STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site — J.O No.:

Sample ID: DFSWSB06-X1 — Date: 10/21/96

Circle One: (Soil) Surface Water — Project Activity: split spoon sampling

Groundwater — Sediment

Other:

☐ Field Duplicate Collected — Duplicate ID No

SAMPLE OBSERVATIONS

Color: Gray-Brown — Odor?: None

Grain Size: Silty fine to med. sand (SM,SW) — PID Reading: 4.4 ppm

Saturated?: moist — Other

WATER LEVEL/WELL DATA (DFSWMW03) 11-1-96

A Well Depth (FT): 41.1 — F. Historical Well Depth (FT): N/A — K. Well Locked?: yes

B Depth To Water (FT): 3.7 — G Measured From: (Riser) / Casing — L. Protective Casing Secure?: yes

C Height of Water (FT): 37.4 — H. Casing Stick-up (FT): 2.3 — M. Gravel Pad Intact?: yes

D Well ID: 2" — I Diff Well and Casing (FT): 0.5 — N. Well Markings Readable?: yes

E Volume (GAL): 6.1 — J. Purge Volume (GAL)

EQUIPMENT DOCUMENTATION

MONITORING

- ☒ PID
- ☒ Dust Monitor
- ☒ Explosimeter
- ☐ Other

SAMPLING

- ☐ Bottle
- ☒ Trowel
- ☐ Other

DECONTAMINATION FLUIDS USED

- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		2 oz.	ICE
☒ VOCs	8260A		4 oz.	ICE
☒ SVOCs	3540B/8270B		2 oz.	ICE
☒ Metals	3050A/6010A		2 oz.	ICE
☒ Pest/PCB	3540B/8080A		2 oz.	ICE
☐ Other				

QA/QC DATA

QA Sample Taken?: No

ID:

QC Sample Taken?: No

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?: yes

NOTES:

0-2 feet

Signature: Lisa R. Nyberg

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O. No.:

Sample ID DFSWSB06-X2 Date: 10/21/96

Circle One: (Soil) Surface Water Groundwater Sediment Other: _____

Project Activity: Split Spoon Sampling

☐ Field Duplicate Collected Duplicate ID No.

SAMPLE OBSERVATIONS

Color: Gray-brown Odor? None

Grain Size: Well Graded Sand with Silt (SW-SM) PID Reading: 4.7 ppm

Saturated? moist Other

WATER LEVEL/WELL DATA 11-1-96 (DFSWMW03)

A Well Depth (FT): 41.1 F Historical Well Depth (FT): N/A K Well Locked? yes

B Depth To Water (FT): 3.7 G. Measured From: (Riser) / Casing L. Protective Casing Secure? yes

C Height of Water (FT): 37.4 H. Casing Stick-up (FT) 2.3 M Gravel Pad Intact? yes

D Well ID: 2" I Diff Well and Casing (FT) 0.5 N Well Markings Readable? yes

E Volume (GAL) 6.1 J. Purge Volume (GAL):

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☒ Dust Monitor
- ☒ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☒ Trowel
- ☐ Other

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		2oz.	ICE
☒ VOCs	8260A		4oz.	ICE
☒ SVOCs	3540B/8270B		2oz.	ICE
☒ Metals	3050A/6010A		2oz.	ICE
☒ Pest/PCB	3540B/8080A		2oz.	ICE
☒ TCLP Other	1311/6010A		8oz.	ICE

QA/QC DATA

QA Sample Taken? No

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development? yes

NOTES:

2-4 feet

Signature: [illegible]

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site
JO No.:
Sample ID DFSWSB06-X7
Date: 10/21/96
Circle One: (Soil) Surface Water Groundwater Sediment Other:
Project Activity: Split Spoon Sampling
☐ Field Duplicate Collected
Duplicate ID No

SAMPLE OBSERVATIONS

Color gray-brown and gray
Odor? None.
Grain Size: Well graded sand and weathered rock
PID Reading 1.9 ppm
Saturated? Yes
Other

WATER LEVEL/WELL DATA 11-1-96 (DFSWMW03)

A Well Depth (FT) 41.1
B Depth To Water (FT): 3.7
C Height of Water (FT) 37.4
D Well ID 2"
E Volume (GAL) 6.1
F Historical Well Depth (FT): N/A
G Measured From: (Riser) / Casing
H Casing Stick-up (FT) 2.3
I. Diff Well and Casing (FT) 0.5
J Purge Volume (GAL)
K. Well Locked? yes
L. Protective Casing Secure? yes
M. Gravel Pad Intact? yes
N Well Markings Readable? yes

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☒ Dust Monitor
- ☒ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☒ Trowel
- ☐ Other

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		4 oz.	ICE
☐ VOCs				
☒ SVOCs	3540B/8270B		4 oz.	ICE
☒ Metals	3050A/6010A		4 oz.	ICE
☒ Pest/PCB	3540B/8080A		4 oz.	ICE
☐ Other:				

QA/QC DATA

QA Sample Taken? NO
ID:
QC Sample Taken? NO
ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development? yes

NOTES:
Depth - 25-27 feet
Sample taken
at bedrock interface
(soil and bedrock)

Signature Lina R. Nybery
Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site JO No:

Sample ID: DFSWSB06-X8 Date: 10/21/96

Circle One: (Soil) Surface Water Groundwater Sediment Other:

Project Activity: split spoon sampling

☐ Field Duplicate Collected Duplicate ID No

SAMPLE OBSERVATIONS

Color: Gray-Black Odor?: None

Grain Size: Weathered schist PID Reading: 1.0 ppm

Saturated?: Yes Other

WATER LEVEL/WELL DATA 11-1-96 (DFSWMW03)

A Well Depth (FT): 41.1 F Historical Well Depth (FT): N/A K. Well Locked?: yes

B Depth To Water (FT): 3.7 G Measured From: (Riser) Casing L. Protective Casing Secure?: yes

C Height of Water (FT): 37.4 H. Casing Stick-up (FT): 2.3 M Gravel Pad Intact?: yes

D Well ID: 2" I Diff Well and Casing (FT): 0.5 N. Well Markings Readable?: yes

E Volume (GAL): 6.1 J Purge Volume (GAL)

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☒ Dust Monitor
- ☒ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☒ Trowel
- ☐ Other

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☐ TRPH				
☒ VOCs	8260A		4 oz	ICE
☐ SVOCs				
☐ Metals				
☐ Pest/PCB				
☐ Other				

QA/QC DATA

QA Sample Taken?: NO

ID.

QC Sample Taken?: NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?: yes

NOTES:
Depth 30-30.3 feet

Signature: [illegible]

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project

J.O. No:

Sample ID DFSWPOTX1

Date: 10/24/96

Circle One: Soil, Surface Water, Groundwater, Sediment, Other: potable water

Project Activity: Sampling potable water

☐ Field Duplicate Collected

Duplicate ID No.

SAMPLE OBSERVATIONS

Color: Clear

Odor? none

Grain Size:

PID Reading: —

Saturated?

Other:

WATER LEVEL/WELL DATA

A Well Depth (FT)

B Depth To Water (FT):

C Height of Water (FT):

D Well ID

E Volume (GAL).

F. Historical Well Depth (FT):

G. Measured From: Riser / Casing

H. Casing Stick-up (FT):

I. Diff Well and Casing (FT):

J Purge Volume (GAL):

K. Well Locked?

L. Protective Casing Secure?

M. Gravel Pad Intact?

N. Well Markings Readable?

EQUIPMENT DOCUMENTATION

MONITORING

- ☐ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other:

SAMPLING

- ☒ Bottle
- ☐ Trowel
- ☐ Other:

DECONTAMINATION FLUIDS USED

- ☐ Liquinox
- ☐ Distilled Water
- ☐ Lab Provided Blank Water
- ☐ Potable Water
- ☐ Methanol
- ☐ Other:

Did not use any decon. fluids

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		2 liters	HCl
☒ VOCs	8260A		80ml	HCl
☒ SVOCs	3510B/8270A		2 liters	ICE
☒ Metals	3010A/6010A		2-250ml	HNO3
☒ Pest/PCB	3510B/8080A		2 liters	ICE
☐ Other.				

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development? —

NOTES:

Sample taken from hydrant - potable water source for drilling

Signature: Gina R. Tyberg

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O No.:

Sample ID: DFSWSB05-X1 Date 10/23/96

Circle One: (Soil) Surface Water Project Activity Split Spoon Sampling

Groundwater Sediment

Other:

☐ Field Duplicate Collected Duplicate ID No

SAMPLE OBSERVATIONS

Color brown Odor? None

Grain Size: well graded sand w/silt PID Reading: 9.0ppm

Saturated? moist. Other

WATER LEVEL/WELL DATA 11-1-96

A Well Depth (FT): 50.7 F. Historical Well Depth (FT): N/A K. Well Locked? yes

B. Depth To Water (FT): 3.6 G. Measured From: (Riser) / Casing L. Protective Casing Secure? yes

C Height of Water (FT): 47.1 H. Casing Stick-up (FT): 2.9 M. Gravel Pad Intact? yes

D Well ID: 2" I Diff Well and Casing (FT): 0.4 N. Well Markings Readable? yes

E Volume (GAL): 7.7 J. Purge Volume (GAL): See Well Development Record

EQUIPMENT DOCUMENTATION

MONITORING

- ☒ PID
- ☒ Dust Monitor
- ☒ Explosimeter
- ☐ Other

SAMPLING

- ☐ Bottle
- ☒ Trowel
- ☐ Other

DECONTAMINATION FLUIDS USED

- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		2oz.	ICE
☒ VOCs	8260A		4oz	ICE
☒ SVOCs	3540B/8270B		2oz.	ICE
☒ Metals	3050A/6010A		2oz.	ICE
☒ Pest/PCB	3540B/8080A		2oz.	ICE
☒ Other: TCLP	1311/6010A		8oz.	ICE

QA/QC DATA

QA Sample Taken? yes

ID: DFSWSB05QX1

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development? yes

NOTES:

0-2 feet

Signature: Gina R. Nyberg

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site — JO No.:

Sample ID: DFSWSB05-X3 — Date: 10/23/96

Circle One: (Soil) Surface Water Groundwater Sediment Other:

Project Activity: Split Spoon Sampling

☐ Field Duplicate Collected — Duplicate ID No.:

SAMPLE OBSERVATIONS

Color: Green-Brown — Odor? None

Grain Size: Poorly-graded Sand with Gravel — PID Reading: 1.4ppm

Saturated? Yes — Other:

WATER LEVEL/WELL DATA

A Well Depth (FT): 50.7
B Depth To Water (FT): 3.6
C Height of Water (FT): 47.1
D Well ID: 2"
E Volume (GAL): 7.7
F. Historical Well Depth (FT): N/A
G. Measured From: (Riser) / Casing
H Casing Stick-up (FT): 2.9
I Diff Well and Casing (FT): 0.4
J Purge Volume (GAL): See Well Development Record
K. Well Locked? yes
L. Protective Casing Secure? yes
M. Gravel Pad Intact? yes
N. Well Markings Readable? yes

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☒ Dust Monitor
- ☒ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☒ Trowel
- ☐ Other

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		2 oz.	ICE
☒ VOCs	8260A		4 oz.	ICE
☒ SVOCs	3540B/8270B		2 oz.	ICE
☒ Metals	3050A/6010A		2 oz.	ICE
☒ Pest/PCB	3540B/8080A		2 oz.	ICE
☐ Other				

QA/QC DATA

QA Sample Taken? NO
ID:

QC Sample Taken? NO
ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development? yes

NOTES:

4-6 feet

Signature: Gina R. Nyberg

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O. No.:

Sample ID: DFSWSB05-X10 Date: 10/24/96

Circle One: (Soil) Surface Water Groundwater Sediment Other:

Project Activity: Split Spoon Sampling

☐ Field Duplicate Collected Duplicate ID No

SAMPLE OBSERVATIONS

Color: Gray Odor? None.

Grain Size: Clayey gravel with Sand PID Reading: 0.0 ppm

Saturated? Yes Other

WATER LEVEL/WELL DATA 11-1-96

A Well Depth (FT): 50.7
B Depth To Water (FT): 3.6
C Height of Water (FT): 47.1
D Well ID: 2"
E Volume (GAL): 7.7
F Historical Well Depth (FT): N/A
G Measured From: (Riser) / Casing
H. Casing Stick-up (FT): 2.9
I. Diff Well and Casing (FT): 0.4
J Purge Volume (GAL): See Well Development Record
K Well Locked? yes
L. Protective Casing Secure? yes
M Gravel Pad Intact? yes
N Well Markings Readable? yes

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☒ Dust Monitor
- ☒ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☒ Trowel
- ☐ Other

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		4oz.	
☐ VOCs				
☒ SVOCs	3540B/8270B		4oz.	
☒ Metals	3050A/6010A		4oz.	
☒ Pest/PCB	3540B/8080A		4oz.	
☐ Other				

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID.

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

NOTES:

39-41 feet
~~ab~~ Sample above bedrock

Signature: Gina R. Nyberg

Received By

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site JO No.:

Sample ID: DFSWSB05-X11 Date: 10/24/96

Circle One: (Soil) Surface Water Groundwater Sediment Other: Project Activity: Split Spoon Sampling

☐ Field Duplicate Collected Duplicate ID No

SAMPLE OBSERVATIONS

Color: Gray Odor? None.

Grain Size: Clayey Gravel with Sand PID Reading: 0.0 ppm

Saturated? Yes Other

WATER LEVEL/WELL DATA 11-1-96

A Well Depth (FT): 50.7 F Historical Well Depth (FT): N/A K. Well Locked? yes

B Depth To Water (FT): 3.6 G Measured From: (Riser) / Casing L Protective Casing Secure? yes

C Height of Water (FT): 47.1 H. Casing Stick-up (FT): 2.9 M. Gravel Pad Intact? yes

D Well ID: 2" I Diff Well and Casing (FT): 0.4 N Well Markings Readable? yes

E Volume (GAL): 7.7 J Purge Volume (GAL): See Well Development record

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☒ Dust Monitor
- ☒ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☒ Trowel
- ☐ Other

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☐ TRPH				
☒ VOCs	8260A		4oz.	ICE
☐ SVOCs				
☐ Metals				
☐ Pest/PCB				
☐ Other:				

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development? yes

NOTES:

44-46 feet
Sample above bedrock

Signature: Gina R. Nyberg

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site
JO No.:
Sample ID: DFSWSB01-X1
Date: 10/28/96
Circle One: (Soil) Surface Water Groundwater Sediment Other:
Project Activity: Split Spoon Sampling
☐ Field Duplicate Collected
Duplicate ID No

SAMPLE OBSERVATIONS

Color: Brown and Gray
Odor?: None
Grain Size: well graded sand and silty sand with gravel
PID Reading: 8.5ppm
Saturated?: Dry
Other

WATER LEVEL/WELL DATA

A Well Depth (FT)
F Historical Well Depth (FT)
K. Well Locked?
B Depth To Water (FT):
G. Measured From Riser / Casing
L. Protective Casing Secure?
C Height of Water (FT)
H Casing Stick-up (FT)
M Gravel Pad Intact?
D Well ID
I Diff Well and Casing (FT)
N Well Markings Readable?
E Volume (GAL)
J Purge Volume (GAL)

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☒ Dust Monitor
- ☒ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☒ Trowel
- ☐ Other

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		4oz.	ICE
☒ VOCs	8260A		4oz.	ICE
☒ SVOCs	3540B/8270B		4oz.	ICE
☒ Metals	3050A/6010A		4oz.	ICE
☒ Pest/PCB	3540B/8080A		4oz.	ICE
☐ Other				

QA/QC DATA

QA Sample Taken?: NO
ID:
QC Sample Taken?: NO
ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

NOTES:

0-2 feet
Sample was taken in the rain PID reading may be incorrect

Signature: Gina R. Tybergs
Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site
J.O No.:
Sample ID: DFSWSB01-X2
Date: 10/28/96
Circle One: (Soil) Surface Water Groundwater Sediment Other
Project Activity: Split Spoon Sampling
☐ Field Duplicate Collected
Duplicate ID No.:

SAMPLE OBSERVATIONS

Color: Dark brown to orange-brown
Odor?: None
Grain Size: Silty Sand
PID Reading: 9.6ppm
Saturated?: moist to wet
Other:

WATER LEVEL/WELL DATA

A Well Depth (FT)
F. Historical Well Depth (FT)
K. Well Locked?
B Depth To Water (FT).
G. Measured From Riser / Casing
L. Protective Casing Secure?
C Height of Water (FT):
H. Casing Stick-up (FT)
M Gravel Pad Intact?
D Well ID
I Diff Well and Casing (FT):
N. Well Markings Readable?
E Volume (GAL)
J. Purge Volume (GAL):

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☒ Dust Monitor
- ☒ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☒ Trowel
- ☐ Other:

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		2oz.	ICE
☒ VOCs	8260A		4oz.	ICE
☒ SVOCs	3540B/8270B		2oz.	ICE
☒ Metals	3050A/6010A		2oz	ICE
☒ Pest/PCB	3540B/8080A		2oz	ICE
☒ Other: TCLP	1311/6010A		8oz.	ICE

QA/QC DATA

QA Sample Taken? NO
ID:
QC Sample Taken? NO
ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

NOTES:

2-4 feet
Sample was taken in the rain PID reading may be incorrect

Signature: Nina R Tyler
Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site
JO No:
Sample ID: DFSWSB04-X1
Date: 10/28/96
Circle One: (Soil) Surface Water Groundwater Sediment Other
Project Activity: Split Spoon Sampling
☐ Field Duplicate Collected
Duplicate ID No

SAMPLE OBSERVATIONS

Color: Brown
Odor? None
Grain Size: Well graded sand with gravel
PID Reading: 1.8 ppm
Saturated? Dry
Other

WATER LEVEL/WELL DATA

A Well Depth (FT)
F Historical Well Depth (FT)
K. Well Locked?
B Depth To Water (FT):
G Measured From Riser / Casing
L. Protective Casing Secure?
C Height of Water (FT)
H Casing Stick-up (FT)
M Gravel Pad Intact?
D Well ID:
I Diff Well and Casing (FT)
N Well Markings Readable?
E Volume (GAL)
J Purge Volume (GAL)

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☒ Dust Monitor
- ☒ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☒ Trowel
- ☐ Other

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		4oz.	ICE
☒ VOCs	8260A		4oz.	ICE
☒ SVOCs	3540B/8270B		4oz.	ICE
☒ Metals	3050A/6010A		4oz	ICE
☒ Pest/PCB	3540B/8080A		4oz	ICE
☐ Other				

QA/QC DATA

QA Sample Taken? NO
ID:
QC Sample Taken? NO
ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

NOTES:

0-2 feet

Signature: Lisa R. Hybey
Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O. No.:

Sample ID DFSWSB04-X2 Date 10/28/96

Circle One (Soil) Surface Water Project Activity: Split Spoon Sampling

Groundwater Sediment

Other:

☐ Field Duplicate Collected Duplicate ID No.

SAMPLE OBSERVATIONS

Color Gray-brown Odor? None

Grain Size Well graded Sand with Silt + Gravel PID Reading: 1.9 ppm

Saturated? MOIST Other:

WATER LEVEL/WELL DATA

A Well Depth (FT): F. Historical Well Depth (FT) K. Well Locked?

B Depth To Water (FT) G Measured From Riser / Casing L. Protective Casing Secure?

C Height of Water (FT) H Casing Stick-up (FT). M. Gravel Pad Intact?

D Well ID I. Diff Well and Casing (FT) N. Well Markings Readable?

E Volume (GAL): J. Purge Volume (GAL)

EQUIPMENT DOCUMENTATION

MONITORING

- ☒ PID
- ☒ Dust Monitor
- ☒ Explosimeter
- ☐ Other

SAMPLING

- ☐ Bottle
- ☒ Trowel
- ☐ Other

DECONTAMINATION FLUIDS USED

- ☐ Liquinox
- ☐ Distilled Water
- ☐ Lab Provided Blank Water
- ☐ Potable Water
- ☐ Methanol
- ☐ Other:

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		2oz.	ICE
☒ VOCs	8260A		4oz.	ICE
☒ SVOCs	3540B/8270B		2oz.	ICE
☒ Metals	3050A/6010A		2oz.	ICE
☒ Pest/PCB	3540B/8080A		2oz.	ICE
☒ Other TCLP	1311/6010A		8oz.	ICE

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

NOTES:

2-4 feet

Signature: Nina R. Nybers

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O No.:

Sample ID DFSWSB02-X1 Date: 10/29/96

Circle One (Soil) Surface Water Project Activity: Split Spoon Sampling

Groundwater Sediment

Other:

☐ Field Duplicate Collected Duplicate ID No.

SAMPLE OBSERVATIONS

Color Brown Odor? None

Grain Size: Well graded sand with silt and gravel PID Reading: 0.4 ppm

Saturated? Dry Other:

WATER LEVEL/WELL DATA (DFSWMW01) on 11-5-96

A Well Depth (FT):	57.6	F. Historical Well Depth (FT):	Not applicable	K Well Locked?	
B Depth To Water (FT):	7.0	G. Measured From:	(Riser) / Casing	L. Protective Casing Secure?	
C Height of Water (FT):	50.6	H. Casing Stick-up (FT):	2.75	M Gravel Pad Intact?	
D Well ID	2"	I. Diff Well and Casing (FT):	0.35	N. Well Markings Readable?	
E Volume (GAL)	8.3	J. Purge Volume (GAL):	See Well development		

EQUIPMENT DOCUMENTATION

MONITORING

- ☒ PID
- ☒ Dust Monitor
- ☒ Explosimeter
- ☐ Other

SAMPLING

- ☐ Bottle
- ☒ Trowel
- ☐ Other

DECONTAMINATION FLUIDS USED

- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		4oz.	ICE
☒ VOCs	8260A		4oz.	ICE
☒ SVOCs	3540B/8270B		4oz.	ICE
☒ Metals	3050A/6010A		4oz.	ICE
☒ Pest/PCB	3540B/8080A		4oz.	ICE
☐ Other				

QA/QC DATA

QA Sample Taken?

ID:

QC Sample Taken? yes

ID: DFSWSB02-X1 (MS/MSD)

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

NOTES:

0-2 feet

Signature: Mina R. Nyburg

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O. No.:

Sample ID: DFSWSB02-X3 Date: 10/29/96

Circle One: (Soil) Surface Water Groundwater Sediment Other:

Project Activity: Split Spoon Sampling

☐ Field Duplicate Collected Duplicate ID No.

SAMPLE OBSERVATIONS

Color: Tan to dark Grown Odor? None

Grain Size: well graded sand w/silt and gravel, poorly graded sand PID Reading: 1.4 ppm

Saturated? Dry Other

WATER LEVEL/WELL DATA 11-5-96

A Well Depth (FT): 57.6 F Historical Well Depth (FT): N/A K. Well Locked? yes

B Depth To Water (FT): 7.0 G Measured From: (Riser) / Casing L. Protective Casing Secure? yes

C Height of Water (FT): 50.6 H. Casing Stick-up (FT): 2.75 M Gravel Pad Intact? yes

D Well ID: 2" I Diff Well and Casing (FT): 0.35 N Well Markings Readable? yes

E Volume (GAL): 8.3 J Purge Volume (GAL): See Well Development Record

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☒ Dust Monitor
- ☒ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☒ Trowel
- ☐ Other

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		4oz.	ICE
☒ VOCs	8260A		4oz.	ICE
☒ SVOCs	3540B/8270B		4oz.	ICE
☒ Metals	3050A/6010A		4oz.	ICE
☒ Pest/PCB	3540B/8080A		4oz.	ICE
☒ TCLP Other:	1311/6010A		8oz.	ICE

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? yes

ID: DFSWSB02-X3 (MS/MSD)

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

NOTES:

4-6 feet

Signature: [signature]

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devils Foot Road Dump Site
J.O. No.:
Sample ID: DFSWSB02-X43
Date: 10/30/96
Circle One: (Soil) Surface Water Groundwater Sediment Other:
Project Activity: Split Spoon Sampling
☐ Field Duplicate Collected
Duplicate ID No

SAMPLE OBSERVATIONS

Color: Dark Gray
Odor?: None
Grain Size: Clayey gravel
PID Reading: 0.2 ppm
Saturated?: Yes
Other:

WATER LEVEL/WELL DATA 11-5-96

A Well Depth (FT): 57.6
B Depth To Water (FT): 7.0
C Height of Water (FT): 50.6
D Well ID: 2"
E Volume (GAL): 8.3
F Historical Well Depth (FT): N/A
G. Measured From: (Riser) / Casing
H. Casing Stick-up (FT): 2.75
I. Diff Well and Casing (FT): 0.35
J. Purge Volume (GAL): See Well Development Record
K. Well Locked? YES
L. Protective Casing Secure? YES
M. Gravel Pad Intact? YES
N. Well Markings Readable? YES

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☒ Dust Monitor
- ☒ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☒ Trowel
- ☐ Other:

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		4oz	ICE
☒ VOCs	8260A		4oz	ICE
☒ SVOCs	3540B/8270B		4oz	ICE
☒ Metals	3050A/6010A		4oz	ICE
☒ Pest/PCB	3540B/8080A		4oz	ICE
☐ Other				

QA/QC DATA

QA Sample Taken? NO
ID:
QC Sample Taken? NO
ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

NOTES:

49-51 feet
very rocky

Signature: Lina R. Tyler
Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O. No:

Sample ID: DFSWSB03-X1 Date: 10/29/96

Circle One: (Soil) Surface Water Groundwater Sediment Other: _____

Project Activity: Split Spoon Sampling

☐ Field Duplicate Collected Duplicate ID No.

SAMPLE OBSERVATIONS

Color: Brown Odor?: None

Grain Size: well graded sand with gravel PID Reading: 5.3 ppm

Saturated?: Dry Other

WATER LEVEL/WELL DATA

A Well Depth (FT)

B Depth To Water (FT):

C Height of Water (FT):

D Well ID:

E Volume (GAL)

F. Historical Well Depth (FT):

G. Measured From: Riser / Casing

H. Casing Stick-up (FT)

I Diff Well and Casing (FT)

J Purge Volume (GAL)

K Well Locked?

L. Protective Casing Secure?

M Gravel Pad Intact?

N Well Markings Readable?

EQUIPMENT DOCUMENTATION

MONITORING

- ☒ PID
- ☒ Dust Monitor
- ☒ Explosimeter
- ☐ Other

SAMPLING

- ☐ Bottle
- ☒ Trowel
- ☐ Other

DECONTAMINATION FLUIDS USED

- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		2oz.	ICE
☒ VOCs	8260A		4oz.	ICE
☒ SVOCs	3540B/8270B		2oz.	ICE
☒ Metals	3050A/6010A		2oz.	ICE
☒ Pest/PCB	3540B/8080A		2oz.	ICE
☒ Other: TCLP	1311/6010A		8oz.	ICE

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

NOTES:

0-2 feet

Signature: Lisa R. Tyberg

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site
J.O No.:
Sample ID: DFSW5B03-X2
Date: 10/29/96
Circle One: (Soil) Surface Water Groundwater Sediment
Other:
Project Activity: Split Spoon Sampling
☐ Field Duplicate Collected
Duplicate ID No:

SAMPLE OBSERVATIONS

Color: Orange - Brown
Odor?: None
Grain Size: Well graded sand with gravel
PID Reading: 1.3 ppm
Saturated?: Yes, Bottom 6"
Other:

WATER LEVEL/WELL DATA

A Well Depth (FT):
F Historical Well Depth (FT)
K Well Locked?
B Depth To Water (FT)
G Measured From Riser / Casing
L. Protective Casing Secure?
C Height of Water (FT):
H Casing Stick-up (FT)
M. Gravel Pad Intact?
D Well ID
I. Diff Well and Casing (FT)
N. Well Markings Readable?
E Volume (GAL)
J. Purge Volume (GAL)

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☒ Dust Monitor
- ☒ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☒ Trowel
- ☐ Other

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		4oz.	ICE
☒ VOCs	8260A		4oz.	ICE
☒ SVOCs	3540B/8270B		4oz.	ICE
☒ Metals	3050A/6010A		4oz.	ICE
☒ Pest/PCB	3540B/8080A		4oz.	ICE
☐ Other				

QA/QC DATA

QA Sample Taken? NO
ID:
QC Sample Taken? NO
ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

NOTES:

2-4 feet

Signature: Lina R. Tybey
Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site
JO No:
Sample ID: DFSWSB09-X1
Date: 10/31/96
Circle One: (Soil) Surface Water Groundwater Sediment Other:
Project Activity: Split Spoon Sampling
☐ Field Duplicate Collected
Duplicate ID No.

SAMPLE OBSERVATIONS

Color: Gray-brown
Odor?: None
Grain Size: Poorly graded sand
PID Reading: 0.1 ppm
Saturated?: Dry
Other

WATER LEVEL/WELL DATA

A Well Depth (FT):
B Depth To Water (FT)
C Height of Water (FT):
D Well ID
E Volume (GAL)
F. Historical Well Depth (FT)
G. Measured From Riser / Casing
H Casing Stick-up (FT)
I Diff Well and Casing (FT)
J Purge Volume (GAL)
K. Well Locked?
L. Protective Casing Secure?
M. Gravel Pad Intact?
N. Well Markings Readable?

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☒ Dust Monitor
- ☒ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☒ Trowel
- ☐ Other

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		4oz.	ICE
☒ VOCs	8260A		4oz.	ICE
☒ SVOCs	3540B/8270B		4oz.	ICE
☒ Metals	3050A/6010A		4oz.	ICE
☒ Pest/PCB	3540B/8080A		4oz.	ICE
☐ Other				

QA/QC DATA

QA Sample Taken? NO
ID:
QC Sample Taken? NO
ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

NOTES:

0-2 feet

Signature: Lina R. Nyberg
Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: J.O. No.:

Sample ID: DFSWSB09-X3 Date 10/31/96

Circle One: (Soil) Surface Water Project Activity: Split Spoon Sampling

Groundwater Sediment

Other:

☐ Field Duplicate Collected Duplicate ID No.

SAMPLE OBSERVATIONS

Color Brown Odor? None

Grain Size: Poorly graded Sand PID Reading: 0.1 ppm

Saturated? Yes Other:

WATER LEVEL/WELL DATA

A Well Depth (FT) F. Historical Well Depth (FT): K. Well Locked?

B Depth To Water (FT): G. Measured From: Riser / Casing L. Protective Casing Secure?

C Height of Water (FT) H Casing Stick-up (FT): M Gravel Pad Intact?

D Well ID I Diff Well and Casing (FT) N. Well Markings Readable?

E Volume (GAL) J Purge Volume (GAL):

EQUIPMENT DOCUMENTATION

MONITORING

- ☒ PID
- ☒ Dust Monitor
- ☒ Explosimeter
- ☐ Other

SAMPLING

- ☐ Bottle
- ☒ Trowel
- ☐ Other

DECONTAMINATION FLUIDS USED

- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		4oz.	ICE
☒ VOCs	8260A		4oz.	ICE
☒ SVOCs	3540B/8270B		4oz.	ICE
☒ Metals	3050A/6010A		4oz.	ICE
☒ Pest/PCB	3540B/8080A		4oz	ICE
☒ Other TCLP	1311/6010A		8oz.	ICE

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

NOTES:

4-6 feet

Signature: Lina R. Hughes

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site
J.O. No.:
Sample ID: DFSWSB08-X1
Date: 10/31/96
Circle One: (Soil) Surface Water Groundwater Sediment Other:
Project Activity: Split Spoon Sampling
[X] Field Duplicate Collected
Duplicate ID No: DFSWSB08X1D

SAMPLE OBSERVATIONS

Color: Green-Brown light Brown
Odor?: None
Grain Size: Top soil w/ vegetative cover, and poorly graded sand
PID Reading: 20.7 ppm
Saturated?: Dry
Other:

WATER LEVEL/WELL DATA

A Well Depth (FT):
F Historical Well Depth (FT):
K. Well Locked?
B Depth To Water (FT):
G Measured From Riser / Casing
L. Protective Casing Secure?
C Height of Water (FT)
H. Casing Stick-up (FT):
M. Gravel Pad Intact?
D Well ID:
I. Diff Well and Casing (FT):
N. Well Markings Readable?
E Volume (GAL)
J. Purge Volume (GAL)

EQUIPMENT DOCUMENTATION

MONITORING
- [X] PID
- [X] Dust Monitor
- [X] Explosimeter
- [ ] Other:

SAMPLING
- [ ] Bottle
- [X] Trowel
- [ ] Other:

DECONTAMINATION FLUIDS USED
- [ ] Liquinox
- [X] Distilled Water
- [ ] Lab Provided Blank Water
- [X] Potable Water
- [X] Methanol
- [X] Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
[X] TRPH	418.1		4oz.	ICE
[X] VOCs	8260A		4oz.	ICE
[X] SVOCs	3540B/8270B		4oz.	ICE
[X] Metals	3050A/6010A		4oz.	ICE
[X] Pest/PCB	3540B/8080A		4oz.	ICE
[X] TCLP Other	1311/6010A		8oz	ICE

QA/QC DATA

QA Sample Taken? NO
ID:
QC Sample Taken? NO
ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

NOTES:

0-2 feet

Signature: Gina P. Yang
Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O. No:

Sample ID: DFSWSB08-X3 Date: 10/31/96

Circle One: (Soil) Groundwater Surface Water Sediment Other: _____ Project Activity: Split Spoon Sampling

☐ Field Duplicate Collected Duplicate ID No.:

SAMPLE OBSERVATIONS

Color: Light brown Odor?: None

Grain Size: Poorly graded sand PID Reading: 0.6ppm

Saturated?: Moist Other:

WATER LEVEL/WELL DATA

A Well Depth (FT) F Historical Well Depth (FT) K Well Locked?

B Depth To Water (FT): G. Measured From Riser / Casing L Protective Casing Secure?

C Height of Water (FT) H Casing Stick-up (FT) M. Gravel Pad Intact?

D Well ID I Diff Well and Casing (FT) N. Well Markings Readable?

E Volume (GAL) J. Purge Volume (GAL)

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☒ Dust Monitor
- ☒ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☒ Trowel
- ☐ Other

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		4oz	ICE
☒ VOCs	8260A		4oz	ICE
☒ SVOCs	3540B/8270B		4oz	ICE
☒ Metals	3050A/6010A		4oz	ICE
☒ Pest/PCB	3540B/8080A		4oz	ICE
☐ Other				

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

NOTES:

4-6 feet

Signature: Lina R. Nybergs

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devils Foot Road Dump Site J.O. No.:

Sample ID: DFSWSB10-X1 Date: 10/31/96

Circle One: (Soil) Surface Water Groundwater Sediment Other: _____

Project Activity: Split Spoon Sampling

☐ Field Duplicate Collected Duplicate ID No.

SAMPLE OBSERVATIONS

Color: Brown - green Odor? None

Grain Size: Top soil w/ vegetation and poorly graded sand PID Reading: 0.2 ppm

Saturated? Dry Other:

WATER LEVEL/WELL DATA

A Well Depth (FT):
B Depth To Water (FT):
C Height of Water (FT):
D Well ID.
E Volume (GAL):
F. Historical Well Depth (FT).
G. Measured From: Riser / Casing
H Casing Stick-up (FT):
I. Diff Well and Casing (FT)
J Purge Volume (GAL):
K. Well Locked?
L. Protective Casing Secure?
M. Gravel Pad Intact?
N Well Markings Readable?

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☒ Dust Monitor
- ☒ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☒ Trowel
- ☐ Other

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		4oz.	ICE
☒ VOCs	8260A		4oz.	ICE
☒ SVOCs	3540B/8270B		4oz.	ICE
☒ Metals	3050A/6010A		4oz.	ICE
☒ Pest/PCB	3540B/8080A		4oz.	ICE
☐ Other:				

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

NOTES:

0-2 feet

Signature: Gina R. Tyler

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O No

Sample ID: DFSWSB10-X3 Date: 10/31/96

Circle One: (Soil) Surface Water Groundwater Sediment Other

Project Activity: Split Spoon Sampling

☐ Field Duplicate Collected Duplicate ID No

SAMPLE OBSERVATIONS

Color: Brown Odor? NO

Grain Size: Well graded sand with silt and gravel PID Reading: 0.2ppm

Saturated? Moist Other

WATER LEVEL/WELL DATA

A Well Depth (FT): F Historical Well Depth (FT): K Well Locked?

B Depth To Water (FT): G Measured From Riser / Casing L. Protective Casing Secure?

C Height of Water (FT): H Casing Stick-up (FT) M Gravel Pad Intact?

D Well ID I Diff Well and Casing (FT) N Well Markings Readable?

E Volume (GAL) J Purge Volume (GAL)

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☒ Dust Monitor
- ☒ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☒ Trowel
- ☐ Other

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		2oz.	ICE
☒ VOCs	8260A		4oz.	ICE
☒ SVOCs	3540B/8270B		2oz.	ICE
☒ Metals	3050A/6010A		2oz.	ICE
☒ Pest/PCB	3540B/8080A		2oz.	ICE
☒ TCLP Other	1311/6010A		8oz.	ICE

QA/QC DATA

QA Sample Taken? yes

ID: DFSWSB10QX3

QC Sample Taken? yes - for TCLP only

ID: DFSWSB10-X3 (MS/MSD)

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

NOTES:

4-6 feet

Signature: Gina Rittyberg

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site
JO No:
Sample ID: DFSWSB07-X1
Date: 10/31/96
Circle One: (Soil) Surface Water Groundwater Sediment
Other:
Project Activity: Split Spoon Sampling
☒ Field Duplicate Collected
Duplicate ID No: DFSWSB07-X1D

SAMPLE OBSERVATIONS

Color: Light Brown - gold Brown
Odor?: None
Grain Size: Well graded sand with gravel, poorly graded sand
PID Reading: 7.1 ppm
Saturated?: Dry
Other

WATER LEVEL/WELL DATA

A Well Depth (FT)
F. Historical Well Depth (FT)
K Well Locked?
B Depth To Water (FT):
G Measured From: Riser / Casing
L. Protective Casing Secure?
C Height of Water (FT)
H Casing Stick-up (FT)
M. Gravel Pad Intact?
D Well ID
I. Diff Well and Casing (FT)
N. Well Markings Readable?
E Volume (GAL)
J Purge Volume (GAL)

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☒ Dust Monitor
- ☒ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☒ Trowel
- ☐ Other

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		2oz.	ICE
☒ VOCs	8260A		4oz.	ICE
☒ SVOCs	3540B/8270B		2oz.	ICE
☒ Metals	3050A/6010A		2oz.	ICE
☒ Pest/PCB	3540B/8080A		2oz.	ICE
☒ Other TCLP	1311/6010A		8oz.	ICE

QA/QC DATA

QA Sample Taken?: NO
ID:
QC Sample Taken?: NO
ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

NOTES:

0-2 feet

Signature: Gina R. Nyboy
Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: | J.O. No.:

Sample ID: DFSWSB07-X3 | Date: 10/31/96

Circle One: (Soil) Surface Water Groundwater Sediment Other: _____

Project Activity: Split Spoon Sampling

☐ Field Duplicate Collected | Duplicate ID No

SAMPLE OBSERVATIONS

Color: Brown, Gray-Brown | Odor?: None

Grain Size: Well graded sand with gravel, well graded sand | PID Reading: 6.3 ppm

Saturated?: Dry | Other

WATER LEVEL/WELL DATA

A Well Depth (FT) | F. Historical Well Depth (FT): | K Well Locked?

B Depth To Water (FT): | G Measured From: Riser / Casing | L. Protective Casing Secure?

C Height of Water (FT): | H. Casing Stick-up (FT): | M Gravel Pad Intact?

D Well ID | I Diff Well and Casing (FT) | N Well Markings Readable?

E Volume (GAL) | J Purge Volume (GAL):

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☒ Dust Monitor
- ☒ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☒ Trowel
- ☐ Other

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		4oz.	ICE
☒ VOCs	8260A		4oz.	ICE
☒ SVOCs	3540B/8270B		4oz.	ICE
☒ Metals	3050A/6010A		4oz.	ICE
☒ Pest/PCB	3540B/8080A		4oz.	ICE
☐ Other:				

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development? _____

NOTES:

4-6 feet

Signature: Lina R. Nyfong

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O. No.:

Sample ID DFSWSD01 Date 11/4/96

Circle One: Soil, Surface Water, Groundwater, (Sediment), Other:

Project Activity: Sediment Sampling

☐ Field Duplicate Collected Duplicate ID No

SAMPLE OBSERVATIONS

Color dark brown Odor? None.

Grain Size: to be analyzed PID Reading —

Saturated? Other

WATER LEVEL/WELL DATA

A Well Depth (FT)
B Depth To Water (FT):
C Height of Water (FT)
D Well ID
E Volume (GAL)
F Historical Well Depth (FT)
G. Measured From: Riser / Casing
H Casing Stick-up (FT).
I. Diff Well and Casing (FT):
J Purge Volume (GAL)
K. Well Locked?
L. Protective Casing Secure?
M Gravel Pad Intact?
N Well Markings Readable?

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☒ Trowel
- ☐ Other

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☐ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		4oz	ICE
☒ VOCs	8260A		4oz	ICE
☒ SVOCs	3540B/8270B		4oz	ICE
☒ Metals	3050A/6010A		4oz	ICE
☒ Pest/PCB	3510B/8080A		4oz	ICE
☒ Other TOC	9060		8oz	ICE

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

→ Grainsize | ASTM D421 & D422 | 8oz. | ICE
AVS/SEM | DiToro 1990 | 8oz. | ICE

NOTES:

Signature: Nina R. Nyberg

Received By

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site. J.O. No.:

Sample ID: DFSWSD05 Date: 11/5/96

Circle One: Soil Surface Water Groundwater (Sediment) Other:

Project Activity: Sediment Sampling

☐ Field Duplicate Collected Duplicate ID No

SAMPLE OBSERVATIONS

Color: brown and gray Odor? none

Grain Size: to be analyzed PID Reading: —

Saturated? yes Other:

WATER LEVEL/WELL DATA

A Well Depth (FT) F. Historical Well Depth (FT) K. Well Locked?

B Depth To Water (FT): G. Measured From Riser / Casing L. Protective Casing Secure?

C Height of Water (FT) H. Casing Stick-up (FT) M. Gravel Pad Intact?

D Well ID I. Diff Well and Casing (FT): N. Well Markings Readable?

E Volume (GAL) J Purge Volume (GAL):

EQUIPMENT DOCUMENTATION

MONITORING

- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING

- ☐ Bottle
- ☐ Trowel
- ☒ Other hand Auger

DECONTAMINATION FLUIDS USED

- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☐ Potable Water
- ☒ Methanol
- ☒ Other: Alconox.

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		4oz.	ICE
☒ VOCs	8260A		4oz.	ICE
☒ SVOCs	3540B/8270B		4oz.	ICE
☒ Metals	3050A/6010A		4oz.	ICE
☒ Pest/PCB	3510B/8080A		4oz.	ICE
☒ Other TOC	9060		8oz.	ICE

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

Grainsize | ASTM D421 or D422 | 8oz. | ICE

NOTES:

Signature Lina R Tylberg

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O No.:

Sample ID: DFSWSD06 Date 11/5/96

Circle One: Soil Surface Water Project Activity: Sediment Sampling

Groundwater Sediment

Other:

☒ Field Duplicate Collected Duplicate ID No. DFSWSD06D

SAMPLE OBSERVATIONS

Color: Odor? yes - petroleum

Grain Size: to be analyzed PID Reading: —

Saturated? yes Other:

WATER LEVEL/WELL DATA

A Well Depth (FT) F Historical Well Depth (FT) K Well Locked?

B Depth To Water (FT): G. Measured From: Riser / Casing L Protective Casing Secure?

C Height of Water (FT) H. Casing Stick-up (FT): M. Gravel Pad Intact?

D Well ID: I. Diff Well and Casing (FT). N Well Markings Readable?

E Volume (GAL) J Purge Volume (GAL):

EQUIPMENT DOCUMENTATION

MONITORING

☒ PID

☐ Dust Monitor

☐ Explosimeter

☐ Other

SAMPLING

☐ Bottle

☐ Trowel

☒ Other Hand Auger

DECONTAMINATION FLUIDS USED

☐ Liquinox

☒ Distilled Water

☐ Lab Provided Blank Water

☐ Potable Water

☒ Methanol

☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		4oz.	ICE
☒ VOCs	8260A		4oz.	ICE
☒ SVOCs	3540B/8270B		4oz.	ICE
☒ Metals	3050A/6010A		4oz.	ICE
☒ Pest/PCB	3510B/8080A		4oz.	ICE
☒ Other TOC	9060		8oz.	ICE

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

Grainsize | ASTM D421 or D422 | NO | 8oz. | ICE

NOTES:

Signature: Lina R. Nyberg

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site JO No.

Sample ID: DFSWSD07 Date: 11/5/96

Circle One: Soil Surface Water Groundwater Sediment Other:

Project Activity: Sediment Sampling

☐ Field Duplicate Collected Duplicate ID No

SAMPLE OBSERVATIONS

Color: red, brown, gray Odor? None

Grain Size: to be analyzed PID Reading —

Saturated? yes Other

WATER LEVEL/WELL DATA

A Well Depth (FT) F Historical Well Depth (FT) K Well Locked?

B Depth To Water (FT) G Measured From Riser / Casing L Protective Casing Secure?

C Height of Water (FT) H Casing Stick-up (FT) M Gravel Pad Intact?

D Well ID I Diff Well and Casing (FT) N Well Markings Readable?

E Volume (GAL) J Purge Volume (GAL)

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☐ Trowel
- ☒ Other Hand Auger

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☐ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		4oz.	ICE
☒ VOCs	8260A		4oz.	ICE
☒ SVOCs	3540B/8270B		4oz.	ICE
☒ Metals	3050A/6010A		4oz.	ICE
☒ Pest/PCB	3510B/8080A		4oz.	ICE
☒ Other TOC	9060		8oz.	ICE

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

Grainsize | ASTM D421 or D422 | | 8oz. | ICE

NOTES:

Signature Dina R. Nyberg

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O No.:

Sample ID: DFSWSD08 Date: 11/5/96

Circle One: Soil, Surface Water, Groundwater, Sediment, Other:

Project Activity: Sediment Sampling

☐ Field Duplicate Collected Duplicate ID No.

SAMPLE OBSERVATIONS

Color: Odor? yes - petroleum

Grain Size: to be analyzed PID Reading: —

Saturated? yes Other

WATER LEVEL/WELL DATA

A Well Depth (FT): F. Historical Well Depth (FT) K. Well Locked?

B Depth To Water (FT): G Measured From: Riser / Casing L. Protective Casing Secure?

C Height of Water (FT): H. Casing Stick-up (FT) M. Gravel Pad Intact?

D Well ID I. Diff Well and Casing (FT) N Well Markings Readable?

E Volume (GAL) J. Purge Volume (GAL)

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☐ Trowel
- ☒ Other Hand Auger

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☐ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		4oz.	ICE
☒ VOCs	8260A		4oz.	ICE
☒ SVOCs	3540B/8270B		4oz.	ICE
☒ Metals	3050A/6010A		4oz.	ICE
☒ Pest/PCB	3510B/8080A		4oz.	ICE
☒ Other TOC	9060		8oz	ICE

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

Grainsize | ASTM D421 or D422 | 8oz. | ICE

NOTES:

Signature: Gina R. Mylard

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O No.:

Sample ID: DFSWSD09 Date: 11/5/96

Circle One: Soil Surface Water Project Activity: Sediment Sampling

Groundwater Sediment

Other:

☐ Field Duplicate Collected Duplicate ID No.

SAMPLE OBSERVATIONS

Color: Odor? None

Grain Size: to be analyzed. PID Reading:

Saturated? yes Other:

WATER LEVEL/WELL DATA

A Well Depth (FT): F. Historical Well Depth (FT): K Well Locked?

B Depth To Water (FT): G. Measured From: Riser / Casing L. Protective Casing Secure?

C Height of Water (FT): H Casing Stick-up (FT): M Gravel Pad Intact?

D Well ID: I. Diff Well and Casing (FT): N Well Markings Readable?

E Volume (GAL): J Purge Volume (GAL):

EQUIPMENT DOCUMENTATION

MONITORING

- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING

- ☐ Bottle
- ☒ Trowel
- ☐ Other

DECONTAMINATION FLUIDS USED

- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☐ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		4oz.	ICE
☒ VOCs	8260A		4oz.	ICE
☒ SVOCs	3540B/8270B		4oz.	ICE
☒ Metals	3050A/6010A		4oz.	ICE
☒ Pest/PCB	3510B/8080A		4oz.	ICE
☒ Other: TOC	9060		8oz.	ICE

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

Grainsize | ASTM D421 or D422 | | 8oz | ICE

NOTES:

Signature: Mina R. Tysberg

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O. No:

Sample ID: DFSWMF04 Date: 11/6/96

Circle One: Soil, Surface Water, Groundwater, Sediment, Other:

Project Activity: Groundwater Sampling

☐ Field Duplicate Collected Duplicate ID No.

SAMPLE OBSERVATIONS

Color: Cloudy Odor? none

Grain Size: PID Reading: 0.3ppm

Saturated? Other:

WATER LEVEL/WELL DATA

A Well Depth (FT): 17.22

B Depth To Water (FT): 5.07

C Height of Water (FT): 12.15

D Well ID: 2"

E Volume (GAL) 1.98

F. Historical Well Depth (FT): 16 bgs

G. Measured From: top of Riser / Casing

H. Casing Stick-up (FT): 2.15

I Diff Well and Casing (FT): .7

J Purge Volume ~~(GAL)~~ liters 29

K. Well Locked? yes

L. Protective Casing Secure? yes

M. Gravel Pad Intact? yes

N. Well Markings Readable? NO

EQUIPMENT DOCUMENTATION

MONITORING

- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other:

SAMPLING

- ☐ Bottle
- ☐ Trowel
- ☒ Other: tubing

DECONTAMINATION FLUIDS USED

- ☒ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☐ Methanol
- ☐ Other:

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☐ TRPH				
☐ VOCs				
☐ SVOCs				
☒ Metals	3010A/6010A	NO	250ml	HNO3
☐ Pest/PCB				
☐ Other:				

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume	9.5 liters	18.5 liters	28 liters
Temp (C)	12.4	15.6	17.6
pH	4.92	4.95	4.93
Cond	51 ℧/m	56 ℧/m	55 ℧/m
Turb	40.4 ntu	10.9 ntu	2.7 ntu

Photograph taken of Well Water after Final Well Development? N/A

NOTES:

Signature: Lisa R. Mybers

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O. No.:

Sample ID: DFSWPA03 Date: 11/6/96

Circle One: Soil, Surface Water, Groundwater, Sediment, Other:

Project Activity: Groundwater Sampling

☐ Field Duplicate Collected Duplicate ID No.

