42.5	98.9 J	99.2 J
Total Combustible Organics (mg/kg)	2000	431000 J	232000 J	118000 J	702000 J	361000 J	423000 J
Total Organic Carbon (mg/kg)		NR	NR	NR	NR	NR	NR
pH	--	5.6 J	6.1 J	6.4 J	5.9 J	6.3 J	6.4 J
DILUTION FACTOR (for TCO):		1.0	1.0	1.0	1.0	1.0	1.0
DATE SAMPLED:		11/20/97	11/17/97	11/17/97	11/17/97	11/18/97	11/18/97
DATE TCO ANALYZED:		12/22/97	12/15/97	12/15/97	12/15/97	12/22/97	12/22/97

NOTES:
RL - Reporting Limit
TCO - Total Combustible Organics

J - Quantitation is approximate due to limitations identified in the quality control review
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review
NR - Not required to be reported

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Total Combustible Organics/Total Organic Carbon
Sediment Matrix

M&E SAMPLE ID:		SED-19-01	SED-20-01	SED-21-01	SED-22-02	SED-24-03	SED-25-02
DAS SAMPLE NUMBER:		DAM354	DAM339	DAM335	DAM321	DAM320	DAM346
REMARKS:		-----	-----	-----	-----	-----	-----
ANALYTE	**RL**						
Percent Moisture (%)	0.01	84.9 J	87.7	85.7	83.5	67.3	43.7 J
Percent Solids - Wet (%)	0.01	15.1 J	12.3	14.3	16.5	32.7	56.3 J
Percent Solids - Dry (%)	0.01	57.8 J	97.4	97.3	96.8	99.4	NR
Total Combustible Organics (mg/kg)	2000	686000 J	441000 J	344000 J	693000 J	153000 J	59200 J
Total Organic Carbon (mg/kg)		NR	NR	NR	NR	NR	NR
pH	--	5.2 J	5.8 J	6.1 J	6.1 J	5.7 J	6.4 J
DILUTION FACTOR (for TCO):		1.0	1.0	1.0	1.0	1.0	1.0
DATE SAMPLED:		11/19/97	11/17/97	11/14/97	11/12/97	11/12/97	11/18/97
DATE TCO ANALYZED:		12/22/97	12/15/97	12/15/97	12/15/97	12/15/97	12/22/97

NOTES:
RL - Reporting Limit
TCO - Total Combustible Organics

J - Quantitation is approximate due to limitations identified in the quality control review
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review
NR - Not required to be reported

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Total Combustible Organics/Total Organic Carbon
Sediment Matrix

M&E SAMPLE ID:		SED-17-EB
DAS SAMPLE NUMBER:		DAM344
REMARKS:		Eqt. Blank
ANALYTE	**RL**	
Percent Moisture (%)	0.01	NR
Percent Solids - Wet (%)	0.01	NR
Percent Solids - Dry (%)	0.01	NR
Total Combustible Organics (mg/kg)	2000	NR
Total Organic Carbon (mg/kg)		NR
pH	--	6.3 J
DILUTION FACTOR (for TCO):		-----
DATE SAMPLED:		11/17/97
DATE TCO ANALYZED:		-----

NOTES:
RL - Reporting Limit
TCO - Total Combustible Organics

J - Quantitation is approximate due to limitations identified in the quality control review
U - Value reported is the sample-specific detection limit
R - Value is rejected
UJ - Sample-specific detection limit is approximate due to limitations identified in the quality control review
NR - Not required to be reported

Grain Size -- Sieve Analysis

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Grain Size Analysis (Sieve by D422-63)
Sediment Matrix
(% Retained)

M&E SAMPLE ID:		SED-01-06	SED-01-07	SED-02-01	SED-02-02	SED-03-02	SED-04-02
AS SAMPLE NUMBER:		DAM322	DAM323	DAM326	DAM327	DAM325	DAM333
REMARKS:		-----	-----	-----	-----	-----	-----
Sieve Analysis	Particle Size						
3 inch	> 75 mm	0.0	0.0	0.0	0.0	0.0	0.0
2 inch	50 - 75 mm	0.0	0.0	0.0	0.0	0.0	0.0
1 inch	37.5 - 50 mm	0.0	0.0	0.0	0.0	0.0	0.0
1.5 inch	25 - 37.5 mm	0.0	0.0	0.0	0.0	0.0	0.0
3/4 inch	19 - 25 mm	0.0	0.0	0.0	0.0	0.0	0.0
3/8 inch	9.75 - 19 mm	0.0	0.0	0.0	0.0	0.0	0.0
#4	4.75 - 9.75 mm	0.0	0.0	0.2	0.0	0.0	0.2
#10	2.00 - 4.75 mm	0.1	0.1	3.2	0.4	0.8	1.3
#20	0.850 - 2.00 mm	3.8	2.5	15.3	2.5	10.3	3.1
#40	0.425 - 0.850 mm	6.7	4.8	32.0	6.9	25.4	5.8
#60	0.250 - 0.425 mm	8.8	6.7	46.5	11.4	33.1	8.5
#100	0.150 - 0.250 mm	12.0	9.0	59.9	15.6	37.2	11.9
#200	0.075 - 0.150 mm	21.5	20.2	74.5	25.3	42.1	18.0
TOTAL SAMPLE WEIGHT (g):		64.66	64.05	87.95	68.21	78.81	69.37
DATE SAMPLED:		11/12/97	11/12/97	11/13/97	11/13/97	11/13/97	11/14/97

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Grain Size Analysis (Sieve by D422-63)
Sediment Matrix
(% Retained)

M&E SAMPLE ID:		SED-04-03	SED-05-03	SED-05-05	SED-06-03	SED-07-02	SED-07-05
AS SAMPLE NUMBER:		DAM334	DAM328	DAM331	DAM345	DAM359	DAM360
REMARKS:		-----	FD of SED-05-05	FD of SED-05-03	-----	-----	-----
Sieve Analysis	Particle Size						
3 inch	> 75 mm	0.0	0.0	0.0	0.0	0.0	0.0
2 inch	50 - 75 mm	0.0	0.0	0.0	0.0	0.0	0.0
1 inch	37.5 - 50 mm	0.0	0.0	0.0	0.0	0.0	0.0
1.5 inch	25 - 37.5 mm	0.0	0.0	0.0	0.0	0.0	0.0
3/4 inch	19 - 25 mm	0.0	0.0	0.0	0.0	0.0	0.0
3/8 inch	9.75 - 19 mm	0.0	0.5	0.0	0.0	0.0	0.0
#4	4.75 - 9.75 mm	0.0	6.9	5.3	0.0	0.0	0.0
#10	2.00 - 4.75 mm	0.4	19.2	17.6	0.0	0.0	0.0
#20	0.850 - 2.00 mm	1.7	38.3	36.8	0.9	0.3	0.3
#40	0.425 - 0.850 mm	4.1	57.8	58.2	3.3	1.6	1.9
#60	0.250 - 0.425 mm	5.3	70.5	72.5	8.8	3.7	4.4
#100	0.150 - 0.250 mm	9.0	78.6	80.0	18.4	6.8	7.5
#200	0.075 - 0.150 mm	16.3	85.4	86.8	30.8	24.7	19.3
TOTAL SAMPLE WEIGHT (g):		73.58	286.74	283.49	144.76	178.21	164.48
DATE SAMPLED:		11/14/97	11/13/97	11/14/97	11/18/97	11/20/97	11/20/97

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Grain Size Analysis (Sieve by D422-63)
Sediment Matrix
(% Retained)

M&E SAMPLE ID:		SED-07-10	SED-10-01	SED-10-02	SED-10-04	SED-11-01	SED-12-01
AS SAMPLE NUMBER:		DAM353	DAM351	DAM352	DAM355	DAM336	DAM357
REMARKS:		-----	FD of SED-10-04	-----	FD of SED-10-01	-----	---
Sieve Analysis	Particle Size						
3 inch	> 75 mm	0.0	0.0	0.0	0.0	0.0	0.0
2 inch	50 - 75 mm	0.0	0.0	0.0	0.0	0.0	0.0
1 inch	37.5 - 50 mm	0.0	0.0	0.0	0.0	0.0	0.0
1.5 inch	25 - 37.5 mm	0.0	0.0	0.0	0.0	0.0	0.0
3/4 inch	19 - 25 mm	0.0	0.0	0.0	0.0	0.0	0.0
3/8 inch	9.75 - 19 mm	0.0	0.0	0.0	0.0	0.0	0.0
#4	4.75 - 9.75 mm	0.0	0.0	0.0	0.0	0.0	0.0
#10	2.00 - 4.75 mm	0.0	0.3	0.0	0.1	0.7	0.0
#20	0.850 - 2.00 mm	0.3	3.4	1.2	1.5	4.6	3.7
#40	0.425 - 0.850 mm	3.2	12.4	4.8	14.6	12.5	11.7
#60	0.250 - 0.425 mm	7.8	22.0	9.6	26.7	24.0	19.9
#100	0.150 - 0.250 mm	13.8	32.3	14.4	35.3	39.8	28.0
#200	0.075 - 0.150 mm	35.6	45.7	22.5	49.1	53.2	38.7
TOTAL SAMPLE WEIGHT (g):		189.51	83.49	105.70	80.43	66.49	89.23
DATE SAMPLED:		11/19/97	11/19/97	11/19/97	11/19/97	11/14/97	11/19/97

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Grain Size Analysis (Sieve by D422-63)
Sediment Matrix
(% Retained)

M&E SAMPLE ID:		SED-12-03	SED-13-01	SED-13-03	SED-15-01	SED-18-02	SED-18-03
AS SAMPLE NUMBER:		DAM358	DAM341	DAM342	DAM340	DAM347	DAM348
REMARKS:		-----	-----	-----	-----	-----	-----
Sieve Analysis	Particle Size						
3 inch	> 75 mm	0.0	0.0	0.0	0.0	0.0	0.0
2 inch	50 - 75 mm	0.0	0.0	0.0	0.0	0.0	0.0
1 inch	37.5 - 50 mm	0.0	0.0	0.0	0.0	0.0	0.0
1.5 inch	25 - 37.5 mm	0.0	0.0	0.0	0.0	0.0	0.0
3/4 inch	19 - 25 mm	0.0	0.0	0.0	0.0	0.0	0.0
3/8 inch	9.75 - 19 mm	0.0	0.0	0.0	0.0	0.0	0.0
#4	4.75 - 9.75 mm	0.0	0.3	0.0	0.0	0.0	0.0
#10	2.00 - 4.75 mm	0.1	1.2	0.7	0.0	0.0	0.0
#20	0.850 - 2.00 mm	1.3	8.3	4.0	2.3	1.6	3.6
#40	0.425 - 0.850 mm	5.5	16.5	8.0	20.7	6.2	9.0
#60	0.250 - 0.425 mm	12.5	26.3	13.8	35.0	11.7	14.9
#100	0.150 - 0.250 mm	23.4	40.4	21.0	44.8	19.7	20.6
#200	0.075 - 0.150 mm	43.1	62.6	29.4	52.5	31.5	29.3
TOTAL SAMPLE WEIGHT (g):		210.74	89.92	65.19	99.27	89.25	99.50
DATE SAMPLED:		11/20/97	11/17/97	11/17/97	11/17/97	11/18/97	11/18/97

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Grain Size Analysis (Sieve by D422-63)
Sediment Matrix
(% Retained)

M&E SAMPLE ID:		SED-19-01	SED-20-01	SED-21-01	SED-22-02	SED-24-03	SED-25-02
AS SAMPLE NUMBER:		DAM354	DAM339	DAM335	DAM321	DAM320	DAM346
REMARKS:		-----	-----	-----	-----	-----	-----
Sieve Analysis	Particle Size						
3 inch	> 75 mm	0.0	0.0	0.0	0.0	0.0	0.0
2 inch	50 - 75 mm	0.0	0.0	0.0	0.0	0.0	0.0
1 inch	37.5 - 50 mm	0.0	0.0	0.0	0.0	0.0	0.0
1.5 inch	25 - 37.5 mm	0.0	0.0	0.0	0.0	0.0	0.0
3/4 inch	19 - 25 mm	0.0	0.0	0.0	0.0	0.0	0.0
3/8 inch	9.75 - 19 mm	0.0	0.0	0.0	0.0	0.0	0.0
#4	4.75 - 9.75 mm	0.0	0.0	0.0	0.0	1.3	0.3
#10	2.00 - 4.75 mm	0.3	0.0	0.5	0.6	1.9	3.4
#20	0.850 - 2.00 mm	4.7	3.2	3.4	11.6	5.1	9.7
#40	0.425 - 0.850 mm	17.3	13.3	10.0	19.6	9.6	20.3
#60	0.250 - 0.425 mm	27.7	24.3	17.4	23.5	18.0	35.6
#100	0.150 - 0.250 mm	34.8	32.5	23.9	26.3	33.1	57.5
#200	0.075 - 0.150 mm	41.8	41.5	33.3	36.7	50.2	80.0
TOTAL SAMPLE WEIGHT (g):		89.81	68.49	72.09	69.74	94.33	194.64
DATE SAMPLED:		11/19/97	11/17/97	11/14/97	11/12/97	11/12/97	11/18/97

Grain Size -- Hydrometer Analysis

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Grain Size Analysis (Hydrometer by D422-63)
Sediment Matrix
(% Finer)

M&E SAMPLE ID:	SED-01-06		SED-01-07		SED-02-01		SED-02-02		SED-03-02	
DAS SAMPLE NUMBER:	DAM322		DAM323		DAM326		DAM327		DAM325	
REMARKS:	-----		-----		-----		-----		-----	
Hydrometer Analysis	**Diam (mm)**	**% Finer**	**Diam (mm)**	**% Finer**	**Diam (mm)**	**% Finer**	**Diam (mm)**	**% Finer**	**Diam (mm)**	**% Finer**
2 Minutes	0.0442	41.218	0.0455	32.025	0.0400	16.390	0.0465	39.055	0.0454	24.979
5 Minutes	0.0290	29.786	0.0293	25.620	0.0254	14.341	0.0300	32.163	0.0291	21.136
15 Minutes	0.0169	25.189	0.0173	17.080	0.0149	8.195	0.0177	22.974	0.0170	17.293
30 Minutes	0.0125	9.160	0.0123	14.945	0.0107	2.049	0.0128	16.082	0.0122	11.529
60 Minutes	0.0089	4.580	0.0088	12.810	0.0077	0.000	0.0091	11.487	0.0087	7.686
60 Minutes	0.0044	4.580	0.0044	6.405	0.0037	0.000	0.0045	6.892	0.0043	3.843
1440 Minutes	0.0018	4.580	0.0018	4.270	0.0016	0.000	0.0019	4.595	0.0018	1.921
SPECIFIC GRAVITY (<0.075 mm):	1.94		1.94		2.31		1.88		1.99	
HYDROMETER SAMPLE WEIGHT (g):	50.19		53.83		50.54		50.30		58.87	
DATE SAMPLED:	11/12/97		11/12/97		11/13/97		11/13/97		11/13/97	

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Grain Size Analysis (Hydrometer by D422-63)
Sediment Matrix
(% Finer)

M&E SAMPLE ID:	SED-04-02		SED-04-03		SED-05-03		SED-05-05		SED-06-03	
DAS SAMPLE NUMBER:	DAM333		DAM334		DAM328		DAM331		DAM345	
REMARKS:	-----		-----		FD of SED-05-05		FD of SED-05-03		-----	
Hydrometer Analysis	**Diam (mm)**	**% Finer**	**Diam (mm)**	**% Finer**	**Diam (mm)**	**% Finer**	**Diam (mm)**	**% Finer**	**Diam (mm)**	**% Finer**
2 Minutes	0.0437	77.207	0.0575	81.169	0.0412	6.900 J	0.0406	15.868 J	0.0330	48.058
5 Minutes	0.0281	73.143	0.0380	69.573	0.0263	5.175 J	0.0264	7.053 J	0.0214	40.369
15 Minutes	0.0172	58.921	0.0233	51.020	0.0153	1.725 J	0.0154	5.289 J	0.0130	24.990
30 Minutes	0.0126	48.762	0.0170	39.425	0.0108	1.725 J	0.0109	5.289 J	0.0093	23.068
60 Minutes	0.0093	36.572	0.0122	32.467	0.0077	1.725 J	0.0077	5.289 J	0.0066	19.223
60 Minutes	0.0049	14.222	0.0062	16.234	0.0038	0.000 J	0.0038	1.763 J	0.0033	11.534
1440 Minutes	0.0021	8.127	0.0027	6.957	0.0016	0.000 J	0.0016	1.763 J	0.0014	5.767
SPECIFIC GRAVITY (< 0.075 mm):	1.73		1.45		2.29		2.30		2.61	
HYDROMETER SAMPLE WEIGHT (g):	57.81		53.28		50.60		50.49		51.50	
DATE SAMPLED:	11/14/97		11/14/97		11/13/97		11/14/97		11/18/97	

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Grain Size Analysis (Hydrometer by D422-63)
Sediment Matrix
(% Finer)

M&E SAMPLE ID:	SED-07-02		SED-07-05		SED-07-10		SED-10-01		SED-10-02	
DAS SAMPLE NUMBER:	DAM359		DAM360		DAM353		DAM351		DAM352	
REMARKS:	-----		-----		-----		FD of SED-10-04		-----	
Hydrometer Analysis	**Diam (mm)**	**% Finer**	**Diam (mm)**	**% Finer**	**Diam (mm)**	**% Finer**	**Diam (mm)**	**% Finer**	**Diam (mm)**	**% Finer**
2 Minutes	0.0434	41.991	0.0327	54.704	0.0335	31.130	0.0375	41.949	0.0559	59.921
5 Minutes	0.0278	37.571	0.0219	39.074	0.0213	29.298	0.0241	37.754	0.0363	50.334
15 Minutes	0.0165	26.521	0.0130	31.259	0.0127	20.143	0.0141	33.559	0.0213	45.540
30 Minutes	0.0118	24.311	0.0094	23.445	0.0091	16.480	0.0102	25.169	0.0152	40.747
60 Minutes	0.0085	17.680	0.0068	19.537	0.0065	14.649	0.0073	20.974	0.0110	33.556
60 Minutes	0.0042	11.050	0.0034	11.722	0.0032	9.156	0.0037	12.585	0.0055	21.572
1440 Minutes	0.0018	6.630	0.0014	7.815	0.0014	5.493	0.0016	6.292	0.0024	11.984
SPECIFIC GRAVITY (< 0.075 mm):	2.01		2.53		2.74		2.31		1.56	
HYDROMETER SAMPLE WEIGHT (g):	51.13		52.72		51.88		50.88		50.90	
DATE SAMPLED:	11/20/97		11/20/97		11/19/97		11/19/97		11/19/97	

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Grain Size Analysis (Hydrometer by D422-63)
Sediment Matrix
(% Finer)

M&E SAMPLE ID:	SED-10-04		SED-11-01		SED-12-01		SED-12-03		SED-13-01	
DAS SAMPLE NUMBER:	DAM355		DAM336		DAM357		DAM358		DAM341	
REMARKS:	FD of SED-10-01		-----		-----		-----		-----	
Hydrometer Analysis	**Diam (mm)**	**% Finer**	**Diam (mm)**	**% Finer**	**Diam (mm)**	**% Finer**	**Diam (mm)**	**% Finer**	**Diam (mm)**	**% Finer**
2 Minutes	0.0482	41.345	0.0447	45.533	0.0363	48.701	0.0390	49.170	0.0589	35.801
5 Minutes	0.0308	36.751	0.0292	35.184	0.0234	42.613	0.0252	42.757	0.0385	22.376
15 Minutes	0.0183	25.267	0.0173	26.906	0.0139	34.496	0.0150	34.205	0.0226	15.663
30 Minutes	0.0131	22.970	0.0123	24.836	0.0100	28.409	0.0107	27.792	0.0161	13.426
60 Minutes	0.0093	18.376	0.0089	18.627	0.0072	22.321	0.0077	23.516	0.0115	11.188
60 Minutes	0.0047	11.485	0.0045	8.279	0.0036	14.204	0.0039	14.965	0.0057	6.713
1440 Minutes	0.0020	6.891	0.0019	4.139	0.0015	8.117	0.0016	8.551	0.0024	4.475
SPECIFIC GRAVITY (<0.075 mm):	1.82		1.90		2.34		2.18		1.57	
HYDROMETER SAMPLE WEIGHT (g):	50.88		55.66		52.73		51.40		53.85	
DATE SAMPLED:	11/19/97		11/14/97		11/19/97		11/20/97		11/17/97	

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Grain Size Analysis (Hydrometer by D422-63)
Sediment Matrix
(% Finer)

M&E SAMPLE ID:	SED-13-03		SED-15-01		SED-18-02		SED-18-03		SED-19-01	
DAS SAMPLE NUMBER:	DAM342		DAM340		DAM347		DAM348		DAM354	
REMARKS:	-----		-----		-----		-----		-----	
Hydrometer Analysis	**Diam (mm)**	**% Finer**	**Diam (mm)**	**% Finer**	**Diam (mm)**	**% Finer**	**Diam (mm)**	**% Finer**	**Diam (mm)**	**% Finer**
2 Minutes	0.0304	48.381	0.0535	38.125	0.0395	54.604	0.0414	62.387	0.0545	49.525
5 Minutes	0.0199	40.040	0.0344	30.977	0.0258	43.684	0.0266	58.228	0.0350	44 809
15 Minutes	0.0119	31.698	0.0204	21.446	0.0152	37.131	0.0159	47.830	0.0203	42 450
30 Minutes	0 0087	25.025	0.0145	19.063	0.0110	28.394	0.0116	39.512	0.0148	33.017
60 Minutes	0.0062	20.020	0.0104	14.297	0.0078	26.210	0.0084	33.273	0.0105	30.659
60 Minutes	0.0032	10.010	0.0052	7.149	0.0039	17.473	0.0043	18.716	0.0053	18.867
1440 Minutes	0.0013	6.673	0.0022	7.149	0.0017	10.921	0.0018	10.398	0.0023	9.433
SPECIFIC GRAVITY (<0.075 mm):	2.76		1.69		2.12		1.93		1.62	
HYDROMETER SAMPLE WEIGHT (g):	55.36		50.36		50.82		55.30		51.17	
DATE SAMPLED:	11/17/97		11/17/97		11/18/97		11/18/97		11/19/97	

SITE: Wells G&H (Operable Unit 3)
CASE NO.: 0049M

DATA SUMMARY TABLES
Delivery of Analytical Services for
Grain Size Analysis (Hydrometer by D422-63)
Sediment Matrix
(% Finer)

M&E SAMPLE ID:	SED-20-01		SED-21-01		SED-22-02		SED-24-03		SED-25-02	
DAS SAMPLE NUMBER:	DAM339		DAM335		DAM321		DAM320		DAM346	
REMARKS:	-----		-----		-----		-----		-----	
Hydrometer Analysis	**Diam (mm)**	**% Finer**	**Diam (mm)**	**% Finer**	**Diam (mm)**	**% Finer**	**Diam (mm)**	**% Finer**	**Diam (mm)**	**% Finer**
2 Minutes	0.0632	56.044	0.0654	70.334	0.0662	51.874	0.0428	28.468	0.0390	13.814
5 Minutes	0.0409	49.578	0.0423	63.058	0.0431	41.994	0.0278	19.708	0.0250	9.867
15 Minutes	0.0251	28.022	0.0253	50.931	0.0264	17.291	0.0165	8.759	0.0146	5.920
30 Minutes	0.0180	23.711	0.0186	36.380	0.0188	14.821	0.0117	6.569	0.0103	5.920
60 Minutes	0.0129	19.400	0.0135	26.678	0.0135	7.411	0.0083	4.380	0.0073	5.920
60 Minutes	0.0065	10.778	0.0068	14.552	0.0066	7.411	0.0041	2.190	0.0036	3.947
1440 Minutes	0.0027	8.622	0.0029	7.276	0.0028	2.470	0.0017	0.000	0.0015	1.973
SPECIFIC GRAVITY (< 0.075 mm):	1.43		1.38		1.42		2.09		2.44	
HYDROMETER SAMPLE WEIGHT (g):	57.99		51.70		50.32		50.17		51.39	
DATE SAMPLED:	11/17/97		11/14/97		11/12/97		11/12/97		11/18/97	

APPENDIX C. TICs -- LABORATORY REPORTS

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID 020017

DAM320

Lab Name: SWRI | Contract: 01-1427-024

Lab Code: SWRI | Case No.: METCALF & EDDY/0049M | SDG: 98436

Matrix: SOIL | Lab Sample ID: 98436

Sample wt/vol: 88.2 g | Lab File ID: 61217707

Level: LOW | Date Received: 11/13/97

% Moisture: 66 | Decanted: N | Date Extracted: 11/18/97

Concentrated Extract Volume: 0.5 mL | Date Analyzed: 12/17/97

Injection Volume: 2.0 uL | Dilution Factor: 1

GPC Cleanup: Y | pH: 5.1

Number TICs found: 19

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1		UNKNOWN	6.32	110	J
2		UNKNOWN	10.28	100	J
3	124-10-7	TETRADECANOIC ACID, METHYL ESTER	17.90	340	J N
4		UNKNOWN	18.48	210	J
5		UNKNOWN HYDROCARBON	19.32	200	J
6	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.18	1800	J N
7		PHENANTHRENE, -METHYL-	20.42	430	J
8		UNKNOWN	21.43	200	J
9		UNKNOWN	22.27	1300	J
10		UNKNOWN HYDROCARBON	22.78	270	J
11		PHENANTHRENE, -TETRAMETHYL-	23.48	830	J
12	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.17	510	J N
13		UNKNOWN	25.93	520	J
14		UNKNOWN	27.07	400	J
15		UNKNOWN	27.28	440	J
16	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.57	1100	J N
17		UNKNOWN HYDROCARBON	30.60	270	J
18		UNKNOWN HYDROCARBON	30.75	370	J
19	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	32.00	170	J N
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID 020109

DAM320RE

Lab Name: SWRI | Contract: 01-1427-024

Lab Code: SWRI | Case No.: METCALF & EDDY/0049M | SDG: 98436

Matrix: SOIL | Lab Sample ID: 98436RE

Sample wt/vol: 88.2 g | Lab File ID: 61219709

Level: LOW | Date Received: 11/13/97

% Moisture: 66 | Decanted: N | Date Extracted: 11/18/97

Concentrated Extract Volume: 0.5 mL | Date Analyzed: 12/20/97

Injection Volume: 2.0 uL | Dilution Factor: 1

GPC Cleanup: Y | pH: 5.1

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1		UNKNOWN SILOXANE	12.78	180	J
2		UNKNOWN SILOXANE	17.37	230	J
3	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.35	1000	J N
4		PHENANTHRENE, -METHYL-	20.60	300	J
5		UNKNOWN	22.43	940	J
6		UNKNOWN	22.95	210	J
7		UNKNOWN	23.65	550	J
8		PYRENE, -METHYL-	23.83	190	J
9	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.33	340	J N
10		UNKNOWN	25.80	330	J
11	929-77-1	DOCOSANOIC ACID, METHYL ESTER	26.10	530	J N
12	1705-84-6	TRIPHENYLENE, 2-METHYL-	26.98	280	J N
13		UNKNOWN	27.25	170	J
14		UNKNOWN	27.47	530	J
15	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.75	640	J N
16	192-97-2	BENZO[E]PYRENE	29.55	260	J N
17		UNKNOWN HYDROCARBON	31.07	270	J
18		UNKNOWN	31.97	170	J
19		UNKNOWN HYDROCARBON	34.35	180	J
20		UNKNOWN	34.67	280	J
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID 020200

DAM321

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98436

Matrix: SOIL

Lab Sample ID: 98437

Sample wt/vol: 176.5 g

Lab File ID: 61217706

Level: LOW

Date Received: 11/13/97

% Moisture: 83 Decanted: N

Date Extracted: 11/18/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/17/97