SAMPLE OBSERVATIONS

Color: Clear Odor?: None

Grain Size: PID Reading: 0.1 ppm

Saturated? Other:

WATER LEVEL/WELL DATA

A Well Depth (FT): 23.3

B Depth To Water (FT): 7.85

C Height of Water (FT): 15.45

D Well ID: 2"

E Volume (GAL): 2.52

F. Historical Well Depth (FT):

G. Measured From: top of Riser / Casing

H. Casing Stick-up (FT): 2.40

I. Diff Well and Casing (FT): .2

J Purge Volume ~~(GAL)~~ lit: 27

K. Well Locked? yes

L. Protective Casing Secure? yes

M Gravel Pad Intact? yes

N. Well Markings Readable? yes

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other:

SAMPLING
- ☐ Bottle
- ☐ Trowel
- ☐ Other: tubing

DECONTAMINATION FLUIDS USED
- ☒ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☐ Methanol
- ☐ Other:

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☐ TRPH				
☐ VOCs				
☐ SVOCs				
☒ Metals	3010A/6010A	NO	250 ml	HNO3
☐ Pest/PCB				
☐ Other:				

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume	8 liters	18 liters	26 liters
Temp (C)	14.0	16.3	17.0
pH	5.69	5.45	5.40
Cond	36 v/m	41 v/m	40 v/m
Turb	4.3 ntu	2.2 ntu	2.4 ntu

Photograph taken of Well Water after Final Well Development? N/A

NOTES:

Signature: Gina R. Hybbs

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site
J.O. No.:
Sample ID: DFSLWME03
Date: 11/6/96
Circle One: Soil / Surface Water / Groundwater / Sediment / Other
Project Activity: Groundwater Sampling
☐ Field Duplicate Collected
Duplicate ID No

SAMPLE OBSERVATIONS

Color: Clear
Odor?: None
Grain Size
PID Reading: 0.1 ppm
Saturated?
Other:

WATER LEVEL/WELL DATA

A Well Depth (FT): 16.7
B Depth To Water (FT): 9.25
C Height of Water (FT): 7.45
D Well ID: 2"
E Volume (GAL): 1.21
F Historical Well Depth (FT): 15 bgs
G Measured From: top of Riser Casing
H Casing Stick-up (FT): 2.0
I Diff Well and Casing (FT): 0.5
J Purge Volume ~~(GAL)~~ liters: .26
K Well Locked? yes
L Protective Casing Secure? yes
M Gravel Pad Intact? yes
N Well Markings Readable? NO

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☐ Trowel
- ☒ Other: tubing

DECONTAMINATION FLUIDS USED
- ☒ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☐ Methanol
- ☐ Other:

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☐ TRPH				
☐ VOCs				
☐ SVOCs				
☒ Metals	3010A/6010A	NO	250ml	HNO3
☐ Pest/PCB				
☐ Other:				

QA/QC DATA

QA Sample Taken? NO
ID:
QC Sample Taken? NO
ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume	14 liters	20.5 liters	25.5 liters
Temp (C)	17.0	17.9	18.3
pH	5.82	5.78	5.78
Cond	47 v/m	49 v/m	49 v/m
Turb	0.82 ntu	0.49 ntu	0.69 ntu

Photograph taken of Well Water after Final Well Development? N/A

NOTES:

Signature: Lina R. Nyberg
Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O. No:

Sample ID: DFSWMF02 Date: 11/6/96

Circle One: Soil Surface Water Project Activity: Groundwater Sampling

Groundwater Sediment

Other:

☐ Field Duplicate Collected Duplicate ID No.

SAMPLE OBSERVATIONS

Color: Clear Odor? None.

Grain Size: PID Reading: 0.1ppm

Saturated? Other:

WATER LEVEL/WELL DATA

A Well Depth (FT): 22.0

B Depth To Water (FT): 11.39

C Height of Water (FT) 10.61

D Well ID: 2"

E Volume (GAL) 1.73

F Historical Well Depth (FT). 20 bgs

G Measured From: Top of Riser Casing

H. Casing Stick-up (FT). 2.4

I. Diff Well and Casing (FT): 0.1

J. Purge Volume ~~(GAL)~~ lit. 39

K. Well Locked? yes

L. Protective Casing Secure? yes

M. Gravel Pad Intact? yes

N Well Markings Readable? no

EQUIPMENT DOCUMENTATION

MONITORING

- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING

- ☐ Bottle
- ☐ Trowel
- ☒ Other: tubing

DECONTAMINATION FLUIDS USED

- ☒ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☐ Methanol
- ☐ Other:

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☐ TRPH				
☐ VOCs				
☐ SVOCs				
☒ Metals	3010A/6010A	NO	250 ml	HNO_3
☐ Pest/PCB				
☐ Other:				

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume	12 liters	26 liters	37.5 liters
Temp (C)	15.6	16.4	16.5
pH	5.60	5.28	5.24
Cond	44	43	42
Turb	0.39	0.26	0.13

Photograph taken of Well Water after Final Well Development? N/A

NOTES:

Signature: [signature]

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site
J.O. No:
Sample ID: DFSWPA04
Date: 11/7/96
Circle One: Soil / Surface Water / (Groundwater) / Sediment / Other:
Project Activity: Groundwater Sampling
[X] Field Duplicate Collected
Duplicate ID No: DFSWPA04D

SAMPLE OBSERVATIONS

Color: Clear
Odor?: None
Grain Size:
PID Reading: 1.2 ppm
Saturated?
Other

WATER LEVEL/WELL DATA

A Well Depth (FT): 21.2
B Depth To Water (FT): 4.81
C Height of Water (FT): 16.39
D Well ID: 2"
E Volume (GAL): 2.67
F. Historical Well Depth (FT): unknown
G. Measured From: top of (Riser) Casing
H Casing Stick-up (FT): 2.6
I. Diff Well and Casing (FT)
J Purge Volume ~~(GAL)~~ lit. 21.5
K. Well Locked?: yes
L. Protective Casing Secure?: yes
M. Gravel Pad Intact?: yes
N. Well Markings Readable?: yes

EQUIPMENT DOCUMENTATION

MONITORING
- [X] PID
- [ ] Dust Monitor
- [ ] Explosimeter
- [ ] Other

SAMPLING
- [ ] Bottle
- [ ] Trowel
- [X] Other: tubing

DECONTAMINATION FLUIDS USED
- [X] Liquinox
- [X] Distilled Water
- [ ] Lab Provided Blank Water
- [X] Potable Water
- [ ] Methanol
- [ ] Other:

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
[ ] TRPH				
[ ] VOCs				
[ ] SVOCs				
[X] Metals	3010A/6010A	NO	250 ml	HNO_3
[ ] Pest/PCB				
[ ] Other				

QA/QC DATA

QA Sample Taken?: NO
ID:
QC Sample Taken?: NO
ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume	8 liters	13 liters	19 liters
Temp (C)	11.6	13.4	17.1
pH	5.70	5.57	5.51
Cond	73 v/m	67 v/m	67 v/m
Turb	3.0 ntu	1.6 ntu	1.63 ntu

Photograph taken of Well Water after Final Well Development?: N/A

NOTES:

Signature: Gina R. Mybery
Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O. No.:

Sample ID: DFSWDMW04 Date: 11/7/96

Circle One: Soil Surface Water Project Activity: Groundwater Sampling

(Groundwater) Sediment

Other:

☐ Field Duplicate Collected Duplicate ID No

SAMPLE OBSERVATIONS

Color: clear Odor? None

Grain Size: PID Reading: 1.2 ppm

Saturated? Other:

WATER LEVEL/WELL DATA

A Well Depth (FT): 14.61 F Historical Well Depth (FT): unknown K. Well Locked? yes

B Depth To Water (FT): 7.35 G Measured From: top of (Riser) Casing L Protective Casing Secure? yes

C Height of Water (FT): 7.26 H. Casing Stick-up (FT) 1.7 M Gravel Pad Intact? yes

D Well ID 2" I. Diff Well and Casing (FT): .5 N. Well Markings Readable? yes

E Volume (GAL) 1.18 J Purge Volume ~~(GAL)~~ lit: 20 liters

EQUIPMENT DOCUMENTATION

MONITORING

- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING

- ☐ Bottle
- ☐ Trowel
- ☒ Other: tubing

DECONTAMINATION FLUIDS USED

- ☒ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☐ Methanol
- ☐ Other:

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☐ TRPH				
☐ VOCs				
☐ SVOCs				
☒ Metals	3010A/6010A	NO	250ml	HNO_3
☐ Pest/PCB				
☐ Other				

QA/QC DATA

QA Sample Taken? yes

ID: DFSWDMWQ04

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume	9 liters	15 liters	19 liters
Temp (C)	14.0	16.2	16.7
pH	6.02	5.98	5.97
Cond	145 v/m	142 v/m	142 v/m
Turb	4.87 ntu	1.02 ntu	0.81 ntu

Photograph taken of Well Water after Final Well Development? N/A

NOTES:

Signature: Gina R Hyberg

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site. J.O. No:

Sample ID DFSWDMW02 Date: 11/7/96

Circle One: Soil Surface Water Project Activity: Groundwater Sampling

(Groundwater) Sediment

Other:

☐ Field Duplicate Collected Duplicate ID No

SAMPLE OBSERVATIONS

Color Clear Odor? None

Grain Size: PID Reading: not taken due to heavy rain

Saturated? Other:

WATER LEVEL/WELL DATA

A Well Depth (FT): 15.22 F. Historical Well Depth (FT). unknown K. Well Locked? yes

B Depth To Water (FT): 5.38 G. Measured From: top of (Riser) / Casing L. Protective Casing Secure? yes

C Height of Water (FT): 9.84 H Casing Stick-up (FT): 1.78 M. Gravel Pad Intact? yes

D Well ID: 2" I. Diff Well and Casing (FT): .2 N. Well Markings Readable? yes

E Volume (GAL) 1.60 J. Purge Volume (~~GAL~~ liters): 31.5

EQUIPMENT DOCUMENTATION

MONITORING

- ☐ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING

- ☐ Bottle
- ☐ Trowel
- ☒ Other tubing

DECONTAMINATION FLUIDS USED

- ☒ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☐ Methanol
- ☐ Other:

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☐ TRPH				
☐ VOCs				
☐ SVOCs				
☒ Metals	3010A/6010A	NO	250 ml	HNO_3
☐ Pest/PCB				
☐ Other				

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume	10.5 liters	21 liters	31 liters
Temp (C)	14.6	16.1	16.7
pH	6.25	5.91	5.80
Cond	94 µ/m	91	88
Turb	51 ntu	13.7 ntu	3.9 ntu

Photograph taken of Well Water after Final Well Development? N/A

NOTES:

Signature: Lina R. Tyberg

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site — J.O No:

Sample ID: DFSWMW03 — Date: 11/7/96

Circle One: Soil — Surface Water — (Groundwater) — Sediment — Other:

Project Activity: Groundwater Sampling

☐ Field Duplicate Collected — Duplicate ID No

SAMPLE OBSERVATIONS

Color: light gray — Odor? None

Grain Size: — PID Reading: 2.3 ppm

Saturated? — Other:

WATER LEVEL/WELL DATA

A Well Depth (FT): 41.1

B Depth To Water (FT): 6.07

C Height of Water (FT): 35.03

D Well ID: 2"

E Volume (GAL): 5.71

F Historical Well Depth (FT):

G. Measured From: top of (Riser) / Casing

H. Casing Stick-up (FT): 2.3

I. Diff Well and Casing (FT): 0.5

J Purge Volume (~~GAL~~ lit): 64 liters

K. Well Locked? yes

L. Protective Casing Secure? yes

M Gravel Pad Intact? yes

N. Well Markings Readable? yes

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☐ Trowel
- ☒ Other: tubing

DECONTAMINATION FLUIDS USED
- ☒ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☐ Methanol
- ☐ Other:

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1	NO	1-liter	HCl
☒ VOCs	8260A	NO	1-liter	HCl
☒ SVOCs	3510B/8270A	NO	1-liter	ICE
☒ Metals	3010A/6010A	NO	250 ml	HNO_3
☒ Pest/PCB	3510B/8080A	NO	1 liter	ICE
☐ Other				

QA/QC DATA

QA Sample Taken? yes

ID: DFSWMW03

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume	23.5 liters	45.5 liters	59 liters
Temp (C)	14.6	14.5	14.6
pH	6.03	6.05	6.05
Cond	167	169	166
Turb	13.45	2.37	0.82

Photograph taken of Well Water after Final Well Development? N/A

NOTES:

Signature: Linda R. Lyberg

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O. No.:

Sample ID: Rinsate GW Date: 11/7/96

Circle One: Soil Surface Water Project Activity: Groundwater Sampling

Groundwater Sediment

Other: Rinsate Blank

☐ Field Duplicate Collected Duplicate ID No.

SAMPLE OBSERVATIONS

Color Odor?

Grain Size: PID Reading:

Saturated? Other:

WATER LEVEL/WELL DATA

A Well Depth (FT): F. Historical Well Depth (FT): K. Well Locked?

B Depth To Water (FT): G. Measured From: Riser / Casing L. Protective Casing Secure?

C Height of Water (FT) H Casing Stick-up (FT): M. Gravel Pad Intact?

D Well ID: I. Diff Well and Casing (FT): N. Well Markings Readable?

E Volume (GAL) J. Purge Volume (GAL):

EQUIPMENT DOCUMENTATION

MONITORING

☒ PID

☐ Dust Monitor

☐ Explosimeter

☐ Other:

SAMPLING

☐ Bottle

☐ Trowel

☒ Other: tubing

DECONTAMINATION FLUIDS USED

☒ Liquinox

☒ Distilled Water

☐ Lab Provided Blank Water

☒ Potable Water

☐ Methanol

☐ Other:

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1	NO	1 liter	HCl
☒ VOCs	8260A	NO	2-40ml	HCl
☒ SVOCs	3510B/8270A	NO	1 liter	ICE
☒ Metals	3010A/6010A	NO	250 ml	HNO_3
☒ Pest/PCB	3510B/8080A	NO	1 liter	ICE
☐ Other.				

QA/QC DATA

QA Sample Taken? yes

ID: Rinsate QAGW

QC Sample Taken?

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

NOTES:

Signature: Lisa R. Nyberg

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site — J.O No:

Sample ID: DFSLWPA02 — Date: 11/7/96

Circle One: Soil / Surface Water / (Groundwater) / Sediment / Other:

Project Activity: Groundwater Sampling

☐ Field Duplicate Collected — Duplicate ID No:

SAMPLE OBSERVATIONS

Color: Clear — Odor?: none.

Grain Size: — PID Reading: 2.1 ppm

Saturated? — Other:

WATER LEVEL/WELL DATA

A Well Depth (FT): 21.3

B Depth To Water (FT): 9.62

C Height of Water (FT): 11.68

D Well ID: 2"

E Volume (GAL): 1.9

F. Historical Well Depth (FT): unknown

G. Measured From: top of (Riser) Casing

H. Casing Stick-up (FT): 2.45

I Diff Well and Casing (FT): .5

J. Purge Volume ~~(GAL)~~ lit: 18

K. Well Locked?

L. Protective Casing Secure?

M. Gravel Pad Intact?

N. Well Markings Readable?

EQUIPMENT DOCUMENTATION

MONITORING

- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING

- ☐ Bottle
- ☐ Trowel
- ☒ Other: tubing

DECONTAMINATION FLUIDS USED

- ☒ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☐ Methanol
- ☐ Other:

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☐ TRPH				
☐ VOCs				
☐ SVOCs				
☒ Metals	3010A/6010A	NO	250 ml	HNO_3
☐ Pest/PCB				
☐ Other.				

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume	8 liters	13 liters	18 liters
Temp (C)	16.0	16.0	17.2
pH	5.06	4.80	4.81
Cond	54	65	68
Turb	2.38	0.22	

Photograph taken of Well Water after Final Well Development? N/A

NOTES:

Signature: Gina R. Nyberg

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site
J.O. No
Sample ID: DFSWDMW01
Date: 11/8/96
Circle One: Soil, Surface Water, (Groundwater), Sediment
Other:
Project Activity: Groundwater Sampling
☐ Field Duplicate Collected
Duplicate ID No

SAMPLE OBSERVATIONS

Color: Clear
Odor?: none
Grain Size
PID Reading: 1.2 ppm
Saturated?
Other

WATER LEVEL/WELL DATA

A Well Depth (FT): 14.87
B Depth To Water (FT): 5.40
C Height of Water (FT): 9.47
D Well ID: 2"
E Volume (GAL): 1.54
F Historical Well Depth (FT): unknown
G. Measured From: top of (Riser) Casing
H Casing Stick-up (FT): 1.87
I. Diff Well and Casing (FT): 0.2
J. Purge Volume ~~(GAL)~~ liters: 26
K. Well Locked?: yes
L. Protective Casing Secure?: yes
M. Gravel Pad Intact?: yes
N. Well Markings Readable?: yes

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☐ Trowel
- ☒ Other: tubing

DECONTAMINATION FLUIDS USED
- ☒ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☐ Methanol
- ☐ Other:

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☐ TRPH				
☐ VOCs				
☐ SVOCs				
☒ Metals	3010A/6010A	NO	250ml	HNO_3
☐ Pest/PCB				
☐ Other				

QA/QC DATA

QA Sample Taken?: NO
ID:
QC Sample Taken?: NO
ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume	8 liters	16 liters	24 liters
Temp (C)	17.2	16.9	17.6
pH	6.99	6.48	6.51
Cond	96	97	97
Turb	3.88 ntu	1.42 ntu	0.43 ntu

Photograph taken of Well Water after Final Well Development? N/A

NOTES:

Signature: Lina R. Tyler
Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O. No.:

Sample ID: DFSWDMW03 Date: 11/8/96

Circle One: Soil Surface Water Project Activity: Groundwater Sampling

Groundwater Sediment

Other:

☐ Field Duplicate Collected Duplicate ID No.

SAMPLE OBSERVATIONS

Color Clear Odor? none

Grain Size: PID Reading: 1.2ppm

Saturated? Other:

WATER LEVEL/WELL DATA

A Well Depth (FT): 17.77 F. Historical Well Depth (FT): unknown K. Well Locked? yes

B Depth To Water (FT): 10.49 G. Measured From: top of Riser / Casing L. Protective Casing Secure? yes

C Height of Water (FT): 7.28 H. Casing Stick-up (FT): M Gravel Pad Intact? yes

D Well ID: 2" I. Diff Well and Casing (FT): N. Well Markings Readable? yes

E Volume (GAL) 1.18 J. Purge Volume ~~(GAL)~~ liters: 16.5

EQUIPMENT DOCUMENTATION

MONITORING

- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING

- ☐ Bottle
- ☐ Trowel
- ☒ Other: tubing

DECONTAMINATION FLUIDS USED

- ☒ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☐ Methanol
- ☐ Other:

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☐ TRPH				
☐ VOCs				
☐ SVOCs				
☒ Metals	3010A/6010A	NO	250 ml	HNO_3
☐ Pest/PCB				
☐ Other:				

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume	8 liters	11 liters	15 liters
Temp (C)	18.8	17.9	18.6
pH	5.46	5.14	5.01
Cond	48	48	48
Turb	0.30	0.13	0.11

Photograph taken of Well Water after Final Well Development? N/A

NOTES:

Signature: Lina R. Hyberg

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site
J.O. No.:
Sample ID: DFSWMW02
Date: 11/8/96
Circle One: Soil / Surface Water / (Groundwater) / Sediment / Other:
Project Activity: Groundwater Sampling
☒ Field Duplicate Collected
Duplicate ID No. DFSWMW02D

SAMPLE OBSERVATIONS

Color: Clear
Odor? None
Grain Size:
PID Reading: 0.7 ppm
Saturated?
Other

WATER LEVEL/WELL DATA

A Well Depth (FT): 50.7
B. Depth To Water (FT): 5.40
C Height of Water (FT): 45.3
D Well ID: 2"
E Volume (GAL) 7.38
F. Historical Well Depth (FT): unknown
G Measured From: top of (Riser) / Casing
H Casing Stick-up (FT): 2.9
I Diff Well and Casing (FT) 0.4
J. Purge Volume ~~(GAL)~~ liters: 13
K. Well Locked? yes
L. Protective Casing Secure? yes
M Gravel Pad Intact? yes
N Well Markings Readable? yes

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☐ Trowel
- ☒ Other: tubing

DECONTAMINATION FLUIDS USED
- ☒ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☐ Methanol
- ☐ Other:

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1	NO	2 Liters	HCl
☒ VOCs	8260A	NO	2-70ml	HCl
☒ SVOCs	3510B/8270B	NO	2 liters	ICE
☒ Metals	3010A/6010A	NO	250 ml	HNO3
☒ Pest/PCB	3510B/8080A	NO	2 Liters	
☐ Other				

QA/QC DATA

QA Sample Taken? NO
ID:
QC Sample Taken? NO
ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume	8 liters	11 liters	13 liters
Temp (C)	19.9	19.1	19.2
pH	6.07	6.08	6.09
Cond	109	127	135
Turb	2.01 ntu	3.00 ntu	2.30 ntu

Photograph taken of Well Water after Final Well Development? N/A

NOTES:

Signature Gina R. Nyberg
Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site
J.O No:
Sample ID: DFSWMW01
Date 11/8/96
Circle One: Soil / Surface Water / Groundwater / Sediment / Other:
Project Activity: Groundwater Sampling
☐ Field Duplicate Collected
Duplicate ID No

SAMPLE OBSERVATIONS

Color: Clear
Odor?: None
Grain Size:
PID Reading: 0.8ppm
Saturated?
Other:

WATER LEVEL/WELL DATA

A Well Depth (FT): 59.2 b.g.s.
B Depth To Water (FT): 9.5
C Height of Water (FT): 49.7
D Well ID: 2"
E Volume (GAL): 8.1
F. Historical Well Depth (FT): N/A
G. Measured From top of (Riser) / Casing
H Casing Stick-up (FT): 2.7
I Diff Well and Casing (FT): .35
J. Purge Volume ~~(GAL)~~ liters: 44
K Well Locked?: yes
L. Protective Casing Secure?: yes
M. Gravel Pad Intact?: yes
N. Well Markings Readable?: yes

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☐ Trowel
- ☒ Other: tubing

DECONTAMINATION FLUIDS USED
- ☒ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☒ Potable Water
- ☐ Methanol
- ☐ Other:

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1	NO	4 liters	HCl
☒ VOCs	8260A	NO	4-40ml	HCl
☒ SVOCs	3510B/8270A	NO	4 liters	ICE
☒ Metals	3010A/6010A	NO	3-250ml	HNO_3
☒ Pest/PCB	3510B/8080A	NO	4 liters	
☐ Other				

QA/QC DATA

QA Sample Taken?
ID:
QC Sample Taken?: yes
ID: DFSWMW01 - use extra volume for MS/MSD

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume	14 liters	27 liters	38 liters
Temp (C)	15.6	17.0	17.1
pH	6.48	6.44	6.41
Cond	120	117	113
Turb	18.1 ntu	8.2 ntu	3.6 ntu

Photograph taken of Well Water after Final Well Development?: yes

NOTES:

Signature: Lina R. Mylay
Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O. No.:

Sample ID DFSWME01 Date: 11/8/96

Circle One: Soil Surface Water Project Activity: Groundwater Sampling

Groundwater Sediment

Other:

☐ Field Duplicate Collected Duplicate ID No.

SAMPLE OBSERVATIONS

Color Clear Odor? None

Grain Size: PID Reading: 0.7 ppm

Saturated? Other:

WATER LEVEL/WELL DATA

A. Well Depth (FT): 16.5 F. Historical Well Depth (FT): unknown K. Well Locked? yes

B Depth To Water (FT): 7.0 G Measured From: top of Riser / Casing L. Protective Casing Secure? yes

C Height of Water (FT): 9.5 H. Casing Stick-up (FT): 3.0 M. Gravel Pad Intact? yes

D Well ID: 2" I. Diff Well and Casing (FT): .55 N. Well Markings Readable? yes

E Volume (GAL): 1.55 J. Purge Volume ~~(GAL)~~ liters 19

EQUIPMENT DOCUMENTATION

MONITORING

☒ PID

☐ Dust Monitor

☐ Explosimeter

☐ Other

SAMPLING

☐ Bottle

☐ Trowel

☒ Other tubing

DECONTAMINATION FLUIDS USED

☒ Liquinox

☒ Distilled Water

☐ Lab Provided Blank Water

☒ Potable Water

☐ Methanol

☐ Other:

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☐ TRPH				
☐ VOCs				
☐ SVOCs				
☒ Metals	3010A/6010A	NO	250 ml	HNO_3
☐ Pest/PCB				
☐ Other:				

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume	8 liters	14 liters	18.5 liters
Temp (C)	17.6	16.5	16.8
pH	5.7	5.48	5.47
Cond	67	79	80
Turb	10.6	1.3	0.6

Photograph taken of Well Water after Final Well Development? N/A

NOTES:

Signature: Gina R. Myers

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site — JO No:

Sample ID: DFSWSW02 — Date: 11/13/96

Circle One: Soil / (Surface Water) / Groundwater / Sediment / Other:

Project Activity: Surface Water Sampling

☐ Field Duplicate Collected — Duplicate ID No

SAMPLE OBSERVATIONS

Color: brown — Odor?: none

Grain Size: — PID Reading: —

Saturated? — Other

WATER LEVEL/WELL DATA

A Well Depth (FT) — F. Historical Well Depth (FT) — K. Well Locked?

B. Depth To Water (FT): — G Measured From Riser / Casing — L. Protective Casing Secure?

C Height of Water (FT) — H Casing Stick-up (FT) — M Gravel Pad Intact?

D Well ID — I. Diff Well and Casing (FT) — N. Well Markings Readable?

E Volume (GAL) — J Purge Volume (GAL)

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☐ Trowel
- ☒ Other: Stainless Steel Pan

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☐ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1	NO	2 liters	HCl
☒ VOCs	8260A	NO	2-40ml	HCl
☒ SVOCs	3510B/8270A	NO	2 liters	ICE
☒ Metals	3010A/6010A	NO	250ml	HNO_3
☒ Pest/PCB	3510B/8080A	NO	2 liters	ICE
☒ Other: TSS	160.2	NO	250 ml	ICE

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

Total Diss. Metal	3010A/6010A	YES	250 ml	HNO_3
Hardness	2340B or 2340C	NO	250 ml	HNO_3

NOTES:

pH-4.86
Cond.- .082
turb.- 2 ntu
D.O.- 14.02 mg/l
temp. 13.95

Signature: Gina R. [illegible]

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site. JO No.:

Sample ID: DFSWSW13 Date: 11/12/96

Circle One: Soil, (Surface Water), Groundwater, Sediment, Other: _____

Project Activity: Surface Water Sampling

☐ Field Duplicate Collected Duplicate ID No

SAMPLE OBSERVATIONS

Color: light brown Odor? none

Grain Size: PID Reading —

Saturated? Other

WATER LEVEL/WELL DATA

A Well Depth (FT) F. Historical Well Depth (FT) K. Well Locked?

B Depth To Water (FT): G Measured From Riser / Casing L. Protective Casing Secure?

C Height of Water (FT) H Casing Stick-up (FT). M Gravel Pad Intact?

D Well ID I. Diff Well and Casing (FT) N Well Markings Readable?

E Volume (GAL) J Purge Volume (GAL)

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☐ Trowel
- ☒ Other Stainless Steel pan

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☐ Potable Water
- ☒ Methanol
- ☒ Other Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1	NO	2 liters	HCl
☒ VOCs	8260A	NO	2-40ml	HCl
☒ SVOCs	3510B/8270A	NO	2 liters	ICE
☒ Metals	3010A/6010A	NO	3-250ml	HNO_3
☒ Pest/PCB	3510B/8080A	NO	2 liters	ICE
☒ Other TSS	160.2	NO	250ml	ICE

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? yes

ID: DFSWSW13 - TTAL metal MS/MSD

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

Total Diss. Metals	3010A/6010A	yes	250ml	HNO_3
Hardness	2340B or 2340C	no	250ml	HNO_3

NOTES:

pH - 5.60
temp - 4.0°C
cond. - 0.123 mS/cm
turb. 180
D.O. 13.62

Signature: Nina R. Hyby

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site. JO No:

Sample ID DFSWSW12 Date: 11/12/96

Circle One: Soil, (Surface Water), Groundwater, Sediment, Other:

Project Activity: Surface Water Sampling

☐ Field Duplicate Collected Duplicate ID No

SAMPLE OBSERVATIONS

Color brown Odor? None

Grain Size: PID Reading: —

Saturated? Other

WATER LEVEL/WELL DATA

A Well Depth (FT) F. Historical Well Depth (FT). K Well Locked?

B. Depth To Water (FT): G Measured From: Riser / Casing L Protective Casing Secure?

C Height of Water (FT): H. Casing Stick-up (FT): M. Gravel Pad Intact?

D Well ID I. Diff Well and Casing (FT). N Well Markings Readable?

E Volume (GAL) J Purge Volume (GAL):

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☐ Trowel
- ☒ Other: Stainless Steel Pan

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☐ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1	NO	2 liters	HCl
☒ VOCs	8260A	NO	2-40 ml	HCl
☒ SVOCs	3510B/8270A	NO	2 liters	ICE
☒ Metals	3010A/6010A	NO	250 ml	HNO_3
☒ Pest/PCB	3510B/8080A	NO	2 Liters	ICE
☒ Other TSS	160.2	NO	250ml	ICE

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

Total Diss. Metals	3010A/6010A	YES	250 ml	HNO_3
Hardness	2340B or 2340C	NO	250 ml	HNO_3

NOTES:

Signature: Lina R. Nyberg

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O. No.:

Sample ID: DFSWSD13 Date: 11/12/96

Circle One: Soil Surface Water Groundwater Sediment Other:

Project Activity: Sediment Sampling

☐ Field Duplicate Collected Duplicate ID No.

SAMPLE OBSERVATIONS

Color brown - mostly peat Odor? None

Grain Size: to be analyzed PID Reading: —

Saturated? yes Other:

WATER LEVEL/WELL DATA

A Well Depth (FT):
B Depth To Water (FT):
C Height of Water (FT):
D Well ID
E Volume (GAL)
F. Historical Well Depth (FT).
G Measured From: Riser / Casing
H. Casing Stick-up (FT):
I. Diff Well and Casing (FT):
J. Purge Volume (GAL):
K. Well Locked?
L. Protective Casing Secure?
M. Gravel Pad Intact?
N. Well Markings Readable?

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☐ Trowel
- ☒ Other: Hand Auger

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☐ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		4oz	ICE
☒ VOCs	8260A		4oz	ICE
☒ SVOCs	3540B/8270B		4oz	ICE
☒ Metals	3050A/6010A		4oz	ICE
☒ Pest/PCB	3510B/8080A		4oz	ICE
☒ Other TOC	9060		8oz	ICE

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

Grain size | ASTM D421 or D422 | | 8oz. | NO

NOTES:

Signature: Gina R Nyberg

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O No:

Sample ID: DFSWSW11 Date 11/13/96

Circle One Soil Surface Water Project Activity Surface Water Sampling

Groundwater Sediment

Other:

☐ Field Duplicate Collected Duplicate ID No

SAMPLE OBSERVATIONS

Color brown w/ lots of particulates Odor? None

Grain Size: PID Reading

Saturated? Other

WATER LEVEL/WELL DATA

A Well Depth (FT) F. Historical Well Depth (FT): K Well Locked?

B Depth To Water (FT): G. Measured From: Riser / Casing L. Protective Casing Secure?

C Height of Water (FT) H Casing Stick-up (FT) M Gravel Pad Intact?

D Well ID: I Diff Well and Casing (FT) N. Well Markings Readable?

E Volume (GAL) J Purge Volume (GAL)

EQUIPMENT DOCUMENTATION

MONITORING

- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING

- ☐ Bottle
- ☐ Trowel
- ☒ Other Stainless Steel Pan

DECONTAMINATION FLUIDS USED

- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☐ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1	NO	2 liters	HCl
☒ VOCs	8260A	NO	2-40ml	HCl
☒ SVOCs	3510B/8270A	NO	2 liters	ICE
☒ Metals	3010A/6010A	NO	250ml	HNO_3
☒ Pest/PCB	3510B/8080A	NO	2 liters	ICE
☒ Other TSS	160.2	NO	250ml	ICE

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

Total Diss. Metals	3010A/6010A	yes	250ml	HNO_3
Hardness	2340B or 2340C	no	250ml	HNO_3

NOTES:

pH - 4.24
cond - .090 mS/cm
turb - 9 ntu
D.O. - 13.94 mg/l
temp. - 3.3°C

Signature: Lina R. Hyberg

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O. No.:

Sample ID: DFSWSW04 Date: 11/13/96

Circle One: Soil, (Surface Water), Groundwater, Sediment, Other: _____

Project Activity: Surface Water Sampling

☒ Field Duplicate Collected Duplicate ID No. DFSWSW04D

SAMPLE OBSERVATIONS

Color: brown Odor? none

Grain Size: PID Reading: —

Saturated? Other:

WATER LEVEL/WELL DATA

A Well Depth (FT) F. Historical Well Depth (FT): K. Well Locked?

B Depth To Water (FT): G Measured From: Riser / Casing L. Protective Casing Secure?

C Height of Water (FT): H. Casing Stick-up (FT): M Gravel Pad Intact?

D Well ID I Diff Well and Casing (FT): N. Well Markings Readable?

E Volume (GAL): J. Purge Volume (GAL):

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☐ Trowel
- ☒ Other: Stainless Steel Pan

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☐ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1	NO	1-liter	HCl
☒ VOCs	8260A	NO	2-40ml	HCl
☒ SVOCs	3510B/8270A	NO	2-liter	ICE
☒ Metals	3010A/6010A	NO	250ml	HNO3
☒ Pest/PCB	3510B/8080A	NO	2liters	ICE
☒ Other: TSS	160.2	NO	250ml	ICE
Total Diss. Metal	3010A/6010A	YES	250ml	HNO3
Hardness	2340B or 2340C	NO	250ml	HNO3

QA/QC DATA

QA Sample Taken? YES

ID: DFSWSWQ04

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

NOTES:
pH: 3.67
Cond.: .011 mS/cm
turb.: 0 ntu
D.O.: 12.59 mg/l
temp.: 3.6°C

Signature: Lina R. Nyberg

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O No:

Sample ID: DFSWSD12 Date: 11/13/96

Circle One: Soil Surface Water Groundwater Sediment Other:

Project Activity: Sediment Sampling

☐ Field Duplicate Collected Duplicate ID No.

SAMPLE OBSERVATIONS

Color: dark brown Odor? None

Grain Size: to be analyzed PID Reading: —

Saturated? yes Other

WATER LEVEL/WELL DATA

A Well Depth (FT): F Historical Well Depth (FT): K. Well Locked?

B. Depth To Water (FT): G Measured From: Riser / Casing L. Protective Casing Secure?

C Height of Water (FT) H Casing Stick-up (FT): M. Gravel Pad Intact?

D Well ID: I Diff Well and Casing (FT) N. Well Markings Readable?

E Volume (GAL) J. Purge Volume (GAL)

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☐ Trowel
- ☒ Other: hand Auger

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☐ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		4oz	ICE
☒ VOCs	8260A		4oz	ICE
☒ SVOCs	3540B/8270B		4oz	ICE
☒ Metals	3050A/6010A		4oz	ICE
☒ Pest/PCB	3510B/8080A		4oz	ICE
☒ Other: TOC	9060		8oz	ICE

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

→ Grainsize | ASTM D421 or D422 | | 8oz | ICE

NOTES:

Signature: Lina R. Hughes

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site. J.O. No:

Sample ID: DFSWSD11 Date: 11/13/96

Circle One: Soil, Surface Water, Groundwater, (Sediment), Other:

Project Activity: Sediment Sampling

☐ Field Duplicate Collected Duplicate ID No

SAMPLE OBSERVATIONS

Color: dark brown Odor? None

Grain Size: to be analyzed PID Reading: —

Saturated? yes Other

WATER LEVEL/WELL DATA

A Well Depth (FT) F Historical Well Depth (FT) K. Well Locked?

B Depth To Water (FT): G Measured From Riser / Casing L. Protective Casing Secure?

C Height of Water (FT) H. Casing Stick-up (FT) M. Gravel Pad Intact?

D Well ID: I. Diff Well and Casing (FT) N. Well Markings Readable?

E Volume (GAL) J Purge Volume (GAL)

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☐ Trowel
- ☒ Other: Hand Auger

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☐ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		4oz.	ICE
☒ VOCs	8260A		4oz	ICE
☒ SVOCs	3540B/8270B		4oz.	ICE
☒ Metals	3050A/6010A		4oz.	ICE
☒ Pest/PCB	3510B/8080A		4oz.	ICE
☒ Other TOC	9060		8oz	ICE

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

Grainsize | ASTM D421 & D422 | 8oz | ICE

NOTES:

Signature: Nina R. Myers

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O. No:

Sample ID: DFSWSW10 Date: 11/13/96

Circle One: Soil, (Surface Water), Groundwater, Sediment Project Activity: Surface Water Sampling

Other:

☐ Field Duplicate Collected Duplicate ID No.

SAMPLE OBSERVATIONS

Color: brown Odor? None

Grain Size: PID Reading: →

Saturated? Other:

WATER LEVEL/WELL DATA

A. Well Depth (FT) F. Historical Well Depth (FT): K. Well Locked?

B. Depth To Water (FT): G. Measured From: Riser / Casing L. Protective Casing Secure?

C. Height of Water (FT): H. Casing Stick-up (FT): M. Gravel Pad Intact?

D. Well ID: I. Diff Well and Casing (FT): N. Well Markings Readable?

E. Volume (GAL). J. Purge Volume (GAL):

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☐ Trowel
- ☒ Other: Stainless Steel Pan

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☐ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1	NO	2 liters	HCl
☒ VOCs	8260A	NO	2-40ml	HCl
☒ SVOCs	3510/8270A	NO	2 liters	ICE
☒ Metals	3010A/6010A	NO	250 ml	HNO_3
☒ Pest/PCB	3510A/8080A	NO	2 liters	ICE
☒ Other: TSS	160.2	NO	250ml	ICE
Total Diss. Metal	3010A/6010A	YES	250ml	HNO_3
Hardness	2340B or 2340C	NO	250ml	HNO_3

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

NOTES:

pH - 5.13
Cond. - 0.104
turb. - 35 ntu
D.O. 13.76 mg/l
temp. - 4.5°C

Signature: Lina R. [illegible]

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O. No.:

Sample ID: DFSWSD10 Date: 11/13/96

Circle One: Soil Surface Water Project Activity: Sediment Sampling

Groundwater Sediment

Other:

☐ Field Duplicate Collected Duplicate ID No:

SAMPLE OBSERVATIONS

Color: brown Odor? None

Grain Size: to be analyzed PID Reading: —

Saturated? yes Other:

WATER LEVEL/WELL DATA

A Well Depth (FT): F. Historical Well Depth (FT): K Well Locked?

B Depth To Water (FT): G Measured From Riser / Casing L. Protective Casing Secure?

C Height of Water (FT): H Casing Stick-up (FT): M Gravel Pad Intact?

D Well ID: I. Diff Well and Casing (FT): N. Well Markings Readable?

E Volume (GAL): J Purge Volume (GAL):

EQUIPMENT DOCUMENTATION

MONITORING

- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING

- ☐ Bottle
- ☐ Trowel
- ☒ Other: Hand Auger

DECONTAMINATION FLUIDS USED

- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☐ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		4oz.	ICE
☒ VOCs	8260A		4oz.	ICE
☒ SVOCs	3540B/8270B		4oz.	ICE
☒ Metals	3050A/6010A		4oz.	ICE
☒ Pest/PCB	3510B/8080		4oz.	ICE
☒ Other TOC	9060		8oz.	ICE

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

Grainsize	ASTM D421or	NO	8oz	ICE
[illegible]	D422	NO	8oz	ICE

NOTES:

Signature: Lina R. [illegible]

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site. J.O. No.:

Sample ID: DFSWSW03 Date 11/13/96

Circle One: Soil, (Surface Water), Groundwater, Sediment, Other: _____

Project Activity: Surface Water Sampling

☐ Field Duplicate Collected Duplicate ID No.

SAMPLE OBSERVATIONS

Color: brown Odor? none

Grain Size: PID Reading: —

Saturated? Other

WATER LEVEL/WELL DATA

A Well Depth (FT) F. Historical Well Depth (FT) K. Well Locked?

B Depth To Water (FT): G. Measured From: Riser / Casing L. Protective Casing Secure?

C Height of Water (FT) H. Casing Stick-up (FT) M. Gravel Pad Intact?

D Well ID I Diff Well and Casing (FT). N. Well Markings Readable?

E Volume (GAL) J Purge Volume (GAL)

EQUIPMENT DOCUMENTATION

MONITORING

- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING

- ☐ Bottle
- ☐ Trowel
- ☒ Other Stainless Steel Pan

DECONTAMINATION FLUIDS USED

- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☐ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1	NO	2 liters	HCl
☒ VOCs	8260A	NO	2	HCl
☒ SVOCs	3510B/8270A	NO	2 liters	ICE
☒ Metals	3010A/6010A	NO	250 ml	HNO3
☒ Pest/PCB	3510B/8080A	NO	2 liters	ICE
☒ Other TSS	160.2	NO	250 ml	ICE

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

Total Diss. Metals	3010A/6010A	yes	250 ml	HNO3
Hardness	2340B or 2340C	no	250 ml	HNO3

NOTES:
pH: 5.34
Cond.: .085 mS/cm
turb.: 2
D.O.: 13.41 mg/l
temp.: 4.8°C

Signature: Nina R. Myers

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site — J.O. No.:

Sample ID: DFSWSD02 — Date: 11/13/96

Circle One: Soil / Surface Water / Groundwater / Sediment / Other:

Project Activity: Sediment Sampling

☐ Field Duplicate Collected — Duplicate ID No.

SAMPLE OBSERVATIONS

Color: black — Odor? petroleum

Grain Size: to be analyzed — PID Reading: —

Saturated? yes — Other: sediment oily with a sheen

WATER LEVEL/WELL DATA

A Well Depth (FT)
B Depth To Water (FT):
C Height of Water (FT)
D Well ID:
E Volume (GAL)
F. Historical Well Depth (FT)
G. Measured From: Riser / Casing
H Casing Stick-up (FT):
I. Diff Well and Casing (FT):
J. Purge Volume (GAL):
K. Well Locked?
L. Protective Casing Secure?
M. Gravel Pad Intact?
N Well Markings Readable?

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☐ Trowel
- ☒ Other:

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☐ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		4oz.	ICE
☒ VOCs	8260A		4oz	ICE
☒ SVOCs	3540B/8270B		4oz	ICE
☒ Metals	3050A/6010A		4oz	ICE
☒ Pest/PCB	3510B/8080A		4oz	ICE
☒ Other: TOC	9060		8oz	ICE

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

Grainsize | ASTM D421 or D422 | 8oz | ICE

NOTES:

Sample was to be analyzed using GPC cleanup step before actual analysis

Signature: Gina R. Myers

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dumpsite J.O No

Sample ID: DFSWSD03 Date: 11/13/96

Circle One: Soil Surface Water Groundwater (Sediment) Other:

Project Activity: Sediment Sampling

[X] Field Duplicate Collected (for AVS/SEM only) Duplicate ID No: DFSWSD03D

SAMPLE OBSERVATIONS

Color: black Odor?: petroleum

Grain Size: to be analyzed PID Reading: —

Saturated?: yes Other: oily with a sheen

WATER LEVEL/WELL DATA

A Well Depth (FT) F. Historical Well Depth (FT) K. Well Locked?

B Depth To Water (FT): G Measured From: Riser / Casing L. Protective Casing Secure?

C Height of Water (FT): H Casing Stick-up (FT) M Gravel Pad Intact?

D Well ID I Diff Well and Casing (FT) N Well Markings Readable?

E Volume (GAL) J. Purge Volume (GAL):

EQUIPMENT DOCUMENTATION

MONITORING
- [X] PID
- [ ] Dust Monitor
- [ ] Explosimeter
- [ ] Other

SAMPLING
- [ ] Bottle
- [ ] Trowel
- [X] Other

DECONTAMINATION FLUIDS USED
- [ ] Liquinox
- [X] Distilled Water
- [ ] Lab Provided Blank Water
- [ ] Potable Water
- [X] Methanol
- [X] Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
[X] TRPH	418.1		4oz	ICE
[X] VOCs	8260A		4oz	ICE
[X] SVOCs	3540B/8270B		4oz	ICE
[X] Metals	3050A/6010A		4oz	ICE
[X] Pest/PCB	3510B/8080A		4oz	ICE
[X] Other TOC	9060		8oz	ICE

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

NOTES:

Sample was analyzed using GPC Cleanup step before actual analysis

Signature: Dina R. Hyde

Received By:

Grainsize	ASTM D421 or D422	8oz.	ICE
NIK [illegible]	D-TIRA 1990	8oz	ICE

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site
J.O No:
Sample ID: DFSWSD04
Date: 11/13/96
Circle One: Soil / Surface Water / Groundwater / Sediment / Other:
Project Activity: Sediment Sampling
☐ Field Duplicate Collected
Duplicate ID No:

SAMPLE OBSERVATIONS

Color: black
Odor?: petroleum
Grain Size: to be analyzed
PID Reading: —
Saturated?: yes
Other: oily with a sheen

WATER LEVEL/WELL DATA

A Well Depth (FT)
B Depth To Water (FT):
C Height of Water (FT)
D Well ID
E Volume (GAL)
F. Historical Well Depth (FT)
G Measured From: Riser / Casing
H. Casing Stick-up (FT)
I Diff Well and Casing (FT)
J Purge Volume (GAL)
K Well Locked?
L Protective Casing Secure?
M. Gravel Pad Intact?
N Well Markings Readable?

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☐ Trowel
- ☒ Other

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☐ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1		4 oz	ICE
☒ VOCs	8260A		4 oz	ICE
☒ SVOCs	3540B/8270B		4 oz	ICE
☒ Metals	3050A/6010A		4 oz	ICE
☒ Pest/PCB	3510B/8080A		4 oz	ICE
☒ Other TOC	9060		8 oz	ICE

QA/QC DATA

QA Sample Taken?: yes
ID: DFSWSDQC04
QC Sample Taken?:
ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

NOTES:
Sample was analyzed using GPC cleanup step before actual analysis

Signature: Gina R. Nyburg
Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O No.:

Sample ID: DFSWSW01 Date: 11/21/96

Circle One: Soil (Surface Water) Groundwater Sediment Other:

Project Activity: Surface Water Sampling

☐ Field Duplicate Collected Duplicate ID No

SAMPLE OBSERVATIONS

Color: light brown Odor?: none

Grain Size: PID Reading: —

Saturated? Other

WATER LEVEL/WELL DATA

A Well Depth (FT) F Historical Well Depth (FT): K. Well Locked?

B Depth To Water (FT): G Measured From: Riser / Casing L. Protective Casing Secure?

C Height of Water (FT) H Casing Stick-up (FT): M Gravel Pad Intact?

D Well ID I Diff Well and Casing (FT) N Well Markings Readable?

E Volume (GAL) J Purge Volume (GAL)

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☐ Trowel
- ☒ Other: Stainless Steel Pan

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☐ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1	NO	2 liters	HCl
☒ VOCs	8260A	NO	2-40ml	HCl
☒ SVOCs	3510B/8270A	NO	2 liters	ICE
☒ Metals	3010A/6010A	NO	250ml	HNO_3
☒ Pest/PCB	3510B/8080A	NO	2 liters	ICE
☒ Other TSS	160.2	NO	250ml	ICE

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

Total Diss. Metals	3010A/6010A	YES	250ml	HNO_3
Hardness	2340B or 2340C	NO	250ml	HNO_3

NOTES:

pH: 3.91
cond: .173mS/cm
turb.: 1ntu
D.O.: 12.46mg/l
temp.: 4.6°C

Signature: Lina R. Myers

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O. No.:

Sample ID: DFS05W08 Date 11/21/96

Circle One: Soil, (Surface Water), Groundwater, Sediment, Other:

Project Activity: Surface Water Sampling

☐ Field Duplicate Collected Duplicate ID No

SAMPLE OBSERVATIONS

Color: Clear Odor? none

Grain Size: PID Reading: —

Saturated? Other:

WATER LEVEL/WELL DATA

A Well Depth (FT):
B Depth To Water (FT):
C Height of Water (FT):
D Well ID
E Volume (GAL)
F. Historical Well Depth (FT):
G Measured From: Riser / Casing
H. Casing Stick-up (FT):
I. Diff Well and Casing (FT):
J. Purge Volume (GAL):
K. Well Locked?
L. Protective Casing Secure?
M. Gravel Pad Intact?
N. Well Markings Readable?

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☐ Trowel
- ☒ Other: Stainless Steel Pan

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☐ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1	NO	2 liters	HCl
☒ VOCs	8260A	NO	2-40ml	HCl
☒ SVOCs	3510B/8270A	NO	2 liters	ICE
☒ Metals	3010A/6010A	NO	250ml	ICE
☒ Pest/PCB	3510B/8080A	NO	2 liters	HNO_3
☒ Other: TSS	160.2	NO	250ml	ICE

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

Total Diss. Metal	3010A	6010A	YES	250ml	HNO_3
Hardness	2340B or 2340C		NO	250ml	HNO_3

NOTES:

pH: 5.12
cond.: 0.058 mS/cm
turb. -10 ntu
D.O. 12.29 mg/l
temp. 9.7°C

Signature: Nina R. Myers

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site. J.O No.:

Sample ID DFSW5W05 Date: 11/21/96

Circle One: Soil, (Surface Water), Groundwater, Sediment, Other: _____

Project Activity: Surface Water Sampling

☐ Field Duplicate Collected Duplicate ID No.

SAMPLE OBSERVATIONS

Color: fairly clear Odor? none

Grain Size: PID Reading: —

Saturated? Other:

WATER LEVEL/WELL DATA

A Well Depth (FT):
B Depth To Water (FT):
C Height of Water (FT)
D Well ID
E Volume (GAL)
F. Historical Well Depth (FT).
G Measured From: Riser / Casing
H. Casing Stick-up (FT):
I. Diff Well and Casing (FT):
J Purge Volume (GAL):
K. Well Locked?
L. Protective Casing Secure?
M. Gravel Pad Intact?
N. Well Markings Readable?