Injection Volume: 2.0 uL

Dilution Factor: 1

GPC Cleanup: Y pH: 6.7

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	5129-56-6	UNDECANOIC ACID, 10-METHYL-, METHYL ESTER	15.35	130	J N
2		UNKNOWN HYDROCARBON	17.75	120	J
3	124-10-7	TETRADECANOIC ACID, METHYL ESTER	17.85	440	J N
4	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.12	1300	J N
5	1120-25-8	9-OCTADECENOIC ACID, (Z)-, METHYL ESTER	21.93	160	J N
6	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.17	290	J N
7		UNKNOWN HYDROCARBON	22.68	330	J
8	2381-21-7	PYRENE, 1-METHYL-	23.33	120	J N
9	1120-28-2	EICOSANOIC ACID, METHYL ESTER	24.05	240	J N
10		UNKNOWN HYDROCARBON	24.90	200	J
11		UNKNOWN HYDROCARBON	26.68	120	J
12	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.43	110	J N
13		UNKNOWN HYDROCARBON	28.82	110	J
14	192-97-2	BENZO(E)PYRENE	29.03	260	J N
15		UNKNOWN HYDROCARBON	30.58	380	J
16		UNKNOWN	30.80	380	J
17		UNKNOWN	30.88	170	J
18		UNKNOWN	31.77	150	J
19		UNKNOWN	32.63	640	J
20		UNKNOWN HYDROCARBON	33.68	180	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

020281

SAMPLE ID

DAM322

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98436

Matrix: SOIL

Lab Sample ID: 98438

Sample wt/vol: 176.5 g

Lab File ID: 61217708

Level: LOW

Date Received: 11/13/97

% Moisture: 83 Decanted: N

Date Extracted: 11/18/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/18/97

Injection Volume: 2.0 uL

Dilution Factor: 1

GPC Cleanup: Y pH: 6.1

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1		UNKNOWN	10.28	100	J
2	124-10-7	TETRADECANOIC ACID, METHYL ESTER	17.90	330	J N
3	1120-25-8	9-HEXADECENOIC ACID, METHYL ESTER, (Z)-	19.95	240	J N
4	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.17	1300	J N
5	832-64-4	PHENANTHRENE, 4-METHYL-	20.38	420	J N
6	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.23	410	J N
7	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.53	1500	J N
8		UNKNOWN HYDROCARBON	27.65	2100	J
9		UNKNOWN HYDROCARBON	27.73	2400	J
10		UNKNOWN HYDROCARBON	27.92	270	J
11	192-97-2	BENZO[E]PYRENE	29.22	1400	J N
12		UNKNOWN HYDROCARBON	29.98	330	J
13		UNKNOWN	30.55	330	J
14		UNKNOWN HYDROCARBON	30.70	380	J
15		UNKNOWN	31.80	330	J
16	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	31.97	1400	J N
17		UNKNOWN HYDROCARBON	32.48	320	J
18		UNKNOWN HYDROCARBON	34.23	220	J
19		UNKNOWN	35.90	280	J
20		UNKNOWN HYDROCARBON	36.10	150	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

020371

SAMPLE ID

DAM323

Lab Name: SWRI | Contract: 01-1427-024

Lab Code: SWRI | Case No.: METCALF & EDDY/0049M | SDG: 98436

Matrix: SOIL | Lab Sample ID: 98439

Sample wt/vol: 150 g | Lab File ID: 61217709

Level: LOW | Date Received: 11/13/97

% Moisture: 80 | Decanted: N | Date Extracted: 11/18/97

Concentrated Extract Volume: 0.5 mL | Date Analyzed: 12/18/97

Injection Volume: 2.0 uL | Dilution Factor: 1

GPC Cleanup: Y | pH: 6.0

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.17	960	J N
2		PHENANTHRENE, -METHYL-	20.38	380	J
3		NAPHTHALENE, -PHENYL-	20.92	280	J
4	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.23	320	J N
5		PYRENE, -METHYL-	23.43	270	J
6	238-84-6	11H-BENZO[A]FLUORENE	23.60	200	J N
7	195-19-7	BENZO[C]PHENANTHRENE	25.12	190	J N
8	1705-84-6	TRIPHENYLENE, 2-METHYL-	26.75	230	J N
9		UNKNOWN HYDROCARBON	27.65	2100	J
10		UNKNOWN HYDROCARBON	27.73	2600	J
11		UNKNOWN HYDROCARBON	27.92	280	J
12	192-97-2	BENZO[E]PYRENE	29.23	2000	J N
13		UNKNOWN HYDROCARBON	29.98	300	J
14		UNKNOWN HYDROCARBON	30.55	510	J
15		UNKNOWN HYDROCARBON	30.70	430	J
16		UNKNOWN AROMATIC	31.02	200	J
17	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	31.97	1800	J N
18		UNKNOWN HYDROCARBON	32.48	380	J
19		UNKNOWN HYDROCARBON	35.90	220	J
20		UNKNOWN HYDROCARBON	36.37	160	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID 120461

DAM325

Lab Name: SWRI | Contract: 01-1427-024

Lab Code: SWRI | Case No.: METCALF & EDDY/0049M | SDG: 98436

Matrix: SOIL | Lab Sample ID: 98475

Sample wt/vol: 176.5 g | Lab File ID: 61217710

Level: LOW | Date Received: 11/14/97

% Moisture: 83 | Decanted: N | Date Extracted: 11/18/97

Concentrated Extract Volume: 0.5 mL | Date Analyzed: 12/18/97

Injection Volume: 2.0 uL | Dilution Factor: 1

GPC Cleanup: Y | pH: 4.1

Number TICs found: 19

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1		TETRADECANOIC ACID, METHYL ESTER	17.92	580	J
2		UNKNOWN HYDROCARBON	19.32	230	J
3	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.20	3000	J N
4		PHENANTHRENE, -METHYL-	20.43	580	J
5		UNKNOWN	22.27	1400	J
6		UNKNOWN HYDROCARBON	22.77	250	J
7		PYRENE, -METHYL-	23.47	540	J
8	238-84-6	11H-BENZO[A]FLUORENE	23.63	270	J N
9	1120-28-1	EICOSANOIC ACID, METHYLE STER	24.15	680	J N
10	203-12-3	BENZO[GHI]FLUORANTHENE	25.20	610	J N
11	929-77-1	DOCOSANOIC ACID, METHYL ESTER	25.90	560	J N
12		UNKNOWN	27.07	720	J
13		UNKNOWN	27.30	1800	J
14	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.57	1200	J N
15	192-97-2	BENZO[E]PYRENE	29.30	540	J N
16		UNKNOWN HYDROCARBON	30.77	810	J
17	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	32.02	400	J N
18		UNKNOWN HYDROCARBON	33.93	440	J
19		UNKNOWN HYDROCARBON	36.75	620	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID

DAM325DL

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98436

Matrix: SOIL

Lab Sample ID: 98475DL

Sample wt/vol: 176.5 g

Lab File ID: 61219704

Level: LOW

Date Received: 11/14/97

% Moisture: 83 Decanted: N

Date Extracted: 11/18/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/19/97

Injection Volume: 2.0 uL

Dilution Factor: 2

GPC Cleanup: Y pH: 4.1

Number TICs found: 19

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.03	480	J N D
2	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.32	1900	J N D
3		UNKNOWN	22.38	800	J D
4		UNKNOWN	25.73	550	J D
5	929-77-1	DOCOSANOIC ACID, METHYL ESTER	26.03	370	J N D
6		UNKNOWN HYDROCARBON	26.92	420	J D
7		UNKNOWN	27.17	530	J D
8		UNKNOWN	27.38	1000	J D
9	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.68	440	J N D
10	192-97-2	BENZO(E)PYRENE	29.42	940	J N D
11		UNKNOWN PAH MW=266	30.82	300	J D
12		UNKNOWN HYDROCARBON	31.00	2100	J D
13		UNKNOWN HYDROCARBON	31.87	280	J D
14		UNKNOWN	32.12	400	J D
15	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	32.28	1000	J N D
16		UNKNOWN HYDROCARBON	34.28	1600	J D
17		UNKNOWN	35.40	380	J D
18		UNKNOWN	35.92	330	J D
19	629-83-4	TRIACONTANOIC ACID, METHYL ESTER	36.15	300	J N D
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID

DAM326

Lab Name: SWRI | Contract: 01-1427-024

Lab Code: SWRI | Case No.: METCALF & EDDY/0049M | SDG: 98436

Matrix: SOIL | Lab Sample ID: 98477

Sample wt/vol: 88.2 g | Lab File ID: 61217711

Level: LOW | Date Received: 11/14/97

% Moisture: 66 | Decanted: N | Date Extracted: 11/18/97

Concentrated Extract Volume: 0.5 mL | Date Analyzed: 12/18/97

Injection Volume: 2.0 uL | Dilution Factor: 1

GPC Cleanup: Y | pH: 5.0

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1		UNKNOWN	6.33	170	J
2		UNKNOWN	10.30	260	J
3	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.17	850	J N
4		PHENANTHRENE, -METHYL-	20.40	180	J
5	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.23	250	J N
6		UNKNOWN	25.58	310	J
7		UNKNOWN HYDROCARBON	26.77	190	J
8		UNKNOWN	27.23	390	J
9	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.53	990	J N
10		UNKNOWN HYDROCARBON	27.73	620	J
11		UNKNOWN	27.92	350	J
12		UNKNOWN	30.57	330	J
13		UNKNOWN HYDROCARBON	30.72	800	J
14		UNKNOWN	31.82	540	J
15	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	31.98	870	J N
16	2599-[illegible]	TETRADECANOIC ACID, HEXADECYL ESTER	32.50	310	J N
17		UNKNOWN HYDROCARBON	33.88	450	J
18		UNKNOWN	35.48	220	J
19		UNKNOWN HYDROCARBON	36.70	990	J
20		UNKNOWN HYDROCARBON	36.95	400	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET 029724

SAMPLE ID DAM327

Lab Name: SWRI Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M SDG: 98436

Matrix: SOIL Lab Sample ID: 98478

Sample wt/vol: 142.9 g Lab File ID: 61217712

Level: LOW Date Received: 11/14/97

% Moisture: 79 Decanted: N Date Extracted: 11/18/97

Concentrated Extract Volume: 0.5 mL Date Analyzed: 12/18/97

Injection Volume: 2.0 uL Dilution Factor: 1

GPC Cleanup: Y pH: 5.1

Number TICs found: 19

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1		UNKNOWN	10.30	340	J
2	124-10-7	TETRADECANOIC ACID, METHYL ESTER	17.92	500	J N
3		UNKNOWN HYDROCARBON	19.32	340	J
4	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.20	2500	J N
5		PHENANTHRENE, -METHYL-	20.43	590	J
6	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.27	710	J N
7		UNKNOWN HYDROCARBON	22.77	360	J
8		PYRENE, -METHYL-	23.48	520	J
9	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.15	470	J N
10		UNKNOWN	25.62	690	J
11		UNKNOWN	25.92	500	J
12	1705-84-6	TRIPHENYLENE, 2-METHYL-	26.80	400	J N
13		UNKNOWN	27.07	410	J
14		UNKNOWN	27.28	520	J
15	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.57	540	J N
16		UNKNOWN	27.67	370	J
17	192-97-2	BENZO[E]PYRENE	29.32	680	J N
18	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	32.03	390	J N
19		UNKNOWN HYDROCARBON	36.78	430	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET 020314

SAMPLE ID

DAM327DL

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98436

Matrix: SOIL

Lab Sample ID: 98478DL

Sample wt/vol: 142.9 g

Lab File ID: 61219705

Level: LOW

Date Received: 11/14/97

% Moisture: 79 Decanted: N

Date Extracted: 11/18/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/19/97

Injection Volume: 2.0 uL

Dilution Factor: 2

GPC Cleanup: Y pH: 5.1

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q		
1		UNKNOWN	10.40	330	J		D
2	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.03	290	J	N	D
3	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.32	1400	J	N	D
4	203-64-5	4H-CYCLOPENTA(DEF)PHENANTHRENE	20.53	400	J	N	D
5	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.38	490	J	N	D
6		UNKNOWN	25.73	250	J		D
7	929-77-1	DOCOSANOIC ACID, METHYL ESTER	26.03	310	J	N	D
8	1705-84-6	TRIPHENYLENE, 2-METHYL-	26.92	270	J	N	D
9		UNKNOWN	27.37	400	J		D
10	192-97-2	BENZO(E)PYRENE	29.43	2300	J	N	D
11		UNKNOWN PAH MW=252	29.85	900	J		D
12		UNKNOWN HYDROCARBON	30.98	1200	J		D
13		UNKNOWN	32.13	740	J		D
14	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	32.30	1700	J	N	D
15	124-10-7	TETRADECANOIC ACID, HEXADECYL ESTER	32.83	830	J	N	D
16	215-58-7	BENZO(B)TRIPHENYLENE	33.43	330	J	N	D
17		UNKNOWN HYDROCARBON	34.27	600	J		D
18		UNKNOWN	35.42	420	J		D
19		UNKNOWN	35.93	450	J		D
20		UNKNOWN HYDROCARBON	36.38	360	J		D
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020895

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID

DAM328

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98436

Matrix: SOIL

Lab Sample ID: 98480

Sample wt/vol: 41.7 g

Lab File ID: 61217714

Level: LOW

Date Received: 11/14/97

% Moisture: 28 Decanted: N

Date Extracted: 11/18/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/18/97

Injection Volume: 2.0 uL

Dilution Factor: 1

GPC Cleanup: Y pH: 5.0

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1		NAPHTHALENE, -DIMETHYL-	14.17	93	J
2	1707-75-1	HYDRAZINE, 1,1-DIPHENYL-2-(2,4,6-TRINITROPHENYL)-	16.80	98	J N
3	1556-99-6	9H-FLUORENE, 4-METHYL-	17.83	120	J N
4	25247-68-1	BENZENE, ETHENYL-, DIMER	18.03	87	J N
5		PHENANTHRENE, -METHYL-	20.15	220	J
6		PHENANTHRENE, -METHYL-	20.43	420	J
7	612-94-2	NAPHTHALENE, 2-PHENYL-	20.95	120	J N
8		PYRENE, -METHYL-	23.48	280	J
9		UNKNOWN	24.72	180	J
10		UNKNOWN AROMATIC	25.47	75	J
11		UNKNOWN	25.62	460	J
12		UNKNOWN AROMATIC	26.43	110	J
13	1705-84-6	TRIPHENYLENE, 2-METHYL-	26.80	90	J N
14		UNKNOWN	27.07	280	J
15		UNKNOWN	27.28	770	J
16	192-97-2	BENZO[E]PYRENE	29.30	650	J N
17		UNKNOWN	30.62	240	J
18		UNKNOWN	31.12	330	J
19		UNKNOWN	31.88	130	J
20		UNKNOWN	35.08	250	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID

DAM331

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98436

Matrix: SOIL

Lab Sample ID: 98479

Sample wt/vol: 47.6 g

Lab File ID: 61217713

Level: LOW

Date Received: 11/14/97

% Moisture: 27 Decanted: N

Date Extracted: 11/18/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/18/97

Injection Volume: 2.0 uL

Dilution Factor: 1

GPC Cleanup: Y pH: 5.1

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1		NAPHTHALENE, -DIMETHYL-	14.17	280	J
2		NAPHTHALENE, -TRIMETHYL	15.92	200	J
3		ANTHRACENE, -METHYL-	20.17	650	J
4		PHENANTHRENE,-METHYL	20.45	630	J
5	612-94-2	NAPHTHALENE, 2-PHENYL-	20.97	210	J N
6		PHENANTHRENE, -DIMETHYL-	21.68	280	J
7		UNKNOWN	22.27	150	J
8		PYRENE, -METHYL-	23.50	530	J
9	238-84-6	11H-BENZO[A]FLUORENE	23.67	230	J N
10		UNKNOWN	24.75	740	J
11		UNKNOWN	25.65	1600	J
12		CHRYSENE, -METHYL-	26.83	170	J
13		UNKNOWN	27.10	620	J
14		UNKNOWN	27.33	2000	J
15	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.57	140	J N
16	192-97-2	BENZO[E]PYRENE	29.32	170	J N
17		UNKNOWN	30.62	120	J
18		UNKNOWN	31.13	89	J
19		UNKNOWN	34.20	56	J
20		UNKNOWN	35.08	100	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID 21125

DAM331DL

Lab Name: SWRI | Contract: 01-1427-024

Lab Code: SWRI | Case No.: METCALF & EDDY/0049M | SDG: 98436

Matrix: SOIL | Lab Sample ID: 98479DL

Sample wt/vol: 47.6 g | Lab File ID: 61219706

Level: LOW | Date Received: 11/14/97

% Moisture: 27 | Decanted: N | Date Extracted: 11/18/97

Concentrated Extract Volume: 0.5 mL | Date Analyzed: 12/19/97

Injection Volume: 2.0 uL | Dilution Factor: 2

GPC Cleanup: Y | pH: 5.1

Number TICs found: 16

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q		
1		NAPHTHALENE, -DIMETHYL-	14.27	270	J		D
2		ANTHRACENE, -METHYL-	20.27	240	J		D
3		PHENANTHRENE, -METHYL-	20.55	480	J		D
4		PYRENE, -METHYL-	23.58	260	J		D
5		UNKNOWN	24.83	290	J		D
6		UNKNOWN	25.75	800	J		D
7		UNKNOWN	27.18	590	J		D
8		UNKNOWN	27.42	1600	J		D
9	192-97-2	BENZO[E]PYRENE	29.42	690	J	N	D
10		UNKNOWN	30.82	650	J		D
11		UNKNOWN	31.32	540	J		D
12		UNKNOWN	31.63	270	J		D
13		UNKNOWN	32.17	310	J		D
14		UNKNOWN	34.47	260	J		D
15		UNKNOWN	35.42	550	J		D
16		UNKNOWN	36.15	160	J		D
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET 021204

SAMPLE ID DAM333

Lab Name: SWRI | Contract: 01-1427-024

Lab Code: SWRI | Case No.: METCALF & EDDY/0049M | SDG: 98436

Matrix: SOIL | Lab Sample ID: 98505

Sample wt/vol: 166.7 g | Lab File ID: 61218709

Level: LOW | Date Received: 11/15/97

% Moisture: 82 | Decanted: N | Date Extracted: 11/18/97

Concentrated Extract Volume: 0.5 mL | Date Analyzed: 12/18/97

Injection Volume: 2.0 uL | Dilution Factor: 1

GPC Cleanup: Y | pH: 6.3

Number TICs found: 19

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	124-10-7	TETRADECANOIC ACID, METHYL ESTER	17.97	350	J N
2	1120-25-8	9-HEXADECENOIC ACID, METHYL ESTER, (Z)-	20.03	770	J N
3	140-03-4	9-OCTADECENOIC ACID, 12-(ACETYLOXY)-, METHYL ESTER, [R-(Z)]-	20.27	2200	J N
4		4H-CYCLOPENTA[DEF]PHENANTHRENE	20.48	800	J
5	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.33	880	J N
6	238-84-6	11H-BENZO[A]FLUORENE	23.60	1000	J N
7		PYRENE, -METHYL-	23.77	630	J
8	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.23	550	J N
9	205-43-6	BENZO[B]NAPHTHO[1,2-D]THIOPHENE	25.17	400	J N
10	203-12-3	BENZO[GHI]FLUORANTHENE	25.32	560	J N
11		UNKNOWN	25.68	680	J
12		UNKNOWN HYDROCARBON	26.88	460	J
13		UNKNOWN	27.37	760	J
14	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.63	420	J N
15		UNKNOWN	28.57	940	J
16	192-97-2	BENZO[E]PYRENE	29.45	780	J N
17		UNKNOWN HYDROCARBON	30.88	360	J
18		UNKNOWN HYDROCARBON	32.72	630	J
19		UNKNOWN HYDROCARBON	34.52	380	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET 021293

SAMPLE ID DAM333DL

Lab Name: SWRI | Contract: 01-1427-024

Lab Code: SWRI | Case No.: METCALF & EDDY/0049M | SDG: 98436

Matrix: SOIL | Lab Sample ID: 98505DL

Sample wt/vol: 166.7 g | Lab File ID: 61219703

Level: LOW | Date Received: 11/15/97

% Moisture: 82 | Decanted: N | Date Extracted: 11/18/97

Concentrated Extract Volume: 0.5 mL | Date Analyzed: 12/19/97

Injection Volume: 2.0 uL | Dilution Factor: 4

GPC Cleanup: Y | pH: 6.3

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.02	460	J N D
2	1120-25-8	9-HEXADECENOIC ACID, METHYL ESTER	20.08	690	J N D
3	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.30	2800	J N D
4		PHENANTHRENE, -METHYL-	20.53	790	J D
5	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.37	750	J N D
6		PYRENE, -METHYL-	23.57	570	J D
7		UNKNOWN	25.72	470	J D
8		UNKNOWN	27.35	580	J D
9	192-97-2	BENZO[E]PYRENE	29.42	4200	J N D
10		UNKNOWN HYDROCARBON	30.02	140	J D
11		UNKNOWN HYDROCARBON	30.97	2000	J D
12		UNKNOWN HYDROCARBON	31.28	2300	J D
13		UNKNOWN	32.10	790	J D
14	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	32.27	1600	J N D
15		UNKNOWN	32.82	3700	J D
16	215-58-7	BENZO[B]TRIPHENYLENE	33.40	830	J N D
17		UNKNOWN HYDROCARBON	34.23	1000	J D
18		UNKNOWN HYDROCARBON	34.63	2100	J D
19		UNKNOWN	35.37	620	J D
20		UNKNOWN	35.88	510	J D
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET 021380

SAMPLE ID

DAM334

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98436

Matrix: SOIL

Lab Sample ID: 98506

Sample wt/vol: 200 g

Lab File ID: 61218707

Level: LOW

Date Received: 11/15/97

% Moisture: 85 Decanted: N

Date Extracted: 11/18/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/18/97

Injection Volume: 2.0 uL

Dilution Factor: 1

GPC Cleanup: Y pH: 6.5

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	124-10-7	TETRADECANOIC ACID, METHYL ESTER	17.98	1100	J N
2	502-69-2	2-PENTADECANONE, 6,10,14-TRIMETHYL-	19.38	510	J N
3		UNKNOWN HYDROCARBON	19.80	560	J
4	1120-25-8	9-HEXACECENOIC ACID, METHYL ESTER, (Z)-	20.07	2800	J N
5	1129-39-0	HEXADECANOIC ACID, METHYL ESTER	20.17	2200	J N
6	1129-39-0	HEXADECANOIC ACID, METHYL ESTER	20.32	7000	J N
7	203-64-5	4H-CYCLOPENTA[DEF]PHENANTHRENE	20.52	1700	J N
8	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.42	2200	J N
9	238-84-6	11H-BENZO[A]FLUORENE	23.70	2000	J N
10	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.28	1900	J N
11		UNKNOWN	25.77	1600	J
12		UNKNOWN HYDROCARBON	26.97	730	J
13		UNKNOWN	27.23	1000	J
14		UNKNOWN	27.50	3700	J
15	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.70	930	J N
16	7683-64-9	SQUALENE	28.65	3300	J N
17		UNKNOWN PAH MW=252	30.03	640	J
18		UNKNOWN HYDROCARBON	31.00	860	J
19	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	32.28	310	J N
20		UNKNOWN HYDROCARBON	32.82	640	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID

DAM334DL

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98436

Matrix: SOIL

Lab Sample ID: 98506DL

Sample wt/vol: 200 g

Lab File ID: 61219702

Level: LOW

Date Received: 11/15/97

% Moisture: 85 Decanted: N

Date Extracted: 11/18/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/19/97

Injection Volume: 2.0 uL

Dilution Factor: 4

GPC Cleanup: Y pH: 6.5

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.03	730	J N D
2	1120-25-8	9-HEXADECENOIC ACID, METHYL ESTER	20.08	1100	J N D
3	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.30	3400	J N D
4	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.37	710	J N D
5		PYRENE, -METHYL-	23.57	450	J D
6		UNKNOWN	25.72	510	J D
7		UNKNOWN	27.15	880	J D
8		UNKNOWN	27.37	1400	J D
9	192-97-2	BENZO[E]PYRENE	29.40	4200	J N D
10		UNKNOWN HYDROCARBON	30.95	2500	J D
11		UNKNOWN HYDROCARBON	31.85	740	J D
12		UNKNOWN	32.08	790	J D
13	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	32.25	1200	J N D
14		VITAMIN E	32.57	1800	J D
15		UNKNOWN HYDROCARBON	32.80	1500	J D
16	215-58-7	BENZO[B]TRIPHENYLENE	33.38	750	J N D
17		UNKNOWN HYDROCARBON	34.23	1400	J D
18		UNKNOWN HYDROCARBON	34.60	1000	J D
19		UNKNOWN HYDROCARBON	35.35	920	J D
20		UNKNOWN	35.87	840	J D
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID C21560

DAM335

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98436

Matrix: SOIL

Lab Sample ID: 98503

Sample wt/vol: 230.7 g

Lab File ID: 61218702

Level: LOW

Date Received: 11/15/97

% Moisture: 83 Decanted: N

Date Extracted: 11/18/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/18/97

Injection Volume: 2.0 uL

Dilution Factor: 1

GPC Cleanup: Y pH: 6.4

Number TICs found: 21

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	124-13-0	OCTANAL	7.45	120	J N
2	124-19-6	NONANAL	9.18	160	J N
3		UNKNOWN	13.90	830	J
4		NAPHTHALENE, -DIMETHYL-	14.17	530	J
5		NAPHTHALENE, -TRIMETHYL-	15.65	580	J
6		UNKNOWN HYDROCARBON	19.80	480	J
7		UNKNOWN	20.25	1200	J
8		UNKNOWN	22.33	1200	J
9		UNKNOWN	22.85	390	J
10		PYRENE, -METHYL-	23.57	390	J
11	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.23	620	J N
12		UNKNOWN HYDROCARBON	25.17	480	J
13		UNKNOWN	26.00	750	J
14		UNKNOWN	26.78	480	J
15		UNKNOWN HYDROCARBON	26.88	400	J
16		UNKNOWN	27.15	630	J
17		UNKNOWN	27.38	1700	J
18	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.63	700	J N
19		UNKNOWN HYDROCARBON	30.87	400	J
20		UNKNOWN HYDROCARBON	34.10	400	J
21		UNKNOWN	34.43	1700	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID

DAM335RE

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98436

Matrix: SOIL

Lab Sample ID: 98503RE

Sample wt/vol: 230.7 g

Lab File ID: 61219708

Level: LOW

Date Received: 11/15/97

% Moisture: 83 Decanted: N

Date Extracted: 11/18/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/20/97

Injection Volume: 2.0 uL

Dilution Factor: 1

GPC Cleanup: Y pH: 6.4

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1		NAPHTHALENE, -DIMETHYL-	14.28	430	J
2		NAPHTHALENE, -TRIMETHYL-	15.77	650	J
3		NAPHTHALENE, -TRIMETHYL-	16.05	480	J
4		TETRADECANOIC ACID, METHYL ESTER	18.07	1100	J
5		UNKNOWN HYDROCARBON	19.90	520	J
6	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.35	2400	J N
7		UNKNOWN AROMATIC	21.85	590	J
8	2490-25-7	HEPTADECANOIC ACID, 10-METHYL-, METHYL ESTER	22.43	1900	J N
9		UNKNOWN	22.95	650	J
10		PYRENE, -METHYL-	23.68	510	J
11	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.35	680	J N
12		UNKNOWN HYDROCARBON	25.27	550	J
13		UNKNOWN	26.10	990	J
14		UNKNOWN	26.88	640	J
15		UNKNOWN	26.98	550	J
16		UNKNOWN	27.25	470	J
17		UNKNOWN	27.48	2000	J
18	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.73	760	J N
19		UNKNOWN HYDROCARBON	34.37	400	J
20		UNKNOWN	34.70	1400	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

021740

SAMPLE ID

DAM336

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98436

Matrix: SOIL

Lab Sample ID: 98509

Sample wt/vol: 150 g

Lab File ID: 61219707

Level: LOW

Date Received: 11/15/97

% Moisture: 80 Decanted: N

Date Extracted: 11/18/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/20/97