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☐ Trowel
- ☒ Other: dedicated disposable bailer

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☐ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1	NO	2 liters	HCl
☒ VOCs	8260A	NO	2-40ml	HCl
☒ SVOCs	3510B/8270A	NO	2 liters	ICE
☒ Metals	3010A/6010A	NO	250 ml	ICE
☒ Pest/PCB	3510B/8080A	NO	2 liters	HNO_3
☒ Other TSS	160.2	NO	250 ml	ICE
Total Diss. Metal	3010A/6010A	yes	250ml	HNO_3
Hardness	2340B or 2340C	no	250 ml	HNO_3

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

NOTES:

pH: 5.62
Cond.: 0.063 mS/cm
turb.: 49 ntu
D.O.: 10.97 mg/l
temp.: 9.2°C

Signature: [illegible]

Received By:

STONE & WEBSTER ENVIRONMENTAL TECHNOLOGY & SERVICES
FIELD DATA RECORD

Project: Devil's Foot Road Dump Site J.O No.:

Sample ID: DFSW SW06 Date: 11/21/96

Circle One: Soil (Surface Water) Groundwater Sediment Other: _____

Project Activity: Surface Water Sampling

☐ Field Duplicate Collected Duplicate ID No.

SAMPLE OBSERVATIONS

Color: Clear Odor? None

Grain Size: PID Reading: —

Saturated? Other

WATER LEVEL/WELL DATA

A Well Depth (FT): F. Historical Well Depth (FT). K. Well Locked?

B Depth To Water (FT): G. Measured From: Riser / Casing L. Protective Casing Secure?

C Height of Water (FT): H. Casing Stick-up (FT): M. Gravel Pad Intact?

D Well ID: I Diff Well and Casing (FT): N Well Markings Readable?

E Volume (GAL). J Purge Volume (GAL):

EQUIPMENT DOCUMENTATION

MONITORING
- ☒ PID
- ☐ Dust Monitor
- ☐ Explosimeter
- ☐ Other

SAMPLING
- ☐ Bottle
- ☐ Trowel
- ☒ Other: dedicated disposable bailer

DECONTAMINATION FLUIDS USED
- ☐ Liquinox
- ☒ Distilled Water
- ☐ Lab Provided Blank Water
- ☐ Potable Water
- ☒ Methanol
- ☒ Other: Alconox

ANALYTICAL PARAMETERS

TYPE	METHOD	FILTERED?	VOLUME	PRESERVED
☒ TRPH	418.1	NO	2 liters	HCl
☒ VOCs	8260A	NO	2-40ml	HCl
☒ SVOCs	3510B/8270A	NO	2 liters	ICE
☒ Metals	3010A/6010A	NO	250ml	ICE
☒ Pest/PCB	3510B/8080A	NO	2 liters	HNO_3
☒ Other: TSS	160.2	NO	250ml	ICE
Total Diss. Metal	3010A/6010A	YES	250ml	HNO_3
Hardness	2340B or 2340C	no	250ml	HNO_3

QA/QC DATA

QA Sample Taken? NO

ID:

QC Sample Taken? NO

ID:

PURGE DATA

	FIRST VOLUME	SECOND VOLUME	THIRD VOLUME
Volume			
Temp (C)			
pH			
Cond			
Turb			

Photograph taken of Well Water after Final Well Development?

NOTES:

pH: 6.35
Cond.: 0.059 mS/cm
turb.: 52 ntu
D.O.: 11.83 mg/l
temp: 10.5°C

Signature: [illegible]

Received By:

APPENDIX E

DAILY QUALITY CONTROL REPORTS

DAILY QUALITY CONTROL REPORT

DATE 21 October 1996

REPORT NUMBER: _____

COE ENGINEERING MANAGER: Robert Meader

PROJECT: Devil's Foot Road Dump Site and Surrounding Areas

JOB NUMBER: Delivery Order 19

CONTRACT NUMBER: DACW33-94-D-0007

Day	S	M	T	W	T	F	S

Weather	Bright Sun	Clear	Overcast	Rain	Snow
Temperature	T°32	32-50	50-70	70-85	85 Up
Wind	Calm	Moderate	High	Report No.	
Humidity	Dry	Moderate	High		

SUB-CONTRACTORS ON SITE:

Soil Exploration (SE)

EQUIPMENT ON SITE: Mini Rae Plus PID, Mini Ram Dust Monitor, Micro Max LEL and oxygen / hydrogen sulfide meter (CGI), and Acker AD II drill rig

WORK PERFORMED (INCLUDING SAMPLING)

Drilling and split spoon sampling at DFSWSB06 (to be DFSWMW03).

DFSWSB06: Sampled using augers and 2-inch split-spoon sampler from 0 to 33.7 feet. Collected split spoon samples at two foot intervals until 6 feet and then every five feet thereafter. Groundwater was encountered at approximately 4 feet below ground surface. The PID was used initially after opening each spoon and to measure the headspace of each sample. Samples were taken from 0-2 ft (headspace 4.4 ppm), 2-4 ft (headspace 4.7 ppm), 4-6 ft (headspace 4.2 ppm), 10-12 ft (headspace 3.2 ppm), 15-17 ft (headspace 1.0 ppm), 20-22 ft (headspace 3.3 ppm), 25-27 ft (headspace 1.9 ppm), 30-30.3 ft (headspace 1.1 ppm), and 33-33.7 feet (very low recovery no headspace taken). Four samples were collected for offsite analysis:

0-2 ft	as	DFSWSB06-X1	
2-4 ft	as	DFSWSB06-X2	(highest headspace reading - 4.7 ppm)
25-27 ft	as	DFSWSB06-X7	(Bedrock Interface)
30-30.3 ft	as	DFSWSB06-X8	(In Bedrock)

Due to the low recovery of DFSWSB06-X8 it was only analyzed for VOCs. Sample DFSWSB06-X7 was analyzed for SVOCs, Pest./PCBs, TTAL Metals, and TRPH. DFSWSB06-X1 and DFSWSB06-X2 were analyzed for all above paramaters. Soil from DFSWB06-X2 was also collected for possible TCLP analysis.

Top of rock was encountered at 26 feet; however, the rock was very weathered. Competent bedrock was encountered at 33.5 feet.

After sample DFSWSB06-X9, the augers were removed and 4-inch I.D. casing was installed and driven to 33.5 feet. Bottom of hole at end of day: 33.7 feet

QUALITY CONTROL ACTIVITIES (INCLUDING FIELD CALIBRATIONS)

Zeroed PID and calibrated to 100.0 ppm isobutylene. (PID was kept running all day.)
Calibrated Mini Ram Dust Monitor and CGI.
Sampling equipment was decontaminated between each sample.

PROJECT: Devil's Foot Road Dump Site & Surrounding Areas

REPORT NUMBER:

JOB NUMBER: Delivery Order 19

DATE: 21 October 1996

HEALTH AND SAFETY LEVELS AND ACTIVITIES (DAILY HEALTH AND SAFETY AUDIT ATTACHED)

Conducted initial health and safety briefing - Attendees were:

D. Connelly - S&W
G. Nyberg - S&W
D. Zilinskas - S&W
M. Legare - SE
E. Pope - SE

PROBLEMS ENCOUNTERED/CORRECTION ACTION TAKEN:

None.

SPECIAL NOTES

None

TOMORROW'S EXPECTATIONS

Install monitoring well, DFSWMW03, at DFSWSB06.
Begin drilling at DFSWSB05.

Lima R. Nyberg

DAILY QUALITY CONTROL REPORT

DATE 22 October 1996

REPORT NUMBER: _____

COE ENGINEERING MANAGER: Robert Meader

PROJECT: Devil's Foot Road Dump Site and Surrounding Areas

JOB NUMBER: Delivery Order 19

CONTRACT NUMBER: DACW33-94-D-0007

Day	S	M	X T	W	T	F	S

Weather	Bright Sun	Clear	Overcast	Rain	Snow
Temperature	T°32	32-50	50-70	70-85	85 Up
Wind	Calm	Moderate	High	Report No.	
Humidity	Dry	Moderate	High		

SUB-CONTRACTORS ON SITE:

Soil Exploration (SE)

EQUIPMENT ON SITE: Mini Rae Plus PID, Mini Ram Dust Monitor, Micro Max LEL and oxygen / hydrogen sulfide meter (CGI), and Acker AD II Drill Rig.

WORK PERFORMED (INCLUDING SAMPLING)

Set up decontamination pad

Cored bedrock at DFSWSB06

Began installation of monitoring well at DFSWSB06 called DFSWMW03

DFSWSB06: Advanced 3 7/8-inch diameter rollerbit from 33.5 feet to 38.5 feet in preparation for bedrock coring beginning at 38.5 feet. Bedrock was cored from 38.5 to 43.5 feet using a single tube core barrel. Core barrel was retrieved and core was placed in core box. The borehole was reamed and flushed out with potable water.

Began installation of monitoring well. Installed a 2-inch diameter and 18 foot well screen and riser pipe. Sand was placed around the screen to a depth of 41 feet.

QUALITY CONTROL ACTIVITIES (INCLUDING FIELD CALIBRATIONS)

Zeroed PID and calibrated to 100.0 ppm isobutylene. (PID was kept running all day.)
Calibrated Mini Ram Dust Monitor and CGI.

HEALTH AND SAFETY LEVELS AND ACTIVITIES (DAILY HEALTH AND SAFETY AUDIT ATTACHED)

No health and safety issues to report.

PROJECT: Devil's Foot Road Dump Site & Surrounding Areas

REPORT NUMBER:

JOB NUMBER: Delivery Order 19

DATE: 22 October 1996

PROBLEMS ENCOUNTERED/CORRECTION ACTION TAKEN:

SE did not have enough potable water to complete the coring. G. Nyberg spoke to Jack Sprengel of RIEDC and he had the water department set up a hydrant hookup that allowed potable water access. The hydrant was located near the old Navy warehouses. No drilling conducted during this time period (1.5 hrs. standby time).

Stone & Webster field personnel were unsure how the weathered bedrock would affect the monitoring well and if a 10 foot or 20 foot screen should be used. The Boston office was called and decided to see what Paul Young at the CENED wanted to do. After a conference call between D. Zilinkas, D. Connelly, and P. Young, it was decided that a 20 foot screen would be installed to a distance of approximately 5 feet above the weathered rock and extending into competent rock.

SPECIAL NOTES

Harold Luchka of RIDEC stopped by at 10:00 to see how the drilling was going.

TOMORROW'S EXPECTATIONS

Finish installing monitoring well at DFSWSB06.
Begin drilling at DFDWSB05.

Gina R. Tyler

DAILY QUALITY CONTROL REPORT

DATE 23 October 1996

REPORT NUMBER: _____

COE ENGINEERING MANAGER: Robert Meader

PROJECT: Devil's Foot Road Dump Site and Surrounding Areas

JOB NUMBER: Delivery Order 19

CONTRACT NUMBER: DACW33-94-D-0007

Day	S	M	T	W	T	F	S

Weather	Bright Sun	Clear	Overcast	Rain	Snow
Temperature	T°32	32-50	50-70	70-85	85 Up
Wind	Calm	Moderate	High	Report No.	
Humidity	Dry	Moderate	High		

SUB-CONTRACTORS ON SITE:

Soil Exploration (SE)

EQUIPMENT ON SITE: Mini Rae Plus PID, Mini Ram Dust Monitor, Micro Max LEL and oxygen / hydrogen sulfide meter (CGI), and Acker AD II Drill Rig.

WORK PERFORMED (INCLUDING SAMPLING)

Completed installation of monitoring well at DFSWSB06 called DFSWMW03

Began drilling and split spoon sampling at DFSWSB05

DFSWMW03: Completed installation of monitoring well as follows:

20 feet slotted screen
24 feet PVC riser above screen
22.3 feet of sand pack
3.7 feet bentonite chip seal
11.8 feet grout
5.3 feet protective casing and locking cover

Four 3.5-inch O.D. steel posts were placed approximately 4 feet radially from the newly installed well, and were driven with the 140-lb hammer of the drill rig.

DFSWSB05: Drilled using augers from 0 to 10 feet. The 4-inch casing was utilized and driven below 10 ft. Used 3-inch O.D. split spoon sampler to collect split spoon samples at two foot intervals until 6 feet and then every five feet thereafter. Groundwater was encountered at approximately 5 feet below ground surface. The PID was used initially after opening each spoon and to measure the headspace of each sample. Samples were taken from 0-2 ft (headspace 9.0 ppm), 2-4 ft (headspace 1.9 ppm), 4-6 ft (headspace 1.4 ppm), 10-12 ft (headspace 0.0 ppm), 14-16 ft (headspace 0.0 ppm), and 19-21 ft (headspace 0.0 ppm). Two samples were collected for offsite analysis:

0-2 ft as DFSWSB05-X1 a sample was also sent to the QA laboratory as DFSWSB05QX1
4-6 ft as DFSWSB05-X3 (highest headspace reading - 4.7 ppm and groundwater interface)

These samples were analyzed for VOCs, SVOCs, Pest./PCBs TTAL Metals, and TRPH. Additional soil was collected from DFSWSB05-X3 for possible TCLP analysis.

PROJECT: Devil's Foot Road Dump Site & Surrounding Areas

REPORT NUMBER:

JOB NUMBER: Delivery Order 19

DATE: 23 October 1996

QUALITY CONTROL ACTIVITIES (INCLUDING FIELD CALIBRATIONS)

Zeroed PID and calibrated to 100.0 ppm isobutylene. (PID was kept running all day.)
Calibrated Mini Ram Dust Monitor and CGI.
Drill rig, augers, casing, and rods were decontaminated after the installation of DFSWMW03 was completed.
Sampling equipment was decontaminated between each sample.

HEALTH AND SAFETY LEVELS AND ACTIVITIES (DAILY HEALTH AND SAFETY AUDIT ATTACHED)

No health and safety issues to report.

PROBLEMS ENCOUNTERED/CORRECTION ACTION TAKEN:

When the drillers returned from getting water from the hydrant they informed G. Nyberg that there appeared to be a sheen on the water that had accumulated on the ground (the facet on the hydrant did not close completely and therefore water had accumulated on the ground). G. Nyberg went to the hydrant and confirmed the sheen. She called the water department at RIEDC to report the sheen and find out the source of the water. The water department stated that the water is clean city water and the sheen is coming from the ground. G. Nyberg will sample the hydrant water to test for possible contamination.

SPECIAL NOTES

None.

TOMORROW'S EXPECTATIONS

Collect water samples from hydrant.
Finish drilling at DFSWSB05.
Begin monitoring well installation at DFSWSB05/DFSWMW02.

Gina R. Nyberg

DAILY QUALITY CONTROL REPORT

DATE 24 October 1996

REPORT NUMBER: _____

COE ENGINEERING MANAGER: Robert Meader

PROJECT: Devil's Foot Road Dump Site and Surrounding Areas

JOB NUMBER: Delivery Order 19

CONTRACT NUMBER: DACW33-94-D-0007

Day	S	M	T	W	T	F	S

Weather	Bright Sun	Clear	Overcast	Rain	Snow
Temperature	T°32	32-50	50-70	70-85	85 Up
Wind	Calm	Moderate	High	Report No.	
Humidity	Dry	Moderate	High		

SUB-CONTRACTORS ON SITE:

Soil Exploration (SE)

EQUIPMENT ON SITE: Mini Rae Plus PID, Mini Ram Dust Monitor, Micro Max LEL and oxygen / hydrogen sulfide meter (CGI), and Acker AD II Drill Rig.

WORK PERFORMED (INCLUDING SAMPLING)

Sample water from hydrant

Finish drilling and split spoon sampling at DFSWSB05

Install monitoring well at DFSWSB05 called DFSWMW02

Collected water samples from hydrant for off-site analysis of VOCs, SVOCs, Pest./PCBs, TRPH, and TTAL Metals.

DFSWSB05: Continued sampling using 4-inch casing and 3-inch O.D split spoons. Samples were collected at approximately 5 foot sampling intervals. The PID was used initially after opening each spoon and to measure the headspace of each sample. Samples were taken from 24-26 ft (headspace 0.0 ppm), 29-31 ft (headspace 0.0 ppm), 34-36 ft (headspace 0.0 ppm), 39-41 ft (headspace 0.0 ppm), and 44-46 ft (headspace 0.0 ppm). Two samples were collected for offsite analysis:

39-41 ft	as	DFSWSB05-X10	(Before bedrock)
44-46 ft	as	DFSWSB05-X11	(Before bedrock)

Due to the low recovery of DFSWSB05-X11 it was only analyzed for VOCs. Sample DFSWSB05-X10 was analyzed for SVOCs, Pest./PCBs, TTAL Metals, and TRPH.

Top of bedrock encountered at approximately 47 feet. Advanced rollerbit to 49 feet and cored bedrock from 49 ft to 53.8 ft. The hole was reamed, flushed out and prepared for monitoring well installation. The well (DFSWMW02) was installed to approximately 51 feet. Sand was added for the filter pack.

PROJECT: Devil's Foot Road Dump Site & Surrounding Areas **REPORT NUMBER:**

JOB NUMBER: Delivery Order 19 **DATE:** 24 October 1996

QUALITY CONTROL ACTIVITIES (INCLUDING FIELD CALIBRATIONS)
Zeroed PID and calibrated to 100.0 ppm isobutylene. (PID was kept running all day.) Calibrated Mini Ram Dust Monitor and CGI. Sampling equipment was decontaminated between each sample.
HEALTH AND SAFETY LEVELS AND ACTIVITIES (DAILY HEALTH AND SAFETY AUDIT ATTACHED)
No Health and Safety issues to report.
PROBLEMS ENCOUNTERED/CORRECTION ACTION TAKEN:
The soil samples taken were wet and it appeared that the PID was not working correctly. The headspace reading of sample DFSWSB05-X7 started at 0 and accelerated very slowly to 923 ppm. Tried to re-calibrate PID but ran out of calibration gas. D. Connelly will bring new PID and more calibration gas to site tomorrow.
SPECIAL NOTES
None.
TOMORROW'S EXPECTATIONS
Finish installing monitoring well at DFSWMW02.

Lisa R. Taylor

DAILY QUALITY CONTROL REPORT

DATE 25 October 1996

REPORT NUMBER: _____

COE ENGINEERING MANAGER: Robert Meader

PROJECT: Devil's Foot Road Dump Site and Surrounding Areas

JOB NUMBER: Delivery Order 19

CONTRACT NUMBER: DACW33-94-D-0007

Day	S	M	T	W	T	X	S

Weather	Bright Sun	Clear	Overcast	Rain	Snow
Temperature	T°32	32-50	50-70	70-85	85 Up
Wind	Calm	Moderate	High	Report No.	
Humidity	Dry	Moderate	High		

SUB-CONTRACTORS ON SITE:

Soil Exploration (SE)

EQUIPMENT ON SITE: Mini Rae Plus PID, Mini Ram Dust Monitor, Micro Max LEL and oxygen / hydrogen sulfide meter (CGI), Acker AD II Drill Rig, Solinist electric water level meter, Whale Supersub 12-volt D.C. pump, Whale in-line 12 volt D.C. pump and Horiba water quality meter.

WORK PERFORMED (INCLUDING SAMPLING)

Finish installation of monitoring well DFSWMW02

Develop monitoring well DFSWMW03 and perform falling head permeability test

DFSWSB05: Grouted upper portion of monitoring well and installed protective casing. Four 3.5-inch O.D steel posts were placed approximately 4 feet radially from the newly installed well, and were driven with the 140-lb hammer of the drill rig. Well was completed as follows:

10 feet slotted screen
42.6 feet PVC riser above screen
17 feet of sand pack
3.8 feet bentonite chip seal
33.2 feet grout
8 feet protective casing and locking cover

Developed monitoring well DFSWMW03. Development continued until all of the water that was introduced into the well during the drilling was removed and water quality parameters were stable. The total amount of water removed was 173 gallons. Took photograph of a water sample after development was complete. Performed a falling head permeability test.

PROJECT: Devil's Foot Road Dump Site & Surrounding Areas **REPORT NUMBER:**_____

JOB NUMBER: Delivery Order 19 **DATE:** 25 October 1996

QUALITY CONTROL ACTIVITIES (INCLUDING FIELD CALIBRATIONS)
Zeroed PID and calibrated to 100.0 ppm isobutylene. (PID was kept running all day.) Calibrated Mini Ram Dust Monitor and CGI. Calibrated Horiba. Whale pumps and associated tubing was decontaminated before well development.
HEALTH AND SAFETY LEVELS AND ACTIVITIES (DAILY HEALTH AND SAFETY AUDIT ATTACHED)
No Health and Safety issues to report.
PROBLEMS ENCOUNTERED/CORRECTION ACTION TAKEN:
SE steam cleaning equipment was not working. Drill rig, augers and rods were not decontaminated. M.Legare stated he would get a part to fix it in the morning. Drilling was stopped for the day until equipment could be fixed.
SPECIAL NOTES
None.
TOMORROW'S EXPECTATIONS
Develop monitoring well DFSWMW02.
Begin drilling split spoon sampling in the Northern Area DFSWSB01, DFSWMW02, DFSWSB03, and DFSWSB04, .

Gina R. Myers

DAILY QUALITY CONTROL REPORT

DATE 28 October 1996

REPORT NUMBER: _____

COE ENGINEERING MANAGER: Robert Meader

PROJECT: Devil's Foot Road Dump Site and Surrounding Areas

JOB NUMBER: Delivery Order 19

CONTRACT NUMBER: DACW33-94-D-0007

Day	S	M	T	W	T	F	S
Weather	Bright Sun	Clear	Overcast	Rain	Snow		
Temperature	T°32	32-50	50-70	70-85	85 Up		
Wind	Calm	Moderate	High	Report No.			
Humidity	Dry	Moderate	High				

SUB-CONTRACTORS ON SITE:

Soil Exploration (SE)

EQUIPMENT ON SITE: Mini Rae Plus PID, Mini Ram Dust Monitor, Micro Max LEL and oxygen / hydrogen sulfide meter (CGI), and Acker AD II Drill Rig, Solinist electric water level meter, Whale Supersub 12-volt D.C. pump, Whale in-line 12 volt D.C. pump and Horiba water quality meter.

WORK PERFORMED (INCLUDING SAMPLING)

Develop DFSWMW02

Drilling and split spoon sampling at DFSWSB01

Drilling and split spoon sampling at DFSWSB04

Developed DFSWMW02. Development continued until all of the water that was introduced into the well during the drilling was removed and water quality parameters were stable. The total amount of water removed was 185 gallons. Took photograph of a water sample after development was complete.

DFSWSB01: Sampled using augers and 3-inch O.D. split-spoon sampler from 0 to 5.1 feet. Collected split spoon samples at two foot intervals. Groundwater was encountered at approximately 3.5 feet below ground surface. The PID was used initially after opening each spoon and to measure the headspace of each sample. Samples were taken from 0-2 ft (headspace 8.5 ppm), and 2-4 ft (headspace 9.6 ppm). Refusal was hit at 4 feet 1-inch and again at 5 feet 1-inch.

0-2 ft as DFSWSB01-X1

2-4 ft as DFSWSB01-X2 (highest headspace reading - 9.6 ppm and groundwater interface)

The hole was backfilled with the excavated soil.

All samples were analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, and TRPH. Additional soil was collected from DFSWSB01-X2 for possible TCLP analysis.

PROJECT: Devil's Foot Road Dump Site & Surrounding Areas **REPORT NUMBER:**_____

JOB NUMBER: Delivery Order 19 **DATE:** 28 October 1996

DFSWSB04: Sampled using augers and 3-inch O.D. split-spoon sampler from 0 to 6 feet. Collected split spoon samples at two foot intervals. Did not encounter groundwater. The PID was used initially after opening each spoon and to measure the headspace of each sample. Samples were taken from 0-2 ft (headspace 1.8 ppm), 2-4 ft (headspace 1.9 ppm), and 4-6 ft (headspace 1.6 ppm). Two samples were collected for offsite analysis:

0-2 ft as DFSWSB04-X1

2-4 ft as DFSWSB04-X2 (highest headspace reading - 1.9 ppm)

The hole was backfilled with the excavated soil.

All samples were analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, and TRPH. Additional soil was collected from DFSWSB04-X2 for possible TCLP analysis.

QUALITY CONTROL ACTIVITIES (INCLUDING FIELD CALIBRATIONS)

Zeroed PID and calibrated to 100.0 ppm isobutylene. (PID was kept running all day.)
Calibrated Mini Ram Dust Monitor and CGI.
Calibrated Horiba.
Whale pumps and associated tubing were decontaminated before well development.
SE fixed steam cleaner. Drill rig, augers and rods were decontaminated before DFSWSB01 and DFSWSB04. Other sampling equipment was decontaminated between each sample.

HEALTH AND SAFETY LEVELS AND ACTIVITIES (DAILY HEALTH AND SAFETY AUDIT ATTACHED)

No Health and Safety Issues to Report

PROBLEMS ENCOUNTERED/CORRECTION ACTION TAKEN:

None.

SPECIAL NOTES

None.

TOMORROW'S EXPECTATIONS

Perform falling head permeability test on DFSWMW02.

Finish drilling and split spoon sampling in the Northern Area.

Gina R. Nyberg

DAILY QUALITY CONTROL REPORT

DATE 29 October 1996

REPORT NUMBER: _____

COE ENGINEERING MANAGER: Robert Meader

PROJECT: Devil's Foot Road Dump Site and Surrounding Areas

JOB NUMBER: Delivery Order 19

CONTRACT NUMBER: DACW33-94-D-0007

Day	S	M	X T	W	T	F	S

Weather	Bright Sun	Clear	Overcast	Rain	Snow
Temperature	T°32	32-50	50-70	70-85	85 Up
Wind	Calm	Moderate	High	Report No.	
Humidity	Dry	Moderate	High		

SUB-CONTRACTORS ON SITE:

Soil Exploration (SE)

EQUIPMENT ON SITE: Mini Rae Plus PID, Mini Ram Dust Monitor, Micro Max LEL and oxygen / hydrogen sulfide meter (CGI), Acker AD II Drill Rig, and Solinist electric water level meter

WORK PERFORMED (INCLUDING SAMPLING)

Perform falling head permeability test on DFSWMW02

Drilling and split spoon sampling at DFSWSB03

Drilling and split spoon sampling at DFSWSB02/DFSWMW01

Performed falling head permeability test at DFSWMW02.

DFSWSB03: Sampled using augers and 3-inch O.D. split-spoon sampler from 0 to 6 feet. Collected split spoon samples at two foot intervals. Groundwater was encountered at approximately 3.5 feet below ground surface. The PID was used initially after opening each spoon and to measure the headspace of each sample. Samples were taken from 0-2 ft (headspace 5.3 ppm), 2-4 ft (headspace 1.3 ppm), and 4-6 ft (headspace 1.3 ppm). Two samples were collected for offsite analysis:

0-2 ft as DFSWSB03-X1

2-4 ft as DFSWSB03-X2 (highest headspace reading - 1.3 ppm and groundwater interface)

The hole was backfilled with the excavated soil.

All samples were analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, and TRPH. Additional soil was collected from DFSWSB03-X2 for possible TCLP analysis.

PROJECT: Devil's Foot Road Dump Site & Surrounding Areas **REPORT NUMBER:**

JOB NUMBER: Delivery Order 19 **DATE:** 29 October 1996

DFSWSB02: Sampled using augers, 4-inch casing, and 3-inch O.D. split-spoon sampler from 0 to 44.3 feet. Collected split spoon samples at two foot intervals until 6 feet and then every five feet thereafter. Groundwater was encountered at approximately 7 feet below ground surface. The PID was used initially after opening each spoon and to measure the headspace of each sample. Samples were taken from 0-2 ft (headspace 0.4 ppm), 2-4 ft (headspace 0.2 ppm), 4-6 ft (headspace 1.4 ppm), 10-12 ft (headspace 0.5 ppm), 14-16 ft (headspace 0.4 ppm), 19-21 ft (headspace 0.4 ppm), 21-23 ft (headspace 0.4 ppm), 24-26 ft (headspace 0.2 ppm), 29-31 feet (headspace 0.2 ppm), 34-36 ft (headspace 0.5 ppm), and 39-40.5 ft (headspace 0.0 ppm). Two samples were collected for offsite analysis:

0-2 ft	as	DFSWSB02-X1
2-4 ft	as	DFSWSB02-X3 (highest headspace reading - 1.4 ppm and groundwater interface)

All samples were analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, and TRPH. Additional soil was collected from DFSWSB02-X2 for possible TCLP analysis.

QUALITY CONTROL ACTIVITIES (INCLUDING FIELD CALIBRATIONS)

Zeroed PID and calibrated to 100.0 ppm isobutylene.
Calibrated Mini Ram Dust Monitor and CGI.
Drill rig, augers and rods were decontaminated before DFSWSB02. Other sampling equipment was decontaminated between each sample.

HEALTH AND SAFETY LEVELS AND ACTIVITIES (DAILY HEALTH AND SAFETY AUDIT ATTACHED)

No Health and Safety Issues to Report

PROBLEMS ENCOUNTERED/CORRECTION ACTION TAKEN:

None.

SPECIAL NOTES

None.

TOMORROW'S EXPECTATIONS

Finish drilling and split spoon sampling at DFSWSB02.

Install monitoring well at DFSWSB02 called DFSWMW01

Lina R. Tyler

DAILY QUALITY CONTROL REPORT

DATE 30 October 1996

REPORT NUMBER: _____

COE ENGINEERING MANAGER: Robert Meader

PROJECT: Devil's Foot Road Dump Site and Surrounding Areas

JOB NUMBER: Delivery Order 19

CONTRACT NUMBER: DACW33-94-D-0007

Day	S	M	T	W	T	F	S

Weather	Bright Sun	Clear	Overcast	Rain	Snow
Temperature	T°32	32-50	50-70	70-85	85 Up
Wind	Calm	Moderate	High	Report No.	
Humidity	Dry	Moderate	High		

SUB-CONTRACTORS ON SITE:

Soil Exploration (SE)

EQUIPMENT ON SITE: Mini Rae Plus PID, Mini Ram Dust Monitor, Micro Max LEL and oxygen / hydrogen sulfide meter (CGI), and Acker AD II Drill Rig.

WORK PERFORMED (INCLUDING SAMPLING)

Finish drilling and split spoon sampling at DFSWSB02

Install monitoring well at DFSWSB02 called DFSWMW01

DFSWSB02: Sampled using augers, 4-inch casing and 3-inch O.D. split-spoon sampler from 44.3 feet to 51 feet. Advanced rollerbit to 54.5 feet. Collected split spoon samples at approximately five foot intervals. The PID was used initially after opening each spoon and to measure the headspace of each sample. Samples were taken from 44.4-46.4 ft (headspace 0.0 ppm), 49-51 ft (headspace 0.2 ppm). One sample was collected for offsite analysis:
49-51 ft as DFSWSB02-X13 (before bedrock)
This sample was analyzed for VOCs, SVOCs, Pest./PCBs TTAL Metals, and TRPH.

Top of bedrock encountered at approximately 53 feet. Cored rock from 54.5 feet to 58.5 feet, removed core barrel and rock core, reamed hole to 58.5 feet. Completed installation of monitoring well DFSWMW01- placed sand filter pack, bentonite seal, mixed and pumped grout, and installed protective casing. Well was completed as follows:

10 feet slotted screen
49.4 feet PVC riser above screen
14.5 feet of sand pack
5 feet bentonite chip seal
39 feet grout
8 feet protective casing and locking cover

QUALITY CONTROL ACTIVITIES (INCLUDING FIELD CALIBRATIONS)

Zeroed PID and calibrated to 100.0 ppm isobutylene.
Calibrated Mini Ram Dust Monitor and CGI.
Sampling equipment was decontaminated between each sample.

PROJECT: Devil's Foot Road Dump Site & Surrounding Areas

REPORT NUMBER:

JOB NUMBER: Delivery Order 19

DATE: 30 October 1996

HEALTH AND SAFETY LEVELS AND ACTIVITIES (DAILY HEALTH AND SAFETY AUDIT ATTACHED)
No health and safety issues to report.
PROBLEMS ENCOUNTERED/CORRECTION ACTION TAKEN:
None.
SPECIAL NOTES
None.
TOMORROW'S EXPECTATIONS
Install four 3.5-inch diameter steel pipes surrounding monitoring well DFSWMW01
Drilling and soil sampling in the Water Tower Area DFSWSB07, DFSWSB10, DFSWSB09, DFSWSB08

Gina R. Nyberg

DAILY QUALITY CONTROL REPORT

DATE 31 October 1996

REPORT NUMBER: _____

COE ENGINEERING MANAGER: Robert Meader

PROJECT: Devil's Foot Road Dump Site and Surrounding Areas

JOB NUMBER: Delivery Order 19

CONTRACT NUMBER: DACW33-94-D-0007

Day	S	M	T	W	X	F	S

Weather	Bright Sun	Clear	Overcast	Rain	Snow
Temperature	T"32	32-50	50-70	70-85	85 Up
Wind	Calm	Moderate	High	Report No.	
Humidity	Dry	Moderate	High		

SUB-CONTRACTORS ON SITE:

Soil Exploration (SE)

EQUIPMENT ON SITE: Mini Rae Plus PID, Mini Ram Dust Monitor, Micro Max LEL and oxygen / hydrogen sulfide meter (CGI), and Acker AD II Drill Rig.

WORK PERFORMED (INCLUDING SAMPLING)

Install four 3.5-inch diameter steel posts around monitoring well DFSWMW01

Drilling and split spoon sampling at DFSWSB07

Drilling and split spoon sampling at DFSWSB010

Drilling and split spoon sampling at DFSWSB09

Drilling and split spoon sampling at DFSWSB08

DFSWMW01:Four 3.5-inch diameter steel posts were placed approximately 4 feet radially from the newly installed well, and were driven with the 140-lb hammer of the drill rig.

DFSWSB07: Sampled using augers and and 3-inch O.D. split-spoon sampler from 0 to 6 feet. Collected split spoon samples at two foot intervals. Groundwater was not encountered. The PID was used initially after opening each spoon and to measure the headspace of each sample. Samples were taken from 0-2 ft (headspace 7.1 ppm), 2-4 ft (headspace 0.2 ppm), and 4-6 ft (headspace 6.3 ppm). Two samples were collected for offsite analysis:

0-2 ft as DFSWSB07-X1 - took laboratory duplicate sample here as DFSWSB07-X1D

4-6 ft as DFSWSB07-X3 (highest headspace reading - 6.3 ppm)

The hole was backfilled with the excavated soil.

All samples were analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, and TRPH. Additional soil was collected from DFSWSB07-X1 for possible TCLP analysis.

PROJECT: Devil's Foot Road Dump Site & Surrounding Areas REPORT NUMBER._____

JOB NUMBER Delivery Order 19 DATE. 31 October 1996

DFSWSB010 Sampled using augers and 3-inch O D split-spoon sampler from 0 to 6 feet Collected split spoon samples at two foot intervals. Groundwater was encountered at approximately 5 feet below ground surface. The PID was used initially after opening each spoon and to measure the headspace of each sample Samples were taken from 0-2 ft (headspace 0.2 ppm), 2-4 ft (headspace 0.1 ppm), 4-6 ft (headspace 0 2 ppm) Two samples were collected for offsite analysis

0-2 ft as DFSWSB10-X1
4-6 ft as DFSWSB10-X3 (highest headspace reading - 0 2 ppm and groundwater interface) - took QA laboratory sample here as DFSWSBQ10-X3
The hole was backfilled with the excavated soil.
All samples were analyzed for VOCs, SVOCs, Pest /PCBs, TTAL Metals, and TRPH. Additional soil was collected from DFSWSB10-X3 for possible TCLP analysis

DFSWSB09: Sampled using augers and 3-inch O.D. split-spoon sampler from 0 to 6 feet. Collected split spoon samples at two foot intervals Groundwater was encountered at 4 5 feet below ground surface. The PID was used initially after opening each spoon and to measure the headspace of each sample Samples were taken from 0-2 ft (headspace 0.1 ppm), 2-4 ft (headspace 0 1 ppm), and 4-6 ft (headspace 0 1 ppm) Two samples were collected for offsite analysis:

0-2 ft as DFSWSB09-X1
4-6 ft as DFSWSB09-X3 (highest headspace reading - 0.1 ppm and groundwater interface)
The hole was backfilled with the excavated soil
All samples were analyzed for VOCs, SVOCs, Pest /PCBs, TTAL Metals, and TRPH Additional soil was collected from DFSWSB09-X3 for possible TCLP analysis

DFSWSB08 Sampled using augers and 3-inch O D split-spoon sampler from 0 to 6 feet Collected split spoon samples at two foot intervals. Groundwater was encountered at approximately 5 5 feet below ground surface. The PID was used initially after opening each spoon and to measure the headspace of each sample. Samples were taken from 0-2 ft (headspace 20 7 ppm), 2-4 ft (headspace 0.7 ppm), and 4-6 ft (headspace 0 6 ppm) Two samples were collected for offsite analysis

0-2 ft as DFSWSB08-X1 took laboratory duplicate sample here as DFSWSB08-X1D
4-6 ft as DFSWSB08-X3 (groundwater interface)
The hole was backfilled with soil
All samples were analyzed for VOCs, SVOCs, Pest /PCBs, TTAL Metals, and TRPH Additional soil was collected from DFSWSB08-X1 for possible TCLP analysis.

QUALITY CONTROL ACTIVITIES (INCLUDING FIELD CALIBRATIONS)

Zeroed PID and calibrated to 100.0 ppm isobutylene
Calibrated Mini Ram Dust Monitor and CGI
Sampling equipment was decontaminated between each sample

HEALTH AND SAFETY LEVELS AND ACTIVITIES (DAILY HEALTH AND SAFETY AUDIT ATTACHED)

No Health and Safety Issues to Report.

PROBLEMS ENCOUNTERED/CORRECTION ACTION TAKEN:

PROJECT: Devil's Foot Road Dump Site & Surrounding Areas

REPORT NUMBER:

JOB NUMBER: Delivery Order 19

DATE: 31 October 1996

None.
SPECIAL NOTES
None.
TOMORROW'S EXPECTATIONS
Develop DFSWMW01 and perform falling head test Install gravel pads around monitoring wells (DFSWMW01, DFSWMW02 and DFSWMW03)

DAILY QUALITY CONTROL REPORT

DATE 1 November 1996

REPORT NUMBER: _____

COE ENGINEERING MANAGER: Robert Meader

PROJECT: Devil's Foot Road Dump Site and Surrounding Areas

JOB NUMBER: Delivery Order 19

CONTRACT NUMBER: DACW33-94-D-0007

Day	S	M	T	W	T	F	S
Weather	Bright Sun	Clear	Overcast	Rain	Snow		
Temperature	T°32	32-50	50-70	70-85	85 Up		
Wind	Calm	Moderate	High	Report No.			
Humidity	Dry	Moderate	High				

SUB-CONTRACTORS ON SITE:

Soil Exploration (SE)

EQUIPMENT ON SITE: Mini Rae Plus PID, Mini Ram Dust Monitor, Micro Max LEL and oxygen / hydrogen sulfide meter (CGI), and Acker AD II Drill Rig, Solinist electric water level meter, Whale Supersub 12-volt D.C. pump, two Whale in-line 12 volt D.C. pumps and Horiba water quality meter.

WORK PERFORMED (INCLUDING SAMPLING)

Began development of well DFSWMW01

Placed gravel pad at monitoring wells DFSWMW01, DFSWMW02, DFSWMW03

DFSWMW01: Began developing well DFSWMW01. After removing approximately 330 gallons of water, the pump broke. Since not all of the water that was introduced into the well was removed, the well needs to be further developed. Plan on finishing well development on November 5, 1996.

Placed gravel pads at monitoring wells DFSWMW01, DFSWMW02, DFSWMW03

QUALITY CONTROL ACTIVITIES (INCLUDING FIELD CALIBRATIONS)

Zeroed PID and calibrated to 100.0 ppm isobutylene.
Calibrated Mini Ram Dust Monitor and CGI.
Well development equipment was decontaminated before developing well.

HEALTH AND SAFETY LEVELS AND ACTIVITIES (DAILY HEALTH AND SAFETY AUDIT ATTACHED)

No Health and Safety Issues to Report

PROBLEMS ENCOUNTERED/CORRECTION ACTION TAKEN:

Pump broke during well development. SE stated that they would drop off a new pump for us over the weekend so we could finish the development next week.

PROJECT: Devil's Foot Road Dump Site & Surrounding Areas

REPORT NUMBER:

JOB NUMBER: Delivery Order 19

DATE: 1 November 1996

SPECIAL NOTES
None.
TOMORROW'S EXPECTATIONS
Begin surface water and sediment sampling.

Lisa R. Nyberg

DAILY QUALITY CONTROL REPORT

DATE 4 November 1996

REPORT NUMBER: _____

COE ENGINEERING MANAGER: Robert Meader

PROJECT: Devil's Foot Road Dump Site and Surrounding Areas

JOB NUMBER: Delivery Order 19

CONTRACT NUMBER: DACW33-94-D-0007

Day	S	M	T	W	T	F	S

Weather	Bright Sun	Clear	Overcast	Rain	Snow
Temperature	T°32	32-50	50-70	70-85	85 Up
Wind	Calm	Moderate	High	Report No.	
Humidity	Dry	Moderate	High		

SUB-CONTRACTORS ON SITE:

None.

EQUIPMENT ON SITE: Mini Rae Plus PID, Horiba water quality meter, and hand pump.

WORK PERFORMED (INCLUDING SAMPLING)

Surface water and sediment sampling at DFSWSW01/DFSWSD01

Surface water sampling at DFSWSW05

Surface water sampling at DFSWSW06

Surface water sampling at DFSWSW07

DFSWSW01: Collected surface water sample using a stainless steel pan. (Note: the sample was to be analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, Total Dissolved Metals, TRPH, Hardness, and Total Suspended Solids. The contract laboratory missed holding times for SVOCs and Pest./PCBs so samples were collected again on November 21, 1996 for all parameters.) Samples for Total Dissolved Metals were filtered in the field using a hand pump and a .45 Micron filter. The water in the stream was approximately 8.5 - 10 inches deep.
The following water quality parameters were measured using a Horiba water quality meter:
pH - 4.72 Conductivity - 0.115 mS/cm Turbidity - -2 Dissolved Oxygen - 12.13 mg/l Temperature - 6.3 °C

DFSWSD01: Collected sediment sample using a trowel. The sample was analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, TRPH, TOC, AVS/SEM, and Grainsize.

DFSWSW05: Collected surface water sample using a dedicated disposable bailer. (Note: the sample was to be analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, Total Dissolved Metals, TRPH, Hardness, and Total Suspended Solids. The contract laboratory missed holding times for SVOCs and Pest./PCBs so samples were collected again on November 21, 1996 for all parameters.) Samples for Total Dissolved Metals were filtered in the field using a hand pump and a .45 Micron filter. The water in the catch basin was approximately 10-12 inches deep.
The following water quality parameters were measured using a Horiba water quality meter:
pH - 5.85 Conductivity - 0.055 mS/cm Turbidity - 51 Dissolved Oxygen - 11.98 mg/l Temperature - 12.8 °C

PROJECT: Devil's Foot Road Dump Site & Surrounding Areas **REPORT NUMBER:**

JOB NUMBER: Delivery Order 19 **DATE:** 4 November 1996

DFSWSW06: Collected surface water sample using a dedicated disposable bailer. (Note: the sample was to be analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, Total Dissolved Metals, TRPH, Hardness, and Total Suspended Solids. The contract laboratory missed holding times for SVOCs and Pest./PCBs so samples were collected again on November 21, 1996 for all parameters.) Samples for Total Dissolved Metals were filtered in the field using a hand pump and a .45 Micron filter. The water in the catch basin was approximately 1-3 inches deep.
The following water quality parameters were measured using a Horiba water quality meter:
pH - 6.14 Conductivity - 0.056 mS/cm Turbidity - 51 Dissolved Oxygen - 11.25 mg/l Temperature - 11.9 °C

DFSWSW06: Collected surface water sample using a disposable bailer. (Note: the sample was to be analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, Total Dissolved Metals, TRPH, Hardness, and Total Suspended Solids. The contract laboratory missed holding times for SVOCs and Pest./PCBs so samples were collected again on November 21, 1996 for all parameters.) Samples for Total Dissolved Metals were filtered in the field using a hand pump and a .45 Micron filter. The water in the catch basin was approximately 5 inches deep.
The following water quality parameters were measured using a Horiba water quality meter:
pH - 6.02 Conductivity - 0.003 mS/cm Turbidity - 51 ntu Dissolved Oxygen - 10.60 mg/l Temperature - 10.1 °C

QUALITY CONTROL ACTIVITIES (INCLUDING FIELD CALIBRATIONS)

Zeroed PID and calibrated to 100.0 ppm isobutylene.
Calibrated Horiba.
Sampling equipment was decontaminated as appropriate between each sample. Dedicated disposable bailers were used for surface water sampling.

HEALTH AND SAFETY LEVELS AND ACTIVITIES (DAILY HEALTH AND SAFETY AUDIT ATTACHED)

No Health and Safety Issues to Report

PROBLEMS ENCOUNTERED/CORRECTION ACTION TAKEN:

Sample DFSWSW01 had a negative number for turbidity. This is believed to have resulted from the presence of bubbles in the calibration fluid. When the Horiba was re-calibrated it read 0 for turbidity which is the correct number. The rest of the samples collected had reasonable turbidity numbers.

SPECIAL NOTES

Harold Luchka stopped by the site to see how the field work was progressing.

PROJECT: Devil's Foot Road Dump Site & Surrounding Areas

REPORT NUMBER:

JOB NUMBER: Delivery Order 19

DATE: 4 November 1996

TOMORROW'S EXPECTATIONS
Finish developing well DFSWMW01 and perform a falling head permeability test on DFSWMW01.
Collect Sediment Samples DFSWSD05, DFSWSD06, DFSWSD07, DFSWSD08, and DFSWSD09
Collect Surface Water Samples DFSWSW08 and DFSWSW09

Lisa R. Nyberg

DAILY QUALITY CONTROL REPORT

DATE 5 November 1996

REPORT NUMBER: _____

COE ENGINEERING MANAGER: Robert Meader

PROJECT: Devil's Foot Road Dump Site and Surrounding Areas

JOB NUMBER: Delivery Order 19

CONTRACT NUMBER: DACW33-94-D-0007

Day	S	M	T	W	T	F	S

Weather	Bright Sun	Clear	Overcast	Rain	Snow
Temperature	T°32	32-50	50-70	70-85	85 Up
Wind	Calm	Moderate	High	Report No.	
Humidity	Dry	Moderate	High		

SUB-CONTRACTORS ON SITE:

None.

EQUIPMENT ON SITE: Mini Rae Plus PID, Horiba water quality meter, hand auger, and hand pump.

WORK PERFORMED (INCLUDING SAMPLING)

Finish well development and perform falling head permeability test at DFSWMW01

Sediment sampling at DFSWSD05

Sediment sampling at DFSWSD07

Sediment sampling at DFSWSD06

Surface water and sediment sampling at DFSWSW08/DFSWSD08

Surface water and sediment sampling at DFSWSW09/DFSWSD09

Finished developing monitoring well DFSWMW01. Development continued until all of the water that was introduced into the well during the drilling was removed and water quality parameters were stable. The total amount of water removed was 415 gallons. Took photographs of a water sample after development was complete. Performed a falling head permeability test.

DFSWSD05: Collected sediment sample using a hand auger. The sample was analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, TRPH, TOC, and Grainsize.

DFSWSD07: Collected sediment sample using a hand auger. The sample was analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, TRPH, TOC, and Grainsize.

DFSWSD06: Collected sediment sample using a hand auger. The sediment had a petroleum odor. The sample was analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, TRPH, TOC, and Grainsize. A laboratory duplicate was collected (DFSWSD06D) and analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, TRPH, and TOC.

PROJECT: Devil's Foot Road Dump Site & Surrounding Areas **REPORT NUMBER:**_____

JOB NUMBER: Delivery Order 19 **DATE:** 5 November 1996

DFSWSW08: Collected surface water sample using a dedicated disposable bailer. (Note: the sample was to be analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, Total Dissolved Metals, TRPH, Hardness, and Total Suspended Solids. The contract laboratory missed holding times for SVOCs and Pest./PCBs so samples were collected again on November 21, 1996 for all parameters.) Samples for Total Dissolved Metals were filtered in the field using a hand pump and a .45 Micron filter. The water was approximately 16 inches deep.
The following water quality parameters were measured using a Horiba water quality meter:
pH - 5.54 Conductivity - 0.045 mS/cm Turbidity - 5 ntu Dissolved Oxygen - 12.31 mg/l Temperature - 13.5 °C

DFSWSD08: Collected sediment sample using a hand auger. The sample had a petroleum odor. The sample was analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, TRPH, TOC, and Grainsize.

DFSWSW09: Collected surface water sample using a stainless steel pan. (Note: the sample was to be analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, Total Dissolved Metals, TRPH, Hardness, and Total Suspended Solids. The contract laboratory missed holding times for SVOCs and Pest./PCBs. The surface water will be re-sampled on December 3, 1996 for all parameters.) The surface water collected for Total Dissolved Metals analysis was filtered in the field using a hand pump and a .45 Micron filter. The water was approximately 5 inches deep.
The following water quality parameters were measured using a Horiba water quality meter:
pH - 4.12 Conductivity - 0.112 mS/cm Turbidity - -10 ntu Dissolved Oxygen - 11.87 mg/l Temperature - 10.6 °C

DFSWSD09: Collected sediment sample using a hand auger. The sample was analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, TRPH, TOC, and Grainsize

QUALITY CONTROL ACTIVITIES (INCLUDING FIELD CALIBRATIONS)

Zeroed PID and calibrated to 100.0 ppm isobutylene.
Calibrated Horiba.
Sampling equipment was decontaminated as appropriate between each sample. Dedicated disposable bailers were used for surface water sampling.

HEALTH AND SAFETY LEVELS AND ACTIVITIES (DAILY HEALTH AND SAFETY AUDIT ATTACHED)

No Health and Safety Issues to Report

PROBLEMS ENCOUNTERED/CORRECTION ACTION TAKEN:

Sample DFSWSW09 had a negative number for turbidity. This is believed to have resulted from the presence of bubbles in the calibration fluid. When the Horiba was re-calibrated it read 0 for turbidity which is the correct number. The rest of the samples collected had reasonable turbidity numbers.

SPECIAL NOTES

None.

PROJECT: Devil's Foot Road Dump Site & Surrounding Areas

REPORT NUMBER:

JOB NUMBER: Delivery Order 19

DATE: 5 November 1996

TOMORROW'S EXPECTATIONS
Begin groundwater sampling.

Linda R. Nyborg

DAILY QUALITY CONTROL REPORT

DATE 6 November 1996

REPORT NUMBER: _____

COE ENGINEERING MANAGER: Robert Meader

PROJECT: Devil's Foot Road Dump Site and Surrounding Areas

JOB NUMBER: Delivery Order 19

CONTRACT NUMBER: DACW33-94-D-0007

Day	S	M	T	W	T	F	S

Weather	Bright Sun	Clear	Overcast	Rain	Snow
Temperature	T"32	32-50	50-70	70-85	85 Up
Wind	Calm	Moderate	High	Report No.	
Humidity	Dry	Moderate	High		

SUB-CONTRACTORS ON SITE:

GeoTrans, Inc.

EQUIPMENT ON SITE: Mini Rae Plus PID; YSI 3500 pH, specific conductance, and temperature meter with flow-through cell; HF Scientific turbidity meter; Grundfos 2-inch submersible pump with controller; and Solinist electric water level meter.

WORK PERFORMED (INCLUDING SAMPLING)

Groundwater sampling at DFSWME04

Groundwater sampling at DFSWPA03

Groundwater sampling at DFSWME03

Groundwater sampling at DFSWME02

DFSWME04: Based on past information the well is 16 feet bgs with a screened interval from 5.7 - 15.7 feet. The pump was set at 10.7 feet bgs. The headspace upon opening the well was 0.3 ppm (background was 0.1 ppm). 29 liters of water were purged from the well at an average pumping rate of 0.66 l/m. A groundwater sample was collected for offsite analysis of TTAL Metals. The purge water was drummed.

DFSWPA03: There is no past information on the well. The depth to water is 7.85 feet from the top of the riser. It is assumed that the screened interval is from 7 -17 feet from the top of the riser. The pump was set at 11 feet from the top of the riser. The headspace upon opening the well was 0.1 ppm (background was 0.0 ppm). 27 liters of water were purged from the well at an average pumping rate of 0.48 l/m. A groundwater sample was collected for offsite analysis of TTAL Metals. The purge water was drummed.

DFSWME03: Based on past information the well is 15 feet bgs with a screened interval from 4.7 - 14.7 feet bgs. The pump was set at 9.7 feet bgs. The headspace upon opening the well was 0.1 ppm (background was 0.0 ppm). 26 liters of water of were purged from the well at an average pumping rate of 0.60 l/m. A groundwater sample was collected for offsite analysis of TTAL Metals. The purge water was drummed.

DFSWME02: Based on past information the well is 20 feet bgs with a screened interval from 9.7 -19.7 feet bgs. The punp was set at 14.7 feet bgs. The headspace upon opening the well was 0.1 ppm (background was 0.0 ppm). 39 liters of water were purged from the well at an average pumping rate of 1 l/m. A groundwater sample was collected for offsite analysis of TTAL Metals. The purge water was drummed.

PROJECT: Devil's Foot Road Dump Site & Surrounding Areas **REPORT NUMBER:**

JOB NUMBER: Delivery Order 19 **DATE:** 6 November 1996

QUALITY CONTROL ACTIVITIES (INCLUDING FIELD CALIBRATIONS)

Zeroed PID and calibrated to 100.0 ppm isobutylene.
D. Finney of GeoTrans, Inc. calibrated the YSI 3500 pH, specific conductance, and temperature meter with flow-through cell and the HF Scientific turbidity meter.
Pump, associated tubing, and water level meter were decontaminated between each sample.

HEALTH AND SAFETY LEVELS AND ACTIVITIES (DAILY HEALTH AND SAFETY AUDIT ATTACHED)

Conducted initial health and safety briefing - Attendees were:

G. Nyberg - S&W D. Finney - GeoTrans, Inc.

PROBLEMS ENCOUNTERED/CORRECTION ACTION TAKEN:

Had problems with the generator. Used an inverter for power.

SPECIAL NOTES

None.

TOMORROW'S EXPECTATIONS

Collect groundwater samples from DFSWPA04, DFSWDMW04, DFSWDMW02, DFSWMW03, DFSWPA02

Linda R. Nyberg

DAILY QUALITY CONTROL REPORT

DATE 7 November 1996

REPORT NUMBER: _____

COE ENGINEERING MANAGER: Robert Meader

PROJECT: Devil's Foot Road Dump Site and Surrounding Areas

JOB NUMBER: Delivery Order 19

CONTRACT NUMBER: DACW33-94-D-0007

Day	S	M	T	W	X	F	S

Weather	Bright Sun	Clear	Overcast	Rain	Snow
Temperature	T°32	32-50	50-70	70-85	85 Up
Wind	Calm	Moderate	High	Report No.	
Humidity	Dry	Moderate	High		

SUB-CONTRACTORS ON SITE:

GeoTrans, Inc.

EQUIPMENT ON SITE: Mini Rae Plus PID; YSI 3500 pH, specific conductance, and temperature meter with flow-through cell; HF Scientific turbidity meter; Grundfos 2-inch submersible pump with controller; and Solinist electric water level meter.

WORK PERFORMED (INCLUDING SAMPLING)

Groundwater sampling at DFSWPA04

Groundwater sampling at DFSDMW04

Groundwater sampling at DFSWDMW02

Groundwater sampling at DFSWDMW03

Groundwater sampling at DFSWPA02

After decontaminating the pump and associated tubing a rinsate blank was collected.

DFSWPA04: There is no past information on the well. The depth to water is 4.81 feet from the top of the riser. It is assumed that the screened interval is from 4 - 14 feet from the top of the riser. The pump was set at 9 feet from the top of riser. The headspace upon opening the well was 1.2 ppm (background was 1.0 ppm). 21.5 liters of water were purged from the well at an average pumping rate of 0.41 l/m. A groundwater sample was collected for offsite analysis of TTAL Metals. The purge water was drummed.

DFSWDMW04: There is no past information on the well. The depth to water is 7.35 feet from the top of the riser. It is assumed that the screened interval is from 7 - 17 feet from the top of the riser. The pump was set at 12 from the top of the riser. The headspace upon opening the well was 1.2 ppm (background was 0.8 ppm). 20 liters of water were purged from the well at an average pumping rate of 0.74 l/m. A groundwater sample was collected for offsite analysis of TTAL Metals. The purge water was drummed.

DFSWDMW02: There is no past information on the well. The depth to water is 5.38 feet from the top of the riser. It is assumed that the screened interval is from 5 - 15 feet from the top of the riser. The pump was set at 10 feet from top of the riser. The headspace was not taken because it was raining heavily. 31.5 liters of water were purged from the well at an average pumping rate of 0.68 l/m. A groundwater sample was collected for offsite analysis of TTAL Metals. The purge water was drummed.

PROJECT: Devil's Foot Road Dump Site & Surrounding Areas **REPORT NUMBER:**_____

JOB NUMBER: Delivery Order 19 **DATE:** 7 November 1996

DFSWMW03: This well was installed by Stone & Webster on October 23, 1996. The total depth is 41.1 feet with a screened interval from 22 - 40 feet bgs. The pump was set at 32.2 feet from top of the riser. The headspace upon opening the well was 2.3 ppm (background was 2.3 ppm). 64 liters of water were purged from the well at an average pumping rate of 1 l/m. A groundwater sample was collected for offsite analysis of VOCs, SVOCs, TRPH, Pest./PCBs, and TTAL Metals. A groundwater sample (DFSWMWQ03) was collected for the QA laboratory for the analysis of VOCs, SVOCs, TRPH, Pest./PCBs, and TTAL Metals. The purge water was drummed.

Rinsate Blank: After decontaminating the pump and associated tubing a rinsate blank was collected for offsite analysis of VOCs, SVOCs, TRPH, Pest./PCBs, and TTAL Metals. Another rinsate blank (Rinsate QA GW) was collected for the QA laboratory for the analysis of VOCs, SVOCs, TRPH, Pest./PCBs, and TTAL Metals.

DFSWPA02: There is no past information on the well. The depth to water is 9.62 feet from the top of the riser. It is assumed that the screened interval is from 9 - 19 feet from top of the riser. The pump was set at 14 feet from top of the riser. The headspace upon opening the well was 2.1 ppm (background was 1.9 ppm). 19 liters of water were purged from the well at an average pumping rate of 0.7 l/m. A groundwater sample was collected for offsite analysis of TTAL Metals. The purge water was drummed.

QUALITY CONTROL ACTIVITIES (INCLUDING FIELD CALIBRATIONS)

Zeroed PID and calibrated to 100.0 ppm isobutylene.
D. Finney of GeoTrans, Inc. calibrated the YSI 3500 pH, specific conductance, and temperature meter with flow-through cell and the HF Scientific turbidity meter.
Pump, associated tubing, and water level meter were decontaminated between each sample.

HEALTH AND SAFETY LEVELS AND ACTIVITIES (DAILY HEALTH AND SAFETY AUDIT ATTACHED)

No Health and Safety issues to report.

PROBLEMS ENCOUNTERED/CORRECTION ACTION TAKEN:

None.

SPECIAL NOTES

None.

TOMORROW'S EXPECTATIONS

Collect groundwater samples from DFSWDMW03, DFSWDMW01, DFSWMW02, DFSWMW01, DFSWME01, and DFSWPA01

Gina L. Tyberg

DAILY QUALITY CONTROL REPORT

DATE 8 November 1996

REPORT NUMBER: _____

COE ENGINEERING MANAGER: Robert Meader

PROJECT: Devil's Foot Road Dump Site and Surrounding Areas

JOB NUMBER: Delivery Order 19

CONTRACT NUMBER: DACW33-94-D-0007

Day	S	M	T	W	T	F	S

Weather	Bright Sun	Clear	Overcast	Rain	Snow
Temperature	T°32	32-50	50-70	70-85	85 Up
Wind	Calm	Moderate	High	Report No.	
Humidity	Dry	Moderate	High		

SUB-CONTRACTORS ON SITE:

GeoTrans, Inc.

EQUIPMENT ON SITE: Mini Rae Plus PID; YSI 3500 pH, specific conductance, and temperature meter with flow-through cell; HF Scientific turbidity meter; Grundfos 2-inch submersible pump with controller; and Solinist electric water level meter.

WORK PERFORMED (INCLUDING SAMPLING)

Groundwater sampling at DFSWDMW01

Groundwater sampling at DFSWDMW03

Groundwater sampling at DFSWMW02

Groundwater sampling at DFSWMW01

Groundwater sampling at DFSWME01

Groundwater sampling at DFSWPA01

DFSWDMW01: There is no past information on the well. The depth to water was 5.40 feet from the top of the riser. It is assumed that the screened interval is from 5 - 15 feet from top of the riser. The pump was set at 10 feet from top of the riser. The headspace upon opening the well was 1.2 ppm (background was 1.2 ppm). 26 liters of water were purged from the well at an average pumping rate of 1 l/m. A groundwater sample was collected for offsite analysis of TTAL Metals. The purge water was drummed.

DFSWDMW03: There is no past information on the well. The depth to water was 10.49 feet from the top of the riser. It is assumed that the screened interval is from 10 - 20 feet from top of the riser. The pump was set at 15 feet from top of the riser. The headspace upon opening the well was 1.2 ppm (background was 0.8 ppm). 16.5 liters of water were purged from the well at an average pumping rate of 0.69 l/m. A groundwater sample was collected for offsite analysis of TTAL Metals. The purge water was drummed.

DFSWMW02: This well was installed by Stone & Webster on October 25, 1996. The total depth is 50.7 feet with a screened interval from 40.6 - 50.6 feet bgs. The pump was set at 45.6 feet bgs. The headspace upon opening the well was 0.7 ppm (background was 0.6 ppm). 13 liters of water were purged from the well at an average pumping rate of 0.43 l/m. A groundwater sample was collected for offsite analysis of VOCs, SVOCs, TRPH, Pest./PCBs, and TTAL Metals. The purge water was drummed.

PROJECT: Devil's Foot Road Dump Site & Surrounding Areas **REPORT NUMBER:**_____

JOB NUMBER: Delivery Order 19 **DATE:** 8 November 1996

DFSWMW01: This well was installed by Stone & Webster on October 30, 1996. The total depth is 59.2 feet with a screened interval from 47.5 - 57.5 feet bgs. The pump was set at 54.4 feet bgs. The headspace upon opening the well was 0.8 ppm (background was 0.7 ppm). 44 liters of water were purged from the well at an average pumping rate of .78 l/m. A groundwater sample was collected for offsite analysis of VOCs, SVOCs, TRPH, Pest./PCBs, and TTAL Metals. Extra volume was collected for MS/MSD analysis. The purge water was drummed.

DFSWME01: Based on past information the well is 14 feet bgs with a screened interval from 3.7 - 13.7 feet bgs. The pump was set at 11.5 feet from top of the riser. The headspace upon opening the well was 0.7 ppm (background was 0.5 ppm). 19 liters of water were purged from the well at an average pumping rate of 0.83 l/m. A groundwater sample was collected for offsite analysis of TTAL Metals. The purge water was drummed.

DFSWPA01: There is no past information on the well. The depth to water was 8.33 feet from the top of the riser. Assumed the screened interval is from 8 - 18 feet from top of the riser. The pump was set at 13 feet from top of the riser. The headspace upon opening the well was 0.6 ppm (background was 0.5 ppm). 20 liters of water of were purged from the well at an average pumping rate of 1.4 l/m. A groundwater sample was collected for offsite analysis of TTAL Metals. The purge water was drummed.

QUALITY CONTROL ACTIVITIES (INCLUDING FIELD CALIBRATIONS)

Zeroed PID and calibrated to 100.0 ppm isobutylene.
D. Finney of GeoTrans, Inc. calibrated the YSI 3500 pH, specific conductance, and temperature meter with flow-through cell and the HF Scientific turbidity meter.
Pump, associated tubing, and water level meter were decontaminated between each sample.

HEALTH AND SAFETY LEVELS AND ACTIVITIES (DAILY HEALTH AND SAFETY AUDIT ATTACHED)

No Health and Safety issues to report.

PROBLEMS ENCOUNTERED/CORRECTION ACTION TAKEN:

None.

SPECIAL NOTES

None.

TOMORROW'S EXPECTATIONS

Collect surface water and sediment samples from DFSWSW13/DFSWSD13 and DFSWSW13/DFSWSD13

Lincoln Hubbard

DAILY QUALITY CONTROL REPORT

DATE 12 November 1996

REPORT NUMBER: _____

COE ENGINEERING MANAGER: Robert Meader

PROJECT: Devil's Foot Road Dump Site and Surrounding Areas

JOB NUMBER: Delivery Order 19

CONTRACT NUMBER: DACW33-94-D-0007

Day	S	M	X T	W	T	F	S

Weather	Bright Sun	Clear	Overcast	Rain	Snow
Temperature	T°32	32-50	50-70	70-85	85 Up
Wind	Calm	Moderate	High	Report No.	
Humidity	Dry	Moderate	High		

SUB-CONTRACTORS ON SITE:

None.

EQUIPMENT ON SITE: Mini Rae Plus PID, Horiba water quality meter, hand pump, and hand auger.

WORK PERFORMED (INCLUDING SAMPLING)

Surface water and sediment sampling at DFSWSW13/DFSWSD13

Surface water sampling at DFSWSW12

DFSWSW13: Collected surface water sample using a stainless steel pan. The sample was analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, Total Dissolved Metals, TRPH, Hardness, and Total Suspended Solids. Extra volume was collected to perform an MS/MSD analysis for TTAL Metals. The surface water collected for Total Dissolved Metals was filtered in the field using a hand pump and a .45 Micron filter. The water in the swamp was approximately 4 inches deep.
The following water quality parameters were measured using a Horiba water quality meter:
pH - 5.60 Conductivity - 0.123 mS/cm Turbidity - 180 ntu Dissolved Oxygen - 13.62 mg/l Temperature - 4.0 °C

DFSWSD13: Collected sediment sample using a hand auger. The sample was analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, TRPH, TOC, AVS/SEM, and Grainsize.

DFSWSW12: Collected surface water sample using a stainless steel pan. The sample was analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, Total Dissolved Metals, TRPH, Hardness, and Total Suspended Solids. The surface water collected for Total Dissolved Metals was filtered in the field using a hand pump and a .45 Micron filter. The water in the swamp was approximately 5 inches deep.
The following water quality parameters were measured using a Horiba water quality meter:
pH - 5.78 Conductivity - 0.067 mS/cm Turbidity - 56 ntu Dissolved Oxygen - 13.03 mg/l Temperature - 5.9 °C

QUALITY CONTROL ACTIVITIES (INCLUDING FIELD CALIBRATIONS)

PROJECT: Devil's Foot Road Dump Site & Surrounding Areas

REPORT NUMBER:

JOB NUMBER: Delivery Order 19

DATE: 12 November 1996

Zeroed PID and calibrated to 100.0 ppm isobutylene.
Calibrated Horiba.
Sampling equipment was decontaminated between each sample.

HEALTH AND SAFETY LEVELS AND ACTIVITIES (DAILY HEALTH AND SAFETY AUDIT ATTACHED)

No Health and Safety Issues to Report.

PROBLEMS ENCOUNTERED/CORRECTION ACTION TAKEN:

None.

SPECIAL NOTES

None.

TOMORROW'S EXPECTATIONS

Collect Sediment Samples DFSWSD11, DFSWSD10, DFSWSD02, DFSWSD03, and DFSWSD04

Collect Surface Water Samples DFSWSW12, DFSWSW10, DFSWSW11, DFSWSW02, DFSWSW03, and DFSWSW04

Lina R. Nyberg

TABLE G-1: NONCARCINOGENIC RISK CALCULATIONS FOR CURRENT HUMAN RECEPTORS

Noncarcinogenic Current Site Use
Maximum Exposure to Commercial/Industrial Worker

	Total Dose			Reference Dose			Hazard Indices			
Constituent	Inhalation (mg/kg*d)	Ingestion (mg/kg*d)	Dermal Contact (mg/kg*d)	Inhalation (mg/kg*d)	Ingestion (mg/kg*d)	Dermal Contact (mg/kg*d)	Inhalation	Ingestion	Dermal Contact	Total Hazard Index
SVOCs										
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00				
TPH										
TPH	1.5E-06	1.8E-03	1.6E-03	0.0E+00	3.0E-02	3.0E-02		6.1E-02	5.5E-02	1.2E-01
Pesticides/PCBs										
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.0E-05	2.0E-05				
Inorganic Compounds										
Aluminum	0.0E+00	0.0E+00	0.0E+00	1.0E-03	1.0E+00	1.0E+00				
Arsenic	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.0E-04	3.0E-04				
Beryllium	1.0E-08	1.3E-05	2.4E-07	5.7E-06	2.0E-03	2.0E-03	1.8E-03	6.6E-03	1.2E-04	8.5E-03
Cobalt	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.8E-01	1.8E-01				
Lead	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00				
Manganese	0.0E+00	0.0E+00	0.0E+00	1.4E-05	2.4E-02	2.4E-02				
Thallium	0.0E+00	0.0E+00	0.0E+00	0.0E+00	8.0E-05	8.0E-05				
Zinc	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.0E-01	3.0E-01				
						HI Sum	1.8E-03	6.8E-02	5.5E-02	
							Total Receptor Hazard Index			**1E-01**

TABLE G-2: CARCINOGENIC RISK CALCULATIONS FOR CURRENT HUMAN RECEPTORS

Carcinogenic Current Site Use
Mean Exposure to Trespasser

	Ingestion		Dermal Contact			Total Dose		Slope Factor		Cancer Risk		
Constituent	Incidental Ingestion of Surface Soil (mg/kg*d)	Incidental Ingestion of Surface Water (mg/kg*d)	Dermal Contact with Surface Soil (mg/kg*d)	Dermal Contact with Sediment (mg/kg*d)	Dermal Contact with Surface Water (mg/kg*d)	Ingestion (mg/kg*d)	Dermal Contact (mg/kg*d)	Ingestion $(mg/kg*d)^{-1}$	Dermal Contact $(mg/kg*d)^{-1}$	Ingestion	Dermal Contact	Total Cancer Risk
SVOCs												
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	1.1E-08	0.0E+00	0.0E+00	1.1E-08	7.3E+00	7.3E+00	0.0E+00	8.4E-08	8.4E-08
TPH												
TPH	2.7E-06	0.0E+00	6.8E-05	5.3E-04	0.0E+00	2.7E-06	6.0E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Pesticides/PCBs												
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	2.6E-08	0.0E+00	0.0E+00	2.6E-08	2.0E+00	2.0E+00	0.0E+00	5.2E-08	5.2E-08
Inorganic Compounds												
Aluminum	0.0E+00	1.2E-05	0.0E+00	0.0E+00	6.2E-09	1.2E-05	6.2E-09	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Arsenic	0.0E+00	7.1E-07	0.0E+00	5.3E-08	3.6E-10	7.1E-07	5.3E-08	1.5E+00	1.5E+00	1.1E-06	7.9E-08	1.1E-06
Beryllium	7.7E-09	0.0E+00	3.8E-09	1.2E-08	0.0E+00	7.7E-09	1.6E-08	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Cobalt	0.0E+00	4.0E-08	0.0E+00	0.0E+00	2.0E-11	4.0E-08	2.0E-11	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Lead	0.0E+00	3.1E-08	0.0E+00	0.0E+00	5.3E-11	3.1E-08	5.3E-11	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Manganese	0.0E+00	2.9E-06	0.0E+00	0.0E+00	1.5E-09	2.9E-06	1.5E-09	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Thallium	0.0E+00	3.9E-08	0.0E+00	0.0E+00	2.0E-11	3.9E-08	2.0E-11	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Zinc	0.0E+00	5.8E-07	0.0E+00	0.0E+00	2.9E-10	5.8E-07	2.9E-10	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
									ELCR Sum	1.1E-06	2.1E-07	
									Total Receptor Cancer Risk			**1E-06**

TABLE G-2: CARCINOGENIC RISK CALCULATIONS FOR CURRENT HUMAN RECEPTORS

Carcinogenic Current Site Use
Maximum Exposure to Trespasser

	Ingestion		Dermal Contact			Total Dose		Slope Factor		Cancer Risk		
Constituent	Incidental Ingestion of Surface Soil (mg/kg*d)	Incidental Ingestion of Surface Water (mg/kg*d)	Dermal Contact with Surface Soil (mg/kg*d)	Dermal Contact with Sediment (mg/kg*d)	Dermal Contact with Surface Water (mg/kg*d)	Ingestion (mg/kg*d)	Dermal Contact (mg/kg*d)	Ingestion $(mg/kg*d)^{-1}$	Dermal Contact $(mg/kg*d)^{-1}$	Ingestion	Dermal Contact	Total Cancer Risk
SVOCs												
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	2.8E-08	0.0E+00	0.0E+00	2.8E-08	7.3E+00	7.3E+00	0.0E+00	2.0E-07	2.0E-07
TPH												
TPH	3.9E-06	0.0E+00	9.7E-05	2.4E-03	0.0E+00	3.9E-06	2.5E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Pesticides/PCBs												
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	2.0E-07	0.0E+00	0.0E+00	2.0E-07	2.0E+00	2.0E+00	0.0E+00	4.0E-07	4.0E-07
Inorganic Compounds												
Aluminum	0.0E+00	5.1E-05	0.0E+00	0.0E+00	2.6E-08	5.1E-05	2.6E-08	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Arsenic	0.0E+00	2.3E-06	0.0E+00	3.8E-07	1.2E-09	2.3E-06	3.9E-07	1.5E+00	1.5E+00	3.5E-06	5.8E-07	4.1E-06
Beryllium	2.0E-08	0.0E+00	1.0E-08	1.3E-07	0.0E+00	2.0E-08	1.4E-07	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Cobalt	0.0E+00	7.2E-08	0.0E+00	0.0E+00	3.7E-11	7.2E-08	3.7E-11	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Lead	0.0E+00	8.7E-08	0.0E+00	0.0E+00	1.5E-10	8.7E-08	1.5E-10	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Manganese	0.0E+00	9.4E-06	0.0E+00	0.0E+00	4.8E-09	9.4E-06	4.8E-09	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Thallium	0.0E+00	7.2E-08	0.0E+00	0.0E+00	3.7E-11	7.2E-08	3.7E-11	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Zinc	0.0E+00	2.2E-06	0.0E+00	0.0E+00	1.1E-09	2.2E-06	1.1E-09	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
									ELCR Sum	3.5E-06	1.2E-06	
									Total Receptor Cancer Risk			**5E-06**

TABLE G-2: CARCINOGENIC RISK CALCULATIONS FOR CURRENT HUMAN RECEPTORS

	Carcinogenic Current Site Use					
	Mean Exposure to Commercial/Industrial Worker					
	Inhalation		Ingestion		Dermal Contact	
Constituent	Inhalation of Surface Soil Fugitive Dust (mg/kg*d)	Inhalation of Subsurface Soil Fugitive Dust (mg/kg*d)	Incidental Ingestion of Surface Soil (mg/kg*d)	Incidental Ingestion of Subsurface Soil (mg/kg*d)	Dermal Contact with Surface Soil (mg/kg*d)	Dermal Contact with Subsurface Soil (mg/kg*d)
SVOCs						
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
TPH						
TPH	2.3E-07	7.7E-08	2.9E-04	9.7E-05	2.6E-04	8.7E-05
Pesticides/PCBs						
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Inorganic Compounds						
Aluminum	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Arsenic	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Beryllium	6.6E-10	6.0E-10	8.3E-07	7.6E-07	1.5E-08	1.4E-08
Cobalt	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Lead	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Manganese	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Thallium	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Zinc	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

TABLE G-2: CARCINOGENIC RISK CALCULATIONS FOR CURRENT HUMAN RECEPTORS

Carcinogenic Current Site Use

Mean Exposure to Commercial/Industrial Worker

	Total Dose			Slope Factor			Cancer Risk			
Constituent	Inhalation (mg/kg*d)	Ingestion (mg/kg*d)	Dermal Contact (mg/kg*d)	Inhalation $(mg/kg*d)^{-1}$	Ingestion $(mg/kg*d)^{-1}$	Dermal Contact $(mg/kg*d)^{-1}$	Inhalation	Ingestion	Dermal Contact	Total Cancer Risk
SVOCs										
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	3.1E+00	7.3E+00	7.3E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
TPH										
TPH	3.1E-07	3.9E-04	3.5E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Pesticides/PCBs										
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	2.0E+00	2.0E+00	2.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Inorganic Compounds										
Aluminum	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Arsenic	0.0E+00	0.0E+00	0.0E+00	1.5E+01	1.5E+00	1.5E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Beryllium	1.3E-09	1.6E-06	2.8E-08	8.4E+00	0.0E+00	0.0E+00	1.1E-08	0.0E+00	0.0E+00	1.1E-08
Cobalt	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Lead	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Manganese	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Thallium	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Zinc	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
						ELCR Sum	1.1E-08	0.0E+00	0.0E+00	
							Total Receptor Cancer Risk			**1E-08**

TABLE G-2: CARCINOGENIC RISK CALCULATIONS FOR CURRENT HUMAN RECEPTORS

	Carcinogenic Current Site Use					
	Maximum Exposure to Commercial/Industrial Worker					
	Inhalation		Ingestion		Dermal Contact	
Constituent	Inhalation of Subsurface Soil Fugitive Dust (mg/kg*d)	Inhalation of Surface Soil Fugitive Dust (mg/kg*d)	Incidental Ingestion of Surface Soil (mg/kg*d)	Incidental Ingestion of Subsurface Soil (mg/kg*d)	Dermal Contact with Surface Soil (mg/kg*d)	Dermal Contact with Subsurface Soil (mg/kg*d)
SVOCs						
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
TPH						
TPH	3.4E-07	1.5E-07	4.2E-04	1.9E-04	3.8E-04	1.7E-04
Pesticides/PCBs						
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Inorganic Compounds						
Aluminum	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Arsenic	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Beryllium	1.7E-09	1.7E-09	2.2E-06	2.2E-06	3.9E-08	3.9E-08
Cobalt	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Lead	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Manganese	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Thallium	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Zinc	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

TABLE G-2: CARCINOGENIC RISK CALCULATIONS FOR CURRENT HUMAN RECEPTORS

Carcinogenic Current Site Use
Maximum Exposure to Commercial/Industrial Worker

	Total Dose			Slope Factor			Cancer Risk			
Constituent	Inhalation (mg/kg*d)	Ingestion (mg/kg*d)	Dermal Contact (mg/kg*d)	Inhalation $(mg/kg*d)^{-1}$	Ingestion $(mg/kg*d)^{-1}$	Dermal Contact $(mg/kg*d)^{-1}$	Inhalation	Ingestion	Dermal Contact	Total Cancer Risk
SVOCs										
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	3.1E+00	7.3E+00	7.3E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
TPH										
TPH	4.9E-07	6.1E-04	5.5E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Pesticides/PCBs										
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	2.0E+00	2.0E+00	2.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Inorganic Compounds										
Aluminum	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Arsenic	0.0E+00	0.0E+00	0.0E+00	1.5E+01	1.5E+00	1.5E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Beryllium	3.5E-09	4.4E-06	7.9E-08	8.4E+00	0.0E+00	0.0E+00	2.9E-08	0.0E+00	0.0E+00	2.9E-08
Cobalt	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Lead	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Manganese	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Thallium	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Zinc	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
						ELCR Sum	2.9E-08	0.0E+00	0.0E+00	
							Total Receptor Cancer Risk			**3E-08**

TABLE G-3: NONCARCINOGENIC RISK CALCULATIONS FOR FUTURE HUMAN RECEPTORS

	Noncarcinogenic Future Site Use							
	Mean Exposure to Commercial/Industrial Worker							
	Inhalation		Ingestion			Dermal Contact		
Constituent	Inhalation of Surface Soil Fugitive Dust (mg/kg*d)	Inhalation of Subsurface Soil Fugitive Dust (mg/kg*d)	Incidental Ingestion of Surface Soil (mg/kg*d)	Incidental Ingestion of Subsurface Soil (mg/kg*d)	Ingestion of Ground Water (mg/kg*d)	Dermal Contact with Surface Soil (mg/kg*d)	Dermal Contact with Subsurface Soil (mg/kg*d)	Dermal Contact with Ground Water (mg/kg*d)
SVOCs								
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
TPH								
TPH	7.0E-07	2.3E-07	8.8E-04	2.9E-04	0.0E+00	7.9E-04	2.6E-04	0.0E+00
Pesticides/PCBs								
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Inorganic Compounds								
Aluminum	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.2E-03	0.0E+00	0.0E+00	1.9E-08
Arsenic	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Beryllium	2.0E-09	1.8E-09	2.5E-06	2.3E-06	0.0E+00	4.5E-08	4.1E-08	0.0E+00
Cobalt	0.0E+00	0.0E+00	0.0E+00	0.0E+00	4.1E-05	0.0E+00	0.0E+00	3.6E-10
Lead	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Manganese	0.0E+00	0.0E+00	0.0E+00	0.0E+00	4.2E-03	0.0E+00	0.0E+00	3.7E-08
Thallium	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.2E-05	0.0E+00	0.0E+00	2.0E-10
Zinc	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.7E-04	0.0E+00	0.0E+00	3.2E-09

TABLE G-3: NONCARCINOGENIC RISK CALCULATIONS FOR FUTURE HUMAN RECEPTORS

Noncarcinogenic Future Site Use
Mean Exposure to Commercial/Industrial Worker

Constituent	Total Dose			Reference Dose			Hazard Indices			Total Hazard Index
	Inhalation (mg/kg*d)	Ingestion (mg/kg*d)	Dermal Contact (mg/kg*d)	Inhalation (mg/kg*d)	Ingestion (mg/kg*d)	Dermal Contact (mg/kg*d)	Inhalation	Ingestion	Dermal Contact	
SVOCs										
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00				
TPH										
TPH	9.3E-07	1.2E-03	1.1E-03	0.0E+00	3.0E-02	3.0E-02		3.9E-02	3.5E-02	7.4E-02
Pesticides/PCBs										
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.0E-05	2.0E-05				
Inorganic Compounds										
Aluminum	0.0E+00	2.2E-03	1.9E-08	1.0E-03	1.0E+00	1.0E+00	0.0E+00	2.2E-03	1.9E-08	2.2E-03
Arsenic	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.0E-04	3.0E-04				
Beryllium	3.8E-09	4.8E-06	8.5E-08	5.7E-06	2.0E-03	2.0E-03	6.7E-04	2.4E-03	4.3E-05	3.1E-03
Cobalt	0.0E+00	4.1E-05	3.6E-10	0.0E+00	1.8E-01	1.8E-01		2.3E-04	2.0E-09	2.3E-04
Lead	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00				0.0E+00
Manganese	0.0E+00	4.2E-03	3.7E-08	1.4E-05	2.4E-02	2.4E-02	0.0E+00	1.8E-01	1.5E-06	1.8E-01
Thallium	0.0E+00	2.2E-05	2.0E-10	0.0E+00	8.0E-05	8.0E-05		2.8E-01	2.5E-06	2.8E-01
Zinc	0.0E+00	3.7E-04	3.2E-09	0.0E+00	3.0E-01	3.0E-01		1.2E-03	1.1E-08	1.2E-03
						HI Sum	6.7E-04	5.0E-01	3.5E-02	
							Total Receptor Hazard Index			**5E-01**

DAILY QUALITY CONTROL REPORT

DATE 13 November 1996

REPORT NUMBER: _____

COE ENGINEERING MANAGER: Robert Meader

PROJECT: Devil's Foot Road Dump Site and Surrounding Areas

JOB NUMBER: Delivery Order 19

CONTRACT NUMBER: DACW33-94-D-0007

Day	S	M	T	W	T	F	S

Weather	Bright Sun	Clear	Overcast	Rain	Snow
Temperature	T°32	32-50	50-70	70-85	85 Up
Wind	Calm	Moderate	High	Report No.	
Humidity	Dry	Moderate	High		

SUB-CONTRACTORS ON SITE:

None.

EQUIPMENT ON SITE: Mini Rae Plus PID, Horiba water quality meter, hand pump, hand auger, and Petite Ponar dredge sampler.

WORK PERFORMED (INCLUDING SAMPLING)

Sediment sampling at DFSWSD12

Surface water and sediment sampling at DFSWSW11/DFSWSD11

Surface water and sediment sampling at DFSWSW10/DFSWSD10

Surface water and sediment sampling at DFSWSW02/DFSWSD02

Surface water and sediment sampling at DFSWSW03/DFSWSD03

Surface water and sediment sampling at DFSWSW04/DFSWSD04

DFSWSD12: Collected sediment sample using a hand auger. The sample was analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, TRPH, TOC, and Grainsize.

DFSWSW11: Collected surface water sample using a stainless steel pan. The sample was analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, Total Dissolved Metals, TRPH, Hardness, and Total Suspended Solids. The surface water collected for Total Dissolved Metals was filtered in the field using a hand pump and a .45 Micron filter. The water in the swamp was approximately 5 inches deep.
The following water quality parameters were measured using a Horiba water quality meter:
pH - 4.24 Conductivity - 0.090 mS/cm Turbidity - 9 ntu Dissolved Oxygen - 13.94 mg/l Temperature - 3.3 °C

DFSWSD11: Collected sediment sample using a hand auger. The sample was analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, TRPH, TOC, and Grainsize.

PROJECT: Devil's Foot Road Dump Site & Surrounding Areas

REPORT NUMBER:

JOB NUMBER: Delivery Order 19

DATE: 13 November 1996

DFSWSW10: Collected surface water sample using a stainless steel pan. The sample was analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, Total Dissolved Metals, TRPH, Hardness, and Total Suspended Solids. The surface water collected for Total Dissolved Metals was filtered in the field using a hand pump and a .45 Micron filter. The water in the stream was approximately 6 inches deep.
The following water quality parameters were measured using a Horiba water quality meter:
pH - 5.13 Conductivity - 0.104 mS/cm Turbidity - 35 ntu Dissolved Oxygen - 13.76 mg/l Temperature - 4.5 °C

DFSWSD10: Collected sediment sample using a hand auger. The sample was analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, TRPH, TOC, AVS/SEM and Grainsize.

DFSWSW02: Collected surface water sample using a stainless steel pan The sample was analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, Total Dissolved Metals, TRPH, Hardness, and Total Suspended Solids. The surface water collected for Total Dissolved Metals was filtered in the field using a hand pump and a .45 Micron filter. The water in the pond was approximately 4 feet deep.
The following water quality parameters were measured using a Horiba water quality meter:
pH - 4.86 Conductivity - 0.082 mS/cm Turbidity - 2 ntu Dissolved Oxygen - 14.02 mg/l Temperature - 13.95 °C

DFSWSD02: Collected sediment sample using a Petite Ponar dredge sampler. The sample was analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, TRPH, TOC, and Grainsize The sediment was an oily sludge with a sheen and petroleum odor. Since the sediment appeared to be contaminated Stone & Webster field personnel instructed the laboratory to employ a Gel Permeation Chromatography (GPC) cleanup step prior to analysis. The GPC cleanup is used to remove heavier weight organics.

DFSWSW03: Collected surface water sample using a stainless steel pan. The sample was analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, Total Dissolved Metals, TRPH, Hardness, and Total Suspended Solids. The surface water collected for Total Dissolved Metals was filtered in the field using a hand pump and a .45 Micron filter. The water in the pond was approximately 12 feet deep.
The following water quality parameters were measured using a Horiba water quality meter:
pH - 5.34 Conductivity - 0.085 mS/cm Turbidity - 2 ntu Dissolved Oxygen - 13.41 mg/l Temperature - 4.8 °C

DFSWSD03: Collected sediment sample using a Petite Ponar dredge sampler. The sample was analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, TRPH, TOC, AVS/SEM and Grainsize. A laboratory duplicate was collected to be analyzed for AVS/SEM only. The sediment was an oily sludge with a sheen and petroleum odor. Since the sediment appeared to be contaminated Stone & Webster field personnel instructed the laboratory to employ a Gel Permeation Chromatography (GPC) cleanup step prior to analysis. The GPC cleanup is used to remove heavier weight organics.

PROJECT: Devil's Foot Road Dump Site & Surrounding Areas **REPORT NUMBER:**_____

JOB NUMBER: Delivery Order 19 **DATE:** 13 November 1996

DFSWSW04: Collected surface water sample using a stainless steel pan. The sample was analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, Total Dissolved Metals, TRPH, Hardness, and Total Suspended Solids. A laboratory duplicate (DFSWSW04D) was collected to be analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, Total Dissolved Metals, TRPH, Hardness, and Total Suspended Solids. Another duplicate sample (DFSWSWQ04) was collected and sent to the QA laboratory. The surface water collected for Total Dissolved Metals was filtered in the field using a hand pump and a .45 Micron filter. The water in the pond was approximately 4 feet deep.
The following water quality parameters were measured using a Horiba water quality meter:
pH - 3.67 Conductivity - 0.011 mS/cm Turbidity - 0 ntu Dissolved Oxygen - 12.59 mg/l Temperature - 3.6 °C

DFSWSD04: Collected sediment sample using a Petite Ponar dredge sampler. The sample was analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, TRPH, TOC, and Grainsize. A duplicate sample (DFSWSDQ04) was collected and sent to the QA to be analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, TRPH, and TOC. The sediment was an oily sludge with a sheen and petroleum odor. Since the sediment appeared to be contaminated Stone & Webster field personnel instructed the laboratory to employ a Gel Permeation Chromatography (GPC) cleanup step prior to analysis. The GPC cleanup is used to remove heavier weight organics.

QUALITY CONTROL ACTIVITIES (INCLUDING FIELD CALIBRATIONS)

Zeroed PID and calibrated to 100.0 ppm isobutylene.
Calibrated Horiba.
Sampling equipment was decontaminated between each sample.

HEALTH AND SAFETY LEVELS AND ACTIVITIES (DAILY HEALTH AND SAFETY AUDIT ATTACHED)

No Health and Safety Issues to Report

PROBLEMS ENCOUNTERED/CORRECTION ACTION TAKEN:

None.

SPECIAL NOTES

None.

TOMORROW'S EXPECTATIONS

Field work completed

Gina R. Nyberg

DAILY QUALITY CONTROL REPORT

DATE 21 November 1996

REPORT NUMBER: _____

COE ENGINEERING MANAGER: Robert Meader

PROJECT: Devil's Foot Road Dump Site and Surrounding Areas

JOB NUMBER: Delivery Order 19

CONTRACT NUMBER: DACW33-94-D-0007

Day	S	M	T	W	T	F	S

Weather	Bright Sun	Clear	Overcast	Rain	Snow
Temperature	T°32	32-50	50-70	70-85	85 Up
Wind	Calm	Moderate	High	Report No.	
Humidity	Dry	Moderate	High		

SUB-CONTRACTORS ON SITE:

None.

EQUIPMENT ON SITE: Mini Rae Plus PID, Horiba water quality meter, hand auger, and hand pump.

WORK PERFORMED (INCLUDING SAMPLING)

Re-sampling surface water at DFSWSW01

Re-sampling surface water at DFSWSW05

Re-sampling surface water at DFSWSW06

Re-sampling surface water at DFSWSW07

Re-sampling surface water at DFSWSW08

Note: These surface water locations had to be re-sampled because the contract laboratory exceeded the holding times for SVOCs and Pest./PCBs.

DFSWSW01: Collected surface water sample using a stainless steel pan. The sample was analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, Total Dissolved Metals, TRPH, Hardness, and Total Suspended Solids. The surface water collected for Total Dissolved Metals were filtered in the field using a hand pump and a .45 Micron filter. The water in the stream was approximately 10 inches deep.
The following water quality parameters were measured using a Horiba water quality meter:
pH - 3.91 Conductivity - 0.173 mS/cm Turbidity - 1 ntu Dissolved Oxygen - 12.46 mg/l Temperature - 4.6 °C

DFSWSW05: Collected surface water sample using a dedicated disposable bailer. The sample was analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, Total Dissolved Metals, TRPH, Hardness, and Total Suspended Solids. The surface water collected for Total Dissolved Metals was filtered in the field using a hand pump and a .45 Micron filter. The water in the catch basin was approximately 12 inches deep.
The following water quality parameters were measured using a Horiba water quality meter:
pH - 5.62 Conductivity - 0.063 mS/cm Turbidity - 49 ntu Dissolved Oxygen - 10.97 mg/l Temperature - 9.2 °C

PROJECT: Devil's Foot Road Dump Site & Surrounding Areas

REPORT NUMBER:

JOB NUMBER: Delivery Order 19

DATE: 21 November 1996

DFSWSW06: Collected surface water sample using a dedicated disposable bailer. The sample was analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, Total Dissolved Metals, TRPH, Hardness, and Total Suspended Solids. The surface water collected for Total Dissolved Metals was filtered in the field using a hand pump and a .45 Micron filter. The water in the catch basin was approximately 3 inches deep
The following water quality parameters were measured using a Horiba water quality meter:
pH - 6.35 Conductivity - 0.059 mS/cm Turbidity - 52 ntu Dissolved Oxygen - 11.83 mg/l Temperature - 10.5 °C

DFSWSW07: Collected surface water sample using a dedicated disposable bailer. The sample was analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, Total Dissolved Metals, TRPH, Hardness, and Total Suspended Solids. The surface water collected for Total Dissolved Metals was filtered in the field using a hand pump and a .45 Micron filter. The water in the catch basin was approximately 5 inches deep.
The following water quality parameters were measured using a Horiba water quality meter:
pH - 6.79 Conductivity - 0.043 mS/cm Turbidity - -1 ntu Dissolved Oxygen - 12.95 mg/l Temperature - 10.5 °C

DFSWSW08: Collected surface water sample using a stainless steel pan. The sample was to be analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, Total Dissolved Metals, TRPH, Hardness, and Total Suspended Solids. The surface water collected for Total Dissolved Metals was filtered in the field using a hand pump and a .45 Micron filter. The water in the catch basin was approximately 21 inches deep.
The following water quality parameters were measured using a Horiba water quality meter:
pH - 5.12 Conductivity - 0.058 mS/cm Turbidity - -10 ntu Dissolved Oxygen - 12.29 mg/l Temperature - 9.7 °C

QUALITY CONTROL ACTIVITIES (INCLUDING FIELD CALIBRATIONS)

Zeroed PID and calibrated to 100.0 ppm isobutylene.
Calibrated Horiba.
Sampling equipment was decontaminated as appropriate between each sample. Dedicated disposable bailers were used for surface water sampling.

HEALTH AND SAFETY LEVELS AND ACTIVITIES (DAILY HEALTH AND SAFETY AUDIT ATTACHED)

No Health and Safety Issues to Report

PROBLEMS ENCOUNTERED/CORRECTION ACTION TAKEN:

Samples DFSWSW07 and DFSWSW08 had negative numbers for turbidity. This is believed to have resulted from the presence of bubbles in the calibration fluid. When the Horiba was re-calibrated it read 0 for turbidity which is the correct number. The rest of the samples collected had reasonable turbidity numbers.

SPECIAL NOTES

None.

PROJECT: Devil's Foot Road Dump Site & Surrounding Areas

REPORT NUMBER:

JOB NUMBER: Delivery Order 19

DATE: 21 November 1996

TOMORROW'S EXPECTATIONS
Field work is completed.

Lisa R. Tyfany

DAILY QUALITY CONTROL REPORT

DATE 3 December 1996

REPORT NUMBER: _____

COE ENGINEERING MANAGER: Robert Meader

PROJECT: Devil's Foot Road Dump Site and Surrounding Areas

JOB NUMBER: Delivery Order 19

CONTRACT NUMBER: DACW33-94-D-0007

Day	S	M	~~T~~	W	T	F	S

Weather	Bright Sun	Clear	Overcast	Rain	Snow
Temperature	T°32	32-50	50-70	70-85	85 Up
Wind	Calm	Moderate	High	Report No	
Humidity	Dry	Moderate	High		

SUB-CONTRACTORS ON SITE:

None.

EQUIPMENT ON SITE: Mini Rae Plus PID and Horiba water quality meter

WORK PERFORMED (INCLUDING SAMPLING)

Re-sampling surface water at DFSWSW09

Note: This surface water location had to be re-sampled because the contract laboratory exceeded the holding times for SVOCs and Pest./PCBs

DFSWSW09· Collected surface water sample using a stainless steel pan The sample was analyzed for VOCs, SVOCs, Pest./PCBs, TTAL Metals, Total Dissolved Metals, TRPH, Hardness, and Total Suspended Solids The surface water collected for Total Dissolved Metals was filtered in the field using a hand pump and a .45 Micron filter. The water in the stream was approximately 5 inches deep.
The following water quality parameters were measured using a Horiba water quality meter:
pH - 3.89 Conductivity - 0.092 mS/cm Turbidity - -2 ntu Dissolved Oxygen - 16.48 mg/l Temperature - 7.1 °C

QUALITY CONTROL ACTIVITIES (INCLUDING FIELD CALIBRATIONS)

Zeroed PID and calibrated to 100.0 ppm isobutylene.
Calibrated Horiba.
Sampling equipment was decontaminated before collecting the sample.

HEALTH AND SAFETY LEVELS AND ACTIVITIES (DAILY HEALTH AND SAFETY AUDIT ATTACHED)

No Health and Safety Issues to Report

PROBLEMS ENCOUNTERED/CORRECTION ACTION TAKEN:

PROJECT: Devil's Foot Road Dump Site & Surrounding Areas **REPORT NUMBER:**

JOB NUMBER: Delivery Order 19 **DATE:** 3 December 1996

Sample DFSWSW09 had a negative number for turbidity When the Horiba was re-calibrated it read negative zero for turbidity rather than zero, which is the correct number. According to Gary at Hendrick Environmental (environmental equipment supplier) this is believed to have resulted from cloudiness on the turbidity sensor
SPECIAL NOTES
None.
TOMORROW'S EXPECTATIONS
Field work is completed.