Injection Volume: 2.0 uL

Dilution Factor: 1

GPC Cleanup: Y pH: 5.9

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	122-39-4	BENZENAMINE, N-PHENYL-	16.92	990	J N
2		UNKNOWN SILOXANE	17.35	320	J
3		UNKNOWN HYDROCARBON	17.95	300	J
4	132-65-0	DIBENZOTHIOPHENE	18.63	320	J N
5	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.33	2200	J N
6	203-64-5	4H-CYCLOPENTA[DEF]PHENANTHRENE	20.55	320	J N
7	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.40	960	J N
8		UNKNOWN	22.90	370	J
9		UNKNOWN	23.40	450	J
10		PYRENE, -METHYL-	23.60	370	J
11		UNKNOWN	24.07	300	J
12	929-77-1	DOCOSANOIC ACID, METHYL ESTER	26.05	330	J N
13	1705-84-6	TRIPHENYLENE, 2-METHYL-	26.93	250	J N
14		UNKNOWN	27.40	630	J
15	192-97-2	BENZO[E]PYRENE	29.45	720	J N
16		UNKNOWN	30.17	1900	J
17		UNKNOWN HYDROCARBON	31.00	750	J
18		UNKNOWN	32.13	350	J
19	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	32.30	440	J N
20		UNKNOWN HYDROCARBON	34.28	360	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

021827 SAMPLE ID

DAM339

Lab Name: SWRI — Contract: 01-1427-024

Lab Code: SWRI — Case No.: METCALF & EDDY/0049M — SDG: 98436

Matrix: SOIL — Lab Sample ID: 98556

Sample wt/vol: 272.7 g — Lab File ID: 61218703

Level: LOW — Date Received: 11/15/97

% Moisture: 89 — Decanted: N — Date Extracted: 11/18/97

Concentrated Extract Volume: 0.5 mL — Date Analyzed: 12/18/97

Injection Volume: 2.0 uL — Dilution Factor: 1

GPC Cleanup: Y — pH: 5.6

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	5129-56-6	UNDECANOIC ACID, 10-METHYL-, MEHYL ESTER	15.40	260	J N
2	124-10-7	TETRADECANOIC ACID, METHYL ESTER	17.92	550	J N
3	502-69-2	2-PENTADECANONE, 6,10,14-TRIMETHYL-	19.32	400	J N
4	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.20	1700	J N
5	13481-95-3	10-OCTADECENOIC ACID, METHYL ESTER	22.02	510	J N
6	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.27	700	J N
7		UNKNOWN HYDROCARBON	22.77	280	J
8		UNKNOWN	23.27	600	J
9	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.15	350	J N
10		UNKNOWN	25.58	270	J
11		UNKNOWN	25.90	250	J
12		UNKNOWN	26.67	510	J
13		UNKNOWN	27.25	660	J
14		UNKNOWN	29.90	2600	J
15		UNKNOWN HYDROCARBON	30.75	920	J
16		UNKNOWN HYDROCARBON	31.07	650	J
17		UNKNOWN	31.85	350	J
18	2599-01-1	TETRADECANOIC ACID, HEXADECYL ESTER	32.55	790	J N
19		UNKNCWN HYDROCARBON	33.93	360	J
20		UNKNOWN	34.20	2100	J
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SAMPLE ID

DAM340

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: SWRI — Contract: 01-1427-024

Lab Code: SWRI — Case No.: METCALF & EDDY/0049M — SDG: 98557

Matrix: SOIL — Lab Sample ID: 98557

Sample wt/vol: 272.7 g — Lab File ID: 61220704

Level: LOW — Date Received: 11/18/97

% Moisture: 89 — Decanted: N — Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL — Date Analyzed: 12/20/97

Injection Volume: 2.0 uL — Dilution Factor: 1

GPC Cleanup: Y — pH: 4.6

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.27	1000	J N
2	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.33	370	J N
3	929-77-1	DOCOSANOIC ACID, METHYL ESTER	25.97	340	J N
4		UNKNOWN	27.30	520	J
5		UNKNOWN	27.40	1000	J
6		UNKNOWN HYDROCARBON	27.97	1100	J
7		UNKNOWN	28.25	1000	J
8		UNKNOWN	29.03	870	J
9		UNKNOWN	29.25	1800	J
10		UNKNOWN	29.53	500	J
11		UNKNOWN PAH MW=252	29.72	900	J
12		UNKNOWN HYDROCARBON	29.95	2400	J
13		UNKNOWN HYDROCARBON	30.87	1000	J
14		UNKNOWN HYDROCARBON	31.20	1600	J
15		UNKNOWN	31.98	690	J
16		UNKNOWN HYDROCARBON	32.72	2000	J
17		UNKNOWN HYDROCARBON	34.10	700	J
18		UNKNOWN HYDROCARBON	34.52	950	J
19		UNKNOWN	35.73	470	J
20		UNKNOWN HYDROCARBON	36.72	920	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID
02[0086
DAM340RE

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98557

Matrix: SOIL

Lab Sample ID: 98557RE

Sample wt/vol: 272.7 g

Lab File ID: 61227701

Level: LOW

Date Received: 11/18/97

% Moisture: 89 Decanted: N

Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/27/97

Injection Volume: 2.0 uL

Dilution Factor: 1

GPC Cleanup: Y pH: 4.6

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1		UNKNOWN	13.97	98	J
2	111-82-0	DODECANOIC ACID, METHYL ESTER	15.52	220	J N
3		UNKNOWN HYDROCARBON	16.67	140	J
4		UNKNOWN HYDROCARBON	17.93	290	J
5	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.03	530	J N
6	502-69-2	2-PENTADECANONE, 6,10,14-TRIMETHYL-	19.43	390	J N
7	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.32	1500	J N
8	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.40	610	J N
9		UNKNOWN	22.92	550	J
10		UNKNOWN PAH	23.47	4200	J
11	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.28	470	J N
12		UNKNOWN HYDROCARBON	25.20	320	J
13		UNKNOWN	27.40	400	J
14		UNKNOWN	27.48	1000	J
15		UNKNOWN	28.07	920	J
16		UNKNOWN	29.17	760	J
17		UNKNOWN	29.38	1600	J
18	20834-06-4	DODECANOIC ACID, HEXADECYL ESTER	30.10	2100	J N
19		UNKNOWN	31.38	1500	J
20		UNKNOWN	32.95	2000	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID 02 00154 DAM347

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98557

Matrix: SOIL

Lab Sample ID: 98558

Sample wt/vol: 83.3 g

Lab File ID: 61220705

Level: LOW

Date Received: 11/18/97

% Moisture: 64 Decanted: N

Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/20/97

Injection Volume: 2.0 uL

Dilution Factor: 1

GPC Cleanup: Y pH: 6.0

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1		UNKNOWN	10.35	220	J
2		NAPHTHALENE, -DIMETHYL-	14.23	350	J
3		NAPHTHALENE, -TRIMETHYL-	15.98	350	J
4	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.02	340	J N
5	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.28	1600	J N
6		UNKNOWN	21.55	320	J
7		UNKNOWN AROMATIC	22.37	1100	J
8		UNKNOWN AROMATIC	23.57	590	J
9	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.25	330	J N
10		UNKNOWN AROMATIC MW=234	25.18	400	J
11	929-77-1	DOCOSANOIC ACID, METHYL ESTER	26.02	370	J N
12		UNKNOWN HYDROCARBON	26.90	420	J
13		UNKNOWN	27.17	420	J
14		UNKNOWN	27.37	280	J
15	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.67	540	J N
16	192-97-2	BENZO[E]PYRENE	29.45	620	J N
17		UNKNOWN	30.78	250	J
18		UNKNOWN HYDROCARBON	30.97	580	J
19		UNKNOWN HYDROCARBON	32.82	200	J
20		UNKNOWN HYDROCARBON	34.32	400	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID
020 0241
DAM341DL

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98557

Matrix: SOIL

Lab Sample ID: 98558DL

Sample wt/vol: 83.3 g

Lab File ID: 61227708

Level: LOW

Date Received: 11/18/97

% Moisture: 64 Decanted: N

Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/28/97

Injection Volume: 2.0 uL

Dilution Factor: 4

GPC Cleanup: Y pH: 6.0

Number TICs found: 18

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.32	3000	J N D
2		PHENANTHRENE, -METHYL-	20.57	760	J D
3		UNKNOWN HYDROCARBON	21.58	780	J D
4		UNKNOWN HYDROCARBON	22.40	1900	J D
5		PHENANTHRENE, -TETRAMETHYL-	23.62	960	J D
6	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.30	510	J N D
7		UNKNOWN PAH MW=234	25.23	320	J D
8	929-77-1	DOCOSANOIC ACID, METHYL ESTER	26.07	510	J D
9		UNKNOWN HYDROCARBON	26.95	1300	J D
10		UNKNOWN	27.22	1300	J D
11		UNKNOWN	27.43	1200	J D
12	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.73	1800	J N D
13		UNKNOWN	28.70	1200	J D
14	192-97-2	BENZO(E)PYRENE	29.55	1800	J N D
15		UNKNOWN HYDROCARBON	31.10	2300	J D
16		UNKNOWN HYDROCARBON	33.00	780	J D
17		UNKNOWN HYDROCARBON	34.48	1300	J D
18	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.03	650	J N D
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID
02 0 0 3 2 1
DAM342

Lab Name: SWRI — Contract: 01-1427-024

Lab Code: SWRI — Case No.: METCALF & EDDY/0049M — SDG: 98557

Matrix: SOIL — Lab Sample ID: 98559

Sample wt/vol: 115.3 g — Lab File ID: 61220706

Level: LOW — Date Received: 11/18/97

% Moisture: 74 — Decanted: N — Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL — Date Analyzed: 12/20/97

Injection Volume: 2.0 uL — Dilution Factor: 1

GPC Cleanup: Y — pH: 6.6

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	111-82-0	DODECANOIC ACID, METHYL ESTER	15.48	160	J N
2		UNKNOWN HYDROCARBON	17.90	230	J
3	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.00	390	J N
4		UNKNOWN	19.40	270	J
5	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.28	1400	J N
6	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.35	560	J N
7		UNKNOWN	22.87	250	J
8	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.25	530	J N
9		UNKNOWN CARBOXYLIC ACID METHYL ESTER	25.10	300	J
10	929-77-1	DOCOSANOIC ACID, METHYL ESTER	26.02	510	J N
11		UNKNOWN HYDROCARBON	26.90	410	J
12		UNKNOWN	27.37	240	J
13	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.68	580	J N
14		UNKNOWN	29.50	580	J
15		UNKNOWN	30.12	210	J
16		UNKNOWN HYDROCARBON	31.00	710	J
17		UNKNOWN	32.15	370	J
18	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	32.30	210	J N
19		UNKNOWN HYDROCARBON	34.32	490	J
20		UNKNOWN HYDROCARBON	36.02	390	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID

DAM344

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98436

Matrix: WATER

Lab Sample ID: 98561

Sample wt/vol: 1000 mL

Lab File ID: 61217703

Level: LOW

Date Received: 11/15/97

% Moisture: 0 Decanted: N

Date Extracted: 11/24/97

Concentrated Extract Volume: 1 mL

Date Analyzed: 12/17/97

Injection Volume: 2.0 uL

Dilution Factor: 1

GPC Cleanup: N pH: 6.8

Number TICs found: 4

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/L	Q
1		UNKNOWN	6.00	10	J B
2		UNKNOWN	6.35	6	J B
3		UNKNOWN CHLORINATED	6.48	10	J B
4	4291-80-9	CYCLOHEXANE, 1-METHYL-3-PROPYL-	6.53	10	J N B
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID: 027049

DAM345

Lab Name: SWRI — Contract: 01-1427-024

Lab Code: SWRI — Case No.: METCALF & EDDY/0049M — SDG: 98557

Matrix: SOIL — Lab Sample ID: 98646

Sample wt/vol: 96.8 g — Lab File ID: 61220707

Level: LOW — Date Received: 11/19/97

% Moisture: 69 — Decanted: N — Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL — Date Analyzed: 12/20/97

Injection Volume: 2.0 uL — Dilution Factor: 1

GPC Cleanup: Y — pH: 6.6

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	111-82-0	DODECANOIC ACID, METHYL ESTER	15.52	370	J N
2	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.03	930	J N
3	1120-25-8	9-HEXADECENOIC ACID, METHYL ESTER, (Z)-	20.10	970	J N
4	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.35	5100	J N
5	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.40	1900	J N
6	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.30	920	J N
7	203-12-3	BENZO(GHI)FLUORANTHENE	25.38	630	J N
8		UNKNOWN HYDROCARBON	26.95	680	J
9		UNKNOWN	27.25	880	J
10		UNKNOWN	27.47	2300	J
11	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.72	1000	J N
12		UNKNOWN	28.67	1300	J
13	5802-82-4	HEXACOSANOIC ACID, METHYL ESTER	29.67	520	J N
14		UNKNOWN PAH MW=252	29.98	170	J
15		UNKNOWN	30.85	220	J
16		UNKNOWN HYDROCARBON	31.03	520	J
17	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	32.33	240	J N
18		UNKNOWN	32.87	170	J
19		UNKNOWN HYDROCARBON	34.35	290	J
20		UNKNOWN PAH MW=276	36.02	180	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID

02 00 49 6
DAM345D4

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98557

Matrix: SOIL

Lab Sample ID: 98646DL

Sample wt/vol: 96.8 g

Lab File ID: 61227709

Level: LOW

Date Received: 11/19/97

% Moisture: 69 Decanted: N

Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/28/97

Injection Volume: 2.0 uL

Dilution Factor: 5

GPC Cleanup: Y pH: 6.6

Number TICs found: 17

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	111-82-0	DODECANOIC ACID, METHYL ESTER	15.53	420	J N D
2	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.05	2000	J N D
3	1120-25-8	9-HEXADECENOIC ACID, METHYL ESTER, (Z)-	20.12	1800	J N D
4	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.35	11000	J N D
5	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.40	3400	J N D
6		PYRENE, -METHYL-	23.65	1400	J D
7	238-84-6	11H-BENZO[A]FLUORENE	23.82	810	J N D
8	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.30	1200	J N D
9		UNKNOWN PAH MW=234	25.25	610	J D
10		UNKNOWN HYDROCARBON	25.77	700	J D
11	929-77-1	DOCOSANOIC ACID, METHYL ESTER	26.08	1500	J N D
12		UNKNOWN HYDROCARBON	27.23	5600	J D
13		UNKNOWN	27.45	9800	J D
14	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.75	6200	J N D
15	192-97-2	BENZO[E]PYRENE	29.57	6300	J N D
16		UNKNOWN HYDROCARBON	31.12	3200	J D
17		UNKNOWN HYDROCARBON	34.50	1600	J D
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID

02005655

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98557

Matrix: SOIL

Lab Sample ID: 98647

Sample wt/vol: 46.8 g

Lab File ID: 61222701

Level: LOW

Date Received: 11/19/97

% Moisture: 36 Decanted: N

Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/22/97

Injection Volume: 2.0 uL

Dilution Factor: 1

GPC Cleanup: Y pH: 6.5

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.28	560	J N
2	832-64-4	PHENANTHRENE, 4-METHYL-	20.53	340	J N
3	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.37	150	J N
4	238-84-6	11H-BENZO(A)FLUORENE	23.32	94	J N
5		PYRENE, -METHYL-	23.58	270	J
6	243-17-4	11H-BENZO(B)FLUORENE	23.75	160	J N
7		UNKNOWN PAH MW=234	25.18	140	J
8		UNKNOWN PAH	25.28	150	J
9		UNKNOWN PAH MW=242	26.92	770	J
10		UNKNOWN	27.38	1000	J
11		UNKNOWN	27.80	660	J
12		UNKNOWN	28.03	870	J
13		UNKNOWN PAH MW=252	28.97	630	J
14		UNKNOWN	29.25	300	J
15	192-97-2	BENZO(E)PYRENE	29.48	1100	J N
16		UNKNOWN	30.07	720	J
17	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	32.32	240	J N
18		UNKNOWN HYDROCARBON	32.88	180	J
19		UNKNOWN PAH MW=278	33.52	130	J
20	215-58-7	BENZO(B)TRIPHENYLENE	34.73	120	J N
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID: 02 [illegible] 36
DAM346DL

Lab Name: SWRI — Contract: 01-1427-024

Lab Code: SWRI — Case No.: METCALF & EDDY/0049M — SDG: 98557

Matrix: SOIL — Lab Sample ID: 98647DL

Sample wt/vol: 46.8 g — Lab File ID: 61227705

Level: LOW — Date Received: 11/19/97

% Moisture: 36 — Decanted: N — Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL — Date Analyzed: 12/28/97

Injection Volume: 2.0 uL — Dilution Factor: 2

GPC Cleanup: Y — pH: 6.5

Number TICs found: 11

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.30	680	J N D
2		PYRENE, -METHYL-	23.62	300	J D
3	1705-84-6	TRIPHENYLENE, 2-METHYL-	26.95	150	J N D
4		UNKNOWN	27.42	220	J D
5		UNKNOWN	27.83	160	J D
6		UNKNOWN HYDROCARBON	28.07	580	J D
7		UNKNOWN PAH MW=252	29.02	460	J D
8	192-97-2	BENZO(E)PYRENE	29.52	900	J N D
9		UNKNOWN	30.12	500	J D
10		UNKNOWN	32.40	190	J D
11		UNKNOWN	35.55	180	J D
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID

02007222 DM3347

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98557

Matrix: SOIL

Lab Sample ID: 98649

Sample wt/vol: 157.9 g

Lab File ID: 61222703

Level: LOW

Date Received: 11/19/97

% Moisture: 83 Decanted: N

Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/22/97

Injection Volume: 2.0 uL

Dilution Factor: 1

GPC Cleanup: Y pH: 6.4

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	5129-56-6	UNDECANOIC ACID, 10-METHYL-, METHYL ESTER	15.52	300	J N
2	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.03	900	J N
3	1120-25-8	9-HEXADECENOIC ACID, METHYL ESTER, (Z)-	20.10	1000	J N
4	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.33	3400	J N
5	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.38	1000	J N
6		UNKNOWN	22.90	290	J
7		PYRENE, -METHYL-	23.63	450	J
8	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.28	780	J N
9		UNKNOWN AROMATIC MW=234	25.22	340	J
10	929-77-1	DOCOSANOIC ACID, METHYL ESTER	26.05	2100	J N
11		UNKNOWN	26.83	450	J
12		UNKNOWN PAH MW=242	26.95	340	J
13		UNKNOWN	27.47	1600	J
14	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.72	630	J N
15	192-97-2	BENZO[E]PYRENE	29.57	670	J N
16		UNKNOWN	30.20	700	J
17		UNKNOWN HYDROCARBON	31.05	300	J
18	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	32.38	260	J N
19	2599-01-1	TETRADECANOIC ACID, HEXADECYL ESTER	32.93	300	J N
20		UNKNOWN	34.77	140	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID
020811
DAM347DL

Lab Name: SWRI | Contract: 01-1427-024

Lab Code: SWRI | Case No.: METCALF & EDDY/0049M | SDG: 98557

Matrix: SOIL | Lab Sample ID: 98649DL

Sample wt/vol: 157.9 g | Lab File ID: 61227707

Level: LOW | Date Received: 11/19/97

% Moisture: 83 | Decanted: N | Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL | Date Analyzed: 12/28/97

Injection Volume: 2.0 uL | Dilution Factor: 2

GPC Cleanup: Y | pH: 6.4

Number TICs found: 18

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	122-39-4	BENZENAMINE, N-PHENYL-	16.92	240	J N D
2	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.07	1200	J N D
3	1120-25-8	9-HEXADECENOIC ACID, METHYL ESTER, (Z)-	20.12	1100	J N D
4	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.37	4100	J N D
5	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.42	1100	J N D
6		PYRENE, -METHYL-	23.67	500	J D
7	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.32	780	J N D
8		UNKNOWN PAH MW=234	25.25	340	J D
9	929-77-1	DOCOSANOIC ACID, METHYL ESTER	26.03	1900	J N D
10		UNKNOWN HYDROCARBON	26.98	1300	J D
11		UNKNOWN	27.50	6400	J D
12	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.77	2600	J N D
13		UNKNOWN	28.73	8500	J D
14	192-97-2	BENZO[E]PYRENE	29.63	2300	J N D
15		UNKNOWN	30.25	1700	J D
16		UNKNOWN HYDROCARBON	31.13	1100	J D
17	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	32.48	920	J N D
18		UNKNOWN	33.03	1200	J D
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID

02008892

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98557

Matrix: SOIL

Lab Sample ID: 98648

Sample wt/vol: 176.5 g

Lab File ID: 61222702

Level: LOW

Date Received: 11/19/97

% Moisture: 81 Decanted: N

Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/22/97

Injection Volume: 2.0 uL

Dilution Factor: 1

GPC Cleanup: Y pH: 6.1

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	111-82-0	DODECANOIC ACID, METHYL ESTER	15.50	270	J N
2	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.02	1000	J N
3	1120-25-8	9-HEXADECENOIC ACID, METHYL ESTER, (Z)-	20.08	950	J N
4	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.32	3000	J N
5	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.37	970	J N
6		UNKNOWN	22.88	450	J
7		PYRENE, -METHYL-	23.60	400	J
8		UNKNOWN	24.03	360	J
9	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.27	620	J N
10		UNKNOWN CARBOXYLIC ACID, METHYL ESTER	25.13	400	J
11	929-77-1	DOCOSANOIC ACID, METHYL ESTER	26.05	650	J N
12		UNKNOWN	26.82	440	J
13		UNKNOWN	27.22	780	J
14		UNKNOWN	27.47	2200	J
15	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.72	610	J N
16	192-97-2	BENZO[E]PYRENE	29.55	780	J N
17		UNKNOWN	30.23	2000	J
18		UNKNOWN HYDROCARBON	31.05	340	J
19	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	32.37	260	J N
20	2599-01-1	TETRADECANOIC ACID, HEXADECYL ESTER	32.92	180	J N
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID
02 00982
DAM348DL

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98557

Matrix: SOIL

Lab Sample ID: 98648DL

Sample wt/vol: 176.5 g

Lab File ID: 61227706

Level: LOW

Date Received: 11/19/97

% Moisture: 81 Decanted: N

Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/28/97

Injection Volume: 2.0 uL

Dilution Factor: 2

GPC Cleanup: Y pH: 6.1

Number TICs found: 19

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	111-82-0	DODECANOIC ACID, METHYL ESTER	15.52	280	J N D
2	122-39-4	BENZENAMINE, N-PHENYL-	16.90	210	J N D
3	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.05	1400	J N D
4	5129-66-8	TETRADECANOIC ACID, 12-METHYL-, METHYL ESTER	18.78	330	J N D
5	1120-25-8	9-HEXADECENOIC ACID, METHYL ESTER	20.10	1200	J N D
6	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.33	4300	J N D
7	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.40	1200	J N D
8		UNKNOWN	22.92	500	J D
9	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.30	780	J N D
10		UNKNOWN CARBOXYLIC ACID, METHYL ESTER	25.15	350	J D
11	929-77-1	DOCOSANOIC ACID, METHYL ESTER	26.07	700	J N D
12		UNKNOWN	26.85	430	J D
13		UNKNOWN	27.23	470	J D
14		UNKNOWN	27.47	1800	J D
15	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.73	560	J N D
16		UNKNOWN	28.70	2700	J D
17	192-97-2	BENZO(E)PYRENE	29.58	650	J N D
18		UNKNOWN	30.25	1900	J D
19		UNKNOWN HYDROCARBON	31.10	300	J D
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID

02 D1124 DAM39R

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98557

Matrix: SOIL

Lab Sample ID: 98880

Sample wt/vol: 200 g

Lab File ID: 61226704

Level: LOW

Date Received: 11/20/97

% Moisture: 85 Decanted: N

Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/26/97

Injection Volume: 2.0 uL

Dilution Factor: 1

GPC Cleanup: Y pH: 6.0

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	111-82-0	DODECANOIC ACID, METHYL ESTER	15.57	240	J N
2	122-39-4	BENZENAMINE, N-PHENYL-	16.95	410	J N
3		UNKNOWN SILOXANE	17.37	270	J
4	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.08	1100	J N
5		UNKNOWN SILOXANE	19.25	340	J
6		UNKNOWN	20.17	950	J
7	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.38	2300	J N
8		UNKNOWN SILOXANE	20.92	170	J
9	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.45	770	J N
10		UNKNOWN HYDROCARBON	23.42	380	J
11		UNKNOWN SILOXANE	23.83	200	J
12	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.33	360	J N
13		UNKNOWN HYDROCARBON	25.27	420	J
14	929-77-1	DOCOSANOIC ACID, METHYL ESTER	26.12	380	J N
15		UNKNOWN	26.92	520	J
16		UNKNOWN SILOXANE	27.48	340	J
17	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.78	400	J N
18	192-97-2	BENZO[E]PYRENE	29.63	370	J N
19		UNKNOWN	30.28	460	J
20	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	32.53	270	J N
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID

020119 2 DAM352

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98557

Matrix: SOIL

Lab Sample ID: 98879

Sample wt/vol: 187.5 g

Lab File ID: 61222704

Level: LOW

Date Received: 11/20/97

% Moisture: 84 Decanted: N

Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/22/97

Injection Volume: 2.0 uL

Dilution Factor: 1

GPC Cleanup: Y pH: 6.4

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	101-84-8	BENZENE, 1,1'-OXYBIS-	13.97	240	J N
2	111-82-8	DODECANOIC ACID, METHYL ESTER	15.52	340	J N
3	122-39-4	BENZENAMINE, N-PHENYL-	16.92	670	J N
4		UNKNOWN	17.43	200	J
5	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.03	1100	J N
6	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.33	2300	J N
7	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.38	940	J N
8		UNKNOWN	22.88	420	J
9		UNKNOWN HYDROCARBON	23.33	530	J
10	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.27	660	J N
11		UNKNOWN HYDROCARBON	25.20	730	J
12	929-77-1	DOCOSANOIC ACID, METHYL ESTER	26.03	500	J N
13		UNKNOWN	26.83	750	J
14	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.68	230	J N
15		UNKNOWN PAH MW=252	29.87	380	J
16		UNKNOWN	30.10	300	J
17		UNKNOWN HYDROCARBON	30.98	640	J
18		UNKNOWN	32.13	310	J
19	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	32.30	380	J N
20		UNKNOWN HYDROCARBON	34.30	210	J
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0201266

SAMPLE ID

DAM353

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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98557

Matrix: SOIL

Lab Sample ID: 98883

Sample wt/vol: 96.8 g

Lab File ID: 61222708

Level: LOW

Date Received: 11/20/97

% Moisture: 69 Decanted: N

Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/23/97

Injection Volume: 2.0 uL

Dilution Factor: 1

GPC Cleanup: Y pH: 6.4

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	111-82-0	DODECANOIC ACID, METHYL ESTER	15.53	370	J N
2	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.07	970	J N
3	502-69-2	2-PENTADECANONE, 6,10,14-TRIMETHYL-	19.47	380	J N
4	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.37	4400	J N
5		PHENANTHRENE, -METHYL-	20.63	1400	J
6	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.47	1600	J N
7	238-84-6	11H-BENZO[A]FLUORENE	23.75	1600	J N
8	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.33	1300	J N
9		UNKNOWN PAH MW=228	25.42	1500	J
10		UNKNOWN	25.82	930	J
11		UNKNOWN PAH MW=228	26.32	440	J
12		UNKNOWN	27.53	2400	J
13	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.77	820	J N
14		UNKNOWN	28.73	1300	J
15		UNKNOWN HYDROCARBON	28.82	1300	J
16	192-97-2	BENZO[E]PYRENE	29.75	1800	J N
17		UNKNOWN PAH MW=252	30.13	320	J
18		UNKNOWN HYDROCARBON	31.13	830	J
19		UNKNOWN	31.78	330	J
20	59-02-9	VITAMIN E	32.77	210	J N
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