Gina R. Nyberg

CALIBRATION DATA SHEET

Project Devil's Foot Road Dump Site

Job No. _____

Date 10/21/96

Field Instrumentation Calibration Data

Equipment Type/I.D.	Battery Condition	Calibration Information
_____	_____	pH 4 ____ pH 7 ____ pH 10 ____
_____	_____	pH 4 ____ pH 7 ____ pH 10 ____
_____	_____	pH 4 ____ pH 7 ____ pH 10 ____
_____	_____	Cond. Std. ____/ ____ Cond. Std. ____/ ____
_____	_____	Cond. Std. ____/ ____ Cond. Std. ____/ ____
_____	_____	Cond. Std. ____/ ____ Cond. Std. ____/ ____
Dissolved Oxygen		
_____	_____	Avg. Winkler Value ____ppm Meter Value ____ppm
Redox		
_____	_____	Zorbell Sol. Value ____ Meter Value ____
Photoionization Meter		
Mini Rae Plus	good	Zero/Zero Air? [X] Yes [ ] No Span Gas Value 100 ppm Equiv. Meter Value 100 ppm Equiv.
_____	_____	Zero/Zero Air? [ ] Yes [ ] No Span Gas Value ___ppm Equiv. Meter Value ___ppm Equiv.
Other		
LEL MicroMax	good	_____
Mini Ram Dust Meter	good	

Fluids/Materials Record

Deionized Water Source: [X] Staging [ ] Portable System [ ] Other_____

Trip Blank Water Source: [X] Lab; Lot No. _____ [ ] Other; ID_____

Decontamination Fluids: [ ] Methyl Hydrate; Lot No._____ [X] Other Methanol Lot No._____

Sampler Blank Water Source: [ ] Staging [ ] Port .System [ ] Other_____

HNO^3/DI Rinse Solution: Staging; I.D. No._____

Preservation Chemical Lot I.D.s: Chemicals Used: HNO^3 Lot No._____

H^2SO^4 Lot No._____

HCL Lot No._____

NaOH Lot No._____

ZnAOC Lot No._____

Filtration Paper ID:

Manuf/Type_____

Lot No._____

_____

Standards

Manuf._____

Lot No._____

Sampler Signature Gina R. Tybers

CALIBRATION DATA SHEET

Project Devil's Foot Road Dump Site

Job No. _____

Date 10/22/96

Field Instrumentation Calibration Data

Equipment Type/I.D.	Battery Condition	Calibration Information
_____	_____	pH 4 ____ pH 7 ____ pH 10 ____
_____	_____	pH 4 ____ pH 7 ____ pH 10 ____
_____	_____	pH 4 ____ pH 7 ____ pH 10 ____
_____	_____	Cond. Std. ____/ ____ Cond. Std. ____/ ____
_____	_____	Cond. Std. ____/ ____ Cond. Std. ____/ ____
_____	_____	Cond. Std. ____/ ____ Cond. Std. ____/ ____
Dissolved Oxygen		
_____	_____	Avg. Winkler Value ____ppm Meter Value ____ppm
Redox		
_____	_____	Zorbell Sol. Value ____ Meter Value ____
Photoionization Meter		
Mini Rae Plus	good	Zero/Zero Air? [X] Yes [ ] No Span Gas Value 100 ppm Equiv Meter Value 100 ppm Equiv.
_____	_____	Zero/Zero Air? [ ] Yes [ ] No Span Gas Value ___ppm Equiv. Meter Value ___ppm Equiv
Other		
LEL MicroMax	good	_____
Mini Ram Dust Meter	good	

Fluids/Materials Record

Deionized Water Source: [X] Staging [ ] Portable System [ ] Other_____

Trip Blank Water Source: [X] Lab; Lot No. _____ [ ] Other; ID_____

Decontamination Fluids: [ ] Methyl Hydrate; Lot No._____ [X] Other Methanol Lot No._____

Sampler Blank Water Source: [ ] Staging [ ] Port .System [ ] Other_____

HNO^3/DI Rinse Solution: Staging; I.D. No._____

Preservation Chemical Lot I.D.s: Chemicals Used: HNO^3 Lot No._____

H^2SO^4 Lot No._____

HCL Lot No._____

NaOH Lot No._____

ZnAOC Lot No._____

Filtration Paper ID:

Manuf/Type_____

Lot No._____

_____

Sampler Signature Lisa R. Nyborg

Standards

Manuf._____

Lot No _____

CALIBRATION DATA SHEET

Project Devil's Foot Road Dump Site

Job No. _____

Date 10/23/96

Field Instrumentation Calibration Data

Equipment Type/I.D.	Battery Condition	Calibration Information
_____	_____	pH 4 ____ pH 7 ____ pH 10 ____
_____	_____	pH 4 ____ pH 7 ____ pH 10 ____
_____	_____	pH 4 ____ pH 7 ____ pH 10 ____
_____	_____	Cond. Std. ____/ ____ Cond. Std. ____/ ____
_____	_____	Cond. Std. ____/ ____ Cond. Std. ____/ ____
_____	_____	Cond. Std. ____/ ____ Cond. Std. ____/ ____
Dissolved Oxygen		
_____	_____	Avg. Winkler Value ____ppm Meter Value ____ppm
Redox		
_____	_____	Zorbell Sol. Value ____ Meter Value ____
Photoionization Meter		
Mini Rae Plus	good	Zero/Zero Air? ☒ Yes ☐ No Span Gas Value 100 ppm Equiv. Meter Value 100 ppm Equiv.
_____	_____	Zero/Zero Air? ☐ Yes ☐ No Span Gas Value ___ppm Equiv. Meter Value ___ppm Equiv.
Other		
LEL Micro Max	good	_____
Mini Ram Dust Meter	good	

Fluids/Materials Record

Deionized Water Source: [X] Staging [ ] Portable System [ ] Other_____

Trip Blank Water Source: [X] Lab; Lot No. _____ [ ] Other; ID_____

Decontamination Fluids: [ ] Methyl Hydrate; Lot No._____ [X] Other Methanol Lot No._____

Sampler Blank Water Source: [ ] Staging [ ] Port .System [ ] Other_____

HNO^3/DI Rinse Solution: Staging; I.D. No._____

Preservation Chemical Lot I.D.s: Chemicals Used: HNO^3 Lot No._____

H^2SO^4 Lot No._____

HCL Lot No._____

NaOH Lot No._____

ZnAOC Lot No._____

Filtration Paper ID:

Manuf/Type_____

Lot No._____

_____

Standards

Manuf._____

Lot No._____

Sampler Signature Lisa R. Nyberg

CALIBRATION DATA SHEET

Project Devil's Foot Road Dump Site

Job No. _____

Date 10/24/96

Field Instrumentation Calibration Data

Equipment Type/I.D.	Battery Condition	Calibration Information
_____	_____	pH 4 ____ pH 7 ____ pH 10 ____
_____	_____	pH 4 ____ pH 7 ____ pH 10 ____
_____	_____	pH 4 ____ pH 7 ____ pH 10 ____
_____	_____	Cond. Std. ____/ ____ Cond. Std. ____/ ____
_____	_____	Cond. Std. ____/ ____ Cond. Std. ____/ ____
_____	_____	Cond. Std. ____/ ____ Cond. Std. ____/ ____
Dissolved Oxygen		
_____	_____	Avg. Winkler Value ____ppm Meter Value ____ppm
Redox		
_____	_____	Zorbell Sol. Value ____ Meter Value ____
Photoionization Meter		
Mini Rae Plus	good	Zero/Zero Air? [X] Yes [ ] No Span Gas Value 100 ppm Equiv. Meter Value 100 ppm Equiv.
_____	_____	Zero/Zero Air? [ ] Yes [ ] No Span Gas Value ___ppm Equiv. Meter Value ___ppm Equiv.
Other		
LEL micro Max	good	_____
Mini Ram Dust Meter	good	

Fluids/Materials Record

Deionized Water Source: [X] Staging [ ] Portable System [ ] Other_____

Trip Blank Water Source: [X] Lab; Lot No. _____ [ ] Other; ID_____

Decontamination Fluids: [ ] Methyl Hydrate; Lot No._____ [X] Other Methanol Lot No._____

Sampler Blank Water Source: [ ] Staging [ ] Port .System [ ] Other_____

HNO^3/DI Rinse Solution: Staging; I.D. No._____

Preservation Chemical Lot I.D.s: Chemicals Used: HNO^3 Lot No._____

H^2SO^4 Lot No._____

HCL Lot No._____

NaOH Lot No._____

ZnAOC Lot No._____

Filtration Paper ID:

Manuf/Type_____

Lot No._____

_____

Sampler Signature Lisa R. Myers

Standards

Manuf._____

Lot No._____

CALIBRATION DATA SHEET

Project Devil's Foot Road Dump Site

Job No. _____

Date 10/25/96

Field Instrumentation Calibration Data

Equipment Type/I.D.	Battery Condition	Calibration Information		
Horiba Water quality meter	poor replaced	turb. 0	cond. 4.48 ms/cm	
		pH 4 ____	pH 7 ____	pH 10 ____
		pH 4 ____	pH 7 ____	pH 10 ____
		pH 4 ____	pH 7 ____	pH 10 ____
		Cond. Std. ____/ ____		Cond. Std. ____/ ____
		Cond. Std. ____/ ____		Cond. Std. ____/ ____
		Cond. Std. ____/ ____		Cond. Std. ____/ ____

Dissolved Oxygen

_____ _____ Avg. Winkler Value _____ppm Meter Value _____ppm

Redox

_____ _____ Zorbell Sol Value _____ Meter Value ____

Photoionization Meter

Mini Rae Plus — good — Zero/Zero Air? [X] Yes [ ] No Span Gas Value 100 ppm Equiv. Meter Value 100 ppm Equiv.

_____ _____ Zero/Zero Air? [ ] Yes [ ] No Span Gas Value ___ppm Equiv. Meter Value ___ppm Equiv.

Other

LEL Micro Max — good

Mini Ram Dust Meter — good

Fluids/Materials Record

Deionized Water Source: [X] Staging [ ] Portable System [ ] Other_____

Trip Blank Water Source: [X] Lab; Lot No. _____ [ ] Other; ID_____

Decontamination Fluids: [ ] Methyl Hydrate; Lot No._____ [X] Other Methanol Lot No._____

Sampler Blank Water Source: [ ] Staging [ ] Port .System [ ] Other_____

HNO^3/DI Rinse Solution: Staging; I.D. No._____

Preservation Chemical Lot I.D.s: Chemicals Used: HNO^3 Lot No._____

H^2SO^4 Lot No._____

HCL Lot No._____

NaOH Lot No._____

ZnAOC Lot No._____

Filtration Paper ID:

Manuf/Type_____

Lot No._____

_____

Standards

Manuf._____

Lot No._____

Sampler Signature Lisa R. Myers

CALIBRATION DATA SHEET

Project Devil's Foot Road Dump Site.

Job No. _____

Date 10/28/96

Field Instrumentation Calibration Data

Equipment Type/I.D.	Battery Condition	Calibration Information
Horiba water quality meter	good	Cond. 4.48 ms/cm, turb. 0
		(pH 4) ____ pH 7 ____ pH 10 ____
		pH 4 ____ pH 7 ____ pH 10 ____
		pH 4 ____ pH 7 ____ pH 10 ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
Dissolved Oxygen		
		Avg Winkler Value ____ppm Meter Value ____ppm
Redox		
		Zorbell Sol. Value ____ Meter Value ____
Photoionization Meter		
Mini Rae Plus	good	Zero/Zero Air? ☒ Yes ☐ No Span Gas Value 100 ppm Equiv. Meter Value 100 ppm Equiv.
		Zero/Zero Air? ☐ Yes ☐ No Span Gas Value ___ppm Equiv. Meter Value ___ppm Equiv.
Other		
IEL Micro Max	good	
Mini Ram Dust Meter	good	

Fluids/Materials Record

Deionized Water Source: [X] Staging [ ] Portable System [ ] Other_____

Trip Blank Water Source: [X] Lab; Lot No. _____ [ ] Other; ID_____

Decontamination Fluids: [ ] Methyl Hydrate; Lot No._____ [X] Other Methanol Lot No._____

Sampler Blank Water Source: [ ] Staging [ ] Port .System [ ] Other_____

HNO^3/DI Rinse Solution: Staging; I.D. No._____

Preservation Chemical Lot I.D.s: Chemicals Used: HNO^3 Lot No._____

H^2SO^4 Lot No._____

HCL Lot No._____

NaOH Lot No._____

ZnAOC Lot No._____

Filtration Paper ID:

Manuf/Type_____

Lot No._____

Sampler Signature Gina R. Nyberg

Standards

Manuf._____

Lot No _____

CALIBRATION DATA SHEET

Project Devil's Foot Road Dump Site.

Job No. _____

Date 10/29/96

Field Instrumentation Calibration Data

Equipment Type/I.D.	Battery Condition	Calibration Information
_____	_____	pH 4 ____ pH 7 ____ pH 10 ____
_____	_____	pH 4 ____ pH 7 ____ pH 10 ____
_____	_____	pH 4 ____ pH 7 ____ pH 10 ____
_____	_____	Cond. Std. ____/ ____ Cond. Std. ____/ ____
_____	_____	Cond. Std. ____/ ____ Cond. Std. ____/ ____
_____	_____	Cond. Std. ____/ ____ Cond. Std. ____/ ____
Dissolved Oxygen		
_____	_____	Avg. Winkler Value ____ppm Meter Value ____ppm
Redox		
_____	_____	Zorbell Sol. Value ____ Meter Value ____
Photoionization Meter		
Mini Rae Plus	good	Zero/Zero Air? [X] Yes [ ] No Span Gas Value 100 ppm Equiv. Meter Value 100 ppm Equiv.
_____	_____	Zero/Zero Air? [ ] Yes [ ] No Span Gas Value ___ppm Equiv. Meter Value ___ppm Equiv
Other		
LEL Micro Max	good	_____
Mini Ram Dust Meter	good	

Fluids/Materials Record

Deionized Water Source: [X] Staging [ ] Portable System [ ] Other_____

Trip Blank Water Source: [X] Lab; Lot No. _____ [ ] Other; ID_____

Decontamination Fluids: [ ] Methyl Hydrate; Lot No._____ [X] Other Methanol Lot No._____

Sampler Blank Water Source: [ ] Staging [ ] Port .System [ ] Other_____

HNO^3/DI Rinse Solution: Staging; I.D. No._____

Preservation Chemical Lot I.D.s: Chemicals Used: HNO^3 Lot No._____

H^2SO^4 Lot No._____

HCL Lot No._____

NaOH Lot No._____

ZnAOC Lot No._____

Filtration Paper ID:

Manuf/Type_____

Lot No._____

_____

Sampler Signature Lisa R. Myers

Standards

Manuf._____

Lot No._____

CALIBRATION DATA SHEET

Project Devil's Foot Road Dump Site

Job No. _____

Date 10/30/96

Field Instrumentation Calibration Data

Equipment Type/I.D.	Battery Condition	Calibration Information
_____	_____	pH 4 ____ pH 7 ____ pH 10 ____
_____	_____	pH 4 ____ pH 7 ____ pH 10 ____
_____	_____	pH 4 ____ pH 7 ____ pH 10 ____
_____	_____	Cond. Std. ____/ ____ Cond. Std. ____/ ____
_____	_____	Cond. Std. ____/ ____ Cond. Std. ____/ ____
_____	_____	Cond. Std. ____/ ____ Cond. Std. ____/ ____
Dissolved Oxygen		
_____	_____	Avg. Winkler Value ____ppm Meter Value ____ppm
Redox		
_____	_____	Zorbell Sol. Value ____ Meter Value ____
Photoionization Meter		
Mini Rae Plus	good	Zero/Zero Air? [X] Yes ☐ No Span Gas Value 100 ppm Equiv. Meter Value 100 ppm Equiv.
_____	_____	Zero/Zero Air? ☐ Yes ☐ No Span Gas Value ___ppm Equiv. Meter Value ___ppm Equiv.
Other		
LEL Micro Max	good	_____
Mini Ram Dust Meter	good	

Fluids/Materials Record

Deionized Water Source: [X] Staging [ ] Portable System [ ] Other_____

Trip Blank Water Source: [X] Lab; Lot No. _____ [ ] Other; ID_____

Decontamination Fluids: [ ] Methyl Hydrate; Lot No._____ [X] Other Methanol Lot No._____

Sampler Blank Water Source: [ ] Staging [ ] Port .System [ ] Other_____

HNO^3/DI Rinse Solution: Staging; I.D. No _____

Preservation Chemical Lot I.D.s: Chemicals Used: HNO^3 Lot No._____

H^2SO^4 Lot No._____

HCL Lot No._____

NaOH Lot No._____

ZnAOC Lot No._____

Filtration Paper ID:

Manuf/Type_____

Lot No._____

_____

Standards

Manuf._____

Lot No _____

Sampler Signature Lisa R. Myers

CALIBRATION DATA SHEET

Project Devil's Foot Road Dump Site

Job No. _____

Date 10/31/96

Field Instrumentation Calibration Data

Equipment Type/I.D.	Battery Condition	Calibration Information
_____	_____	pH 4 ____ pH 7 ____ pH 10 ____
_____	_____	pH 4 ____ pH 7 ____ pH 10 ____
_____	_____	pH 4 ____ pH 7 ____ pH 10 ____
_____	_____	Cond. Std. ____/ ____ Cond. Std. ____/ ____
_____	_____	Cond. Std. ____/ ____ Cond. Std. ____/ ____
_____	_____	Cond. Std. ____/ ____ Cond. Std. ____/ ____
Dissolved Oxygen		
_____	_____	Avg. Winkler Value ____ppm Meter Value ____ppm
Redox		
_____	_____	Zorbell Sol. Value ____ Meter Value ____
Photoionization Meter		
Mini Rae Plus	good	Zero/Zero Air? ☒ Yes ☐ No Span Gas Value 100 ppm Equiv. Meter Value 100 ppm Equiv.
_____	_____	Zero/Zero Air? ☐ Yes ☐ No Span Gas Value ___ppm Equiv. Meter Value ___ppm Equiv.
Other		
LEL Micro Max	good	_____
Mini Ram Dust Meter	good	

Fluids/Materials Record

Deionized Water Source: [X] Staging [ ] Portable System [ ] Other_____

Trip Blank Water Source: [X] Lab; Lot No. _____ [ ] Other; ID_____

Decontamination Fluids: [ ] Methyl Hydrate; Lot No._____ [X] Other Methanol Lot No._____

Sampler Blank Water Source: [ ] Staging [ ] Port .System [ ] Other_____

HNO^3/DI Rinse Solution: Staging; I.D. No._____

Preservation Chemical Lot I.D.s: Chemicals Used: HNO^3 Lot No._____

H^2SO^4 Lot No._____

HCL Lot No._____

NaOH Lot No._____

ZnAOC Lot No._____

Filtration Paper ID:

Manuf/Type_____

Lot No._____

_____

Sampler Signature Lisa R. Myers

Standards

Manuf._____

Lot No._____

CALIBRATION DATA SHEET

Project Devil's Foot Road Dumpsite

Job No. _____

Date 11/1/96

Field Instrumentation Calibration Data

Equipment Type/I.D.	Battery Condition	Calibration Information turb. 0, cond. 4.48 ms/cm
Huriba water quality meter	good	(pH 4) ____ pH 7 ____ pH 10 ____
		pH 4 ____ pH 7 ____ pH 10 ____
		pH 4 ____ pH 7 ____ pH 10 ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
Dissolved Oxygen		
		Avg. Winkler Value ____ppm Meter Value ____ppm
Redox		
		Zorbell Sol. Value ____ Meter Value ____
Photoionization Meter		
Mini Rae Plus		Zero/Zero Air? ☒ Yes ☐ No Span Gas Value 100 ppm Equiv. Meter Value 100 ppm Equiv.
		Zero/Zero Air? ☐ Yes ☐ No Span Gas Value ___ppm Equiv. Meter Value ___ppm Equiv.
Other		
LEL Micro Max	good	
Mini Ram Dust Meter	good	

Fluids/Materials Record

Deionized Water Source: [X] Staging [ ] Portable System [ ] Other_____

Trip Blank Water Source: [X] Lab; Lot No. _____ [ ] Other; ID_____

Decontamination Fluids: [ ] Methyl Hydrate; Lot No._____ [X] Other Methanol Lot No._____

Sampler Blank Water Source: [ ] Staging [ ] Port .System [ ] Other_____

HNO^3/DI Rinse Solution: Staging; I.D. No._____

Preservation Chemical Lot I.D.s: Chemicals Used: HNO^3 Lot No._____

H^2SO^4 Lot No._____

HCL Lot No._____

NaOH Lot No._____

ZnAOC Lot No._____

Filtration Paper ID:

Manuf/Type_____

Lot No._____

Sampler Signature Lisa R. Nyberg

Standards

Manuf._____

Lot No._____

CALIBRATION DATA SHEET

Project Devil's Foot Road Dump Site

Job No. _____

Date 11/4/96

Field Instrumentation Calibration Data

Equipment Type/I.D.	Battery Condition	Calibration Information
Horiba Water Quality Meter	good	turb. 0 Cond. 4.49 mS/cm (pH 4) ____ pH 7 ____ pH 10 ____
		pH 4 ____ pH 7 ____ pH 10 ____
		pH 4 ____ pH 7 ____ pH 10 ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
Dissolved Oxygen		
		Avg. Winkler Value ____ppm Meter Value ____ppm
Redox		
		Zorbell Sol. Value ____ Meter Value ____
Photoionization Meter		
MiniRae Plus	good	Zero/Zero Air? [X] Yes [ ] No Span Gas Value 100 ppm Equiv. Meter Value 100 ppm Equiv.
		Zero/Zero Air? [ ] Yes [ ] No Span Gas Value ___ppm Equiv. Meter Value ___ppm Equiv.
Other		

Fluids/Materials Record

Deionized Water Source: [X] Staging [ ] Portable System [ ] Other_____

Trip Blank Water Source: [X] Lab; Lot No. _____ [ ] Other; ID_____

Decontamination Fluids: [ ] Methyl Hydrate; Lot No._____ [X] Other Methanol Lot No._____

Sampler Blank Water Source: [ ] Staging [ ] Port .System [ ] Other_____

HNO^3/DI Rinse Solution: Staging; I.D. No._____

Preservation Chemical Lot I.D.s: Chemicals Used: HNO^3 Lot No._____

H^2SO^4 Lot No._____

HCL Lot No._____

NaOH Lot No._____

ZnAOC Lot No._____

Filtration Paper ID:

Manuf/Type_____

Lot No._____

_____

Sampler Signature Lisa R. Nybery

Standards

Manuf._____

Lot No._____

CALIBRATION DATA SHEET

Project Devil's Foot Road Dump Site

Job No. _____

Date 11/5/96

Field Instrumentation Calibration Data

Equipment Type/I.D.	Battery Condition	Calibration Information
Horiba Water Quality Meter	good	turb. 0 cond. 4.52 (pH 4) ____ pH 7 ____ pH 10 ____
		pH 4 ____ pH 7 ____ pH 10 ____
		pH 4 ____ pH 7 ____ pH 10 ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
Dissolved Oxygen		
		Avg. Winkler Value ____ppm Meter Value ____ppm
Redox		
		Zorbell Sol. Value ____ Meter Value ____
Photoionization Meter		
Mini Rae Plus	good	Zero/Zero Air? ☒ Yes ☐ No Span Gas Value 100 ppm Equiv. Meter Value 100 ppm Equiv.
		Zero/Zero Air? ☐ Yes ☐ No Span Gas Value ___ppm Equiv. Meter Value ___ppm Equiv
Other		

Fluids/Materials Record

Deionized Water Source: [X] Staging [ ] Portable System [ ] Other_____

Trip Blank Water Source: [X] Lab; Lot No. _____ [ ] Other; ID_____

Decontamination Fluids: [ ] Methyl Hydrate; Lot No._____ [X] Other Methanol Lot No._____

Sampler Blank Water Source: [ ] Staging [ ] Port .System [ ] Other_____

HNO^3/DI Rinse Solution: Staging; I.D. No._____

Preservation Chemical Lot I.D.s: Chemicals Used: HNO^3 Lot No._____

H^2SO^4 Lot No._____

HCL Lot No._____

NaOH Lot No._____

ZnAOC Lot No._____

Filtration Paper ID:

Manuf/Type_____

Lot No._____

Sampler Signature Lina R. Nybers

Standards

Manuf _____

Lot No._____

CALIBRATION DATA SHEET

Project Devil's Foot Road Dump Site

Job No. _____

Date 11/6/96

Field Instrumentation Calibration Data

Equipment Type/I.D.	Battery Condition	Calibration Information
YSI 3500 pH, Specific Conductance and temp. meter	good	pH 4 ____ pH 7 ____ pH 10 ____
		pH 4 ____ pH 7 ____ pH 10 ____
HF Scientific turbidity meter	good	pH 4 ____ pH 7 ____ pH 10 ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
Dissolved Oxygen		
		Avg. Winkler Value ____ppm Meter Value ____ppm
Redox		
		Zorbell Sol. Value ____ Meter Value ____
Photoionization Meter		
Mini Rae Plus	good	Zero/Zero Air? ☒ Yes ☐ No Span Gas Value 100 ppm Equiv. Meter Value 100 ppm Equiv.
		Zero/Zero Air? ☐ Yes ☐ No Span Gas Value ___ppm Equiv. Meter Value ___ppm Equiv.
Other		

Fluids/Materials Record

Deionized Water Source: [X] Staging [ ] Portable System [ ] Other_____

Trip Blank Water Source: [X] Lab; Lot No. _____ [ ] Other; ID_____

Decontamination Fluids: [ ] Methyl Hydrate; Lot No._____ [ ] Other_____ Lot No._____

Sampler Blank Water Source: [ ] Staging [ ] Port .System [ ] Other_____

HNO^3/DI Rinse Solution: Staging; I.D. No._____

Preservation Chemical Lot I.D.s: Chemicals Used: HNO^3 Lot No._____

H^2SO^4 Lot No._____

HCL Lot No._____

NaOH Lot No._____

ZnAOC Lot No._____

Filtration Paper ID:

Manuf/Type_____

Lot No._____

Sampler Signature Lina R. Nybers

Standards

Manuf._____

Lot No _____

CALIBRATION DATA SHEET

Project Devil's Foot Road Dump Site

Job No. _____

Date 11/7/96

Field Instrumentation Calibration Data

Equipment Type/I.D.	Battery Condition	Calibration Information
YSI 3500 pH, specific conductance and temp. meter	good	pH 4 ____ pH 7 ____ pH 10 ____
		pH 4 ____ pH 7 ____ pH 10 ____
		pH 4 ____ pH 7 ____ pH 10 ____
HF Scientific turbidity meter	good	Cond. Std. ____/ ____ Cond. Std. ____/ ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
Dissolved Oxygen		
		Avg. Winkler Value ____ppm Meter Value ____ppm
Redox		
		Zorbell Sol. Value ____ Meter Value ____
Photoionization Meter		
Mini Rae Plus		Zero/Zero Air? ☒ Yes ☐ No Span Gas Value 100 ppm Equiv. Meter Value 100 ppm Equiv.
		Zero/Zero Air? ☐ Yes ☐ No Span Gas Value ___ppm Equiv. Meter Value ___ppm Equiv.
Other		

Fluids/Materials Record

Deionized Water Source: [X] Staging [ ] Portable System [ ] Other_____

Trip Blank Water Source: [X] Lab; Lot No. _____ [ ] Other; ID_____

Decontamination Fluids: [ ] Methyl Hydrate; Lot No._____ [ ] Other_____ Lot No._____

Sampler Blank Water Source: [ ] Staging [ ] Port .System [ ] Other_____

HNO^3/DI Rinse Solution: Staging; I.D. No._____

Preservation Chemical Lot I.D.s: Chemicals Used: HNO^3 Lot No._____

H^2SO^4 Lot No._____

HCL Lot No._____

NaOH Lot No._____

ZnAOC Lot No._____

Filtration Paper ID:

Manuf/Type_____

Lot No._____

Sampler Signature Lina R. Nybers

Standards

Manuf._____

Lot No._____

CALIBRATION DATA SHEET

Project Devil's Foot Road Dump Site

Job No. _____

Date 11/8/96

Field Instrumentation Calibration Data

Equipment Type/I.D.	Battery Condition	Calibration Information
YSI 3500 pH, specific conductance and temp. meter	good	pH 4 ____ pH 7 ____ pH 10 ____
		pH 4 ____ pH 7 ____ pH 10 ____
HF Scientific turbidity meter	good	pH 4 ____ pH 7 ____ pH 10 ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
Dissolved Oxygen		
		Avg. Winkler Value ____ppm Meter Value ____ppm
Redox		
		Zorbell Sol. Value ____ Meter Value ____
Photoionization Meter		
Mini Rae Plus		Zero/Zero Air? ☒ Yes ☐ No Span Gas Value 100 ppm Equiv. Meter Value 102 ppm Equiv.
		Zero/Zero Air? ☐ Yes ☐ No Span Gas Value ___ppm Equiv. Meter Value ___ppm Equiv.
Other		

Fluids/Materials Record

Deionized Water Source: [X] Staging [ ] Portable System [ ] Other_____

Trip Blank Water Source: [X] Lab; Lot No. _____ [ ] Other; ID_____

Decontamination Fluids: [ ] Methyl Hydrate; Lot No._____ [ ] Other_____ Lot No._____

Sampler Blank Water Source: [ ] Staging [ ] Port .System [ ] Other_____

HNO^3/DI Rinse Solution: Staging; I.D. No._____

Preservation Chemical Lot I.D.s: Chemicals Used: HNO^3 Lot No._____

H^2SO^4 Lot No._____

HCL Lot No._____

NaOH Lot No._____

ZnAOC Lot No._____

Filtration Paper ID:

Manuf/Type_____

Lot No._____

Sampler Signature Lina R. Nybergs

Standards

Manuf._____

Lot No._____

CALIBRATION DATA SHEET

Project Devil's Foot Road Dump Site

Job No. _____

Date 11/12/96

Field Instrumentation Calibration Data

Equipment Type/I.D.	Battery Condition	Calibration Information turb. 0 cond. 4.49 mS/cm
Horiba Water Quality meter	good	(pH 4) ____ pH 7 ____ pH 10 ____
		pH 4 ____ pH 7 ____ pH 10 ____
		pH 4 ____ pH 7 ____ pH 10 ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
Dissolved Oxygen		
		Avg. Winkler Value ____ppm Meter Value ____ppm
Redox		
		Zorbell Sol. Value ____ Meter Value ____
Photoionization Meter		
Mini Rae Plus	good	Zero/Zero Air? ☒ Yes ☐ No Span Gas Value 100 ppm Equiv. Meter Value 100 ppm Equiv.
		Zero/Zero Air? ☐ Yes ☐ No Span Gas Value ___ppm Equiv. Meter Value ___ppm Equiv.
Other		

Fluids/Materials Record

Deionized Water Source: [X] Staging [ ] Portable System [ ] Other _____

Trip Blank Water Source: [X] Lab; Lot No. _____ [ ] Other; ID _____

Decontamination Fluids: [ ] Methyl Hydrate; Lot No. _____ [X] Other Methanol Lot No. _____

Sampler Blank Water Source: [ ] Staging [ ] Port .System [ ] Other _____

HNO^3/DI Rinse Solution: Staging; I.D. No. _____

Preservation Chemical Lot I.D.s: Chemicals Used: HNO^3 Lot No. _____

H^2SO^4 Lot No. _____

HCL Lot No. _____

NaOH Lot No. _____

ZnAOC Lot No. _____

Filtration Paper ID:

Manuf/Type _____

Lot No. _____

Sampler Signature Gina R. Nyberg

Standards

Manuf. _____

Lot No. _____

CALIBRATION DATA SHEET

Project Devil's Foot Road Dump Site

Job No. _____

Date 11/13/96

Field Instrumentation Calibration Data

Equipment Type/I.D.	Battery Condition	Calibration Information
Horiba Water Quality meter	good	turb. 0 cond. 4.49 ms/cm (pH 4) ____ pH 7 ____ pH 10 ____
		pH 4 ____ pH 7 ____ pH 10 ____
		pH 4 ____ pH 7 ____ pH 10 ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
Dissolved Oxygen		
		Avg. Winkler Value ____ppm Meter Value ____ppm
Redox		
		Zorbell Sol. Value ____ Meter Value ____
Photoionization Meter		
Mini Rae Plus	good	Zero/Zero Air? ☒ Yes ☐ No Span Gas Value 100 ppm Equiv. Meter Value 100 ppm Equiv.
		Zero/Zero Air? ☐ Yes ☐ No Span Gas Value ___ppm Equiv. Meter Value ___ppm Equiv.
Other		

Fluids/Materials Record

Deionized Water Source: [X] Staging [ ] Portable System [ ] Other_____

Trip Blank Water Source: [X] Lab; Lot No. _____ [ ] Other; ID_____

Decontamination Fluids: [ ] Methyl Hydrate; Lot No._____ [X] Other Methanol Lot No._____

Sampler Blank Water Source: [ ] Staging [ ] Port .System [ ] Other_____

HNO^3/DI Rinse Solution: Staging; I.D. No._____

Preservation Chemical Lot I.D.s: Chemicals Used: HNO^3 Lot No._____

H^2SO^4 Lot No._____

HCL Lot No._____

NaOH Lot No._____

ZnAOC Lot No._____

Filtration Paper ID:

Manuf/Type_____

Lot No._____

Sampler Signature_____

Standards

Manuf._____

Lot No._____

CALIBRATION DATA SHEET

Project Devil's Foot Road Dump Site

Job No. _____

Date 11/21/96

Field Instrumentation Calibration Data

Equipment Type/I.D.	Battery Condition	Calibration Information turb. & cond. 4.49 ms/cm
Horiba Water Quality meter	good	(pH 4) ____ pH 7 ____ pH 10 ____
		pH 4 ____ pH 7 ____ pH 10 ____
		pH 4 ____ pH 7 ____ pH 10 ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
		Cond. Std. ____/ ____ Cond. Std. ____/ ____
Dissolved Oxygen		
		Avg. Winkler Value ____ppm Meter Value ____ppm
Redox		
		Zorbell Sol. Value ____ Meter Value ____
Photoionization Meter		
Mini Rae Plus	good	Zero/Zero Air? [X] Yes [ ] No Span Gas Value 100 ppm Equiv. Meter Value 100 ppm Equiv.
		Zero/Zero Air? [ ] Yes [ ] No Span Gas Value ___ppm Equiv. Meter Value ___ppm Equiv.
Other		

Fluids/Materials Record

Deionized Water Source: [X] Staging [ ] Portable System [ ] Other _____

Trip Blank Water Source: [X] Lab; Lot No. _____ [ ] Other; ID _____

Decontamination Fluids: [ ] Methyl Hydrate; Lot No. _____ [X] Other Methanol Lot No. _____

Sampler Blank Water Source: [ ] Staging [ ] Port .System [ ] Other _____

HNO^3/DI Rinse Solution: Staging; I.D. No. _____

Preservation Chemical Lot I.D.s: Chemicals Used: HNO^3 Lot No. _____

H^2SO^4 Lot No. _____

HCL Lot No. _____

NaOH Lot No. _____

ZnAOC Lot No. _____

Filtration Paper ID:

Manuf/Type _____

Lot No. _____

Sampler Signature Gina R. Nyberg

Standards

Manuf. _____

Lot No _____

APPENDIX F

WILDLIFE HABITAT ASSESSMENT

WILDLIFE HABITAT ASSESSMENT

MICROHABITAT COMMUNITIES
Community Descriptions

Figure 2-2 shows the location and extent of the mapped communities.

Young Deciduous Forest (YDF)

The young deciduous forest areas tend to consist of shrubs and saplings, with no trees older than approximately 15 years based on the diameter of the tree species present. Vegetation present in these areas include black oak, aspen, staghorn sumac, grey birch, black cherry, scrub oak, red cedar, raspberry, meadowsweet, alterniflora rose, bittersweet, sassafras, sweet fern, bayberry, hay scented fern, wild grape, white pine saplings, and infrequent highbush blueberry, northern arrowwood, and red maple saplings.

Grass (G)

Grass areas tend to be in locations that were formerly paved or appear to have very nutrient poor soils. Percent cover by vegetation varies from one location to the next but typically is 50 to 75% with bare soil/degraded asphalt in the remainder. The degraded asphalt areas typically are covered with lichens and mosses. Little bluestem is the dominant grass, although panic grass is present.

Deciduous Forest (DF)

The deciduous forest areas tend to consist of shrubs, saplings, and maturing trees, with maturing trees approximately 15 to 35 years. One area, located along the fence at the northern edge of the property (parallel to Devil's Foot Road), has probably been forested for a longer duration, upwards of 50 or 60 years based on the diameter of maples and oaks.

Species composition is similar to young deciduous forest habitats but in a later successional stage.

Coniferous Forest (CF)

The coniferous forest occurs in one area, west of the water tower, and consists primarily of approximately 20 year old white pine. The trees are closely spaced and inhibit the growth of most other plant species, except for occasional patches of grass or moss, and scattered goldenrod, star flower, or raspberry.

Mixed Forest (MF)

The mixed forest occurs primarily in two areas. The area located in the southwestern portion of

the site is transitional between the adjacent coniferous forest and the deciduous forest to the south. White pine and red cedar are intermixed with aspens, black oak, sumac, and grey birch. Understory species include grasses, goldenrod, and sparse sheep laurel.

The area located in the central portion of the site contains a mixture of aspen, black cherry, black oak, grey birch, and scotch and white pine. Sumac, buckthorn, alterniflora rose, and saplings occur in the understory. The land surface is irregular and the eastern edge contains a 4 foot high linear ridge. A minor amount of lumber and other debris is scattered throughout this area.

Aspen Stand (AS)

The overstory is dominated by approximately 20 year old aspens with a sparse understory of aspen saplings. This area has numerous old piles of debris consisting of lumber, metal, bricks which cover about 40 % of the ground surface. Gravel and dirt roads bound this stand on all sides.

Open/Debris (OD)

In a number of areas, debris piles, recent soil excavations, or ground disturbance have resulted in areas barren of vegetation that offer minimal wildlife value.

50% Open/50% Treed (50O/50T)

There are several small areas of this habitat type scattered around the site. Typically saplings and young trees are isolated by patches of grasses and herbaceous plants. Grey birch, red cedar, bayberry, oaks, and apple are typical woody species. In addition to the grasses are goldenrod, indigobush, sweet everlasting, sparse raspberry clumps, sheep laurel, and lowbush blueberry.

75% Deciduous/25% Coniferous (DC)

Only one area of this habitat type exists. This area is vegetated primarily with saplings and young trees of grey birch and aspen with a lesser component of eastern red cedars. Groundcover is primarily grasses, goldenrod, and other weed species.

75% Open/25% Treed (75O/25T)
Only one area of this habitat type exists. This area is primarily vegetated with herbaceous species such as little bluestem, panic grass, goldenrod, indigobush, and lichens with a lesser component of grey birch, aspen, and eastern red cedar saplings.

50% Open/50% Pine (OP)

This area consists of an interspersion of small patches of grasses and lichens with individual and small clumps of scotch pine and red cedar. The pine and cedar appear to be less than 15 years old.

Wetland (W)

Only one area of wetland occurs on the site. Within the northern deciduous forest area is a small, kidney-shaped depression about 4 or 5 feet deep. The area appears to pond water to a maximum depth of about 1 foot and generally to only several inches and may just barely intercept groundwater. The area is approximately 60 ft by 30 ft. Some amount of debris has previously been dumped resulting in the partial filling of the depression (bricks, rocks, and railroad ties). A 1995 Environmental Assessment prepared by the NEDACOE for the construction of sewer lines and water supplies identified this area as Wetland G (Davis and Paiva, 1995). Sweet pepperbush, poison ivy, greenbrier, winterberry, red maple saplings, and cinnamon fern are common around the periphery of the stagnant water/muck organic soils located in the center of the depression.

Around the periphery of the Fire Pond is a fringe of overhanging wetland shrubs such as speckled alder, highbush blueberry, red maple saplings, and swamp azaleas. However, this band is generally only 4 or 5 feet wide and situated on the steeply sloping banks, providing habitat for a limited number of organisms such as flycatchers.

WILDLIFE OBSERVATIONS (October 22, 23 and Nov 13, 1996)

Common Flicker
Mourning Dove
Bluejay
Cottontail Rabbit
Dog (Tracks)
Feral Cat
Juncos
White-Throated Sparrow
Black-Capped Chickadee
Song Sparrow
Deer (tracks)
Starling
Cardinal
Squirrel (nests)
Crow
Woodpecker (tree cavity)
Ring-necked Pheasant (heard call)
Grasshoppers
Frog
Red-tailed Hawk (heard call)

PLANT SPECIES LIST

Trees

Red maple
Black Oak
Red Oak
Quaking Aspen
Black Cherry
Scrub Oak
Eastern Red Cedar
White Pine
Sassafras
Grey Birch
Scotch Pine
Apple

Shrubs

Staghorn Sumac
Highbush Blueberry
Black Raspberry
Alterniflora Rose
Northern Arrowwood
Bayberry
Sheep Laurel
Speckled Alder

Herbaceous

Sweet Fern
Hayscented Fern
Meadowsweet
Little Bluestem
Goldenrod
Indigobush
Panic Grass
Sweet Everlasting

Vines

Poison Ivy
Bittersweet
Wild Grape
Greenbrier

Miscellaneous

Lichens
Mosses

ELECTROFISHING RESULTS

Downstream Station Water Temperature-6 C, Conductivity-50 umhos

Reach 1

Chain Pickerel	92 mm
Chain Pickerel	130 mm
Chain Pickerel	92 mm
American Eel	140 mm
American Eel	295 mm

Reach 2

Pumpkinseed	109 mm

Reach 3

Observed one eel and one other fish but captured none. Shocked 1 green frog and a crayfish.

Fire Pond Water Temperature-5 C, Conductivity-50 umhos

Shocked approximately 200 feet of western shoreline and observed no fish.

Upstream Station Water Temperature-4 C, Conductivity-58 umhos

Reach 1

Redfin Pickerel	137 mm
Redfin Pickerel	124 mm
Redfin Pickerel	131 mm

Observed another probable pickerel but did not capture.

Reach 2

Observed no fish.

NOTES: Downstream location is 50%run/50%pool with sandy sediments, overlain with silts in pool areas. Water Visibility is about 6 inches. Fire pond has steeply sloping banks and organic debris/ooze sediments. Water visibility is about 4 inches.
Upstream location is 100% run in reach 1 and 100% pool in reach 2. Sediments are organic and fines. Water visibility is about 8 inches.

REFERENCES

Davis, Robert W. and Marc Paiva. 1995. Environmental Assessment and Finding of No Significant Impact for Construction of Water Supply Towers and Sewer Lines under Section 362 of the Water Resources Development Act of 1992, Quonset Point/Davisville Industrial Park, Rhode Island. New England Division U.S. Army Corps of Engineers, Waltham MA. May 1995.

APPENDIX G

RISK CALCULATIONS FOR HUMAN RECEPTORS

TABLE G-1: NONCARCINOGENIC RISK CALCULATIONS FOR CURRENT HUMAN RECEPTORS

Noncarcinogenic Current Site Use
Mean Exposure to Trespasser

	Ingestion		Dermal Contact			Total Dose		Reference Dose		Hazard Indices		
Constituent	Incidental Ingestion of Surface Soil (mg/kg*d)	Incidental Ingestion of Surface Water (mg/kg*d)	Dermal Contact with Surface Soil (mg/kg*d)	Dermal Contact with Sediment (mg/kg*d)	Dermal Contact with Surface Water (mg/kg*d)	Ingestion (mg/kg*d)	Dermal Contact (mg/kg*d)	Ingestion (mg/kg*d)	Dermal Contact (mg/kg*d)	Ingestion	Dermal Contact	Total Hazard Index
SVOCs												
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	8.6E-08	0.0E+00	0.0E+00	8.6E-08	0.0E+00	0.0E+00			
TPH												
TPH	2.0E-05	0.0E+00	5.1E-04	4.0E-03	0.0E+00	2.0E-05	4.5E-03	3.0E-02	3.0E-02	6.8E-04	1.5E-01	1.5E-01
Pesticides/PCBs												
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	1.9E-07	0.0E+00	0.0E+00	1.9E-07	2.0E-05	2.0E-05	0.0E+00	9.7E-03	9.7E-03
Inorganic Compounds												
Aluminum	0.0E+00	9.1E-05	0.0E+00	0.0E+00	4.6E-08	9.1E-05	4.6E-08	1.0E+00	1.0E+00	9.1E-05	4.6E-08	9.1E-05
Arsenic	0.0E+00	5.3E-06	0.0E+00	3.9E-07	2.7E-09	5.3E-06	4.0E-07	3.0E-04	3.0E-04	1.8E-02	1.3E-03	1.9E-02
Beryllium	5.8E-08	0.0E+00	2.9E-08	9.2E-08	0.0E+00	5.8E-08	1.2E-07	2.0E-03	2.0E-03	2.9E-05	6.0E-05	8.9E-05
Cobalt	0.0E+00	3.0E-07	0.0E+00	0.0E+00	1.5E-10	3.0E-07	1.5E-10	1.8E-01	1.8E-01	1.7E-06	8.5E-10	1.7E-06
Lead	0.0E+00	2.3E-07	0.0E+00	0.0E+00	4.0E-10	2.3E-07	4.0E-10	0.0E+00	0.0E+00			
Manganese	0.0E+00	2.2E-05	0.0E+00	0.0E+00	1.1E-08	2.2E-05	1.1E-08	2.4E-02	2.4E-02	9.0E-04	4.6E-07	9.1E-04
Thallium	0.0E+00	2.9E-07	0.0E+00	0.0E+00	1.5E-10	2.9E-07	1.5E-10	8.0E-05	8.0E-05	3.7E-03	1.9E-06	3.7E-03
Zinc	0.0E+00	4.3E-06	0.0E+00	0.0E+00	2.2E-09	4.3E-06	2.2E-09	3.0E-01	3.0E-01	1.4E-05	7.3E-09	1.4E-05
									HI Sum	2.3E-02	1.6E-01	
									Total Receptor Hazard Index			**2E-01**

TABLE G-1: NONCARCINOGENIC RISK CALCULATIONS FOR CURRENT HUMAN RECEPTORS

Noncarcinogenic Current Site Use
Maximum Exposure to Trespasser

	Ingestion		Dermal Contact			Total Dose		Reference Dose		Hazard Indices		
Constituent	Incidental Ingestion of Surface Soil (mg/kg*d)	Incidental Ingestion of Surface Water (mg/kg*d)	Dermal Contact with Surface Soil (mg/kg*d)	Dermal Contact with Sediment (mg/kg*d)	Dermal Contact with Surface Water (mg/kg*d)	Ingestion (mg/kg*d)	Dermal Contact (mg/kg*d)	Ingestion (mg/kg*d)	Dermal Contact (mg/kg*d)	Ingestion	Dermal Contact	Total Hazard Index
SVOCs												
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	2.1E-07	0.0E+00	0.0E+00	2.1E-07	0.0E+00	0.0E+00			
TPH												
TPH	2.9E-05	0.0E+00	7.3E-04	1.8E-02	0.0E+00	2.9E-05	1.9E-02	3.0E-02	3.0E-02	9.8E-04	6.3E-01	6.3E-01
Pesticides/PCBs												
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	1.5E-06	0.0E+00	0.0E+00	1.5E-06	2.0E-05	2.0E-05	0.0E+00	7.6E-02	7.6E-02
Inorganic Compounds												
Aluminum	0.0E+00	3.8E-04	0.0E+00	0.0E+00	1.9E-07	3.8E-04	1.9E-07	1.0E+00	1.0E+00	3.8E-04	1.9E-07	3.8E-04
Arsenic	0.0E+00	1.7E-05	0.0E+00	2.9E-06	8.8E-09	1.7E-05	2.9E-06	3.0E-04	3.0E-04	5.8E-02	9.7E-03	6.8E-02
Beryllium	1.5E-07	0.0E+00	7.6E-08	9.7E-07	0.0E+00	1.5E-07	1.0E-06	2.0E-03	2.0E-03	7.6E-05	5.2E-04	6.0E-04
Cobalt	0.0E+00	5.4E-07	0.0E+00	0.0E+00	2.8E-10	5.4E-07	2.8E-10	1.8E-01	1.8E-01	3.0E-06	1.5E-09	3.0E-06
Lead	0.0E+00	6.5E-07	0.0E+00	0.0E+00	1.1E-09	6.5E-07	1.1E-09	0.0E+00	0.0E+00			
Manganese	0.0E+00	7.1E-05	0.0E+00	0.0E+00	3.6E-08	7.1E-05	3.6E-08	2.4E-02	2.4E-02	2.9E-03	1.5E-06	2.9E-03
Thallium	0.0E+00	5.4E-07	0.0E+00	0.0E+00	2.8E-10	5.4E-07	2.8E-10	8.0E-05	8.0E-05	6.8E-03	3.4E-06	6.8E-03
Zinc	0.0E+00	1.6E-05	0.0E+00	0.0E+00	8.3E-09	1.6E-05	8.3E-09	3.0E-01	3.0E-01	5.4E-05	2.8E-08	5.4E-05
									HI Sum	6.9E-02	7.1E-01	
									Total Receptor Hazard Index			**8E-01**

TABLE G-1: NONCARCINOGENIC RISK CALCULATIONS FOR CURRENT HUMAN RECEPTORS

	Noncarcinogenic Current Site Use					
	Mean Exposure to Commercial/Industrial Worker					
	Inhalation		Ingestion		Dermal Contact	
Constituent	Inhalation of Surface Soil Fugitive Dust (mg/kg*d)	Inhalation of Subsurface Soil Fugitive Dust (mg/kg*d)	Incidental Ingestion of Surface Soil (mg/kg*d)	Incidental Ingestion of Subsurface Soil (mg/kg*d)	Dermal Contact with Surface Soil (mg/kg*d)	Dermal Contact with Subsurface Soil (mg/kg*d)
SVOCs						
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
TPH						
TPH	7.0E-07	2.3E-07	8.8E-04	2.9E-04	7.9E-04	2.6E-04
Pesticides/PCBs						
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Inorganic Compounds						
Aluminum	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Arsenic	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Beryllium	2.0E-09	1.8E-09	2.5E-06	2.3E-06	4.5E-08	4.1E-08
Cobalt	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Lead	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Manganese	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Thallium	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Zinc	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

TABLE G-1: NONCARCINOGENIC RISK CALCULATIONS FOR CURRENT HUMAN RECEPTORS

Noncarcinogenic Current Site Use
Mean Exposure to Commercial/Industrial Worker

	Total Dose			Reference Dose			Hazard Indices			
Constituent	Inhalation (mg/kg*d)	Ingestion (mg/kg*d)	Dermal Contact (mg/kg*d)	Inhalation (mg/kg*d)	Ingestion (mg/kg*d)	Dermal Contact (mg/kg*d)	Inhalation	Ingestion	Dermal Contact	Total Hazard Index
SVOCs										
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00				
TPH										
TPH	9.3E-07	1.2E-03	1.1E-03	0.0E+00	3.0E-02	3.0E-02		3.9E-02	3.5E-02	7.4E-02
Pesticides/PCBs										
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.0E-05	2.0E-05				
Inorganic Compounds										
Aluminum	0.0E+00	0.0E+00	0.0E+00	1.0E-03	1.0E+00	1.0E+00				
Arsenic	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.0E-04	3.0E-04				
Beryllium	3.8E-09	4.8E-06	8.5E-08	5.7E-06	2.0E-03	2.0E-03	6.7E-04	2.4E-03	4.3E-05	3.1E-03
Cobalt	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.8E-01	1.8E-01				
Lead	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00				
Manganese	0.0E+00	0.0E+00	0.0E+00	1.4E-05	2.4E-02	2.4E-02				
Thallium	0.0E+00	0.0E+00	0.0E+00	0.0E+00	8.0E-05	8.0E-05				
Zinc	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.0E-01	3.0E-01				
							HI Sum	4.2E-02	3.5E-02	
							Total Receptor Hazard Index			**8E-02**

TABLE G-1: NONCARCINOGENIC RISK CALCULATIONS FOR CURRENT HUMAN RECEPTORS

	Noncarcinogenic Current Site Use					
	Maximum Exposure to Commercial/Industrial Worker					
	Inhalation		Ingestion		Dermal Contact	
Constituent	Inhalation of Surface Soil Fugitive Dust (mg/kg*d)	Inhalation of Subsurface Soil Fugitive Dust (mg/kg*d)	Incidental Ingestion of Surface Soil (mg/kg*d)	Incidental Ingestion of Subsurface Soil (mg/kg*d)	Dermal Contact with Surface Soil (mg/kg*d)	Dermal Contact with Subsurface Soil (mg/kg*d)
SVOCs						
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
TPH						
TPH	1.0E-06	4.5E-07	1.3E-03	5.6E-04	1.1E-03	5.0E-04
Pesticides/PCBs						
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Inorganic Compounds						
Aluminum	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Arsenic	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Beryllium	5.2E-09	5.2E-09	6.6E-06	6.6E-06	1.2E-07	1.2E-07
Cobalt	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Lead	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Manganese	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Thallium	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Zinc	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

TABLE G-3: NONCARCINOGENIC RISK CALCULATIONS FOR FUTURE HUMAN RECEPTORS

	Noncarcinogenic Future Site Use Maximum Exposure to Commercial/Industrial Worker							
	Inhalation		Ingestion			Dermal Contact		
Constituent	Inhalation of Subsurface Soil Fugitive Dust (mg/kg*d)	Inhalation of Surface Soil Fugitive Dust (mg/kg*d)	Incidental Ingestion of Surface Soil (mg/kg*d)	Incidental Ingestion of Subsurface Soil (mg/kg*d)	Incidental Ingestion of Ground Water (mg/kg*d)	Dermal Contact with Surface Soil (mg/kg*d)	Dermal Contact with Subsurface Soil (mg/kg*d)	Dermal Contact with Ground Water (mg/kg*d)
SVOCs								
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
TPH								
TPH	1.0E-06	4.5E-07	1.3E-03	5.6E-04	0.0E+00	1.1E-03	5.0E-04	0.0E+00
Pesticides/PCBs								
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Inorganic Compounds								
Aluminum	0.0E+00	0.0E+00	0.0E+00	0.0E+00	9.8E-03	0.0E+00	0.0E+00	8.6E-08
Arsenic	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Beryllium	5.2E-09	5.2E-09	6.6E-06	6.6E-06	0.0E+00	1.2E-07	1.2E-07	0.0E+00
Cobalt	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.9E-04	0.0E+00	0.0E+00	2.6E-09
Lead	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Manganese	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.1E-02	0.0E+00	0.0E+00	1.8E-07
Thallium	0.0E+00	0.0E+00	0.0E+00	0.0E+00	7.8E-05	0.0E+00	0.0E+00	6.9E-10
Zinc	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.1E-03	0.0E+00	0.0E+00	2.7E-08

TABLE G-3: NONCARCINOGENIC RISK CALCULATIONS FOR FUTURE HUMAN RECEPTORS

Noncarcinogenic Future Site Use
Maximum Exposure to Commercial/Industrial Worker

Constituent	Total Dose			Reference Dose			Hazard Indices			Total Hazard Index
	Inhalation (mg/kg*d)	Ingestion (mg/kg*d)	Dermal Contact (mg/kg*d)	Inhalation (mg/kg*d)	Ingestion (mg/kg*d)	Dermal Contact (mg/kg*d)	Inhalation	Ingestion	Dermal Contact	
SVOCs										
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00				
TPH										
TPH	1.5E-06	1.8E-03	1.6E-03	0.0E+00	3.0E-02	3.0E-02		6.1E-02	5.5E-02	1.2E-01
Pesticides/PCBs										
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.0E-05	2.0E-05				
Inorganic Compounds										
Aluminum	0.0E+00	9.8E-03	8.6E-08	1.0E-03	1.0E+00	1.0E+00	0.0E+00	9.8E-03	8.6E-08	9.8E-03
Arsenic	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.0E-04	3.0E-04				
Beryllium	1.0E-08	1.3E-05	2.4E-07	5.7E-06	2.0E-03	2.0E-03	1.8E-03	6.6E-03	1.2E-04	8.5E-03
Cobalt	0.0E+00	2.9E-04	2.6E-09	0.0E+00	1.8E-01	1.8E-01		1.6E-03	1.4E-08	1.6E-03
Lead	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00				
Manganese	0.0E+00	2.1E-02	1.8E-07	1.4E-05	2.4E-02	2.4E-02	0.0E+00	8.6E-01	7.5E-06	8.6E-01
Thallium	0.0E+00	7.8E-05	6.9E-10	0.0E+00	8.0E-05	8.0E-05		9.8E-01	8.6E-06	9.8E-01
Zinc	0.0E+00	3.1E-03	2.7E-08	0.0E+00	3.0E-01	3.0E-01		1.0E-02	9.2E-08	1.0E-02
						HI Sum	1.8E-03	1.9E+00	5.5E-02	
							Total Receptor Hazard Index			**2E+00**

TABLE G-3: NONCARCINOGENIC RISK CALCULATIONS FOR FUTURE HUMAN RECEPTORS

	Noncarcinogenic Future Site Use Mean Exposure to Construction Worker							
	Inhalation		Ingestion			Dermal Contact		
Constituent	Inhalation of Surface Soil Fugitive Dust (mg/kg*d)	Inhalation of Subsurface Soil Fugitive Dust (mg/kg*d)	Incidental Ingestion of Surface Soil (mg/kg*d)	Incidental Ingestion of Subsurface Soil (mg/kg*d)	Ingestion of Groundwater (mg/kg*d)	Dermal Contact with Surface Soil (mg/kg*d)	Dermal Contact with Subsurface Soil (mg/kg*d)	Dermal Contact with Ground Water (mg/kg*d)
SVOCs								
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
TPH								
TPH	7.0E-07	2.3E-07	8.8E-04	2.9E-04	0.0E+00	7.9E-04	2.6E-04	0.0E+00
Pesticides/PCBs								
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Inorganic Compounds								
Aluminum	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.2E-03	0.0E+00	0.0E+00	1.9E-08
Arsenic	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Beryllium	2.0E-09	1.8E-09	2.5E-06	2.3E-06	0.0E+00	4.5E-08	4.1E-08	0.0E+00
Cobalt	0.0E+00	0.0E+00	0.0E+00	0.0E+00	4.1E-05	0.0E+00	0.0E+00	3.6E-10
Lead	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Manganese	0.0E+00	0.0E+00	0.0E+00	0.0E+00	4.2E-03	0.0E+00	0.0E+00	3.7E-08
Thallium	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.2E-05	0.0E+00	0.0E+00	2.0E-10
Zinc	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.7E-04	0.0E+00	0.0E+00	3.2E-09

TABLE G-3: NONCARCINOGENIC RISK CALCULATIONS FOR FUTURE HUMAN RECEPTORS

Noncarcinogenic Future Site Use
Mean Exposure to Construction Worker

Constituent	Total Dose			Reference Dose			Hazard Indices			Total Hazard Index
	Inhalation (mg/kg*d)	Ingestion (mg/kg*d)	Dermal Contact (mg/kg*d)	Inhalation (mg/kg*d)	Ingestion (mg/kg*d)	Dermal Contact (mg/kg*d)	Inhalation	Ingestion	Dermal Contact	
SVOCs										
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00				
TPH										
TPH	9.3E-07	1.2E-03	1.1E-03	0.0E+00	3.0E-02	3.0E-02		3.9E-02	3.5E-02	7.4E-02
Pesticides/PCBs										
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.0E-05	2.0E-05				
Inorganic Compounds										
Aluminum	0.0E+00	2.2E-03	1.9E-08	1.0E-03	1.0E+00	1.0E+00	0.0E+00	2.2E-03	1.9E-08	2.2E-03
Arsenic	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.0E-04	3.0E-04				
Beryllium	3.8E-09	4.8E-06	8.5E-08	5.7E-06	2.0E-03	2.0E-03	6.7E-04	2.4E-03	4.3E-05	3.1E-03
Cobalt	0.0E+00	4.1E-05	3.6E-10	0.0E+00	1.8E-01	1.8E-01		2.3E-04	2.0E-09	2.3E-04
Lead	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00				
Manganese	0.0E+00	4.2E-03	3.7E-08	1.4E-05	2.4E-02	2.4E-02	0.0E+00	1.8E-01	1.5E-06	1.8E-01
Thallium	0.0E+00	2.2E-05	2.0E-10	0.0E+00	8.0E-04	8.0E-04		2.8E-02	2.5E-07	2.8E-02
Zinc	0.0E+00	3.7E-04	3.2E-09	0.0E+00	3.0E-01	3.0E-01		1.2E-03	1.1E-08	1.2E-03
						HI Sum	6.7E-04	2.5E-01	3.5E-02	
							Total Receptor Hazard Index			**3E-01**

TABLE G-3: NONCARCINOGENIC RISK CALCULATIONS FOR FUTURE HUMAN RECEPTORS

	Noncarcinogenic Future Site Use Maximum Exposure to Construction Worker							
	Inhalation		Ingestion			Dermal Contact		
Constituent	Inhalation of Surface Soil Fugitive Dust (mg/kg*d)	Inhalation of Subsurface Soil Fugitive Dust (mg/kg*d)	Incidental Ingestion of Surface Soil (mg/kg*d)	Incidental Ingestion of Subsurface Soil (mg/kg*d)	Ingestion of Groundwater (mg/kg*d)	Dermal Contact with Surface Soil (mg/kg*d)	Dermal Contact with Subsurface Soil (mg/kg*d)	Dermal Contact with Ground Water (mg/kg*d)
SVOCs								
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
TPH								
TPH	1.0E-06	4.5E-07	1.3E-03	5.6E-04	0.0E+00	1.1E-03	5.0E-04	0.0E+00
Pesticides/PCBs								
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Inorganic Compounds								
Aluminum	0.0E+00	0.0E+00	0.0E+00	0.0E+00	9.8E-03	0.0E+00	0.0E+00	8.6E-08
Arsenic	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Beryllium	5.2E-09	5.2E-09	6.6E-06	6.6E-06	0.0E+00	1.2E-07	1.2E-07	0.0E+00
Cobalt	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.9E-04	0.0E+00	0.0E+00	2.6E-09
Lead	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Manganese	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.1E-02	0.0E+00	0.0E+00	1.8E-07
Thallium	0.0E+00	0.0E+00	0.0E+00	0.0E+00	7.8E-05	0.0E+00	0.0E+00	6.9E-10
Zinc	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.1E-03	0.0E+00	0.0E+00	2.7E-08

TABLE G-3: NONCARCINOGENIC RISK CALCULATIONS FOR FUTURE HUMAN RECEPTORS

Noncarcinogenic Future Site Use
Maximum Exposure to Construction Worker

Constituent	Total Dose Inhalation (mg/kg*d)	Total Dose Ingestion (mg/kg*d)	Total Dose Dermal Contact (mg/kg*d)	Reference Dose Inhalation (mg/kg*d)	Reference Dose Ingestion (mg/kg*d)	Reference Dose Dermal Contact (mg/kg*d)	Hazard Indices Inhalation	Hazard Indices Ingestion	Hazard Indices Dermal Contact	Total Hazard Index
SVOCs										
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00				
TPH										
TPH	1.5E-06	1.8E-03	1.6E-03	0.0E+00	3.0E-02	3.0E-02		6.1E-02	5.5E-02	1.2E-01
Pesticides/PCBs										
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.0E-05	2.0E-05				
Inorganic Compounds										
Aluminum	0.0E+00	9.8E-03	8.6E-08	1.0E-03	1.0E+00	1.0E+00	0.0E+00	9.8E-03	8.6E-08	9.8E-03
Arsenic	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.0E-04	3.0E-04				
Beryllium	1.0E-08	1.3E-05	2.4E-07	5.7E-06	2.0E-03	2.0E-03	1.8E-03	6.6E-03	1.2E-04	8.5E-03
Cobalt	0.0E+00	2.9E-04	2.6E-09	0.0E+00	1.8E-01	1.8E-01		1.6E-03	1.4E-08	1.6E-03
Lead	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00				
Manganese	0.0E+00	2.1E-02	1.8E-07	1.4E-05	2.4E-02	2.4E-02	0.0E+00	8.6E-01	7.5E-06	8.6E-01
Thallium	0.0E+00	7.8E-05	6.9E-10	0.0E+00	8.0E-04	8.0E-04		9.8E-02	8.6E-07	9.8E-02
Zinc	0.0E+00	3.1E-03	2.7E-08	0.0E+00	3.0E-01	3.0E-01		1.0E-02	9.2E-08	1.0E-02
						HI Sum	1.8E-03	1.0E+00	5.5E-02	
							Total Receptor Hazard Index			**1E+00**

TABLE G-4: CARCINOGENIC RISK CALCULATIONS FOR FUTURE HUMAN RECEPTORS

	Carcinogenic Future Site Use							
	Mean Exposure to Commercial/Industrial Worker							
	Inhalation		Ingestion			Dermal Contact		
Constituent	Inhalation of Surface Soil Fugitive Dust (mg/kg*d)	Inhalation of Subsurface Soil Fugitive Dust (mg/kg*d)	Incidental Ingestion of Surface Soil (mg/kg*d)	Incidental Ingestion of Subsurface Soil (mg/kg*d)	Ingestion of Ground Water (mg/kg*d)	Dermal Contact with Surface Soil (mg/kg*d)	Dermal Contact with Subsurface Soil (mg/kg*d)	Dermal Contact with Ground Water (mg/kg*d)
SVOCs-BNA								
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
TPH								
TPH	2.3E-07	7.7E-08	2.9E-04	9.7E-05	0.0E+00	2.6E-04	8.7E-05	0.0E+00
Pesticides/PCBs								
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Inorganic Compounds								
Aluminum	0.0E+00	0.0E+00	0.0E+00	0.0E+00	7.4E-04	0.0E+00	0.0E+00	6.5E-09
Arsenic	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Beryllium	6.6E-10	6.0E-10	8.3E-07	7.6E-07	0.0E+00	1.5E-08	1.4E-08	0.0E+00
Cobalt	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.4E-05	0.0E+00	0.0E+00	1.2E-10
Lead	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Manganese	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.4E-03	0.0E+00	0.0E+00	1.2E-08
Thallium	0.0E+00	0.0E+00	0.0E+00	0.0E+00	7.5E-06	0.0E+00	0.0E+00	6.6E-11
Zinc	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.2E-04	0.0E+00	0.0E+00	1.1E-09

TABLE G-4: CARCINOGENIC RISK CALCULATIONS FOR FUTURE HUMAN RECEPTORS

Carcinogenic Future Site Use
Mean Exposure to Commercial/Industrial Worker

Constituent	Total Dose			Slope Factor			Cancer Risk			Total Cancer Risk
	Inhalation (mg/kg*d)	Ingestion (mg/kg*d)	Dermal Contact (mg/kg*d)	Inhalation $(mg/kg*d)^{-1}$	Ingestion $(mg/kg*d)^{-1}$	Dermal Contact $(mg/kg*d)^{-1}$	Inhalation	Ingestion	Dermal Contact	
SVOCs-BNA										
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	3.1E+00	7.3E+00	7.3E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
TPH										
TPH	3.1E-07	3.9E-04	3.5E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Pesticides/PCBs										
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	2.0E+00	2.0E+00	2.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Inorganic Compounds										
Aluminum	0.0E+00	7.4E-04	6.5E-09	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Arsenic	0.0E+00	0.0E+00	0.0E+00	1.5E+01	1.5E+00	1.5E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Beryllium	1.3E-09	1.6E-06	2.8E-08	8.4E+00	0.0E+00	0.0E+00	1.1E-08	0.0E+00	0.0E+00	1.1E-08
Cobalt	0.0E+00	1.4E-05	1.2E-10	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Lead	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Manganese	0.0E+00	1.4E-03	1.2E-08	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Thallium	0.0E+00	7.5E-06	6.6E-11	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Zinc	0.0E+00	1.2E-04	1.1E-09	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
						ELCR Sum	1.1E-08	0.0E+00	0.0E+00	
							Total Receptor Cancer Risk			**1E-08**

TABLE G-4: CARCINOGENIC RISK CALCULATIONS FOR FUTURE HUMAN RECEPTORS

	Carcinogenic Future Site Use							
	Maximum Exposure to Commercial/Industrial Worker							
	Inhalation		Ingestion			Dermal Contact		
Constituent	Inhalation of Surface Soil Fugitive Dust (mg/kg*d)	Inhalation of Suburface Soil Fugitive Dust (mg/kg*d)	Incidental Ingestion of Surface Soil (mg/kg*d)	Incidental Ingestion of Subsurface Soil (mg/kg*d)	Incidental Ingestion of Ground Water (mg/kg*d)	Dermal Contact with Surface Soil (mg/kg*d)	Dermal Contact with Subsurface Soil (mg/kg*d)	Dermal Contact with Ground Water (mg/kg*d)
SVOCs-BNA								
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
TPH								
TPH	3.4E-07	1.5E-07	4.2E-04	1.9E-04	0.0E+00	3.8E-04	1.7E-04	0.0E+00
Pesticides/PCBs								
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Inorganic Compounds								
Aluminum	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.3E-03	0.0E+00	0.0E+00	2.9E-08
Arsenic	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Beryllium	1.7E-09	1.7E-09	2.2E-06	2.2E-06	0.0E+00	3.9E-08	3.9E-08	0.0E+00
Cobalt	0.0E+00	0.0E+00	0.0E+00	0.0E+00	9.8E-05	0.0E+00	0.0E+00	8.6E-10
Lead	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Manganese	0.0E+00	0.0E+00	0.0E+00	0.0E+00	6.8E-03	0.0E+00	0.0E+00	6.0E-08
Thallium	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.6E-05	0.0E+00	0.0E+00	2.3E-10
Zinc	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.0E-03	0.0E+00	0.0E+00	9.2E-09

TABLE G-4: CARCINOGENIC RISK CALCULATIONS FOR FUTURE HUMAN RECEPTORS

Carcinogenic Future Site Use

Maximum Exposure to Commercial/Industrial Worker

	Total Dose			Slope Factor			Cancer Risk			
Constituent	Inhalation (mg/kg*d)	Ingestion (mg/kg*d)	Dermal Contact (mg/kg*d)	Inhalation $(mg/kg*d)^{-1}$	Ingestion $(mg/kg*d)^{-1}$	Dermal Contact $(mg/kg*d)^{-1}$	Inhalation	Ingestion	Dermal Contact	Total Cancer Risk
SVOCs-BNA										
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	3.1E+00	7.3E+00	7.3E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
TPH										
TPH	4.9E-07	6.1E-04	5.5E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Pesticides/PCBs										
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	2.0E+00	2.0E+00	2.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Inorganic Compounds										
Aluminum	0.0E+00	3.3E-03	2.9E-08	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Arsenic	0.0E+00	0.0E+00	0.0E+00	1.5E+01	1.5E+00	1.5E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Beryllium	3.5E-09	4.4E-06	7.9E-08	8.4E+00	0.0E+00	0.0E+00	2.9E-08	0.0E+00	0.0E+00	2.9E-08
Cobalt	0.0E+00	9.8E-05	8.6E-10	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Lead	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Manganese	0.0E+00	6.8E-03	6.0E-08	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Thallium	0.0E+00	2.6E-05	2.3E-10	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Zinc	0.0E+00	1.0E-03	9.2E-09	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
						ELCR Sum	2.9E-08	0.0E+00	0.0E+00	
							Total Receptor Cancer Risk			**3E-08**

TABLE G-4: CARCINOGENIC RISK CALCULATIONS FOR FUTURE HUMAN RECEPTORS

	Carcinogenic Future Site Use							
	Mean Exposure to Construction Worker							
	Inhalation		Ingestion			Dermal Contact		
Constituent	Inhalation of Surface Soil Fugitive Dust (mg/kg*d)	Inhalation of Subsurface Soil Fugitive Dust (mg/kg*d)	Incidental Ingestion of Surface Soil (mg/kg*d)	Incidental Ingestion of Subsurface Soil (mg/kg*d)	Ingestion of Groundwater (mg/kg*d)	Dermal Contact with Surface Soil (mg/kg*d)	Dermal Contact with Subsurface Soil (mg/kg*d)	Dermal Contact with Ground Water (mg/kg*d)
SVOCs-BNA								
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
TPH								
TPH	9.4E-09	3.1E-09	1.2E-05	3.9E-06	0.0E+00	1.1E-05	3.5E-06	0.0E+00
Pesticides/PCBs								
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Inorganic Compounds								
Aluminum	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.9E-05	0.0E+00	0.0E+00	2.6E-10
Arsenic	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Beryllium	2.6E-11	2.4E-11	3.3E-08	3.0E-08	0.0E+00	5.9E-10	5.4E-10	0.0E+00
Cobalt	0.0E+00	0.0E+00	0.0E+00	0.0E+00	5.5E-07	0.0E+00	0.0E+00	4.8E-12
Lead	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Manganese	0.0E+00	0.0E+00	0.0E+00	0.0E+00	5.6E-05	0.0E+00	0.0E+00	4.9E-10
Thallium	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.0E-07	0.0E+00	0.0E+00	2.6E-12
Zinc	0.0E+00	0.0E+00	0.0E+00	0.0E+00	4.9E-06	0.0E+00	0.0E+00	4.3E-11

TABLE G-4: CARCINOGENIC RISK CALCULATIONS FOR FUTURE HUMAN RECEPTORS

Carcinogenic Future Site Use
Mean Exposure to Construction Worker

Constituent	Total Dose			Slope Factor			Cancer Risk			Total Cancer Risk
	Inhalation (mg/kg*d)	Ingestion (mg/kg*d)	Dermal Contact (mg/kg*d)	Inhalation $(mg/kg*d)^{-1}$	Ingestion $(mg/kg*d)^{-1}$	Dermal Contact $(mg/kg*d)^{-1}$	Inhalation	Ingestion	Dermal Contact	
SVOCs-BNA										
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	3.1E+00	7.3E+00	7.3E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
TPH										
TPH	1.2E-08	1.6E-05	1.4E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Pesticides/PCBs										
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	2.0E+00	2.0E+00	2.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Inorganic Compounds										
Aluminum	0.0E+00	2.9E-05	2.6E-10	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Arsenic	0.0E+00	0.0E+00	0.0E+00	1.5E+01	1.5E+00	1.5E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Beryllium	5.1E-11	6.4E-08	1.1E-09	8.4E+00	0.0E+00	0.0E+00	4.2E-10	0.0E+00	0.0E+00	4.2E-10
Cobalt	0.0E+00	5.5E-07	4.8E-12	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Lead	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Manganese	0.0E+00	5.6E-05	4.9E-10	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Thallium	0.0E+00	3.0E-07	2.6E-12	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Zinc	0.0E+00	4.9E-06	4.3E-11	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
						ELCR Sum	4.2E-10	0.0E+00	0.0E+00	
							Total Receptor Cancer Risk			**4E-10**

TABLE G-4: CARCINOGENIC RISK CALCULATIONS FOR FUTURE HUMAN RECEPTORS

	Carcinogenic Future Site Use							
	Maximum Exposure to Construction Worker							
	Inhalation		Ingestion			Dermal Contact		
Constituent	Inhalation of Surface Soil Fugitive Dust (mg/kg*d)	Inhalation of Subsurface Soil Fugitive Dust (mg/kg*d)	Incidental Ingestion of Surface Soil (mg/kg*d)	Incidental Ingestion of Subsurface Soil (mg/kg*d)	Ingestion of Groundwater (mg/kg*d)	Dermal Contact with Surface Soil (mg/kg*d)	Dermal Contact with Subsurface Soil (mg/kg*d)	Dermal Contact with Ground Water (mg/kg*d)
SVOCs-BNA								
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
TPH								
TPH	1.3E-08	6.0E-09	1.7E-05	7.5E-06	0.0E+00	1.5E-05	6.7E-06	0.0E+00
Pesticides/PCBs								
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Inorganic Compounds								
Aluminum	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.3E-04	0.0E+00	0.0E+00	1.1E-09
Arsenic	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Beryllium	7.0E-11	7.0E-11	8.8E-08	8.8E-08	0.0E+00	1.6E-09	1.6E-09	0.0E+00
Cobalt	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.9E-06	0.0E+00	0.0E+00	3.4E-11
Lead	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Manganese	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.7E-04	0.0E+00	0.0E+00	2.4E-09
Thallium	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.0E-06	0.0E+00	0.0E+00	9.2E-12
Zinc	0.0E+00	0.0E+00	0.0E+00	0.0E+00	4.2E-05	0.0E+00	0.0E+00	3.7E-10

TABLE G-4: CARCINOGENIC RISK CALCULATIONS FOR FUTURE HUMAN RECEPTORS

Carcinogenic Future Site Use
Maximum Exposure to Construction Worker

	Total Dose			Slope Factor			Cancer Risk			
Constituent	Inhalation (mg/kg*d)	Ingestion (mg/kg*d)	Dermal Contact (mg/kg*d)	Inhalation $(mg/kg*d)^{-1}$	Ingestion $(mg/kg*d)^{-1}$	Dermal Contact $(mg/kg*d)^{-1}$	Inhalation	Ingestion	Dermal Contact	Total Cancer Risk
SVOCs-BNA										
Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	3.1E+00	7.3E+00	7.3E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
TPH										
TPH	1.9E-08	2.4E-05	2.2E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Pesticides/PCBs										
Aroclor-1254	0.0E+00	0.0E+00	0.0E+00	2.0E+00	2.0E+00	2.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Inorganic Compounds										
Aluminum	0.0E+00	1.3E-04	1.1E-09	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Arsenic	0.0E+00	0.0E+00	0.0E+00	1.5E+01	1.5E+00	1.5E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Beryllium	1.4E-10	1.8E-07	3.1E-09	8.4E+00	0.0E+00	0.0E+00	1.2E-09	0.0E+00	0.0E+00	1.2E-09
Cobalt	0.0E+00	3.9E-06	3.4E-11	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Lead	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Manganese	0.0E+00	2.7E-04	2.4E-09	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Thallium	0.0E+00	1.0E-06	9.2E-12	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Zinc	0.0E+00	4.2E-05	3.7E-10	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
						ELCR Sum	1.2E-09	0.0E+00	0.0E+00	
							Total Receptor Cancer Risk			**1E-09**

APPENDIX H

ECOLOGICAL RISK CHARACTERIZATION

Appendix H
Revised Exposure Assessment and Ecological Risk Characterization Calculations

1.1 EXPOSURE ASSESSMENT

The EPA's *Wildlife Exposure Factors Handbook* (USEPA, 1993b) was used to estimate COC doses, or exposures, for identified receptor species at the Site. COC doses were used in the Risk Characterization phase to calculate Hazard Quotients (HQs). The *Handbook* includes consolidated tables of species-specific data based on ecological research. These data were screened and approved for use in ecological risk assessments in evaluating ecological risk. The *Handbook* also includes dose estimation models and guidelines suggested for use by the EPA. The process used to estimate COC doses for the site is described below.

Normalized Ingestion Rates

Wildlife food ingestion rates are influenced by many factors, including metabolic rate, energy exerted for growth and reproduction, and dietary composition. The rate of food consumption that an animal must maintain to meet its metabolic needs can be calculated by dividing its free-living (or field) metabolic rate (FMR) by the metabolizable energy in its food (Nagy, 1987). Metabolizable energy (ME) is the gross energy (GE) in a unit of food consumed minus the energy lost in feces and urine. Assimilation efficiency (AE) equals the ratio ME/GE, or the fraction of GE that is metabolizable. AE is relatively constant among different groups of consumer species of mammals and birds (Hume, 1982; Peters, 1983; Nagy, 1987; Robbins, 1983). Nagy (1987) calculated the mean ME of various bird and mammal diets from average AE values for birds and mammals and typical GE contents of those diets as reported by Golley (1961) and Robbins (1983) (USEPA, 1993b).

Equations 4-10, 4-11, and 4-12 in USEPA (1993b) were used to calculate Normalized Ingestion Rates (NIR) for the kestrel, Eastern cottontail, and mink. The NIR is the species-specific ratio of ingestion rate to body weight. The NIR equations used are presented below:

$$ME_{avg} = \Sigma\ (P_k \times Me_k) \qquad [4\text{-}12]$$

$$NIR_{total} = NFMR/ME_{avg} \qquad [4\text{-}11]$$

$$NIR_k = P_k \times NIR_{total} \qquad [4\text{-}10]$$

where:

NIR_{total} = Total normalized ingestion rate (mg/kg*day).
NIR_k = Specific normalized ingestion rate of the kth food type (mg/kg*day).
P_k = The proportion of diet consisting of the kth food type on a wet-weight basis (unitless).

ME_{avg}	= Average metabolizable energy of the total diet on a wet-weight basis (kcal/g wet weight).
ME_k	= Metabolizable energy of the kth food type on a wet-weight basis (kcal/g wet weight).
NMFR	= Free-living metabolic rate normalized to body weight (kcal/g*day).

Dietary composition data for the kestrel were taken from Meyer & Balgooyen (1987), which is cited in USEPA (1993b). Dietary proportions (P_k) were taken from winter dietary composition data. The kestrel diet defined in the study consisted of several animal items, with insects, mammals, and birds dominating the diet.

Dietary composition data for the Eastern cottontail were taken from Dalke & Sime (1941; in USEPA, 1993b). This study was chosen from the three studies in USEPA (1993b) based on the proximity of the study area to New England. Four-season mean dietary proportions (P_k) were calculated from study data . The Eastern cottontail diet defined in the study consisted of several plant items, dominated by herbs and grasses.

Dietary composition data for the mink were taken from Korschgen (1958; in USEPA, 1993b). This study was chosen from the four studies in USEPA (1993b) based on the similarity of prey available at the site. Dietary proportions (P_k) were taken from winter dietary composition data. The mink diet defined in the study consisted of several animal items, with frogs, mice, rats, and fish dominating the diet.

ME_k and ME_{avg} were calculated using equation 4-17 from USEPA (1993b), where ME = GE x AE. GE values were taken from Tables 4-1 and 4-2 in USEPA (1993b). The GE (wet weight) for plants was calculated using GE (dry weight) and percent water for emergent vegetation from Table 4-2 (USEPA, 1993b). AE values were taken from Table 4-3 (USEPA, 1993b).

The FMR equation for birds from Walsberg (1983, in USEPA, 1993b), Equation 3-35, was used to calculate NIR for the kestrel. The FMR equations for mammal herbivores and non-herbivores, Equations 3-46 and 3-47 from Nagy (1987, in USEPA, 1993b) were used to calculate NIRs for the Eastern cottontail and mink, respectively. These equations are based on species body weight. The body weights for Eastern cottontail and mink used in Sample et al (1996) to calculate toxicity values (see Section 1.2 below) were used in this risk characterization. The Eastern cottontail weight, 1,200 g, was taken from Chapman et al (1980, in Sample et al, 1996). The mink weight, 1,000 g, was taken from EPA (1993e, in Sample et al, 1996). Kestrel body weight was based on the highest mean adult body weight listed in USEPA (1993b). The highest mean adult female kestrel weight, 138 g, was taken from Gessaman & Haggas (1987, in USEPA, 1993b).

NIR_k values for animal prey items were summed to produce $NIR_{k\ animal}$ for the mink and kestrel. NIR_k values for plant forage items were summed to produce $NIR_{k\ plant}$ for the Eastern cottontail. For the selected receptors, which are each limited to one prey type, in each case the NIR_{total} will equal the $NIR_{k\ animal}$ or the NIR_{kplant}, as applicable.

Average Daily Dose

Average daily doses were revised based on the recalculated normalized ingestion rates and Exposure Point Concentrations (EPCs).

Average daily doses for ingestion of animal prey recalculated for the kestrel are presented in Table H-1b. Average daily oral COC doses recalculated for soil and plant forage for the Eastern cottontail are presented in Table H-2b. Average daily oral COC doses recalculated for sediment and animal prey at three locations for the mink are presented in Tables H-3b, 4b, and 5b.

COC doses for animal prey pathways for the kestrel and mink were calculated by multiplying the prey ingestion rates derived in Tables H-1a and 3a by prey concentrations, bioaccumulation factors, and the fraction of intake from the kth foraging area. Based on available contaminant uptake data in the scientific literature (e.g., LeBlanc, 1995; Timmermans, 1993) and professional judgment, it was assumed that the average prey item consumed its body weight in sediment per day and therefore, the prey COC concentration equals the sediment COC concentration. Bioaccumulation factors are discussed separately below. The fraction of intake from the kth foraging area was calculated by dividing the total area of contaminated soil or sediment by the territory size of the specific receptor.

COC doses for the plant forage pathway for the Eastern cottontail was calculated by multiplying the ingestion rate derived in Table H-2a by plant concentrations and the fraction of intake from the kth foraging area. Based on available data in the scientific literature quantifying contaminant uptake in plants (e.g., de Wet et al., 1990; Ornes & Sajwan, 1993) and professional judgment, plants were assumed to take up a maximum of 50% of their body weight from soil and, therefore, plant COC concentrations were assumed to be half of soil concentrations. The fraction of intake from the kth foraging area was calculated by dividing the total area of contaminated soil by the territory size of the cottontail. The area of soil contamination was assumed to encompass the total area of the site, approximately 100 acres, as surface soil contamination throughout the site is of concern. The fraction of intake for the cottontail was 1 (100%), as its foraging area of 1.3 acres was conservatively assumed to be located entirely within the site boundaries.

COC doses from the ingestion of soil/sediment ($ADD_{soil/sed}$) for the Eastern cottontail and mink were calculated using equation 4-23 from USEPA (1993b):

$$ADD_{soil/sed} = (\sum_{k=1}^{m} (C_k \times FS \times IR_{total(dry\ weight)} \times FR_k))/BW \qquad [4\text{-}23]$$

where:

$ADD_{soil/sed}$ = Potential soil/sediment average daily oral dose (mg/kg*day)

C_k	= Contaminant concentration in soil/sediments in the kth foraging area (mg/kg)
FS	= Fraction of soil/sediment in diet on a dry-weight basis divided by 100 (unitless)
IR_{total}	= Food ingestion rate on a dry-weight basis (g/day)
FR_k	= Fraction of total food intake from the kth foraging area (unitless)
BW	= Body weight (g)
m	= Total number of foraging areas

COC concentrations (C_k) in soil/sediments are the Exposure Point Concentrations (EPCs). The EPC is the amount of a chemical in an environmental medium to which a receptor may be exposed. For each COC in each contaminated medium, two EPCs were calculated: mean and maximum detected concentrations at the site. These EPCs are used to calculate average and upper bound estimates of exposure. Mean and maximum COC EPCs were calculated using all relevant validated data. For sediments, where three distinct areas on and near the site are assessed, mean and maximum EPCs were calculated for the COCs related to each area.

The fraction of soil (FS) in the diet of the Eastern cottontail was taken from Arthur & Gates (1988) for the jackrabbit (Table 4-5 in USEPA, 1993b). FS for the mink was taken from an estimate for raccoon adapted from Beyer et al. (in press; Table 4-4 in USEPA, 1993b).

Food ingestion rates on a dry-weight basis (IR_{total}) were derived from equations developed by Nagy (1987, in USEPA, 1993b). These simplified models use species body weight to estimate IR_{total}. The sources of Eastern cottontail and mink body weights are described above.

The fraction of intake from the kth foraging area (FR_k) was calculated by dividing the total area of contaminated soil by the territory size of the receptor.

The total number of foraging areas (m) was assumed to be 1, because the study area is considered one foraging area.

Total Daily Stressor Doses

Revised average daily doses for soil/sediments, prey, and plant dietary constituents were summed to produce revised total stressor doses for each of the identified COCs. Total average daily doses for the kestrel (Table H-1c) are equal to prey average daily doses, because the kestrel diet was assumed to consist of 100% prey. Total potential average daily doses for the Eastern cottontail (Table H-2c) are the sums of soil average daily doses and plant average daily doses. Total potential average daily doses for the mink (Tables H-3c, 4c, and 5c) are the sums of sediment average daily doses, and prey average daily doses.

Bioaccumulation Factors

Bioaccumulation is the buildup of chemical compounds in body tissues. According to Verschueren (1983), the process of bioaccumulation (also referred to as bioconcentration and/or biomagnification) is the result of several interrelated events:

- stressor partitioning between the medium of concern and the receptor;
- diffusional transport across receptor cell membranes;
- intra-body transport via body fluids;
- concentration of the stressor in various tissues, such as nerve lipids; and
- stressor biodegradation.

While the relative importance of these events is poorly understood, bioaccumulation may be assumed if accumulation exceeds stressor degradation (Verschueren, 1983).

Bioaccumulation factors (BAFs) are generally defined as the concentration of the contaminant in the species of concern divided by the concentration of the contaminant in the medium of concern (e.g., USEPA, 1994b; de Wet et al., 1990; Ornes & Sajwan, 1993). BAFs for the animal prey group ingested by the kestrel and the mink used in Average Daily Dose calculations were taken from EA (1996), which calculated BAFs using soil and tissue sample data collected from Allen Harbor landfill and a reference site. BAFs for chemicals not listed in EA (1996) were calculated based on models and ranges found in the literature (Automated Sciences Group, Inc., 1994; Garten & Trabalka, 1983; Howard, 1993; Mackay et al, 1992). BAFs used in Average Daily Dose calculations, along with their sources, are listed in Table H-6.

Plants were assumed to have a BAF of 50% based on aquatic plant BAFs reported in the scientific literature (e.g., Ornes & Sajwan, 1993; and de Wet et al., 1990). Soil COC concentrations were halved to estimate plant COC concentrations for the Eastern cottontail in Table H-2b.

1.2 TOXICITY ASSESSMENT

Where available, updated toxicity information was taken from Sample et al (1996). This reference presents no observed adverse effects level (NOAEL)-based toxicological benchmarks and lowest observed adverse effects level (LOAEL)-based toxicological benchmarks for 20 wildlife species. The NOAEL-based benchmarks represent values believed to be nonhazardous for the listed wildlife species; LOAEL-based benchmarks represent threshold levels at which adverse effects are likely to become evident. Sample et al (1996) takes experimentally derived NOAELs or LOAELs from test species, such as rats, mice, and ducks, and estimates NOAELs for wildlife by adjusting the dose according to differences in body weight between the test species and the wildlife species. Chronic effects due to chemical exposure observed in these toxicity tests include, but are not limited to:

- decreased fetal birth weight,
- reduced litter size,
- reduced viability of offspring,
- impaired fertility,
- reduced growth, and
- mortality.

For those COCs where toxicity information was not available in Sample et al (1996), which included most of the SVOCs, the experimentally derived NOAELs and LOAELs taken from IRIS (USEPA, 1996b) that were listed in the Draft Phase II Report, were adjusted for the specific receptor using the Sample et al (1996) body size scaling factors. Subchronic effects due to chemical exposure in toxicity tests reported in IRIS include:

- nephropathy and hematological effects,
- decreased fetal birth weight,
- reduced kidney function, and
- liver lesions.

In the remaining cases where body weight factors were not available, experimentally derived NOAELs and LOAELs from IRIS (USEPA, 1996b) were divided by a factor of 10 to account for extrapolations between families or orders. In the Draft Phase II report, this was the methodology used for all COCs. This adds an additional element of conservatism to the risk estimates for these COCs.

Effects levels used in risk characterization are listed in Table H-7. These effects levels were used as representatives of assessment endpoints in risk characterization.

In the Draft Phase II Report, appropriate effect levels were not available for delta BHC, DDD, DDE, toxaphene, and copper, and therefore risk due to these chemicals could not be quantified. More recent literature has effect levels for these chemicals, therefore these chemicals have been included in the revised risk calculations. For 4-methylphenol, endrin aldehyde, and cobalt, appropriate effects levels still are not available and, therefore, risks due to these chemicals still could not be quantified in this assessment.

1.3 Risk Characterization Calculation

Under the Hazard Quotient Approach, chemical-specific average daily doses were summed across exposures for each receptor (ADD_{tot}) and compared to effect levels published in the literature to determine whether a conclusion of *no significant risk to the environment* is supported for each endpoint.

As part of the Hazard Quotient Approach, ADD_{tot} values were used to calculate Hazard Quotients (HQs). HQs were calculated using mean and maximum ADD_{tot} values and the most appropriate values of the NOAEL and LOAEL published in the literature (Table H-7):

HQ_{NOAEL} = ADD_{tot} /NOAEL

HQ_{LOAEL} = ADD_{tot} /LOAEL

Mean and maximum HQs are shown on Tables H-1d,1e, 2d, 2e, 3d, 3e, 4d, 4e, 5d, and 5e. Based on the HQ, one of the following three conclusions was made for the dose (ADD_{tot}) for each receptor:

- When the ADD_{tot} was lower than the NOAEL, (HQ_{NOAEL} <1), no *significant risk of harm to the environment* was assumed.
- When the ADD_{tot} exceeded the LOAEL, (HQ_{LOAEL} >1), *significant risk of harm to the environment* was assumed.
- When the ADD_{tot} was greater than the NOAEL but less than the LOAEL, (HQ_{NOAEL} >1 and HQ_{LOAEL} <1), or no LOAEL was available, no conclusion was reached as to *significant risk of harm to the environment.*

In some cases where no LOAEL was available and the ADD_{tot} greatly exceeded the NOAEL, ecological risk was assumed.

1.4 RECALCULATION OF RISK BASED ON THE 95TH UPPER CONFIDENCE LIMIT OF THE MEAN CONCENTRATION

Since a conclusion of *significant risk of harm* is supported to the Eastern cottontail from antimony and copper in soil, and to the mink from chromium in Black Swamp sediments, based on the maximum HQ, the EPCs for these three contaminants were recalculated based on the 95th UCL of the mean, and the risk calculations were rerun. Exposure parameters in the available literature are not refined enough to provide both central tendency and high end values, therefore only one risk calculation can be made using the 95th UCL, rather than the two calculations made based on mean and maximum EPCs.

The revised dose and risk calculations for the Eastern cottontail from exposure to antimony and copper in surface soil, based on the 95th UCL of the mean, can be found in Tables H-8a through H-8d.

For chromium in Black Swamp sediment samples, the calculation of the 95th UCL of the mean resulted in a number greater than the maximum concentration. In this case, the EPC defaults to the maximum concentration. Therefore, risk was not recalculated based on the 95th UCL of the mean.

1.5 CALCULATION OF RISK FROM UPSTREAM BACKGROUND LOCATIONS

In order to discover the potential effect of upstream background location contaminant levels on the results of our ERA, summary statistics for a background sediment data set were calculated for the contaminant that shows risk, specifically chromium. The following sample locations were used: DFSWSD10, SD-01, SD-02, TRC-24, TRC-25, TRC-26, SHW2, and SHW3. EPCs were calculated and risk to mink was estimated. The dose and risk calculations for the mink from exposure to chromium in background sediment can be found in Tables H-9a through H-9d.

All exposure parameters previously described for the mink were used in this calculation. The fraction of intake from the kth foraging area (FR_k) was 1, as the background area encompasses the entire mink forage area size. The total number of foraging areas (m) was assumed to be 1, because the study area is considered one foraging area.

REFERENCES

Automated Sciences Group, Inc., Hazardous Waste Remedial Actions Program, and Oak Ridge National Laboratory. 1994. *Risk Assessment Handbook, Massachusetts Military Reservation, Cape Cod, Massachusetts.*

Chapman, J.A., J.G. Hockman, and M.M. Ojeda C. 1980. Sylvilagus floridanus. *Mamm. Species.* No. 136, pp. 1-8.

deWet, L.P.D.; H.J. Schoonbee; J. Pretorius; L.M. Bezuidenhout. 1990. Bioaccumulation of selected heavy metals by the water fern, *Azolla filiculoides* Lam. in a wetland ecosystem affected by sewage, mine and industrial pollution. *Water SA.* 16(4): 281-286.

EA. 1996. *Facility-wide Freshwater/Terrestrial Ecological Risk Assessment.* EA Engineering, Science, and Technology. February 1996. Prepared for Northern Division Naval Facilities Engineering Command, Philadelphia, PA.

Garten, C.T. Jr., and J.R. Trabalka. 1983. Evaluation of Models for Predicting Terrestrial Food Chain Behavior of Xenobiotics. *Environ. Sci. Technol.* 17: 590-595.

Golley, F.B. 1961. Energy values of ecological materials. *Ecology.* 42:581-584.

Howard, P.H. (ed) 1993. *Handbook of Environmental Fate and Exposure Data For Organic Chemicals.* Lewis Publishers, Chelsea, MI.

Hume, I.D. 1982. *Digestive physiology and nutrition of marsupials.* Cambridge University Press. Cambridge, England.

LeBlanc, G.A. 1995. Trophic-level differences in the bioconcentration of chemicals: implications in assessing environmental biomagnification. *Environ. Sci. Technol.* 29:154-160.

Mackay, D.; W.Y. Shiu; K.C. Ma. 1992. *Illustrated Handbook of Physical-Chemical Properties and Environmental Fate for Organic Chemicals.* Lewis Publishers, Chelsea, MI.

Nagy, K.A. 1987. Field metabolic rate and food requirement scaling in mammals and birds. *Ecol. Mono.* 57:111-128.

Ornes, W.H.; K.S. Sajwan. 1993. Cadmium accumulation and bioavailability in coontail (*Ceratophyllum demersum* L.) plants. *Water, Air, and Soil Pollution.* 69: 291-300.

Peters, R.H. 1983. *The ecological implications of body size.* Cambridge University Press. Cambridge, England.

Robbins, C.T. 1983. *Wildlife feeding and nutrition.* Academic Press. New York, NY.

Sample, B.E., D.M. Opresko, and G.W. Suter II. 1996. *Toxicological Benchmarks for Wildlife: 1996 Revision.* ES/ER/TM-86/R3. Prepared for the U.S. Department of Energy by the Risk Assessment Program, Health Sciences Research Division, Oak Ridge, TN.

Timmermans, K.R. 1993. Chapter 8: Accumulation and effects of trace metals in freshwater invertebrates. *Ecotoxicology of Metals in Invertebrates*. Lewis Publishers. Boca Raton, Florida.

U.S. Environmental Protection Agency (USEPA). 1993b. *Wildlife Exposure Factors Handbook, Vol. I.* Environmental Protection Agency. U.S. Government Printing Office. Washington, D.C. (Report No.: USEPA/600/R-93/187a).

USEPA. 1993e. *Great Lakes water quality initiative criteria documents for the protection of wildlife (proposed): DDT, Mercury, 2,3,7,8-TCDD, PCBs.* EPA/822/R-93-007. Office Science and Technology, Washington, D.C.

U.S. Environmental Protection Agency (USEPA). 1994b. *Great Lakes Water Quality Initiative Technical Support Document for the Procedure to Determine Bioaccumulation Factors.* U.S. Environmental Protection Agency. U.S. Government Printing Office. Washington, D.C. (Report No.: USEPA/822/R-94/002).

U.S. Environmental Protection Agency, IRIS. 1996b. *Integrated Risk Information System.* U.S. Environmental Protection AgencyEcological Risk Assessment

TABLE H-1a. NORMALIZED INGESTION RATES (KESTREL)

Dietary Item	Proportion of Diet (P_k)[a]	Gross Energy (GE_k) (kcal/g wet wt)[b]	Assimilation Efficiency (AE_k)[c]	Metabolizable Energy (ME_k) (kcal/g wet wt) ($ME_k = GE_k \times AE_k$)	$P_k \times ME_k$ (kcal/g wet wt)	$NIR_k = P_k \times NIR_{total}$ ($mg_{prey}/kg_{kestrel}$ *day)	
Animal							
Invertebrates	0.326	1.7	0.72	1.224	0.40	109025	
Mammals	0.317	1.7	0.78	1.326	0.42	106015	
Birds	0.303	1.9	0.78	1 482	0.45	101333	
Reptiles	0.019	1 4	0.78	1.092	0.02	6354	$NIR_{k\ animal}$[i]
Other	0.035	1.6	0.77	1.232	0.04	11705	334431
		ME_{avg} (kcal/g wet wt) = $\Sigma (P_k \times ME_k)$ =			1.33		

Normalized Field or Free-living Metabolic Rate (NFMR)

Weight (kg)[d]	FMR (kcal/day) = $3.12\ Wt^{0.605}$ (g)[e]
0.138	61

NFMR (kcal/kg-day) = FMR/Wt (kg)[f]
445.56

Total and Specific Normalized Ingestion Rates (NIR_{total} and NIR_k)

NIR_{total} = $NFMR/ME_{avg}$ (mg/kg-day)[g]
334431

$NIR_k = P_k \times NIR_{total}$[h]
see above

Notes:

[a] These values are winter dietary composition wet weight percentages taken from Meyer & Balgooyen (1987) in EPA (1993b). This study was chosen based on similarity of habitat.

[b] Gross energy values were taken from Table 4-1 (EPA, 1993b). GE for invertebrates taken from grasshopper value. GE for reptiles taken from snake and lizard value. GE for "other" taken from average of other categories. "Other" represents trace amounts of other food types eaten that make up the total diet.

[c] Assimilation efficiency values were taken from Table 4-3 (EPA, 1993b). The AE value for terrestrial insects was used for invertebrates. The AE value for small mammals/birds was used for reptiles. The AE value for "other" was calculated from average of other categories.

[d] Weight refers to the highest mean female winter weight listed in EPA (1993b) (from Gessaman & Haggas, 1987).

[e] Equation 3-35 (EPA, 1993b)

[f] Equation 3-40 (EPA, 1993b)

[g] Equation 4-11 (EPA, 1993b)

[h] Equation 4-10 (EPA, 1993b)

[i] $NIR_{k\ animal} = NIR_{total}$ for a carnivore.

TABLE H-1b. AVERAGE DAILY DOSE (KESTREL)

Chemical	Mean Prey Concentration (mg_{coc}/kg_{prey})[a]	Maximum Prey Concentration (mg_{coc}/kg_{prey})[a]	Prey Ingestion Rate ($NIR_{k\ animal}$) ($mg_{prey}/kg_{kestrel}$*day)[b]	Bioaccumulation Factor (BAF)[c]	Fraction of Intake from kth Foraging Area	Mean Prey Daily Dose (ADD_{prey}) ($mg_{coc}/kg_{kestrel}$*day)[d]	Maximum Prey Daily Dose (ADD_{prey}) ($mg_{coc}/kg_{kestrel}$*day)[d]
2,4-Dinitrotoluene	0.056	0.056	334431	6.99	0.11	0.014	0.014
Benzoic acid	0.14	0.14	334431	0.002	0.11	1.16E-05	1.16E-05
Aroclor-1260	0.127	1.4	334431	6.99	0.11	0.03	0.36
Antimony	3.0375	11.7	334431	0.047	0.11	0.005	0.02
Chromium	8.642	110	334431	1.07	0.11	0.34	4.31
Copper	19.947	350	334431	0.14	0.11	0.10	1.74
Lead	31.836	171	334431	0.006	0.11	0.007	0.04
Mercury	0.082	0.4	334431	0.09	0.11	0.0003	0.001
Nickel	15.093	370	334431	0.49	0.11	0.27	6.62
Selenium	0.516	3	334431	0.21	0.11	0.004	0.02
Silver	1.247	28	334431	0.025	0.11	0.001	0.03
Zinc	42.967	197	334431	0.19	0.11	0.30	1.37

Notes:

[a] Assuming prey concentration is equal to soil concentration.

[b] Sum of animal prey Normalized Ingestion Rates ($NIR_{k\ animal}$) from Table H-1a.

[c] BAFs for all chemicals except benzoic acid from EA (1996) shrew BAFs. BAF for benzoic acid calculated using methods from literature.

[d] Prey Concentration x Prey Ingestion Rate x BAF x Fraction of Intake from kth foraging area.

TABLE H-1c. TOTAL DAILY STRESSOR DOSE (KESTREL)

Chemical	Mean Prey Daily Dose (ADD_{prey}) ($mg_{coc}/kg_{kestrel}$*day)[a]	Maximum Prey Daily Dose (ADD_{prey}) ($mg_{coc}/kg_{kestrel}$*day)[a]
2,4-Dinitrotoluene	0.014	0.014
Benzoic acid	1.16E-05	1.16E-05
Aroclor-1260	0.03	0.36
Antimony	0.005	0.02
Chromium	0.34	4.31
Copper	0.10	1.74
Lead	0.007	0.04
Mercury	0.0003	0.001
Nickel	0.27	6.62
Selenium	0.004	0.02
Silver	0.001	0.03
Zinc	0.30	1.37

Notes:

[a] Prey Concentration x Prey Ingestion Rate x BAF x Fraction of Intake from kth foraging area.