02 SAMPLE ID
DAM353DL

Lab Name: SWRI — Contract: 01-1427-024

Lab Code: SWRI — Case No.: METCALF & EDDY/0049M — SDG: 98557

Matrix: SOIL — Lab Sample ID: 98883DL

Sample wt/vol: 96.8 g — Lab File ID: 61226701

Level: LOW — Date Received: 11/20/97

% Moisture: 69 — Decanted: N — Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL — Date Analyzed: 12/26/97

Injection Volume: 2.0 uL — Dilution Factor: **

GPC Cleanup: Y — pH: 6.4

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.07	3900	J N D
2	502-69-2	2-PENTADECANONE, 6,10,14-TRIMETHYL-	19.48	1200	J N D
3	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.35	13000	J N D
4		PHENANTHRENE, -METHYL-	20.60	2900	J D
5	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.42	3000	J N D
6		PYRENE, -METHYL-	23.65	1800	J D
7	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.33	1300	J N D
8		UNKNOWN PAH MW=226	25.38	2200	J D
9		UNKNOWN	25.78	2300	J D
10	929-77-1	DOCOSANOIC ACID, METHYL ESTER	26.08	1400	J N D
11	1705-84-6	TRIPHENYLENE, 2-METHYL-	26.98	4000	J N D
12		UNKNOWN	27.45	8100	J N D
13	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.75	4700	J N D
14	192-97-2	BENZO[E]PYRENE	29.58	13000	J N D
15		UNKNOWN HYDROCARBON	31.12	8000	J D
16		UNKNOWN	31.78	3600	J D
17		UNKNOWN	32.30	2300	J D
18	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	32.47	2600	J N D
19		UNKNOWN HYDROCARBON	34.50	5100	J D
20		UNKNOWN	35.62	2800	J D
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID

02 01443 DAM35a

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98557

Matrix: SOIL

Lab Sample ID: 98882

Sample wt/vol: 187.5 g

Lab File ID: 61222707

Level: LOW

Date Received: 11/20/97

% Moisture: 84 Decanted: N

Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/23/97

Injection Volume: 2.0 uL

Dilution Factor: 1

GPC Cleanup: Y pH: 5.9

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	111-82-0	DODECANOIC ACID, METHYL ESTER	15.52	1500	J N
2	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.07	5000	J N
3	502-69-2	2-PENTADECANONE, 6,10,14-TRIMETHYL-	19.43	1600	J N
4	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.37	12000	J N
5	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.38	3100	J N
6		UNKNOWN	22.88	1300	J
7		UNKNOWN	23.32	400	J
8		PHENANTHRENE, -TETRAMETHYL-	23.57	540	J
9	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.27	2300	J N
10	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.70	1400	J N
11		UNKNOWN	28.33	480	J
12		UNKNOWN HYDROCARBON	28.70	2000	J
13		UNKNOWN	29.35	360	J
14		UNKNOWN	29.52	540	J
15	5802-82-4	HEXACOSANOIC ACID, METHYL ESTER	29.65	550	J N
16		UNKNOWN HYDROCARBON	31.05	1600	J
17		UNKNOWN	31.93	540	J
18		UNKNOWN	32.20	690	J
19		UNKNOWN HYDROCARBON	34.40	920	J
20		UNKNOWN	36.10	490	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID
020 DAM354RE

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98557

Matrix: SOIL

Lab Sample ID: 98882RE

Sample wt/vol: 187.5 g

Lab File ID: 61226706

Level: LOW

Date Received: 11/20/97

% Moisture: 84 Decanted: N

Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/26/97

Injection Volume: 2.0 uL

Dilution Factor: 1

GPC Cleanup: Y pH: 5.9

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	111-82-0	DODECANOIC ACID, METHYL ESTER	15.55	1200	J N
2	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.10	4500	J N
3	502-69-2	2-PENTADECANONE, 6,10,14-TRIMETHYL-	19.48	2300	J N
4	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.42	20000	J N
5	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.43	4300	J N
6		UNKNOWN	22.93	1600	J
7	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.33	3400	J N
8		UNKNOWN HYDROCARBON	25.23	1500	J
9	929-77-1	DOCOSANOIC ACID, METHYL ESTER	26.10	3600	J N
10		UNKNOWN HYDROCARBON	26.98	2200	J
11		UNKNOWN	27.53	2300	J
12	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.77	3600	J N
13		UNKNOWN	28.42	1400	J
14		UNKNOWN	29.62	1800	J
15	5802-85-4	HEXACOSANOIC ACID, METHYL ESTER	29.77	1600	J N
16		UNKNOWN HYDROCARBON	31.22	5600	J
17		UNKNOWN	32.12	2400	J
18		UNKNOWN	32.40	2700	J
19		UNKNOWN HYDROCARBON	34.67	3800	J
20		UNKNOWN	36.40	2300	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID
02 1509
DAM355

Lab Name: SWRI | Contract: 01-1427-024

Lab Code: SWRI | Case No.: METCALF & EDDY/0049M | SDG: 98557

Matrix: SOIL | Lab Sample ID: 98881

Sample wt/vol: 200 g | Lab File ID: 61222706

Level: LOW | Date Received: 11/20/97

% Moisture: 85 | Decanted: N | Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL | Date Analyzed: 12/23/97

Injection Volume: 2.0 uL | Dilution Factor: 1

GPC Cleanup: Y | pH: 6.3

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	111-82-0	DODECANOIC ACID, METHYL ESTER	15.52	660	J N
2	122-39-4	BENZENAMINE, N-PHENYL-	16.90	510	J N
3	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.03	1800	J N
4	502-69-2	2-PENTADECANONE, 6,10,14-TRIMETHYL-	19.43	740	J N
5	1120-25-8	9-HEXADECENOIC ACID, METHYL ESTER (Z)-	20.10	2800	J N
6	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.35	5500	J N
7	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.38	1600	J N
8		UNKNOWN	22.90	550	J
9		UNKNOWN HYDROCARBON	23.35	680	J
10		UNKNOWN	24.05	680	J
11	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.28	1100	J N
12		UNKNOWN HYDROCARBON	25.22	610	J
13	929-77-1	DOCOSANOIC ACID, METHYL ESTER	26.05	1200	J N
14		UNKNOWN	26.83	840	J
15		UNKNOWN HYDROCARBON	26.93	490	J
16		UNKNOWN	27.42	560	J
17		UNKNOWN	27.58	630	J
18	2422-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.72	1200	J N
19	192-97-2	BENZO[E]PYRENE	29.55	820	J N
20		UNKNOWN	30.18	940	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID

0 20 1 6 7 9

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98557

Matrix: SOIL

Lab Sample ID: 98881RE

Sample wt/vol: 200 g

Lab File ID: 61226705

Level: LOW

Date Received: 11/20/97

% Moisture: 85 Decanted: N

Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/26/97

Injection Volume: 2.0 uL

Dilution Factor: 1

GPC Cleanup: Y pH: 6.3

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	111-82-0	DODECANOIC ACID, METHYL ESTER	15.57	490	J N
2	122-39-4	BENZENAMINE, N-PHENYL-	16.97	480	J N
3		UNKNOWN SILOXANE	17.37	340	J
4	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.10	2000	J N
5	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.42	4900	J N
6	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.47	1200	J N
7		UNKNOWN	22.97	390	J
8		UNKNOWN HYDROCARBON	23.42	510	J
9	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.35	740	J N
10		UNKNOWN HYDROCARBON	25.28	370	J
11	929-77-1	DOCOSANOIC ACID, METHYL ESTER	26.13	780	J N
12		UNKNOWN HYDROCARBON	27.02	320	J
13		UNKNOWN	27.50	570	J
14		UNKNOWN	27.67	600	J
15	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.80	980	J N
16	192-97-2	BENZO(E)PYRENE	29.67	690	J N
17		UNKNOWN	30.33	500	J
18		UNKNOWN HYDROCARBON	31.18	320	J
19		UNKNOWN	32.38	400	J
20	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	32.55	390	J N
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID

02D176 6
DAM397

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98557

Matrix: SOIL

Lab Sample ID: 98998

Sample wt/vol: 187.5 g

Lab File ID: 61222710

Level: LOW

Date Received: 11/21/97

% Moisture: 84 Decanted: N

Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/23/97

Injection Volume: 2.0 uL

Dilution Factor: 1

GPC Cleanup: Y pH: 5.4

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	111-82-0	DODECANOIC ACID, METHYL ESTER	15.52	440	J N
2	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.05	1200	J N
3	5129-66-8	TETRADECANOIC ACID, 12-METHYL-, METHYL ESTER	18.78	540	J N
4	1120-25-8	9-HEXADECENOIC ACID, METHYL ESTER, (Z)-	20.10	660	J N
5	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.35	3700	J N
6	1118-77-0	HEXADECANOIC ACID, 3,7,11,15-TETRAMETHYL-, METHYL ESTER	22.10	2100	J N
7	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.40	1300	J N
8		UNKNOWN	22.92	610	J
9		UNKNOWN HYDROCARBON	23.37	970	J
10	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.30	1000	J N
11		UNKNOWN HYDROCARBON	25.23	720	J
12	929-77-1	DOCOSANOIC ACID, METHYL ESTER	26.07	920	J N
13		UNKNOWN	26.85	330	J
14		UNKNOWN HYDROCARBON	26.93	320	J
15		UNKNOWN	27.43	450	J
16	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.72	670	J N
17		UNKNOWN	28.67	1600	J
18	192-97-2	BENZO[E]PYRENE	29.55	330	J N
19		UNKNOWN	30.18	400	J
20		UNKNOWN HYDROCARBON	31.07	340	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID
U2U18 40
DAM357RE

Lab Name: SWRI — Contract: 01-1427-024

Lab Code: SWRI — Case No.: METCALF & EDDY/0049M — SDG: 98557

Matrix: SOIL — Lab Sample ID: 98998RE

Sample wt/vol: 187.5 g — Lab File ID: 61226707

Level: LOW — Date Received: 11/21/97

% Moisture: 84 — Decanted: N — Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL — Date Analyzed: 12/2697

Injection Volume: 2.0 uL — Dilution Factor: 1

GPC Cleanup: Y — pH: 5.4

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	111-82-0	DODECANOIC ACID, METHYL ESTER	15.55	410	J N
2	5129-66-8	TETRADECANOIC ACID, 12-METHYL-, METHYL ESTER	18.82	470	J N
3		UNKNOWN	19.23	440	J
4	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.38	3000	J N
5	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.43	1000	J N
6		UNKNOWN HYDROCARBON	22.95	430	J
7		UNKNOWN HYDROCARBON	23.40	710	J
8	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.33	820	J N
9		UNKNOWN HYDROCARBON	25.27	550	J
10	929-77-1	DOCOSANOIC ACID, METHYL ESTER	26.12	780	J N
11		UNKNOWN HYDROCARBON	26.98	390	J
12		UNKNOWN	27.48	350	J
13	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.78	700	J N
14		UNKNOWN	28.73	810	J
15	192-97-2	BENZO[E]PYRENE	29.63	470	J N
16		UNKNOWN	30.28	550	J
17		UNKNOWN HYDROCARBON	31.18	600	J
18	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	32.53	250	J N
19		UNKNOWN	36.33	290	J
20	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.08	1000	J N
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID 020192 0 DAM358

Lab Name: SWRI — Contract: 01-1427-024

Lab Code: SWRI — Case No.: METCALF & EDDY/0049M — SDG: 98557

Matrix: SOIL — Lab Sample ID: 98999

Sample wt/vol: 120 g — Lab File ID: 61222711

Level: LOW — Date Received: 11/21/97

% Moisture: 75 — Decanted: N — Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL — Date Analyzed: 12/23/97

Injection Volume: 2.0 uL — Dilution Factor: 1

GPC Cleanup: Y — pH: 6.1

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	111-82-0	DODECANOIC ACID, METHYL ESTER	15.52	320	J N
2	124-10-7	TETRADECANOIC ACID, METHYL ESTER	17.60	230	J N
3	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.05	830	J N
4	5129-66-8	TETRADECANOIC ACID, 12-METHYL-, METHYL ESTER	18.78	310	J N
5	1120-25-8	9-HEXADECENOIC ACID, METHYL ESTER, (Z)-	20.10	280	J N
6	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.35	2000	J N
7	1118-77-0	HEXADECANOIC ACID, 3,7,11,15-TETRAMETHYL-, METHYL ESTER	22.10	1400	J N
8	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.40	700	J N
9		UNKNOWN	22.92	280	J
10		UNKNOWN	23.37	220	J
11	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.32	540	J N
12		UNKNOWN HYDROCARBON	25.25	180	J
13	929-77-1	DOCOSANOIC ACID, METHYL ESTER	26.10	500	J N
14		UNKNOWN	26.90	340	J
15		UNKNOWN	27.48	180	J
16	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.80	340	J N
17		UNKNOWN	28.78	2900	J
18	5802-82-4	HEXACOSANOIC ACID, METHYL ESTER	29.92	1100	J N
19		UNKNOWN	30.37	600	J
20		UNKNOWN HYDROCARBON	31.48	1800	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID

0202000

DAM358RE

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 98557

Matrix: SOIL

Lab Sample ID: 98999RE

Sample wt/vol: 120 g

Lab File ID: 61226708

Level: LOW

Date Received: 11/21/97

% Moisture: 75 Decanted: N

Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/2697

Injection Volume: 2.0 uL

Dilution Factor: 1

GPC Cleanup: Y pH: 6.1

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	111-82-0	DODECANOIC ACID, METHYL ESTER	15.55	280	J N
2		UNKNOWN SILOXANE	17.37	140	J
3	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.08	910	J N
4	5129-66-8	TETRADECANOIC ACID, 12-METHYL-, METHYL ESTER	18.83	510	J N
5		UNKNOWN	19.23	230	J
6	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.38	3300	J N
7	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.45	980	J N
8		UNKNOWN HYDROCARBON	22.97	280	J
9	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.35	630	J N
10		UNKNOWN HYDROCARBON	25.28	230	J
11	929-77-1	DOCOSANOIC ACID, METHYL ESTER	26.13	620	J N
12		UNKNOWN	26.93	480	J
13		UNKNOWN	27.50	310	J
14	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.80	590	J N
15	192-97-2	BENZO[E]PYRENE	29.65	240	J N
16		UNKNOWN HYDROCARBON	31.22	650	J
17		UNKNOWN	32.37	88	J
18	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	32.55	190	J N
19		UNKNOWN HYDROCARBON	34.62	240	J
20		UNKNOWN	36.35	110	J
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID

DAM359

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 99001

Matrix: SOIL

Lab Sample ID: 99001

Sample wt/vol: 83.3 g

Lab File ID: 61222712

Level: LOW

Date Received: 11/21/97

% Moisture: 64 Decanted: N

Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL

Date Analyzed: 12/23/97

Injection Volume: 2.0 uL

Dilution Factor: 1

GPC Cleanup: Y pH: 4.9

Number TICs found: 16

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	111-82-0	DODECANOIC ACID, METHYL ESTER	15.55	310	J N
2	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.08	1200	J N
3	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.38	3300	J N
4		PHENANTHRENE, METHYL-	20.65	1200	J
5	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.47	1400	J N
6	238-84-6	11H-BENZO[A]FLUORENE	23.77	1500	J N
7	243-17-4	11H-BENZO[B]FLUORENE	23.92	1000	J N
8	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.35	1100	J N
9		UNKNOWN	27.37	1200	J
10		UNKNOWN	27.60	2000	J
11	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.87	690	J N
12		UNKNOWN	28.88	750	J
13		UNKNOWN HYDROCARBON	28.98	1300	J
14		UNKNOWN PAH MW=252	29.90	900	J
15		UNKNOWN HYDROCARBON	31.72	350	J
16	59-02-9	VITAMIN E	33.53	250	J N
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID 020104

DAM359DL

Lab Name: SWRI — Contract: 01-1427-024

Lab Code: SWRI — Case No.: METCALF & EDDY/0049M — SDG: 99001

Matrix: SOIL — Lab Sample ID: 99001DL

Sample wt/vol: 83.3 g — Lab File ID: 61226712

Level: LOW — Date Received: 11/21/97

% Moisture: 64 — Decanted: N — Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL — Date Analyzed: 12/26/97

Injection Volume: 2.0 uL — Dilution Factor: 8

GPC Cleanup: Y — pH: 4.9

Number TICs found: 18

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.07	1500	J N D
2	502-69-2	2-PENTADECANE, 5,10,14-TRIMETHYL-	19.48	580	J N D
3	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.35	7700	J N D
4	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.42	2300	J N D
5		PYRENE, METHYL-	23.65	1400	J D
6	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.33	910	J N D
7		UNKNOWN PAH MW=234	25.25	740	J D
8	929-77-1	DOCOSANOIC ACID, METHYL ESTER	26.10	800	J N D
9	1705-84-6	TRIPHENYLENE, 2-METHYL-	26.98	2300	J N D
10		UNKNOWN	27.25	7000	J D
11		UNKNOWN	27.45	8300	J D
12	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.75	3500	J N D
13	192-97-2	BENZO(E)PYRENE	29.57	8700	J N D
14		UNKNOWN HYDROCARBON	31.13	3100	J D
15	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	32.47	1500	J N D
16		UNKNOWN HYDROCARBON	34.50	2100	J D
17		UNKNOWN	35.62	1600	J D
18		UNKNOWN	36.23	1200	J D
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID

DAM360

Lab Name: SWRI | Contract: 01-1427-024

Lab Code: SWRI | Case No.: METCALF & EDDY/0049M | SDG: 98557

Matrix: SOIL | Lab Sample ID: 98997

Sample wt/vol: 90.9 g | Lab File ID: 61222709

Level: LOW | Date Received: 11/21/97

% Moisture: 67 | Decanted: N | Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL | Date Analyzed: 12/23/97

Injection Volume: 2.0 uL | Dilution Factor: 1

GPC Cleanup: Y | pH: 5.6

Number TICs found: 20

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	5129-56-6	UNDECANOIC ACID, 10-METHYL-, METHYL ESTER	15.53	270	J N
2	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.07	750	J N
3	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.37	3300	J N
4		PHENANTHRENE, -METHYL-	20.63	1400	J
5	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.45	1300	J N
6	238-84-6	11H-BENZO[A]FLUORENE	23.75	1600	J N
7	243-17-4	11H-BENZO[B]FLUORENE	23.90	1100	J N
8	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.33	1000	J N
9		UNKNOWN PAH MW=228	25.42	1000	J
10		UNKNOWN	25.82	510	J
11		UNKNOWN PAH MW=228	26.30	380	J
12		UNKNOWN	27.28	540	J
13		UNKNOWN	27.53	2300	J
14	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.77	710	J N
15		UNKNOWN	28.73	960	J
16		UNKNOWN HYDROCARBON	28.80	1000	J
17	192-97-2	BENZO[E]PYRENE	29.75	1700	J N
18		UNKNOWN PAH MW=252	30.13	280	J
19		UNKNOWN HYDROCARBON	31.13	690	J
20	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	32.47	160	J N
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID
02C106
DAM360DL

Lab Name: SWRI — Contract: 01-1427-024

Lab Code: SWRI — Case No.: METCALF & EDDY/0049M — SDG: 98557

Matrix: SOIL — Lab Sample ID: 98997DL

Sample wt/vol: 90.9 g — Lab File ID: 61226702

Level: LOW — Date Received: 11/21/97

% Moisture: 67 — Decanted: N — Date Extracted: 11/24/97

Concentrated Extract Volume: 0.5 mL — Date Analyzed: 12/2697

Injection Volume: 2.0 uL — Dilution Factor: 8

GPC Cleanup: Y — pH: 5.6

Number TICs found: 19

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/Kg	Q
1	124-10-7	TETRADECANOIC ACID, METHYL ESTER	18.07	1400	J N D
2	112-39-0	HEXADECANOIC ACID, METHYL ESTER	20.35	6400	J N D
3		PHENANTHRENE, -METHYL-	20.58	1600	J D
4	5129-61-3	HEPTADECANOIC ACID, 16-METHYL-, METHYL ESTER	22.42	1600	J N D
5		PYRENE, -METHYL-	23.63	1200	J D
6	1120-28-1	EICOSANOIC ACID, METHYL ESTER	24.32	630	J N D
7		UNKNOWN PAH MW=226	25.37	780	J D
8		UNKNOWN	25.77	1400	J D
9	929-77-1	DOCOSANOIC ACID, METHYL ESTER	26.07	790	J N D
10	1705-84-6	TRIPHENYLENE, 2-METHYL	26.97	1400	J N D
11		UNKNOWN	27.43	4300	J D
12	2442-49-1	TETRACOSANOIC ACID, METHYL ESTER	27.73	1900	J N D
13	192-97-2	BENZO[E]PYRENE	29.53	5300	J N D
14		UNKNOWN HYDROCARBON	31.10	3300	J D
15		UNKNOWN	32.27	950	J D
16	55682-92-3	OCTACOSANOIC ACID, METHYL ESTER	32.43	1300	J N D
17		UNKNOWN HYDROCARBON	34.47	2300	J D
18		UNKNOWN	35.58	1100	J D
19		UNKNOWN	36.20	940	J D
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE ID 020013

DAM362

Lab Name: SWRI

Contract: 01-1427-024

Lab Code: SWRI Case No.: METCALF & EDDY/0049M

SDG: 99001

Matrix: WATER

Lab Sample ID: 99002

Sample wt/vol: 1000 mL

Lab File ID: 61217704

Level: LOW

Date Received: 11/21/97

% Moisture: 0 Decanted: N

Date Extracted: 11/24/97

Concentrated Extract Volume: 1 mL

Date Analyzed: 12/17/97

Injection Volume: 2.0 uL

Dilution Factor: 1

GPC Cleanup: Y pH:

Number TICs found: 0

	CAS NO.	COMPOUND NAME	RT	EST. CONC. ug/L	Q
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APPENDIX D. TYPICAL DATA VALIDATION ACTIONS

APPENDIX D. TYPICAL DATA VALIDATION ACTIONS FOR ANALYTICAL METHODS

The following are typical actions implemented for analytical data produced from DAS and mobile laboratory analyses:

Holding Times: If the holding time is exceeded, all positive results will be flagged as estimated (J) and all non-detects will be flagged as estimated (UJ). If holding times are grossly exceeded, the data may be rejected (R).

Calibration: If the calibration criteria are exceeded, all positive results will be flagged as estimated (J) and all nondetects may be flagged as estimated (UJ). If the calibration criteria are grossly exceeded, all non-detects may be flagged as unusable or rejected (R).

Blanks: If any blank contaminants are detected, an action level of 5 times the blank contaminant concentration will be set for most analytes. An action level of 10 times the blank contaminant concentration will be set for common lab contaminants. If the sample analyte concentration is greater than the action level, the concentration will be reported unqualified. If the sample analyte concentration is less than the action level, the concentration will be reported and flagged to be the qualified detection limit (U).

PE Samples: If the final results of the EPA performance evaluation (PE) sample are reported by EPA as "action high", all positive results will be flagged as estimated (J) and all nondetects will be reported unqualified. If the final results of the EPA-PE sample are reported by EPA as "action low", all positive results will be flagged as estimated (J) and all nondetects will be flagged as estimated (UJ). For PE samples obtained from commercial vendors, results that are above or below the 95% confidence interval will be qualified in the same manner as results(s) rated by EPA as "action high" or "action low," respectively.

Sample Duplicate: If laboratory or field duplicate analyses result in a relative percent difference (RPD) greater than 20% or 30%, respectively, all positive results will be flagged as estimated (J) and all nondetects will be reported unqualified. If one value is nondetected and the other is above the detection limit, all positive results will be flagged as estimated (J) and all nondetects will be flagged as estimated (UJ).

Matrix Spike/Matrix Spike Duplicates: If the final results of the matrix spike are greater than 20% above the true concentration, all positive results will be flagged as estimated (J) and all nondetects will be reported unqualified. If the final results of the matrix spike are greater than 20% below the true concentration, all positive results will be flagged as estimated (J) and all nondetects will be flagged as estimated (UJ). If the final results of the matrix spike are less than 10% of the true concentration, all positive results will be flagged as estimated (J) and all nondetects will be flagged as unusable or rejected (R). If the spike concentration is low relative to the native sample concentration, recovery cannot be assessed, and this will be noted accordingly in the calibration documentation.

APPENDIX E. DATA TREATMENT

APPENDIX E

TREATMENT OF ANALYTICAL DATA FOR GENERATION OF DATA SUMMARY TABLES

Validated analytical data for sediment samples collected in 1997 by M&E are presented in Appendix B of this compendium. while data for sediment samples collected in 1995 by FW are presented in their Preliminary Data Compendium (FW, 1996a). The data sets used to generate the summary tables for the 1995 and 1997 sediment data used only the 26 non-reference locations sampled by M&E in 1997. None of the other non-reference locations sampled by FW in 1995 were used in summarizing the 1995 data.

The FW database provided to M&E was used to generate the data summary tables for the 1995 sediment data. The numeric values or flags or other information compiled in the database was assumed to be accurate, but was not verified.

The following criteria were applied to the validated data from both data sets:

- If a value is not flagged, the value was used as reported (a detected value)
- If a value is flagged with "J", the value was used as reported (a detected value)
- If a value is flagged with "R" or "UR", the value was considered not to exist and was not used (a rejected value)
- If the value is flagged with "U" or "UJ", the result was considered a nondetected or (an undetected) value

FIELD DUPLICATES

Prior to using analytical data for a primary sample with an associated field duplicate, the analytical values for the primary sample and the field duplicate were averaged together (U.S.

EPA, 1989a, 1989b, and 1989c) to provide a single set of values for the field duplicate pair. The following conventions were used for averaging field duplicate samples together:

- If both samples have detected values (flagged with "J" or unflagged), both values were averaged together. If one value or both values are flagged with "J" prior to averaging, the resulting averaged value was flagged with "J"

- If both samples have nondetected values (flagged with "U" or "UJ"), the lower value and its flag were used

- If one sample has a nondetected value (flagged with "U" or "UJ" and the other sample has a detected value (flagged with "J" or unflagged) the following is done:

  - If the detected value is less than or equal to the nondetected value, the detected value and its flag were used

  - If the detected value is greater than the nondetected value, the detected value and ½ the nondetected value were averaged together. The resulting averaged value was flagged with "J"

- If one sample has a nonrejected value (flagged with "J", "U", "UJ", or unflagged) and one sample has a rejected value (flagged with "R" or "UR"), the nonrejected value and its flag were used

The field duplicate samples were averaged together prior to generating the information presented on the data summary tables.

DATA SUMMARY TABLES

The information presented in each of the summary tables in Section 4.0 includes either the range of detection limits (1997 data) or the range of nondetected values (1995 data), the frequency of detections, the range of detected concentrations, and the location of the maximum concentration for each analyte that was detected in at least one sample. The following text further defines how the analytical data were used to provide the information for the summary tables.

Range of Detection Limits

For the 1997 data, the range of detection limits was determined based on the individual sample-specific detection limit (SSDL) for each analyte. Because of different sample dilutions or weights and/or percent solids or moisture , laboratory detection limits for individual samples can be higher than the method specified detection limits. Minimum and maximum SSDLs were determined for each analyte using each sample's SSDL for all samples analyzed, regardless of whether the analyte was detected in any particular sample.

Range of Nondetected Concentrations

For the 1995 data, the FW database did not provide the SSDLs. Instead, the range of nondetected values was determined for this data set, if at least one analyte was reported as nondetected in one sample. Generally, the nondetected value is the SSDL, as it takes into account sample dilutions and weights and percent solids or moisture. If an analyte was detected in all samples, then nondetected values were not available.

Frequency of Detection

The frequency of detection is the number of samples with detected values per the number of samples analyzed. The number of samples with detected values was determined by totaling all samples with detected values (flagged with "J" or unflagged). The number of samples analyzed was determined by totaling all samples with detected or nondetected values (flagged with "U", "UJ", "J", or unflagged). Rejected values (flagged with "R" or "UR") were not included in the total number of samples analyzed. The mean of the field duplicate sample and corresponding sample was included when determining the number of samples analyzed and the number of detected values.

Range of Detected Concentrations

The range of detected concentrations is defined as the minimum and maximum values of all detected values (flagged with "J" or unflagged).

Location of Maximum Concentration

This is the location that has the highest detected value (flagged with "J" or unflagged) for a non-background sample.