TABLE H-1d. MEAN HAZARD QUOTIENTS (KESTREL)

Chemical	Total Mean Potential Average Daily Dose (ADD_{tot}) (mg_{coc}/kg day)[a]	Receptor NOAEL (mg/kg*day)[b]	Receptor LOAEL (mg/kg*day)[b]	Hazard $Quotient_{NOAEL}$ (ADD_{tot}/NOAEL)[c]	Hazard $Quotient_{LOAEL}$ (ADD_{tot}/LOAEL)[c]	Risk Characterization[d]
2,4-Dinitrotoluene	0.014	0.02	0.15	0.72	0.10	NSR
Benzoic acid	1.16E-05	0.44	NA	2.63E-05	NA	NSR
Aroclor-1260	0.03	0.18	1.8	0.18	0.02	NSR
Antimony	0.005	NA	0.035	NA	0.15	NSR
Chromium	0.34	1	5	0.34	0.07	NSR
Copper	0.10	47	61 7	0.0021	0.0016	NSR
Lead	0.007	3.85	NA	0.002	NA	NSR
Mercury	0.0003	0.006	0.064	0.047	0.0044	NSR
Nickel	0.27	77.4	107	0.003	0.0025	NSR
Selenium	0.004	0.5	1	0.01	0.0040	NSR
Silver	0.001	0.83	8.3	0.001	0.0001	NSR
Zinc	0.30	14.5	131	0.021	0.0023	NSR

Notes:

[a] From Table H-1b, equals mean prey daily dose.

[b] From Table H-7. NA = Not Available.

[c] Shading indicates HQs > 1.

[d] NSR = No significant risk. See text for further explanation.

TABLE H-1e. MAXIMUM HAZARD QUOTIENTS (KESTREL)

Chemical	Total Maximum Potential Average Daily Dose (ADD_{tot}) (mg_{coc}/kg day)[a]	Receptor NOAEL (mg/kg*day)[b]	Receptor LOAEL (mg/kg*day)[b]	Hazard $Quotient_{NOAEL}$ (ADD_{tot}/NOAEL)[c]	Hazard $Quotient_{LOAEL}$ (ADD_{tot}/LOAEL)[c]	Risk Characterization[d]
2,4-Dinitrotoluene	0.014	0.02	0.15	0.72	0.10	NSR
Benzoic acid	1.16E-05	0.44	NA	2.63E-05	NA	NSR
Aroclor-1260	0.36	0.18	1.8	2.00	0.20	NC
Antimony	0.02	NA	0.035	NA	0.58	NSR
Chromium	4.31	1	5	4.31	0.86	NC
Copper	1.74	47	61.7	0.04	0.03	NSR
Lead	0.04	3.85	NA	0.01	NA	NSR
Mercury	0.001	0.006	0.064	0.23	0.02	NSR
Nickel	6.62	77.4	107	0.09	0.06	NSR
Selenium	0.02	0.5	1	0.05	0.02	NSR
Silver	0.03	0.83	8.3	0.03	0.003	NSR
Zinc	1.37	14.5	131	0.09	0.01	NSR

Notes:

[a] From Table H-1b, equals maximum prey daily dose.

[b] From Table H-7. NA = Not Available.

[c] Shading indicates HQs > 1.

[d] NSR = No significant risk; NC = No conclusion. See text for further explanation.

TABLE H-2a. NORMALIZED INGESTION RATES (EASTERN COTTONTAIL)

Dietary Item	Proportion of Diet (P_k)[a]	Gross Energy (GE_k) (kcal/g wet wt)[b]	Assimilation Efficiency (AE_k)[c]	Metabolizable Energy (ME_k) (kcal/g wet wt) ($ME_k = GE_k \times AE_k$)	$P_k \times ME_k$ (kcal/g wet wt)	$NIR_k = P_k \times NIR_{total}$ (mg_{plant}/kg_{rabbit} *day)	
Plant							
Trees	0.1525	4.1	0.76	3.10	0.47	17154	
Shrubs and vines	0.1825	4.1	0.76	3.10	0.57	20529	
Herbs	0.265	0.6	0.72	0.45	0.12	29809	
Grasses, sedges, rushes	0.295	1.3	0.76	0.99	0.29	33183	$NIR_{k\ plant}$[i]
Crops	0.105	4.6	0.76	3.52	0.37	11811	112485
		ME_{avg} (kcal/g wet wt) = $\Sigma (P_k \times ME_k)$ =			1.82		

Normalized Field or Free-living Metabolic Rate (NFMR)

Weight (kg)[d]	FMR (kcal/day) = 1.419 $Wt^{0.727}$ (g)[e]
1.2	246

NFMR (kcal/kg-day) = FMR/Wt (kg)[f]
204.82

Total and Specific Normalized Ingestion Rates (NIR_{total} and NIR_k)

NIR_{total} = $NFMR/ME_{avg}$ (mg/kg-day)[g]
112485

$NIR_k = P_k \times NIR_{total}$[h]
see above

Notes:

[a] These values are four-season mean dietary composition percentages taken from Dalke & Sime (1941) in EPA (1993b). This study was chosen based on proximity of study area to site.

[b] Gross energy values were taken from Table 4-2 (EPA, 1993b). GE (wet wt) was calculated based on dry wt and percent water taken from Table 4-2 in EPA (1993b).

[c] Assimilation efficiency values were taken from Table 4-3 (EPA, 1993b). The AE value for "herbivory" was used for trees, shrubs and vines, grasses, sedges, rushes, and crops. The green forbs value was used for herbs.

[d] Weight listed in Sample et al (1996) (from Chapman et al, 1980).

[e] Equation 3-46 for herbivores from Nagy (1987) in EPA (1993b).

[f] Equation 3-40 (EPA, 1993b)

[g] Equation 4-11 (EPA, 1993b)

[h] Equation 4-10 (EPA, 1993b)

[i] $NIR_{k\ plant} = NIR_{total}$ for a herbivore.

TABLE H-2b. AVERAGE DAILY DOSE (EASTERN COTTONTAIL)

Chemical	Soil Mean Detected Concentration (mg/kg)	Soil Maximum Detected Concentration (mg/kg)	Fraction of Soil in Diet (FS)[a]	Food Ingestion Rate (Dry Wt.) (IR_{total}) (g/day)[b]	Fraction of Intake from kth Foraging Area[c]	Body Weight (g)[d]	Number of Foraging Areas (m)[e]	Mean Soil Average Daily Dose (ADD_{soil}) (mg_{coc}/kg_{rabbit}*day)[f]	Maximum Soil Average Daily Dose (ADD_{soil}) (mg_{coc}/kg_{rabbit}*day)[f]
2,4-Dinitrotoluene	0.056	0.056	0.063	100	1	1200	1	0.0003	0.0003
Benzoic acid	0.14	0.14	0.063	100	1	1200	1	0.0007	0.0007
Aroclor-1260	0.127	1 4	0.063	100	1	1200	1	0.0007	0.007
Antimony	3.0375	11 7	0.063	100	1	1200	1	0.02	0.06
Chromium	8.642	110	0.063	100	1	1200	1	0.05	0.58
Copper	19.947	350	0.063	100	1	1200	1	0.10	1.84
Lead	31.836	171	0.063	100	1	1200	1	0.17	0.90
Mercury	0.082	0.4	0.063	100	1	1200	1	0.0004	0.002
Nickel	15.093	370	0.063	100	1	1200	1	0.08	1.94
Selenium	0.516	3	0.063	100	1	1200	1	0.003	0.016
Silver	1.247	28	0.063	100	1	1200	1	0.007	0.15
Zinc	42.967	197	0.063	100	1	1200	1	0.23	1.03

Notes:

[a] Value for FS taken from Arthur & Gates (1988) for jackrabbit (in Table 4-5, EPA, 1993b).

[b] Derived from ingestion rate model by Nagy (1987; Equation 3-9 in EPA, 1993b). $IR = 0.577Wt^{0.727}$ (g) = 100

[c] Site area encompasses entire foraging area of the Eastern cottontail.

[d] Weight listed in Sample et al (1996) (from Chapman et al, 1980).

[e] The study area is considered one foraging area; "m" is the number of foraging areas in Equation 4-23 (EPA, 1993b).

[f] Equation 4-23 (EPA, 1993b).

TABLE H-2b. AVERAGE DAILY DOSE (EASTERN COTTONTAIL) (continued)

Chemical	Mean Plant Concentration (mg_{coc}/kg_{plant})[g]	Maximum Plant Concentration (mg_{coc}/kg_{plant})[g]	Plant Ingestion Rate ($NIR_{k\ plant}$) (mg_{plant}/kg_{rabbit}*day)[h]	Fraction of Intake from kth Foraging Area	Mean Plant Daily Dose (ADD_{plant}) (mg_{coc}/kg_{rabbit}*day)[i]	Maximum Plant Daily Dose (ADD_{plant}) (mg_{coc}/kg_{rabbit}*day)[i]
2,4-Dinitrotoluene	0.028	0.028	112485	1	0.003	0.003
Benzoic acid	0.07	0.07	112485	1	0.008	0.008
Aroclor-1260	0.063	0.7	112485	1	0.007	0.08
Antimony	1.519	5.85	112485	1	0.17	0.66
Chromium	4.321	55	112485	1	0.49	6.19
Copper	9.974	175	112485	1	1.12	19.68
Lead	15.918	85.5	112485	1	1.79	9.62
Mercury	0.041	0.2	112485	1	0.005	0.02
Nickel	7.547	185	112485	1	0.85	20.81
Selenium	0.258	1.5	112485	1	0.03	0.17
Silver	0.623	14	112485	1	0.07	1.57
Zinc	21.483	98.5	112485	1	2.42	11.08

Notes:

[g] Assuming plant concentration is 50 percent of soil concentration of COCs (i.e., a plant Bioaccumulation Factor of 0.5).

[h] Sum of plant Normalized Ingestion Rates ($NIR_{k\ plant}$) from Table H-2a.

[i] Plant Concentration x Plant Ingestion Rate x Fraction of intake from kth foraging area.

TABLE H-2c. TOTAL DAILY STRESSOR DOSE (EASTERN COTTONTAIL)

Chemical	Mean Soil Average Daily Dose (ADD_{soil}) (mg_{coc}/kg_{rabbit}*day)[a]	Maximum Soil Average Daily Dose (ADD_{soil}) (mg_{coc}/kg_{rabbit}*day)[a]	Mean Plant Daily Dose (ADD_{plant}) (mg_{coc}/kg_{rabbit}*day)[a]	Maximum Plant Daily Dose (ADD_{plant}) (mg_{coc}/kg_{rabbit}*day)[a]	Total Mean Potential Average Daily Dose (ADD_{tot}) (mg_{coc}/kg_{rabbit}*day)	Total Maximum Potential Average Daily Dose (ADD_{tot}) (mg_{coc}/kg_{rabbit}*day)
2,4-Dinitrotoluene	0.0003	0.0003	0.003	0.003	0.003	0.003
Benzoic acid	0.0007	0.0007	0.008	0.008	0.009	0.009
Aroclor-1260	0.0007	0.007	0.007	0.08	0.008	0.09
Antimony	0.02	0.06	0.17	0.66	0.19	0.72
Chromium	0.05	0.58	0.49	6.19	0.53	6.76
Copper	0.10	1.84	1.12	19.68	1.23	21.52
Lead	0.17	0.90	1.79	9.62	1.96	10.51
Mercury	0.0004	0.002	0.005	0.02	0.005	0.02
Nickel	0.08	1.94	0.85	20.81	0.93	22.75
Selenium	0.003	0.016	0.03	0.17	0.03	0.18
Silver	0.007	0.15	0.07	1.57	0.08	1.72
Zinc	0.23	1.03	2.42	11.08	2.64	12.11

Notes:

[a] From Table H-2b.

TABLE H-2d. MEAN HAZARD QUOTIENTS (EASTERN COTTONTAIL)

Chemical	Total Mean Potential Average Daily Dose (ADD_{tot}) (mg_{coc}/kg_{rabbit}*day)[a]	Receptor NOAEL (mg/kg*day)[b]	Receptor LOAEL (mg/kg*day)[b]	Hazard $Quotient_{NOAEL}$ (ADD_{tot}/NOAEL)[c]	Hazard $Quotient_{LOAEL}$ (ADD_{tot}/LOAEL)[c]	Risk Characterization[d]
2,4-Dinitrotoluene	0.003	0.02	0.15	0.17	0.02	NSR
Benzoic acid	0.009	0.44	NA	0.02	NA	NSR
Aroclor-1260	0.008	0.022	0.223	0.35	0.04	NSR
Antimony	0.19	0.05	0.497	3.74	0.38	NC
Chromium	0.53	2.41	9 66	0.22	0.06	NSR
Copper	1.23	11.2	14.7	0.11	0.08	NSR
Lead	1.96	5.88	58.79	0.33	0.03	NSR
Mercury	0.005	0.024	0.118	0.21	0.04	NSR
Nickel	0.93	29 4	58.79	0.03	0.02	NSR
Selenium	0.03	0.147	0.243	0.22	0.13	NSR
Silver	0.08	13.2	132	0.01	0.001	NSR
Zinc	2.64	117 6	235.2	0.02	0.01	NSR

Notes:

[a] From Table H-2c.

[b] From Table H-7. NA = Not Available

[c] Shading indicates HQs > 1.

[d] NC = No conclusion; NSR = No significant risk. See text for further explanation.

TABLE H-2e. MAXIMUM HAZARD QUOTIENTS (EASTERN COTTONTAIL)

Chemical	Total Maximum Potential Average Daily Dose (ADD_{tot}) (mg_{coc}/kg_{rabbit}*day)[a]	Receptor NOAEL (mg/kg*day)[b]	Receptor LOAEL (mg/kg*day)[b]	Hazard $Quotient_{NOAEL}$ (ADD_{tot}/NOAEL)[c]	Hazard $Quotient_{LOAEL}$ (ADD_{tot}/LOAEL)[c]	Risk Characterization[d]
2,4-Dinitrotoluene	0.003	0.02	0.15	0.17	0.02	NSR
Benzoic acid	0.009	0.44	NA	0.02	NA	NSR
Aroclor-1260	0.09	0.022	0.223	3.91	0.39	NC
Antimony	0.72	0.05	0.497	14.39	1.45	SR
Chromium	6.76	2.41	9.66	2.81	0.70	NC
Copper	21.52	11.2	14.7	1.92	1.46	SR
Lead	10.51	5.88	58.79	1.79	0.18	NC
Mercury	0.02	0.024	0.118	1.02	0.21	NC
Nickel	22.75	29 4	58.79	0.77	0.39	NSR
Selenium	0.18	0.147	0.243	1	0.76	NSR
Silver	1.72	13.2	132	0.13	0.01	NSR
Zinc	12.11	117.6	235.2	0.10	0.05	NSR

Notes:

[a] From Table H-2c.

[b] From Table H-7. NA = Not Available

[c] Shading indicates HQs > 1.

[d] NC = No conclusion; NSR = No significant risk; SR = Significant risk. See text for further explanation.

TABLE H-3a. NORMALIZED INGESTION RATES (MINK - FIRE POND)

Dietary Item	Proportion of Diet (P_k)[a]	Gross Energy (GE_k) (kcal/g wet wt)[b]	Assimilation Efficiency (AE_k)[c]	Metabolizable Energy (ME_k) (kcal/g wet wt) ($ME_k = GE_k \times AE_k$)	$P_k \times ME_k$ (kcal/g wet wt)	$NIR_k = P_k \times NIR_{total}$ (mg_{prey}/kg_{mink} *day)	
Animal							
Frogs	0.249	1.2	0.84	1.008	0.25	48555	
Mice and rats	0.239	1 7	0.84	1 428	0.34	46605	
Fish	0.199	1.2	0.91	1.092	0.22	38805	
Rabbits	0.102	1.7	0.84	1 428	0.15	19890	
Crayfish	0.093	1 1	0.84	0.924	0.09	18135	
Birds	0.056	1.9	0.84	1.596	0.09	10920	
Fox squirrel	0.022	1 7	0.84	1 428	0.03	4290	
Muskrat	0.013	1 7	0.84	1 428	0.02	2535	$NIR_{k\ animal}$[i]
Other	0.027	1 7	0.84	1 428	0.04	5265	195001
		ME_{avg} (kcal/g wet wt) = $\Sigma (P_k \times ME_k)$ =			1.22		

Normalized Field or Free-living Metabolic Rate (NFMR)

Weight (kg)[d]	FMR (kcal/day) = $0.6167\ Wt^{0.862}$ (g)[e]
1	238

NFMR (kcal/kg-day) = FMR/Wt (kg)[f]
237 72

Total and Specific Normalized Ingestion Rates (NIR_{total} and NIR_k)

NIR_{total} = $NFMR/ME_{avg}$ (mg/kg-day)[g]
195001

$NIR_k = P_k \times NIR_{total}$[h]
see above

Notes:

[a] These values are winter composition percentages taken from Korschgen (1958) in EPA (1993b). This study was chosen based on similarity of prey available at the site.

[b] Gross energy values were taken from Table 4-1 (EPA, 1993b). Other represents trace amounts of other food types eaten that make up the total diet.

[c] Assimilation efficiency values were taken from Table 4-3 (EPA, 1993b). The AE value for small birds/mammals (84%) was used for dietary items without values.

[d] Weight listed in Sample et al (1996) (from EPA, 1993e).

[e] Equation 3-47 for non-herbivores from Nagy (1987) in EPA (1993b).

[f] Equation 3-40 (EPA, 1993b)

[g] Equation 4-11 (EPA, 1993b)

[h] Equation 4-10 (EPA, 1993b)

[i] $NIR_{k\ animal} = NIR_{total}$ for a carnivore.

TABLE H-3b. AVERAGE DAILY DOSE (MINK - FIRE POND)

Chemical	Sediment Mean Detected Concentration (mg/kg)	Sediment Maximum Detected Concentration (mg/kg)	Fraction of Sediment in Diet (FS)[a]	Food Ingestion Rate (Dry Wt.) (IR_{total}) (g/day)[b]	Fraction of Intake from kth Foraging Area[c]	Body Weight (g)[d]	Number of Foraging Areas (m)[e]	Mean Sediment Average Daily Dose (ADD_{sed}) (mg_{coc}/kg_{mink}*day)[f]	Maximum Sediment Average Daily Dose (ADD_{sed}) (mg_{coc}/kg_{mink}*day)[f]
2-Butanone	0.05	0.13	0.094	69	0.03	1000	1	9.69E-06	2.52E-05
Fluoranthene	0.685	1 1	0.094	69	0.03	1000	1	1.33E-04	2.13E-04
Pyrene	0.898	1 4	0.094	69	0.03	1000	1	1 74E-04	2.71E-04
Benzo(a)pyrene	0.395	0.78	0.094	69	0.03	1000	1	7.65E-05	1.51E-04
Delta-BHC	0.0145	0.032	0.094	69	0.03	1000	1	2.81E-06	6.20E-06
4,4'-DDE	0.062	0.11	0.094	69	0.03	1000	1	1.20E-05	2.13E-05
Dieldrin	0.0067	0.016	0.094	69	0.03	1000	1	1.30E-06	3.10E-06
4,4'-DDD	0.323	1 1	0.094	69	0.03	1000	1	6.26E-05	2.13E-04
4,4'-DDT	0.0182	0.039	0.094	69	0.03	1000	1	3.53E-06	7.56E-06
gamma-Chlordane	0.0105	0.022	0.094	69	0.03	1000	1	2.03E-06	4.26E-06
Toxaphene	0.276	0.36	0.094	69	0.03	1000	1	5.35E-05	6.98E-05
Aroclor-1254	2.443	5.6	0.094	69	0.03	1000	1	4.73E-04	1.09E-03
Arsenic	5.6575	9	0.094	69	0.03	1000	1	1 10E-03	1 74E-03
Beryllium	0.78	1 4	0.094	69	0.03	1000	1	1.51E-04	2.71E-04
Manganese	118.15	260	0.094	69	0.03	1000	1	2.29E-02	5.04E-02
Vanadium	26.5	46	0.094	69	0.03	1000	1	5 14E-03	8.91E-03

Notes:

[a] Value for FS taken from Beyer et al (in press) (in Table 4-4, EPA, 1993b).

[b] Derived from ingestion rate model by Nagy (1987; Equation 3-7 in EPA, 1993b). $IR = 0.235Wt^{0.822}$ (g) = 69

[c] Fire Pond area of Site encompasses 3% of the mink foraging area.

[d] Weight listed in Sample et al (1996) (from EPA, 1993e).

[e] The Fire Pond area is considered one foraging area; "m" is the number of foraging areas in Equation 4-23 (EPA, 1993b).

[f] Equation 4-23 (EPA, 1993b).

TABLE H-3b. AVERAGE DAILY DOSE (MINK - FIRE POND) (continued)

Chemical	Mean Prey Concentration (mg_{coc}/kg_{prey})[g]	Maximum Prey Concentration (mg_{coc}/kg_{prey})[g]	Prey Ingestion Rate ($NIR_{k\ animal}$) (mg_{prey}/kg_{mink}*day)[h]	Bioaccumulation Factor (BAF)[i]	Fraction of Intake from kth Foraging Area	Mean Prey Daily Dose (ADD_{prey}) (mg_{coc}/kg_{mink}*day)[j]	Maximum Prey Daily Dose (ADD_{prey}) (mg_{coc}/kg_{mink}*day)[j]
2-Butanone	0.05	0.13	195001	0.0004	0.03	1 13E-07	2.94E-07
Fluoranthene	0.685	1 1	195001	0.6835	0.03	2.74E-03	4.40E-03
Pyrene	0.898	1 4	195001	0.6446	0.03	3.39E-03	5.28E-03
Benzo(a)pyrene	0.395	0.78	195001	1.0196	0.03	2.36E-03	4.65E-03
Delta-BHC	0.0145	0.032	195001	1	0.03	8.48E-05	1.87E-04
4,4'-DDE	0.062	0.11	195001	3.206	0.03	1 16E-03	2.06E-03
Dieldrin	0.0067	0.016	195001	6.9923	0.03	2.74E-04	6.54E-04
4,4'-DDD	0.323	1 1	195001	1.065	0.03	2.01E-03	6.85E-03
4,4'-DDT	0.0182	0.039	195001	0.756	0.03	8.05E-05	1 72E-04
gamma-Chlordane	0.0105	0.022	195001	8.2135	0.03	5.05E-04	1.06E-03
Toxaphene	0.276	0.36	195001	0.0602	0.03	9 72E-05	1.27E-04
Aroclor-1254	2.443	5.6	195001	7 1606	0.03	1.02E-01	2.35E-01
Arsenic	5.6575	9	195001	0.0032	0.03	1.06E-04	1.68E-04
Beryllium	0.78	1 4	195001	0.0032	0.03	1 46E-05	2.62E-05
Manganese	118.15	260	195001	0.0147	0.03	1.02E-02	2.24E-02
Vanadium	26.5	46	195001	0.0016	0.03	2.48E-04	4.31E-04

Notes:

[g] Assuming prey concentration is equal to sediment concentration of COCs.

[h] Sum of animal Normalized Ingestion Rates ($NIR_{k\ animal}$) from Table H-3a.

[i] BAFs for all chemicals except 2-Butanone and delta-BHC from EA (1996) shrew BAFs. BAF for 2-Butanone calculated using methods from literature. BAF for delta-BHC could not be determined. A default value of 1 is assumed. Hypothetically, no risk from delta-BHC would be shown until the BAF approached 1000.

[j] Prey Concentration x Prey Ingestion Rate x BAF x Fraction of Intake from kth foraging area.

TABLE H-3c. TOTAL DAILY STRESSOR DOSE (MINK - FIRE POND)

Chemical	Mean Sediment Average Daily Dose (ADD_{sed}) (mg_{coc}/kg_{mink}*day)[a]	Maximum Sediment Average Daily Dose (ADD_{sed}) (mg_{coc}/kg_{mink}*day)[a]	Mean Prey Daily Dose (ADD_{prey}) (mg_{coc}/kg_{mink}*day)[a]	Maximum Prey Daily Dose (ADD_{prey}) (mg_{coc}/kg_{mink}*day)[a]	Total Mean Potential Average Daily Dose (ADD_{tot}) (mg_{coc}/kg_{mink}*day)	Total Maximum Potential Average Daily Dose (ADD_{tot}) (mg_{coc}/kg_{mink}*day)
2-Butanone	9.69E-06	2.52E-05	1 13E-07	2.94E-07	9.80E-06	2.55E-05
Fluoranthene	1.33E-04	2.13E-04	2.74E-03	4.40E-03	2.87E-03	4.61E-03
Pyrene	1.74E-04	2.71E-04	3.39E-03	5.28E-03	3.56E-03	5.55E-03
Benzo(a)pyrene	7.65E-05	1.51E-04	2.36E-03	4.65E-03	2.43E-03	4.80E-03
Delta-BHC	2.81E-06	6.20E-06	8.48E-05	1.87E-04	8.76E-05	1.93E-04
4,4'-DDE	1.20E-05	2.13E-05	1 16E-03	2.06E-03	1.17E-03	2.08E-03
Dieldrin	1.30E-06	3.10E-06	2.74E-04	6.54E-04	2.75E-04	6.58E-04
4,4'-DDD	6.26E-05	2.13E-04	2.01E-03	6.85E-03	2.07E-03	7.07E-03
4,4'-DDT	3.53E-06	7.56E-06	8.05E-05	1 72E-04	8.40E-05	1.80E-04
gamma-Chlordane	2.03E-06	4.26E-06	5.05E-04	1.06E-03	5.07E-04	1.06E-03
Toxaphene	5.35E-05	6.98E-05	9 72E-05	1.27E-04	1.51E-04	1 97E-04
Aroclor-1254	4.73E-04	1.09E-03	1.02E-01	2.35E-01	1.03E-01	2.36E-01
Arsenic	1.10E-03	1.74E-03	1.06E-04	1.68E-04	1.20E-03	1.91E-03
Beryllium	1.51E-04	2.71E-04	1 46E-05	2.62E-05	1.66E-04	2.98E-04
Manganese	2.29E-02	5.04E-02	1.02E-02	2.24E-02	3.31E-02	7.27E-02
Vanadium	5.14E-03	8.91E-03	2.48E-04	4.31E-04	5.38E-03	9.34E-03

Notes:

[a] From Table H-3b.

TABLE H-3d. MEAN HAZARD QUOTIENTS (MINK - FIRE POND)

Chemical	Total Mean Potential Average Daily Dose (ADD_{tot}) (mg_{coc}/kg_{mink}*day)[a]	Receptor NOAEL (mg/kg*day)[b]	Receptor LOAEL (mg/kg*day)[b]	Hazard $Quotient_{NOAEL}$ (ADD_{tot}/NOAEL)[c]	Hazard $Quotient_{LOAEL}$ (ADD_{tot}/LOAEL)[c]	Risk Characterization[d]
2-Butanone	9.80E-06	1362	3516	7.20E-09	2.79E-09	NSR
Fluoranthene	2.87E-03	52.5	105	0.0001	2.73E-05	NSR
Pyrene	3.56E-03	31.5	52.5	0.0001	6.78E-05	NSR
Benzo(a)pyrene	2.43E-03	0.42	4 16	0.01	0.0006	NSR
Delta-BHC	8.76E-05	0.01	0.14	0.0088	6.26E-04	NSR
4,4'-DDE	1.17E-03	0.62	3.08	0.002	0.0004	NSR
Dieldrin	2.75E-04	0.015	0.154	0.02	0.0018	NSR
4,4'-DDD	2.07E-03	0.62	3.08	0.003	0.0007	NSR
4,4'-DDT	8.40E-05	0.62	3 08	0.0001	2.73E-05	NSR
gamma-Chlordane	5.07E-04	1 9	3.8	0.0003	0.0001	NSR
Toxaphene	1.51E-04	6.2	NA	2.43E-05	NA	NSR
Aroclor-1254	1.03E-01	0.14	0.69	0.73	0.15	NSR
Arsenic	1.20E-03	0.052	0.524	0.02	0.0023	NSR
Beryllium	1.66E-04	0.51	NA	0.0003	NA	NSR
Manganese	3.31E-02	68	218	0.0005	0.0002	NSR
Vanadium	5.38E-03	0.15	1.5	0.04	0.0036	NSR

Notes:

[a] From Table H-3c.

[b] From Table H-7. NA = Not Available

[c] Shading indicates HQs > 1.

[d] NSR = No significant risk. See text for further explanation.

TABLE H-3e. MAXIMUM HAZARD QUOTIENTS (MINK - FIRE POND)

Chemical	Total Maximum Potential Average Daily Dose (ADD_{tot}) (mg_{coc}/kg_{mink}*day)[a]	Receptor NOAEL (mg/kg*day)[b]	Receptor LOAEL (mg/kg*day)[b]	Hazard $Quotient_{NOAEL}$ (ADD_{tot}/NOAEL)[c]	Hazard $Quotient_{LOAEL}$ (ADD_{tot}/LOAEL)[c]	Risk Characterization[d]
2-Butanone	2.55E-05	1362	3516	1.87E-08	7.25E-09	NSR
Fluoranthene	4.61E-03	52.5	105	0.0001	0.0000	NSR
Pyrene	5.55E-03	31.5	52.5	0.0002	0.0001	NSR
Benzo(a)pyrene	4.80E-03	0.42	4.16	0.01	0.0012	NSR
Delta-BHC	1.93E-04	0.01	0.14	0.0193	1.38E-03	NSR
4,4'-DDE	2.08E-03	0.62	3.08	0.003	0.0007	NSR
Dieldrin	6.58E-04	0.015	0.154	0.04	0.0043	NSR
4,4'-DDD	7.07E-03	0.62	3.08	0.01	0.0023	NSR
4,4'-DDT	1.80E-04	0.62	3.08	0.0003	5.85E-05	NSR
gamma-Chlordane	1.06E-03	1.9	3.8	0.0006	0.0003	NSR
Toxaphene	1.97E-04	6.2	NA	3.17E-05	NA	NSR
Aroclor-1254	2.36E-01	0.14	0.69	1.68	0.34	NC
Arsenic	1.91E-03	0.052	0.524	0.04	0.0036	NSR
Beryllium	2.98E-04	0.51	NA	0.001	NA	NSR
Manganese	7.27E-02	68	218	0.0011	0.0003	NSR
Vanadium	9.34E-03	0.15	1.5	0.06	0.006	NSR

Notes:

[a] From Table H-3c.

[b] From Table H-7. NA = Not Available

[c] Shading indicates HQs > 1.

[d] NC = No conclusion; NSR = No significant risk. See text for further explanation.

TABLE H-4a. NORMALIZED INGESTION RATES (MINK - BLACK SWAMP)

Dietary Item	Proportion of Diet (P_k)[a]	Gross Energy (GE_k) (kcal/g wet wt)[b]	Assimilation Efficiency (AE_k)[c]	Metabolizable Energy (ME_k) (kcal/g wet wt) ($ME_k = GE_k \times AE_k$)	$P_k \times ME_k$ (kcal/g wet wt)	$NIR_k = P_k \times NIR_{total}$ (mg_{prey}/kg_{mink} *day)	
Animal							
Frogs	0.249	1.2	0.84	1.008	0.25	48555	
Mice and rats	0.239	1 7	0.84	1 428	0.34	46605	
Fish	0.199	1.2	0.91	1.092	0.22	38805	
Rabbits	0.102	1 7	0.84	1 428	0.15	19890	
Crayfish	0.093	1 1	0.84	0.924	0.09	18135	
Birds	0.056	1.9	0.84	1.596	0.09	10920	
Fox squirrel	0.022	1 7	0.84	1 428	0.03	4290	
Muskrat	0.013	1 7	0.84	1 428	0.02	2535	$NIR_{k\ animal}$[i]
Other	0.027	1 7	0.84	1 428	0.04	5265	195001
		ME_{avg} (kcal/g wet wt) = $\Sigma (P_k \times ME_k)$ =			1.22		

Normalized Field or Free-living Metabolic Rate (NFMR)

Weight (kg)[d]	FMR (kcal/day) = $0.6167\ Wt^{0.862}$ (g)[e]
1	238

NFMR (kcal/kg-day) = FMR/Wt (kg)[f]
237 72

Total and Specific Normalized Ingestion Rates (NIR_{total} and NIR_k)

NIR_{total} = $NFMR/ME_{avg}$ (mg/kg-day)[g]
195001

$NIR_k = P_k \times NIR_{total}$[h]
see above

Notes:

[a] These values are winter composition percentages taken from Korschgen (1958) in EPA (1993b). This study was chosen based on similarity of prey available at the site.

[b] Gross energy values were taken from Table 4-1 (EPA, 1993b). Other represents trace amounts of other food types eaten that make up the total diet.

[c] Assimilation efficiency values were taken from Table 4-3 (EPA, 1993b). The AE value for small birds/mammals (84%) was used for dietary items without values.

[d] Weight listed in Sample et al (1996) (from EPA, 1993e).

[e] Equation 3-47 for non-herbivores from Nagy (1987) in EPA (1993b).

[f] Equation 3-40 (EPA, 1993b)

[g] Equation 4-11 (EPA, 1993b)

[h] Equation 4-10 (EPA, 1993b)

[i] $NIR_{k\ animal} = NIR_{total}$ for a carnivore.

TABLE H-4b. AVERAGE DAILY DOSE (MINK - BLACK SWAMP)

Chemical	Sediment Mean Detected Concentration (mg/kg)	Sediment Maximum Detected Concentration (mg/kg)	Fraction of Sediment in Diet (FS)[a]	Food Ingestion Rate (Dry Wt.) (IRtotal) (g/day)[b]	Fraction of Intake from kth Foraging Area[c]	Body Weight (g)[d]	Number of Foraging Areas (m)[e]	Mean Sediment Average Daily Dose (ADD_{sed}) (mg_{coc}/kg_{mink}*day)[f]	Maximum Sediment Average Daily Dose (ADD_{sed}) (mg_{coc}/kg_{mink}*day)[f]
2-Butanone	0.012	0.03	0.094	69	1	1000	1	7 75E-05	1.94E-04
Toluene	0.011	0.03	0.094	69	1	1000	1	7 11E-05	1.94E-04
Phenol	0.098	0.098	0.094	69	1	1000	1	6.33E-04	6.33E-04
Fluorene	0.331	0.55	0.094	69	1	1000	1	2.14E-03	3.55E-03
Anthracene	0.12	0.12	0.094	69	1	1000	1	7 75E-04	7 75E-04
Fluoranthene	0.326	0.55	0.094	69	1	1000	1	2.11E-03	3.55E-03
Pyrene	0.464	1 4	0.094	69	1	1000	1	3.00E-03	9.04E-03
Benzo(a)pyrene	0.343	0.55	0.094	69	1	1000	1	2.22E-03	3.55E-03
4,4'-DDE	0.004	0.0079	0.094	69	1	1000	1	2.58E-05	5.10E-05
Endrin	0.0042	0.01	0.094	69	1	1000	1	2.71E-05	6.46E-05
4,4'-DDD	0.013	0.057	0.094	69	1	1000	1	8.40E-05	3.68E-04
Arsenic	12.20	53.5	0.094	69	1	1000	1	7.88E-02	3.46E-01
Barium	102.49	599	0.094	69	1	1000	1	6.62E-01	3.87E+00
Beryllium	2.98	17.9	0.094	69	1	1000	1	1.92E-02	1 16E-01
Chromium	23.00	80.9	0.094	69	1	1000	1	1 49E-01	5.23E-01
Copper	34.09	174	0.094	69	1	1000	1	2.20E-01	1 12E+00
Lead	42.24	194	0.094	69	1	1000	1	2.73E-01	1.25E+00
Manganese	274.21	1500	0.094	69	1	1000	1	1 77E+00	9.69E+00
Nickel	17 73	89.6	0.094	69	1	1000	1	1 15E-01	5 79E-01
Vanadium	15.60	56.2	0.094	69	1	1000	1	1.01E-01	3.63E-01
Zinc	196.86	972	0.094	69	1	1000	1	1.27E+00	6.28E+00

Notes:

[a] Value for FS taken from Beyer et al (in press) (in Table 4-4, EPA, 1993b).

[b] Derived from ingestion rate model by Nagy (1987; Equation 3-9 in EPA, 1993b). $IR = 0.235Wt^{0.822}$ (g) = 69

[c] Black Swamp area encompasses entire mink forage area size.

[d] Weight listed in Sample et al (1996) (from EPA, 1993e).

[e] The Black Swamp area is considered one foraging area; "m" is the number of foraging areas in Equation 4-23 (EPA, 1993b).

[f] Equation 4-23 (EPA, 1993b).

TABLE H-4b. AVERAGE DAILY DOSE (MINK - BLACK SWAMP) (continued)

Chemical	Mean Prey Concentration (mg_{coc}/kg_{prey})[g]	Maximum Prey Concentration (mg_{coc}/kg_{prey})[g]	Prey Ingestion Rate ($NIR_{k\ animal}$) (mg_{prey}/kg_{mink}*day)[h]	Bioaccumulation Factor (BAF)[i]	Fraction of Intake from kth Foraging Area	Mean Prey Daily Dose (ADD_{prey}) (mg_{coc}/kg_{mink}*day)[j]	Maximum Prey Daily Dose (ADD_{prey}) (mg_{coc}/kg_{mink}*day)[j]
2-Butanone	0.012	0.03	195001	0.0004	1	9.06E-07	2.26E-06
Toluene	0.011	0.03	195001	0.0059	1	1.26E-05	3.43E-05
Phenol	0.098	0.098	195001	0.0014	1	2.72E-05	2.72E-05
Fluorene	0.331	0.55	195001	9.8767	1	6.37E-01	1.06E+00
Anthracene	0.12	0.12	195001	2.2497	1	5.26E-02	5.26E-02
Fluoranthene	0.326	0.55	195001	0.6835	1	4.35E-02	7.33E-02
Pyrene	0.464	1 40	195001	0.6446	1	5.83E-02	1 76E-01
Benzo(a)pyrene	0.343	0.55	195001	1.0196	1	6.82E-02	1.09E-01
4,4'-DDE	0.004	0.0079	195001	3.206	1	2.50E-03	4.94E-03
Endrin	0.0042	0.01	195001	13.0633	1	1.07E-02	2.55E-02
4,4'-DDD	0.013	0.057	195001	1.065	1	2.70E-03	1 18E-02
Arsenic	12.20	53.50	195001	0.0032	1	7.61E-03	3.34E-02
Barium	102.49	599	195001	0.0351	1	7.01E-01	4 10E+00
Beryllium	2.98	17.90	195001	0.0032	1	1.86E-03	1 12E-02
Chromium	23.00	80.90	195001	1.0661	1	4.78E+00	1.68E+01
Copper	34.09	174	195001	0.135	1	8.97E-01	4.58E+00
Lead	42.24	194	195001	0.0059	1	4.86E-02	2.23E-01
Manganese	274.21	1500	195001	0.0147	1	7.86E-01	4.30E+00
Nickel	17 73	89.60	195001	0.486	1	1.68E+00	8.49E+00
Vanadium	15.60	56.20	195001	0.0016	1	4.87E-03	1 75E-02
Zinc	196.86	972	195001	0.1896	1	7.28E+00	3.59E+01

Notes:

[g] Assuming prey concentration is equal to sediment concentration of COCs.

[h] Sum of animal Normalized Ingestion Rates ($NIR_{k\ animal}$) from Table H-4a.

[i] BAFs for all chemicals except toluene, 2-Butanone, phenol, endosulfan sulfate from EA (1996) shrew BAFs.

BAFs for these chemicals calculated using methods from literature.

[j] Prey Concentration x Prey Ingestion Rate x BAF x Fraction of Intake from kth foraging area.

TABLE H-4c. TOTAL DAILY STRESSOR DOSE (MINK - BLACK SWAMP)

Chemical	Mean Sediment Average Daily Dose (ADD_{sed}) (mg_{coc}/kg_{mink}*day)[a]	Maximum Sediment Average Daily Dose (ADD_{sed}) (mg_{coc}/kg_{mink}*day)[a]	Mean Prey Daily Dose (ADD_{prey}) (mg_{coc}/kg_{mink}*day)[a]	Maximum Prey Daily Dose (ADD_{prey}) (mg_{coc}/kg_{mink}*day)[a]	Total Mean Potential Average Daily Dose (ADD_{tot}) (mg_{coc}/kg_{mink}*day)	Total Maximum Potential Average Daily Dose (ADD_{tot}) (mg_{coc}/kg_{mink}*day)
2-Butanone	7.75E-05	1.94E-04	9 06E-07	2.26E-06	7.84E-05	1.96E-04
Toluene	7.11E-05	1.94E-04	1.26E-05	3.43E-05	8.36E-05	2.28E-04
Phenol	6.33E-04	6.33E-04	2.72E-05	2.72E-05	6.60E-04	6.60E-04
Fluorene	2.14E-03	3.55E-03	6.37E-01	1.06E+00	6.40E-01	1.06E+00
Anthracene	7.75E-04	7.75E-04	5.26E-02	5.26E-02	5.34E-02	5.34E-02
Fluoranthene	2.11E-03	3.55E-03	4.35E-02	7.33E-02	4.56E-02	7.69E-02
Pyrene	3.00E-03	9.04E-03	5.83E-02	1 76E-01	6.13E-02	1.85E-01
Benzo(a)pyrene	2.22E-03	3.55E-03	6.82E-02	1 09E-01	7.04E-02	1.13E-01
4,4'-DDE	2.58E-05	5.10E-05	2.50E-03	4 94E-03	2.53E-03	4.99E-03
Endrin	2.71E-05	6.46E-05	1 07E-02	2.55E-02	1 07E-02	2.55E-02
4,4'-DDD	8.40E-05	3.68E-04	2.70E-03	1 18E-02	2.78E-03	1.22E-02
Arsenic	7.88E-02	3 46E-01	7 61E-03	3.34E-02	8.64E-02	3.79E-01
Barium	6.62E-01	3.87E+00	7 01E-01	4.10E+00	1.36E+00	7.97E+00
Beryllium	1 92E-02	1.16E-01	1 86E-03	1 12E-02	2.11E-02	1.27E-01
Chromium	1.49E-01	5.23E-01	4.78E+00	1 68E+01	4 93E+00	1.73E+01
Copper	2.20E-01	1.12E+00	8.97E-01	4.58E+00	1 12E+00	5.70E+00
Lead	2.73E-01	1.25E+00	4.86E-02	2.23E-01	3.21E-01	1.48E+00
Manganese	1.77E+00	9.69E+00	7.86E-01	4.30E+00	2.56E+00	1.40E+01
Nickel	1.15E-01	5.79E-01	1 68E+00	8.49E+00	1.79E+00	9.07E+00
Vanadium	1.01E-01	3.63E-01	4.87E-03	1.75E-02	1.06E-01	3.81E-01
Zinc	1.27E+00	6.28E+00	7.28E+00	3.59E+01	8.55E+00	4.22E+01

Notes:

[a] From Table H-4b.

TABLE H-4d. MEAN HAZARD QUOTIENTS (MINK - BLACK SWAMP)

Chemical	Total Mean Potential Average Daily Dose (ADD_{tot}) (mg_{coc}/kg_{mink}*day)[a]	Receptor NOAEL (mg/kg*day)[b]	Receptor LOAEL (mg/kg*day)[b]	Hazard $Quotient_{NOAEL}$ (ADD_{tot}/NOAEL)[c]	Hazard $Quotient_{LOAEL}$ (ADD_{tot}/LOAEL)[c]	Risk Characterization[d]
2-Butanone	7.84E-05	1362	3516	5.76E-08	2.23E-08	NSR
Toluene	8.36E-05	10.8	108.2	7.74E-06	7.73E-07	NSR
Phenol	6.60E-04	46.2	92.4	1 43E-05	7 15E-06	NSR
Fluorene	6.40E-01	52.5	105	0.01	0.01	NSR
Anthracene	5.34E-02	420	NA	0.0001	NA	NSR
Fluoranthene	4.56E-02	52.5	105	0.001	0.000	NSR
Pyrene	6.13E-02	31.5	52.5	0.002	0.001	NSR
Benzo(a)pyrene	7 04E-02	0.42	4.16	0.17	0.02	NSR
4,4'-DDE	2.53E-03	0.62	3.08	0.00	0.001	NSR
Endrin	1.07E-02	0.038	0.383	0.28	0.03	NSR
4,4'-DDD	2.78E-03	0.62	3.08	0.00	0.001	NSR
Arsenic	8.64E-02	0.052	0.524	1.66	0.16	NC
Barium	1.36E+00	4 1	15.2	0.33	0.09	NSR
Beryllium	2.11E-02	0.51	NA	0.04	NA	NSR
Chromium	4.93E+00	2.52	10.11	1.96	0.49	NC
Copper	1.12E+00	11.7	15 4	0.10	0.07	NSR
Lead	3.21E-01	6.15	61.53	0.05	0.005	NSR
Manganese	2.56E+00	68	218	0.04	0.01	NSR
Nickel	1.79E+00	30.77	61.53	0.06	0.03	NSR
Vanadium	1.06E-01	0.15	1.5	0.70	0.07	NSR
Zinc	8.55E+00	123 1	246.1	0.07	0.03	NSR

Notes:

[a] From Table H-4c.

[b] From Table H-7. NA = Not Available

[c] Shading indicates HQs > 1.

[d] NSR = No significant risk; NC = No conclusion. See text for further explanation.

TABLE H-4e. MAXIMUM HAZARD QUOTIENTS (MINK - BLACK SWAMP)

Chemical	Total Maximum Potential Average Daily Dose (ADD_{tot}) (mg_{coc}/kg_{mink}*day)[a]	Receptor NOAEL (mg/kg*day)[b]	Receptor LOAEL (mg/kg*day)[b]	Hazard $Quotient_{NOAEL}$ (ADD_{tot}/NOAEL)[c]	Hazard $Quotient_{LOAEL}$ (ADD_{tot}/LOAEL)[c]	Risk Characterization[d]
2-Butanone	1.96E-04	1362	3516	1.44E-07	5.58E-08	NSR
Toluene	2.28E-04	10.8	108.2	2.11E-05	2.11E-06	NSR
Phenol	6.60E-04	46.2	92.4	1 43E-05	7 15E-06	NSR
Fluorene	1 06E+00	52.5	105	0.02	0.01	NSR
Anthracene	5.34E-02	420	NA	0.0001	NA	NSR
Fluoranthene	7 69E-02	52.5	105	0.001	0.001	NSR
Pyrene	1.85E-01	31.5	52.5	0.01	0.004	NSR
Benzo(a)pyrene	1.13E-01	0.42	4 16	0.27	0.03	NSR
4,4'-DDE	4.99E-03	0.62	3.08	0.01	0.002	NSR
Endrin	2.55E-02	0.038	0.383	0.67	0.07	NSR
4,4'-DDD	1.22E-02	0.62	3 08	0.02	0.00	NSR
Arsenic	3.79E-01	0.052	0.524	7.29	0.72	NC
Barium	7.97E+00	4.1	15.2	1.94	0.52	NC
Beryllium	1.27E-01	0.51	NA	0.25	NA	NSR
Chromium	1 73E+01	2.52	10.11	6.88	1.72	SR
Copper	5 70E+00	11.7	15.4	0.49	0.37	NSR
Lead	1.48E+00	6.15	61.53	0.24	0.02	NSR
Manganese	1 40E+01	68	218	0.21	0.06	NSR
Nickel	9.07E+00	30.77	61.53	0.29	0.15	NSR
Vanadium	3.81E-01	0.15	1.5	2.54	0.25	NC
Zinc	4.22E+01	123 1	246.1	0.34	0.17	NSR

Notes:

[a] From Table H-4c.

[b] From Table H-7. NA = Not Available

[c] Shading indicates HQs > 1.

[d] NC = No conclusion; NSR = No significant risk; SR = Significant risk. See text for further explanation.

TABLE H-5a. NORMALIZED INGESTION RATES (MINK - SANDHILL BROOK-DOWNSTREAM)

Dietary Item	Proportion of Diet (P_k)[a]	Gross Energy (GE_k) (kcal/g wet wt)[b]	Assimilation Efficiency (AE_k)[c]	Metabolizable Energy (ME_k) (kcal/g wet wt) ($ME_k = GE_k \times AE_k$)	$P_k \times ME_k$ (kcal/g wet wt)	$NIR_k = P_k \times NIR_{total}$ (mg_{prey}/kg_{mink} *day)	
Animal							
Frogs	0.249	1.2	0.84	1.008	0.25	48555	
Mice and rats	0.239	1 7	0.84	1 428	0.34	46605	
Fish	0.199	1.2	0.91	1.092	0.22	38805	
Rabbits	0.102	1 7	0.84	1 428	0.15	19890	
Crayfish	0.093	1 1	0.84	0.924	0.09	18135	
Birds	0.056	1.9	0.84	1.596	0.09	10920	
Fox squirrel	0.022	1 7	0.84	1 428	0.03	4290	
Muskrat	0.013	1 7	0.84	1 428	0.02	2535	$NIR_{k\ animal}$[i]
Other	0.027	1 7	0.84	1 428	0.04	5265	195001
		ME_{avg} (kcal/g wet wt) = $\Sigma (P_k \times ME_k)$ =			1.22		

Normalized Field or Free-living Metabolic Rate (NFMR)

Weight (kg)[d]	FMR (kcal/day) = $0.6167\ Wt^{0.862}$ (g)[e]
1	238

NFMR (kcal/kg-day) = FMR/Wt (kg)[f]
237 72

Total and Specific Normalized Ingestion Rates (NIR_{total} and NIR_k)

NIR_{total} = $NFMR/ME_{avg}$ (mg/kg-day)[g]
195001

$NIR_k = P_k \times NIR_{total}$[h]
see above

Notes:

[a] These values are winter composition percentages taken from Korschgen (1958) in EPA (1993b). This study was chosen based on similarity of prey available at the site.

[b] Gross energy values were taken from Table 4-1 (EPA, 1993b). Other represents trace amounts of other food types eaten that make up the total diet.

[c] Assimilation efficiency values were taken from Table 4-3 (EPA, 1993b). The AE value for small birds/mammals (84%) was used for dietary items without values.

[d] Weight listed in Sample et al (1996) (from EPA, 1993e).

[e] Equation 3-47 for non-herbivores from Nagy (1987) in EPA (1993b).

[f] Equation 3-40 (EPA, 1993b)

[g] Equation 4-11 (EPA, 1993b)

[h] Equation 4-10 (EPA, 1993b)

[i] $NIR_{k\ animal} = NIR_{total}$ for a carnivore.

TABLE H-5b. AVERAGE DAILY DOSE (MINK - SANDHILL BROOK-DOWNSTREAM)

Chemical	Sediment Mean Detected Concentration (mg/kg)	Sediment Maximum Detected Concentration (mg/kg)	Fraction of Sediment in Diet (FS)[a]	Food Ingestion Rate (Dry Wt.) (IRtotal) (g/day)[b]	Fraction of Intake from kth Foraging Area[c]	Body Weight (g)[d]	Number of Foraging Areas (m)[e]	Mean Sediment Average Daily Dose (ADD_{sed}) (mg_{coc}/kg_{mink}*day)[f]	Maximum Sediment Average Daily Dose (ADD_{sed}) (mg_{coc}/kg_{mink}*day)[f]
Toluene	0.005	0.006	0.094	69	0.002	1000	1	6.46E-08	7 75E-08
Acenaphthene	0.263	0.35	0.094	69	0.002	1000	1	3 40E-06	4.52E-06
Anthracene	0.089	0.089	0.094	69	0.002	1000	1	1 15E-06	1 15E-06
Fluoranthene	0.315	0.631	0.094	69	0.002	1000	1	4.07E-06	8.15E-06
Pyrene	0.288	0.524	0.094	69	0.002	1000	1	3 72E-06	6.77E-06
Benzo(a)pyrene	0.192	0.192	0.094	69	0.002	1000	1	2.48E-06	2.48E-06
Endosulfan I	0.0011	0.0011	0.094	69	0.002	1000	1	1 42E-08	1 42E-08
Beryllium	0.662	1.8	0.094	69	0.002	1000	1	8.55E-06	2.33E-05
Manganese	110.22	226	0.094	69	0.002	1000	1	1 42E-03	2.92E-03

Notes:

[a] Value for FS taken from Beyer et al (in press) (in Table 4-4, EPA, 1993b).

[b] Derived from ingestion rate model by Nagy (1987; Equation 3-9 in EPA, 1993b). $IR = 0.235Wt^{0.822}$ (g) = 69

[c] Downstream sampling area of Site encompasses 0.2% of the mink foraging area.

[d] Weight listed in Sample et al (1996) (from EPA, 1993e).

[e] The Downstream area is considered one foraging area; "m" is the number of foraging areas in Equation 4-23 (EPA, 1993b).

[f] Equation 4-23 (EPA, 1993b).

TABLE H-5b. AVERAGE DAILY DOSE (MINK - SANDHILL BROOK-DOWNSTREAM) (continued)

Chemical	Mean Prey Concentration (mg_{coc}/kg_{prey})[g]	Maximum Prey Concentration (mg_{coc}/kg_{prey})[g]	Prey Ingestion Rate ($NIR_{k\ animal}$) (mg_{prey}/kg_{mink}*day)[h]	Bioaccumulation Factor (BAF)[i]	Fraction of Intake from kth Foraging Area	Mean Prey Daily Dose (ADD_{prey}) (mg_{coc}/kg_{mink}*day)[j]	Maximum Prey Daily Dose (ADD_{prey}) (mg_{coc}/kg_{mink}*day)[j]
Toluene	0.005	0.006	195001	0.0059	0.002	1 14E-08	1.37E-08
Acenaphthene	0.263	0.35	195001	9.8504	0.002	1.01E-03	1.34E-03
Anthracene	0.089	0.089	195001	2.2497	0.002	7.81E-05	7.81E-05
Fluoranthene	0.315	0.631	195001	0.6835	0.002	8.40E-05	1.68E-04
Pyrene	0.288	0.524	195001	0.6446	0.002	7.24E-05	1.32E-04
Benzo(a)pyrene	0.192	0.192	195001	1.0196	0.002	7.63E-05	7.63E-05
Endosulfan I	0.0011	0.0011	195001	0.0200	0.002	8.57E-09	8.57E-09
Beryllium	0.662	1.8	195001	0.0032	0.002	8.26E-07	2.25E-06
Manganese	110.22	226	195001	0.0147	0.002	6.32E-04	1.30E-03

Notes:

[g] Assuming prey concentration is equal to sediment concentration of COCs.

[h] Sum of animal Normalized Ingestion Rates ($NIR_{k\ animal}$) from Table H-5a.

[i] BAFs for all chemicals except toluene and endosulfan from EA (1996) shrew BAFs. BAFs for toluene and endosulfan calculated using methods from literature.

[j] Prey Concentration x Prey Ingestion Rate x BAF x Fraction of Intake from kth foraging area.

TABLE H-5c. TOTAL DAILY STRESSOR DOSE (MINK - SANDHILL BROOK-DOWNSTREAM)

Chemical	Mean Sediment Average Daily Dose (ADD_{sed}) (mg_{coc}/kg_{mink}*day)[a]	Maximum Sediment Average Daily Dose (ADD_{sed}) (mg_{coc}/kg_{mink}*day)[a]	Mean Prey Daily Dose (ADD_{prey}) (mg_{coc}/kg_{mink}*day)[a]	Maximum Prey Daily Dose (ADD_{prey}) (mg_{coc}/kg_{mink}*day)[a]	Total Mean Potential Average Daily Dose (ADD_{tot}) (mg_{coc}/kg_{mink}*day)	Total Maximum Potential Average Daily Dose (ADD_{tot}) (mg_{coc}/kg_{mink}*day)
Toluene	6.46E-08	7 75E-08	1 14E-08	1.37E-08	7.60E-08	9 12E-08
Acenaphthene	3.40E-06	4.52E-06	1.01E-03	1.34E-03	1.01E-03	1.35E-03
Anthracene	1 15E-06	1.15E-06	7.81E-05	7.81E-05	7.92E-05	7.92E-05
Fluoranthene	4.07E-06	8.15E-06	8.40E-05	1.68E-04	8.80E-05	1 76E-04
Pyrene	3.72E-06	6.77E-06	7.24E-05	1.32E-04	7.61E-05	1.39E-04
Benzo(a)pyrene	2.48E-06	2.48E-06	7.63E-05	7.63E-05	7.88E-05	7.88E-05
Endosulfan I	1 42E-08	1 42E-08	8.57E-09	8.57E-09	2.28E-08	2.28E-08
Beryllium	8.55E-06	2.33E-05	8.26E-07	2.25E-06	9.38E-06	2.55E-05
Manganese	1 42E-03	2.92E-03	6.32E-04	1.30E-03	2.06E-03	4.22E-03

Notes:

[a] From Table H-5b.

TABLE H-5d. MEAN HAZARD QUOTIENTS (MINK - SANDHILL BROOK-DOWNSTREAM)

Chemical	Total Mean Potential Average Daily Dose (ADD_{tot}) (mg_{coc}/kg_{mink}*day)[a]	Receptor NOAEL (mg/kg*day)[b]	Receptor LOAEL (mg/kg*day)[b]	Hazard $Quotient_{NOAEL}$ (ADD_{tot}/NOAEL)[c]	Hazard $Quotient_{LOAEL}$ (ADD_{tot}/LOAEL)[c]	Risk Characterization[d]
Toluene	7.60E-08	10.8	108.2	7.04E-09	7.03E-10	NSR
Acenaphthene	1.01E-03	73.5	147	1.38E-05	6.90E-06	NSR
Anthracene	7.92E-05	420	NA	1.89E-07	NA	NSR
Fluoranthene	8.80E-05	52.5	105	1.68E-06	8.38E-07	NSR
Pyrene	7.61E-05	31.5	52.5	2.42E-06	1 45E-06	NSR
Benzo(a)pyrene	7.88E-05	0.42	4.16	1.88E-04	1.89E-05	NSR
Endosulfan I	2.28E-08	0.12	NA	1.90E-07	NA	NSR
Beryllium	9.38E-06	0.51	NA	1.84E-05	NA	NSR
Manganese	2.06E-03	68	218	3.02E-05	9.43E-06	NSR

Notes:

[a] From Table H-5c.

[b] From Table H-7. NA = Not Available

[c] Shading indicates HQs > 1.

[d] All HQs are < 1, therefore no risk shown; NSR = No significant risk.

TABLE H-5e. MAXIMUM HAZARD QUOTIENTS (MINK - SANDHILL BROOK-DOWNSTREAM)

Chemical	Total Maximum Potential Average Daily Dose (ADD_{tot}) (mg_{coc}/kg_{mink}*day)[a]	Receptor NOAEL (mg/kg*day)[b]	Receptor LOAEL (mg/kg*day)[b]	Hazard $Quotient_{NOAEL}$ (ADD_{tot}/NOAEL)[c]	Hazard $Quotient_{LOAEL}$ (ADD_{tot}/LOAEL)[c]	Risk Characterization[d]
Toluene	9.12E-08	10.8	108.2	8.45E-09	8.43E-10	NSR
Acenaphthene	1.35E-03	73.5	147	1.84E-05	9 18E-06	NSR
Anthracene	7.92E-05	420	NA	1.89E-07	NA	NSR
Fluoranthene	1 76E-04	52.5	105	3.36E-06	1.68E-06	NSR
Pyrene	1.39E-04	31.5	52.5	4 40E-06	2.64E-06	NSR
Benzo(a)pyrene	7.88E-05	0.42	4 16	1.88E-04	1.89E-05	NSR
Endosulfan I	2.28E-08	0.12	NA	1 90E-07	NA	NSR
Beryllium	2.55E-05	0.51	NA	5.00E-05	NA	NSR
Manganese	4.22E-03	68	218	6.20E-05	1 93E-05	NSR

Notes:

[a] From Table H-5c.

[b] From Table H-7. NA = Not Available

[c] Shading indicates HQs > 1.

[d] All HQs are < 1, therefore no risk shown; NSR = No significant risk.

TABLE H-6. BIOACCUMULATION FACTORS USED IN RISK ASSESSMENT

Chemical	Bioaccumulation Factor	Source
Toluene	0.0059	MMR
2-Butanone	0.0004	MMR
Phenol	0.0014	MMR
4-methylphenol	0.0024	MMR
Fluorene	9.8767	EA
Anthracene	2.2497	EA
Fluoranthene	0.6835	EA
Pyrene	0 6446	EA
Benzo(a)pyrene	1.0196	EA
Benzoic acid	0.0022	MMR
2,4-Dinitrotoluene	6.9923	EA
delta-BHC	1	assumed
Endosulfan	0.0200	MMR
4,4'-DDD	1.065	EA
4,4'-DDE	3.206	EA
4,4-'DDT (DDT)	0.756	EA
Dieldrin	6 9923	EA
Endrin	13 0633	EA
alpha-Chlordane	1 4341	EA
gamma-Chlordane	8 2135	EA
Toxaphene	0 0602	MMR
Aroclor-1254	7.1606	EA
Aroclor-1260	6 9923	EA
Antimony	0 0471	EA
Arsenic	0 0032	EA
Barium	0 0351	EA
Beryllium	0 0032	EA
Chromium	1 0661	EA
Copper	0.135	EA
Lead	0.0059	EA
Manganese	0.0147	EA
Mercury	0.0922	EA
Nickel	0.486	EA
Selenium	0.2128	EA
Silver	0.025	EA
Vanadium	0.0016	EA
Zinc	0.1896	EA

Notes:

EA = BAF values taken from shrew BAFs, Table 5-10 of EA's Facility-Wide Ecological Risk Assessment, 1996.

MMR = BAFs calculated using methods from Automated Sciences Group, Inc. Risk Assessment Handbook, Massachusetts Military Reservation, Cape Cod, MA. 1994.

TABLE II-7 EFFECTS LEVELS FROM LITERATURE

Chemical	Test Species Effect Levels		Test Species	Effect	Receptor	Receptor Effect Levels		Source
	NOAEL (mg/kg*day)	LOAEL (mg/kg*day)				NOAEL (mg/kg*day)	LOAEL (mg/kg*day)	
VOCs								
Toluene	26	260	mouse	reduced fetal weights	Mink	10.8	108.2	Sample et al 1996
2-Butanone	1771	4571	rat	reduced litter size, survivorship, pub body weights	Mink	1362	3516	Sample et al 1996
SVOCs								
Phenol	60	120	rat	reduced fetal body weight	Mink	46.2	92.4	IRIS, using Sample methodology
4-Methylphenol	withdrawn	withdrawn			Mink	none	none	IRIS
Acenaphthene	175	350	mouse	hepatotoxicity	Mink	73.5	147	IRIS, using Sample methodology
Fluorene	125	250	mouse	decreased red blood count	Mink	52.5	105	IRIS, using Sample methodology
Anthracene	1000	None	mouse	no observed critical effect	Mink	420	none	IRIS, using Sample methodology
Fluoranthene	125	250	mouse	nephropathy hematological effects	Mink	52.5	105	IRIS, using Sample methodology
Pyrene	75	125	mouse	kidney effects	Mink	31.5	52.5	IRIS, using Sample methodology
Benzo(a)pyrene	1	10	mouse	reduced pregnancy rates, viable litters, pup weights, impaired fertility	Mink	0.42	4.16	Sample et al 1996
Benzoic acid	4.4	None	human	no adverse effect observed	Kestrel	0.44	none	IRIS
	4.4	None			Rabbit	0.44	none	IRIS
2,4-Dinitrotoluene	0.2	1.5	dog	neurotoxicity, biliary hyperplasia	Kestrel	0.02	0.15	IRIS
	0.2	1.5			Rabbit	0.02	0.15	IRIS
Pesticides/PCBs								
delta-BHC**	0.014	0.14	mink	increased kit mortality; decreased kit body weight	Mink	0.01	0.14	Sample et al 1996
Endosulfan	0.15	none listed	rat	reproduction	Mink	0.12	none listed	Sample et al 1996
4,4-'DDE***	0.8	4	rat	reduced number of young produced	Mink	0.62	3.08	Sample et al 1996
4,4-'DDD***	0.8	4	rat	reduced number of young produced	Mink	0.62	3.08	Sample et al 1996
4,4-'DDT	0.8	4	rat	reduced number of young produced	Mink	0.62	3.08	Sample et al 1996
Dieldrin	0.02	0.2	rat	reduced number of pregnancies	Mink	0.015	0.154	Sample et al 1996
Endrin	0.092	0.92	mouse	reproductive effects	Mink	0.038	0.383	Sample et al 1996
Endrin Aldehyde	none listed	none listed			Mink	none	none	
Chlordane	4.6	9.2	mouse	decreased viability and reduced number of offspring	Mink	1.9	3.8	Sample et al 1996
Toxaphene	8	none listed	rat	reproduction (no effects observed)	Mink	6.2	none listed	Sample et al 1996
Aroclor-1254	0.18	1.8	pheasant	significantly reduced egg hatchability	Kestrel*	0.18	1.8	Sample et al 1996
(for Aroclor-1260	0.068	0.68	mouse	reduced # of litters, offspring weights, offspring survival	Rabbit	0.022	0.223	Sample et al 1996
use 1254 values)	0.14	0.69	mink	reduced number of offspring born alive	Mink	0.14	0.69	Sample et al 1996

TABLE II-7. EFFECTS LEVELS FROM LITERATURE

Chemical	Test Species Effect Levels		Test Species	Effect	Receptor	Receptor Effect Levels		Source
	NOAEL (mg/kg*day)	LOAEL (mg/kg*day)				NOAEL (mg/kg*day)	LOAEL (mg/kg*day)	
Metals								
Antimony	none listed	0.35	rat	longevity, blood glucose, cholesterol	Kestrel	none	0.035	IRIS
	0.125	1.25	mouse	female lifespan reduced	Rabbit	0.05	0.497	Sample et al 1996
Arsenic	0.126	1.26	mouse	declining litter sizes over generations	Mink	0.052	0.524	Sample et al 1996
Barium	5.1	19.8	rat	growth, hypertension	Mink	4.1	15.2	Sample et al 1996
Beryllium	0.66	none listed	rat	weight loss	Mink	0.51	none listed	Sample et al 1996
Chromium (IV)	1	5	black duck	reduced duckling survival	Kestrel*	1	5	Sample et al 1996
	3.28	13.14	rat	mortality	Rabbit	2.41	9.66	Sample et al 1996
	3.28	13.14	rat	mortality	Mink	2.52	10.11	Sample et al 1996
Cobalt	none listed	none listed			Mink	none	none	
Copper	11.7	15.4	mink	increased mortality of kits	Mink	11.7	15.4	Sample et al 1996
	47	61.7	chicks	reduced growth; mortality	Kestrel*	47	61.7	Sample et al 1996
	11.7	15.4	mink	increased mortality of kits	Rabbit	11.2	14.7	Sample et al 1996
Lead	3.85	none listed	kestrel	reproduction (no effects observed)	Kestrel	3.85	none listed	Sample et al 1996
	8	80	rat	reduced offspring weights; kidney damage	Rabbit	5.88	58.79	Sample et al 1996
	8	80	rat	reduced offspring weights; kidney damage	Mink	6.15	61.53	Sample et al 1996
Manganese	88	248	rat	reduced fertility	Mink	68	218	Sample et al 1996
Mercury	0.0064	0.064	mallard duck	reduced egg production	Kestrel*	0.006	0.064	Sample et al 1996
	0.032	0.16	rat	reduced pup viability	Rabbit	0.024	0.118	Sample et al 1996
Nickel	77.4	107	mallard duckling	reduced growth; mortality	Kestrel*	77.4	107	Sample et al 1996
	40	80	rat	reduced offspring body weights	Rabbit	29.4	58.79	Sample et al 1996
	40	80	rat	reduced offspring body weights	Mink	30.77	61.53	Sample et al 1996
Selenium	0.5	1	mallard duck	reduced duckling survival	Kestrel*	0.5	1	Sample et al 1996
	0.2	0.33	rat	reduced fertility juvenile growth, survival	Rabbit	0.147	0.243	Sample et al 1996
Silver	0.83	none listed	mallard duck	unknown	Kestrel	0.83	8.3	See note.
	18.12	none listed	rat	mortality	Rabbit	13.2	132	See note.
Vanadium	0.21	2.1	rat	significant reproductive effects	Mink	0.15	1.5	Sample et al 1996
Zinc	14.5	131	white leghorn hen	reduced egg hatchability	Kestrel*	14.5	131	Sample et al 1996
	160	320	rat	creased rates of fetal resorption, reduced fetal growth rat	Rabbit	117.6	235.2	Sample et al 1996
	160	320	rat	creased rates of fetal resorption, reduced fetal growth rat	Mink	123.1	246.1	Sample et al 1996

* No values were available for kestrel. However, Sample et al uses test species values for all avain wildlife species in their report.

** Used values for "BHC-mixed isomers"

*** Used values for "DDT and metabolites"

Note: Silver values calculated using methodology from Sample et al 1996, and NOAELs for test species from ATSDR, 1990 and VanVleet 1982 (from EA 1996 Facility-wide ERA Table 5-14).

TABLE H-8a. NORMALIZED INGESTION RATES (EASTERN COTTONTAIL)

Dietary Item	Proportion of Diet (P_k)[a]	Gross Energy (GE_k) (kcal/g wet wt)[b]	Assimilation Efficiency (AE_k)[c]	Metabolizable Energy (ME_k) (kcal/g wet wt) ($ME_k = GE_k \times AE_k$)	$P_k \times ME_k$ (kcal/g wet wt)	$NIR_k = P_k \times NIR_{total}$ (mg_{plant}/kg_{rabbit} *day)	
Plant							
Trees	0.1525	4.1	0.76	3.10	0.47	17154	
Shrubs and vines	0.1825	4.1	0.76	3.10	0.57	20529	
Herbs	0.265	0.6	0.72	0.45	0.12	29809	
Grasses, sedges, rushes	0.295	1.3	0.76	0.99	0.29	33183	$NIR_{k\ plant}$[i]
Crops	0.105	4.6	0.76	3.52	0.37	11811	112485
		ME_{avg} (kcal/g wet wt) = $\Sigma (P_k \times ME_k)$ =			1.82		

Normalized Field or Free-living Metabolic Rate (NFMR)

Weight (kg)[d]	FMR (kcal/day) = $1.419\ Wt^{0.727}$ (g)[e]
1.2	246

NFMR (kcal/kg-day) = FMR/Wt (kg)[f]
204.82

Total and Specific Normalized Ingestion Rates (NIR_{total} and NIR_k)

NIR_{total} = $NFMR/ME_{avg}$ (mg/kg-day)[g]
112485

$NIR_k = P_k \times NIR_{total}$[h]
see above

Notes:

[a] These values are four-season mean dietary composition percentages taken from Dalke & Sime (1941) in EPA (1993b). This study was chosen based on proximity of study area to site.

[b] Gross energy values were taken from Table 4-2 (EPA, 1993b). GE (wet wt) was calculated based on dry wt and percent water taken from Table 4-2 in EPA (1993b).

[c] Assimilation efficiency values were taken from Table 4-3 (EPA, 1993b). The AE value for "herbivory" was used for trees, shrubs and vines, grasses, sedges, rushes, and crops. The green forbs value was used for herbs.

[d] Weight listed in Sample et al (1996) (from Chapman et al, 1980).

[e] Equation 3-46 for herbivores from Nagy (1987) in EPA (1993b).

[f] Equation 3-40 (EPA, 1993b)

[g] Equation 4-11 (EPA, 1993b)

[h] Equation 4-10 (EPA, 1993b)

[i] $NIR_{k\ plant} = NIR_{total}$ for a herbivore.

TABLE H-8b. AVERAGE DAILY DOSE (EASTERN COTTONTAIL)

Chemical	Soil 95th UCL of the Mean Detected Concentration (mg/kg)	Fraction of Soil in Diet (FS)[a]	Food Ingestion Rate (Dry Wt.) (IR_{total}) (g/day)[b]	Fraction of Intake from kth Foraging Area[c]	Body Weight (g)[d]	Number of Foraging Areas (m)[e]	95th UCL of the Mean Soil Average Daily Dose (ADD_{soil}) (mg_{coc}/kg_{rabbit}*day)[f]
Antimony	3.817	0.063	100	1	1200	1	0.02
Copper	18.34	0.063	100	1	1200	1	0.10

Notes:

[a] Value for FS taken from Arthur & Gates (1988) for jackrabbit (in Table 4-5, EPA, 1993b).

[b] Derived from ingestion rate model by Nagy (1987; Equation 3-9 in EPA, 1993b). IR = 0.577W 100

[c] Site area encompasses entire foraging area of the Eastern cottontail.

[d] Weight listed in Sample et al (1996) (from Chapman et al, 1980).

[e] The study area is considered one foraging area; "m" is the number of foraging areas in Equation 4-23 (EPA, 1993b).

[f] Equation 4-23 (EPA, 1993b).

TABLE H-8b. AVERAGE DAILY DOSE (EASTERN COTTONTAIL) (continued)

Chemical	95th UCL of the Mean Plant Concentration (mg_{coc}/kg_{plant})[g]	Plant Ingestion Rate ($NIR_{k\ plant}$) (mg_{plant}/kg_{rabbit}*day)[h]	Fraction of Intake from kth Foraging Area	95th UCL of the Mean Plant Daily Dose (ADD_{plant}) (mg_{coc}/kg_{rabbit}*day)[i]
Antimony	1 909	112485	1	0.21
Copper	9 17	112485	1	1 03

Notes:

[g] Assuming plant concentration is 50 percent of soil concentration of COCs (i.e., a plant Bioaccumulation Factor of 0.5).

[h] Sum of plant Normalized Ingestion Rates ($NIR_{k\ plant}$) from Table H-8a.

[i] Plant Concentration x Plant Ingestion Rate x Fraction of intake from kth foraging area.

TABLE H-8c. TOTAL DAILY STRESSOR DOSE (EASTERN COTTONTAIL)

Chemical	95th UCL of the Mean Soil Average Daily Dose (ADD_{soil}) (mg_{coc}/kg_{rabbit}*day)[a]	95th UCL of the Mean Plant Daily Dose (ADD_{plant}) (mg_{coc}/kg_{rabbit}*day)[a]	Total 95th UCL of the Mean Potential Average Daily Dose (ADD_{tot}) (mg_{coc}/kg_{rabbit}*day)
Antimony	0.02	0.21	0.23
Copper	0.10	1 03	1.13

Notes:

[a] From Table H-8b.

TABLE H-8d. HAZARD QUOTIENTS (EASTERN COTTONTAIL)

Chemical	Total 95th UCL of the Mean Potential Average Daily Dose (ADD_{tot}) (mg_{coc}/kg_{rabbit}*day)[a]	Receptor NOAEL (mg/kg*day)[b]	Receptor LOAEL (mg/kg*day)[b]	Hazard $Quotient_{NOAEL}$ (ADD_{tot}/NOAEL)[c]	Hazard $Quotient_{LOAEL}$ (ADD_{tot}/LOAEL)[c]	Risk Characterization[d]
Antimony	0.23	0.05	0.497	4.69	0.47	NC
Copper	1.13	11.2	14.7	0.10	0.08	NSR

Notes:

[a] From Table H-8c.

[b] From Table H-7. NA = Not Available

[c] Shading indicates HQs > 1.

[d] NC = No conclusion; NSR = No significant risk. See text for further explanation.

TABLE H-9a. NORMALIZED INGESTION RATES (MINK - BACKGROUND)

Dietary Item	Proportion of Diet (P_k)[a]	Gross Energy (GE_k) (kcal/g wet wt)[b]	Assimilation Efficiency (AE_k)[c]	Metabolizable Energy (ME_k) (kcal/g wet wt) ($ME_k = GE_k \times AE_k$)	$P_k \times ME_k$ (kcal/g wet wt)	$NIR_k = P_k \times NIR_{total}$ (mg_{prey}/kg_{mink} *day)	
Animal							
Frogs	0.249	1.2	0.84	1.008	0.25	48555	
Mice and rats	0.239	1 7	0.84	1 428	0.34	46605	
Fish	0.199	1.2	0.91	1.092	0.22	38805	
Rabbits	0.102	1 7	0.84	1 428	0.15	19890	
Crayfish	0.093	1.1	0.84	0.924	0.09	18135	
Birds	0.056	1.9	0.84	1.596	0.09	10920	
Fox squirrel	0.022	1 7	0.84	1 428	0.03	4290	
Muskrat	0.013	1 7	0.84	1 428	0.02	2535	$NIR_{k\ animal}$[i]
Other	0.027	1 7	0.84	1 428	0.04	5265	195001
		ME_{avg} (kcal/g wet wt) = $\Sigma (P_k \times ME_k)$ =			1.22		

Normalized Field or Free-living Metabolic Rate (NFMR)

Weight (kg)[d]	FMR (kcal/day) = $0.6167\ Wt^{0.862}$ (g)[e]
1	238

NFMR (kcal/kg-day) = FMR/Wt (kg)[f]
237 72

Total and Specific Normalized Ingestion Rates (NIR_{total} and NIR_k)

NIR_{total} = $NFMR/ME_{avg}$ (mg/kg-day)[g]
195001

$NIR_k = P_k \times NIR_{total}$[h]
see above

Notes:

[a] These values are winter composition percentages taken from Korschgen (1958) in EPA (1993b). This study was chosen based on similarity of prey available at the site.

[b] Gross energy values were taken from Table 4-1 (EPA, 1993b). Other represents trace amounts of other food types eaten that make up the total diet.

[c] Assimilation efficiency values were taken from Table 4-3 (EPA, 1993b). The AE value for small birds/mammals (84%) was used for dietary items without values.

[d] Weight listed in Sample et al (1996) (from EPA, 1993e).

[e] Equation 3-47 for non-herbivores from Nagy (1987) in EPA (1993b).

[f] Equation 3-40 (EPA, 1993b)

[g] Equation 4-11 (EPA, 1993b)

[h] Equation 4-10 (EPA, 1993b)

[i] $NIR_{k\ animal} = NIR_{total}$ for a carnivore.

TABLE H-9b. AVERAGE DAILY DOSE (MINK - BACKGROUND)

Chemical	Sediment Mean Detected Concentration (mg/kg)	Sediment Maximum Detected Concentration (mg/kg)	Fraction of Sediment in Diet (FS)[a]	Food Ingestion Rate (Dry Wt.) (IRtotal) (g/day)[b]	Fraction of Intake from kth Foraging Area[c]	Body Weight (g)[d]	Number of Foraging Areas (m)[e]	Mean Sediment Average Daily Dose (ADD_{sed}) (mg_{coc}/kg_{mink}*day)[f]	Maximum Sediment Average Daily Dose (ADD_{sed}) (mg_{coc}/kg_{mink}*day)[f]
Chromium	4.1	6.5	0.094	69	1	1000	1	2.65E-02	4.20E-02

Notes:

[a] Value for FS taken from Beyer et al (in press) (in Table 4-4, EPA, 1993b).

[b] Derived from ingestion rate model by Nagy (1987; Equation 3-9 in EPA, 1993b). $IR = 0.235Wt^{0.822}$ (g) = 69

[c] Background area encompasses entire mink forage area size.

[d] Weight listed in Sample et al (1996) (from EPA, 1993e).

[e] The Background area is considered one foraging area; "m" is the number of foraging areas in Equation 4-23 (EPA, 1993b).

[f] Equation 4-23 (EPA, 1993b).

TABLE H-9b. AVERAGE DAILY DOSE (MINK - BACKGROUND) (continued)

Chemical	Mean Prey Concentration (mg_{coc}/kg_{prey})[g]	Maximum Prey Concentration (mg_{coc}/kg_{prey})[g]	Prey Ingestion Rate ($NIR_{k\ animal}$) (mg_{prey}/kg_{mink}*day)[h]	Bioaccumulation Factor (BAF)[i]	Fraction of Intake from kth Foraging Area	Mean Prey Daily Dose (ADD_{prey}) (mg_{coc}/kg_{mink}*day)[j]	Maximum Prey Daily Dose (ADD_{prey}) (mg_{coc}/kg_{mink}*day)[j]
Chromium	4.10	6.50	195001	1.0661	1	8.52E-01	1.35E+00

Notes:

[g] Assuming prey concentration is equal to sediment concentration of COCs.

[h] Sum of animal Normalized Ingestion Rates ($NIR_{k\ animal}$) from Table H-9a.

[i] BAF from EA (1996) shrew BAFs.

[j] Prey Concentration x Prey Ingestion Rate x BAF x Fraction of Intake from kth foraging area.

TABLE H-9c. TOTAL DAILY STRESSOR DOSE (MINK - BACKGROUND)

Chemical	Mean Sediment Average Daily Dose (ADD_{sed}) (mg_{coc}/kg_{mink}*day)[a]	Maximum Sediment Average Daily Dose (ADD_{sed}) (mg_{coc}/kg_{mink}*day)[a]	Mean Prey Daily Dose (ADD_{prey}) (mg_{coc}/kg_{mink}*day)[a]	Maximum Prey Daily Dose (ADD_{prey}) (mg_{coc}/kg_{mink}*day)[a]	Total Mean Potential Average Daily Dose (ADD_{tot}) (mg_{coc}/kg_{mink}*day)	Total Maximum Potential Average Daily Dose (ADD_{tot}) (mg_{coc}/kg_{mink}*day)
Chromium	2.65E-02	4.20E-02	8.52E-01	1.35E+00	8.79E-01	1.39E+00

Notes:

[a] From Table H-9b.

TABLE H-9d. MEAN HAZARD QUOTIENTS (MINK - BACKGROUND)

Chemical	Total Mean Potential Average Daily Dose (ADD_{tot}) (mg_{coc}/kg_{mink}*day)[a]	Receptor NOAEL (mg/kg*day)[b]	Receptor LOAEL (mg/kg*day)[b]	Hazard $Quotient_{NOAEL}$ (ADD_{tot}/NOAEL)[c]	Hazard $Quotient_{LOAEL}$ (ADD_{tot}/LOAEL)[c]	Risk Characterization[d]
Chromium	8.79E-01	2.52	10.11	0.35	0.09	NSR

Notes:

[a] From Table H-9c.

[b] From Table H-7.

[c] Shading indicates HQs > 1.

[d] NSR = No significant risk. See text for further explanation.

TABLE H-9e. MAXIMUM HAZARD QUOTIENTS (MINK - BACKGROUND)

Chemical	Total Maximum Potential Average Daily Dose (ADD_{tot}) (mg_{coc}/kg_{mink}*day)[a]	Receptor NOAEL (mg/kg*day)[b]	Receptor LOAEL (mg/kg*day)[b]	Hazard $Quotient_{NOAEL}$ (ADD_{tot}/NOAEL)[c]	Hazard $Quotient_{LOAEL}$ (ADD_{tot}/LOAEL)[c]	Risk Characterization[d]
Chromium	1.39E+00	2.52	10.11	0.55	0.14	NSR

Notes:

[a] From Table H-9c.

[b] From Table H-7.

[c] Shading indicates HQs > 1.

[d] NSR = No significant risk. See text for further explanation.

APPENDIX I

HITS ONLY TABLES FOR SOIL, GROUNDWATER, SEDIMENT AND SURFACE WATER

DATA USED FOR RISK ASSESSMENT
HITS ONLY SURFACE SOIL ANALYTICAL RESULTS

Sample ID:		DFSWSB06-X1	DFSWSB05-X1	DFSWSB01-X1	DFSWSB04-X1	DFSWSB04-X2	DFSWSB03-X1	DFSWSB02-X1	TRC-P2 08-SS11	TRC-P2 08-SS12	TRC-P2 08-SS13	TRC-P2 08-SS14	TRC-P2 08-SS15	TRC-P2 08-SS16	TRC-P2 08-SS18	TRC-P2 08-B01-01
Laboratory ID:		C1190-02	C1190-06	C1190-11	C1190-13	C1190-14	C1190-15	C1190-17	35078-16	35078-17	35078-18	35078-19	35078-20	35078-21	35078-48	35114-1
Depth (ft.):		0-2	0-2	0-2	0-2	0-2	0-2	0-2								
Date:		10/21/1996	10/23/1996	10/28/1996	10/28/1996	10/28/1996	10/28/1996	10/29/1996	2/93	2/93	2/93	2/93	2/93	2/93	2/93	2/93
*Parameter**	*Units:*															
VOCs																
Acetone	µg/kg	8 U	15 U	21 U	8 U	8 U	9 U	9 U	12 U	12 U	11 U	11 U	56 J	12 U	190	12 U
Methylene Chloride	µg/kg	7 UJ	9 UJ	14 UJ	8 UJ	9 UJ	7 UJ	11 UJ	6 J	4 J	11 U	11 U	11 U	12 U	R	12 U
Chloroform	µg/kg	5 U	6 U	6 U	5 U	6 U	6 U	6 U	12 U	12 U	11 U	11 U	11 U	12 U	11 U	12 U
Toluene	µg/kg	5 U	6 U	6 U	5 U	6 U	6 U	6 U	12 U	12 U	11 U	11 U	11 U	12 U	11 UJ	12 U
Tetrachloroethene	µg/kg	5 U	6 U	6 U	5 U	6 U	6 U	6 U	12 U	12 U	11 U	11 U	11 U	12 U	11 UJ	12 U
SVOCs-BNA																
Acenaphthylene	µg/kg	390 U	370 U	99 J	360 U	420 U	360 U	380 U	380 U	370 U	350 U	360 U	370 U	360 U	370 U	360 U
Pentachlorophenol	µg/kg	980 U	41 J	880 U	900 U	1000 U	910 U	950 UJ								
Phenanthrene	µg/kg	390 U	370 U	130 J	69 J	420 U	360 U	57 J	380 U	370 U	350 U	360 U	370 U	360 U	370 U	360 U
Anthracene	µg/kg	390 U	370 U	110 J	360 U	420 U	360 U	380 U	380 U	370 U	350 U	360 U	370 U	360 U	370 U	360 U
Fluoranthene	µg/kg	390 U	71 J	950	130 J	420 U	99 J	150 J	380 U	370 U	350 U	360 U	370 U	360 U	370 U	360 U
Pyrene	µg/kg	390 UJ	64 J	900	130 J	420 U	86 J	120 J	380 U	370 U	340 J	360 U	370 U	360 U	370 U	360 U
Butylbenzylphthalate	µg/kg	78 J	370 U	350 U	39 J	230 J	360 U	69 J	380 U	370 U	350 U	360 U	370 U	360 U	370 U	360 U
Benzo(a)anthracene	µg/kg	390 U	38 J	680	64 J	420 U	49 J	62 J	380 U	370 U	350 U	360 U	370 U	360 U	370 U	360 U
Chrysene	µg/kg	390 U	46 J	750	80 J	420 U	64 J	84 J	380 U	370 U	200 J	360 U	370 U	360 U	370 U	360 U
bis(2-ethylhexyl)phthalate	µg/kg	390 U	48 J	350 U	360 U	420 U	360 U	100 J	380 U	370 U	350 U	360 U	370 U	360 U	370 U	360 U
Benzo(b)fluoranthene	µg/kg	390 U	63 J	1000	130 J	420 U	72 J	91 J	380 U	370 U	350 U	360 U	370 U	360 U	370 U	360 U
Benzo(k)fluoranthene	µg/kg	390 UJ	370 UJ	290 J	360 U	420 U	360 U	380 U	380 U	370 U	350 U	360 U	370 U	360 U	370 U	360 U
Benzo(a)pyrene	µg/kg	390 U	38 J	750	66 J	420 U	50 J	58 J	380 U	370 U	190 J	360 U	370 U	360 U	370 U	360 U
Indeno(1,2,3-c,d)pyrene	µg/kg	390 U	370 U	360	41 J	420 U	360 U	380 UJ	380 U	370 U	350 U	360 U	370 U	360 U	370 U	360 U
Dibenz(a,h)anthracene	µg/kg	390 U	370 U	100 J	360 U	420 U	360 U	380 UJ	380 U	370 U	350 U	360 U	370 U	360 U	370 U	360 U
Benzo(g,h,i)perylene	µg/kg	390 U	370 U	330 J	38 J	420 U	360 U	380 UJ	380 U	370 U	350 U	360 U	370 U	360 U	370 U	360 U
Acenaphthene	µg/kg	390 U	370 U	350 U	360 U	420 U	360 U	380 U	380 U	370 U	350 U	360 U	370 U	360 U	370 U	360 U
2,4-Dinitrotoluene	µg/kg	390 U	370 U	350 U	360 U	420 U	360 U	380 U								
Benzoic acid	µg/kg															
Pesticides/PCBs																
4,4'-DDE	µg/kg	4 U	3.8 U	3.7 U	3.7 U	14	3.8 U	4 U	3.8 U	3.6 U	3.5 U	3.6 U	3.7 U	3.6 U	3.6 U	3.6 UJ
Endrin	µg/kg	4 U	3.8 U	3.7 U	3.7 U	6	3.8 U	4 U								
4,4'-DDT	µg/kg	4 U	3.8 U	3.7 U	3.7 U	27	3.8 U	4 U	3.8 U	3.6 U	3.5 U	3.6 U	3.7 U	3.6 U	3.6 U	3.6 UJ
Endrin Keytone	µg/kg	2 U	3.8 U	3.7 U	3.7 U	9.8	3.8 U	4 U	3.8 U	3.6 U	3.5 U	3.6 U	3.7 U	3.6 U	3.6 U	3.6 UJ
Aroclor-1260	µg/kg	40 U	37 U	36 U	36 U	43 U	37 U	38 U	38 U	35 U	35 U	52	39	23 J	51	36 UJ
Inorganic Compounds																
Aluminum	mg/kg	4700 J	3800 J	2600 J	3000 J	4700 J	4100 J	4400 J	6330	4360	3990	2780	3570	2380	3860	5970
Antimony		5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	2.3 U	2.6 U	2.5 U	2.9 U	2.4 U	3 U	3 U	2 U
Arsenic	mg/kg	2	2	1	2	3	3	2	0.87 J	0.93 J	0.71 J	0.57 J	0.76 J	0.51 J	0.64 J	0.74 J
Barium	mg/kg	8	20	44	9	12	10	10	15.4 J	12.4 J	10.1 J	9.6 J	9.5 J	10.2 J	8.8 J	11.5 J
Beryllium	mg/kg	0.3	0.5	0.3	0.7	1.1	0.8	0.3	0.46 J	0.4 J	0.41 J	0.34 J	0.35 J	0.38 J	0.36 J	0.41 J
Cadmium		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.49 U	0.55 U	0.53 U	0.61 U	0.52 U	0.65 U	0.64 U	0.46 U
Calcium	mg/kg	10 UJ	660 J	85 J	86 J	160 J	72 J	100 J	280 J	203 J	255 J	183 J	167 J	156 J	207 J	206 J
Chromium	mg/kg	3	110	3	4	5	7	5	6.4	4.2	5.5	2.6	3.5	2.5	3.7 J	4.8 J
Cobalt	mg/kg	2	5.3	1.5	3.5	5.3	3.8	1.9	3.9 J	3.1 J	2.3 J	2 J	1.9 J	1.2 J	2.5 J	3 J
Copper	mg/kg	4.3	350	5.8	14	16	10	6	8.5	6.6	6.1	4.1 J	5.3	4.7 J	5.3	5.4
Iron	mg/kg	5900 J	14000 J	5000 J	7700 J	12000 J	10000 J	5700 J	9110 J	5880 J	6430 J	3550 J	5170 J	3650 J	6310 J	7510 J
Lead	mg/kg	5	17	22	26	12	39	29	10.7 J	8.2 J	13 J	5.5 J	9.6 J	8.4 J	10.4 J	4.9 J
Magnesium	mg/kg	490	720	340	700	1100	840	530	1330	865 J	655 J	390 J	536 J	311 J	705 J	929 J
Manganese	mg/kg	39	260	57	110	190	160	50	70.9 J	71.5	75.1	60.1 J	62.9	78.9	65 J	42.2 J
Mercury	mg/kg	0.3	0.4	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.07 U	0.09 U	0.07 U	0.06 U	0.07 U	0.04 U	0.16 U	0.1 U
Nickel	mg/kg	2.7	370	1.8	3.7	4.2	3.5	2.3	6 J	3.5 J	3.2 J	2.2 J	2.5 J	2.4 J	2.7 J	5.3 J
Potassium	mg/kg	760	1100	840	1600	3000	2400	940	519 J	441 J	451 J	253 J	338 J	336 J	391 J	449 J
Selenium	mg/kg	2 U	3	2 U	2 U	3	2	2 U	0.22 U	0.21 J	0.21 U	0.21 J	0.21 J	0.21 J	0.17 U	0.19 U
Silver		1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.66 U	0.73 U	0.71 U	0.82 U	0.69 U	0.87 U	0.85 U	0.58 U
Sodium	mg/kg	190	240	170	190	260	230	200	28.9 U	22.5 U	36.8 U	25.4 U	26.9 U	24.1 U	26.3 U	20.9 U
Vanadium	mg/kg	7	7	4	6	7	6	7	10.2	6.2 J	5.4 J	3.4 J	4.8 J	2.9 J	5.9 J	8 J
Zinc	mg/kg	18	64	130	44	59	67	26	30.4	29.8	30	20.6	27.5	28.9	27.9	21.4
Cyanide	mg/kg								0.2 U	0.19 U	0.17 U	0.18 U	0.18 U	0.19 U	0.19 U	0.39 J
TPH	mg/kg	220	150	180 J	220 J	100 J	180 J	270 J								

DATA USED FOR RISK ASSESSMENT
HITS ONLY SURFACE SOIL ANALYTICAL RESULTS

Sample ID:		TRC-P2	TRC-P2	TRC-P2	TRC-P2 *	TRC-P2	TRC-P2	TRC-P2 *	TRC-P1	TRC-P1	TRC-P1	TRC-P1	TRC-P1	TRC-P1	TRC-P1
Laboratory ID:		08-B02-01	08-B03-01	08-B04-01	08-B05-01	08-MW01-01	08-MW02-01	08-MW03-01	S-08-01-00-S	S-08-02-00-S	S-08-03-00-S	S-08-04-00-S	S-08-05-00-S	S-08-06-00-S	S-08-07-00-S
Depth (ft.):		35114-3	35098-1	35098-3	35132-1	35064-1	35064-3	35078-1							
Date:		2/93	2/93	2/93	2/93	2/93	2/93	2/93							
Parameter**	*Units:*														
VOCs															
Acetone	µg/kg	82	11 U	11 U	53	43 J	10 U	11 U	6 UJ	12 UJ	19 UJ	11 U	12 U	11 U	13 U
Methylene Chloride	µg/kg	11 U	11 U	11 U	11 U	5 J	7 J	7 J	12 UJ	12 UJ	12 UJ	26 UJ	25 UJ	15 UJ	28 UJ
Chloroform	µg/kg	11 U	11 U	11 U	11 U	11 U	10 U	11 U	6 U	6 U	3 J	5 U	6 U	5 U	2 J
Toluene	µg/kg	11 U	11 U	11 U	11 U	11 U	10 U	11 U	6 U	6 U	6 U	5 U	6 U	5 U	6 U
Tetrachloroethene	µg/kg	11 U	11 U	11 U	11 U	11 U	10 U	11 U	6 U	6 U	6 U	5 U	6 U	5 U	6 U
SVOCs-BNA															
Acenaphthylene	µg/kg	360 U	360 U	370 U	410 U	350 U	390 U	360 U	380 U	390 U	370 U	350 U	390 U	360 U	410 U
Pentachlorophenol	µg/kg														
Phenanthrene	µg/kg	360 U	360 U	370 U	410 U	350 U	390 U	360 U	65 J	57 J	84 J	47 J	64 J	40 J	110 J
Anthracene	µg/kg	360 U	360 U	370 U	410 U	350 U	390 U	360 U	380 U	390 U	370 U	350 U	390 U	360 U	410 U
Fluoranthene	µg/kg	360 U	360 U	310 J	410 U	350 U	390 U	360 U	130 J	110 J	570	93 J	140 J	75 J	230 J
Pyrene	µg/kg	360 U	360 U	470	410 U	350 U	390 U	360 U	89 J	81 J	480	87 J	120 J	82 J	170 J
Butylbenzylphthalate	µg/kg	360 U	360 U	370 U	410 U	350 U	390 U	360 U	380 U	390 U	370 U	350 U	390 U	360 U	410 U
Benzo(a)anthracene	µg/kg	360 U	360 U	230 J	410 U	350 U	390 U	360 U	50 J	45 J	410	54 J	86 J	47 J	72 J
Chrysene	µg/kg	360 U	360 U	260 J	410 U	350 U	390 U	360 U	70 J	65 J	500	82 J	110 J	57 J	110 J
bis(2-ethylhexyl)phthalate	µg/kg	360 U	360 U	370 U	410 U	350 U	390 U	360 U	290 J	40 J	70 J	67 J	68 J	200 J	78 J
Benzo(b)fluoranthene	µg/kg	360 U	360 U	210 J	410 U	350 U	390 U	360 U	120 J	86 J	650	110 J	230 J	76 J	340 J
Benzo(k)fluoranthene	µg/kg	360 U	360 U	370 U	410 U	350 U	390 U	360 U							
Benzo(a)pyrene	µg/kg	360 U	360 U	250 J	410 U	350 U	390 U	360 U	60 J	53 J	330 J	47 J	93 J	46 J	130 J
Indeno(1,2,3-c,d)pyrene	µg/kg	360 U	360 U	370 U	410 U	350 U	390 U	360 U	380 U	41 J	200 J	350 U	40 J	360 U	58 J
Dibenz(a,h)anthracene	µg/kg	360 U	360 U	370 U	410 U	350 U	390 U	360 U	380 U	390 U	140 J	350 U	390 U	360 U	410 U
Benzo(g,h,i)perylene	µg/kg	360 U	360 U	370 U	410 U	350 U	390 U	360 U	380 U	46 J	190 J	350 U	390 U	360 U	82 J
Acenaphthene	µg/kg	360 U	360 U	370 U	410 U	350 U	390 U	360 U	380 U	390 U	370 U	350 U	390 U	360 U	410 U
2,4-Dinitrotoluene	µg/kg								380 U	390 U	370 U	350 U	390 U	56 J	410 U
Benzoic acid	µg/kg								1900 U	1900 U	1800 U	1700 U	1900 U	1800 U	130 J
Pesticides/PCBs															
4,4'-DDE	µg/kg	3.6 UJ	3.6 U	3.7 UJ	4.1 U	3.5 U	3.9 U	3.6 U	19 U	19 U	18 U	17 U	19 U	18 U	20 U
Endrin	µg/kg														
4,4'-DDT	µg/kg	3.6 UJ	3.6 U	3.7 UJ	2.9 J	3.5 U	3.9 U	3.6 U	19 U	19 U	18 U	17 U	29	18 U	20 U
Endrin Keytone	µg/kg	3.6 UJ	3.6 U	3.7 UJ	4.1 U	3.5 U	3.9 U	3.6 U	19 U	19 U	18 U	17 U	19 U	18 U	20 U
Aroclor-1260	µg/kg	36 UJ	36 U	37 UJ	41 U	34 J	39 U	32 J	190 U	190 U	450	190	190 U	1400	230
Inorganic Compounds															
Aluminum	mg/kg	4360	5970	5600	4550	5450	5850	3300	4000	4260	3560	2410	5220	3370	6080
Antimony		2.6 U	2.3 U	1.6 U	2.7 U	3 U	3 U	2.3 U	11.7 U	11.9 U	11.4 U	10.5 U	11.9 U	10.8 U	12 U
Arsenic	mg/kg	1 J	0.79 J	0.76 J	1.1 J	0.71 J	0.72 J	0.67 J	0.77	0.97 B	1	0.74	1.3	0.9	1.9
Barium	mg/kg	10.6 J	8.9 J	19.6 J	24.5 J	12 J	11.1 J	9.9 J	7.6	6.9 B	7.6	9.5	9.9	7.1	32.6
Beryllium	mg/kg	0.37 J	0.42 J	0.29 J	0.58 J	0.48 J	0.45 J	0.44 J	0.68	0.71 B	0.65	0.63	1.2	0.6	1.4
Cadmium		0.55 U	0.5 U	0.36 J	0.58 U	0.65 U	0.64 U	0.72 J	1 U	1 U	1 U	0.92 U	1 U	0.94 U	1.1 U
Calcium	mg/kg	200 J	123 J	477 J	8360	232 J	156 J	353 J	325	299	319	390	416	250	472
Chromium	mg/kg	4 J	4.8 J	9 J	9.3 J	4.8	4.8	3.1	5.9	5.7	6.4	7.8	8.3	3.9	15.5
Cobalt	mg/kg	2.6 J	2.9 J	5.1 J	3.6 J	2.8 J	1.9 J	2.2 J	2.4	3.2	2.6	3.2	4	3.6 U	7.9
Copper	mg/kg	4 J	4.4	6.3	7.8	6.4	2.6 J	4.1 J	9	9.2	13.3	16.3	17.7	4.3	87.3
Iron	mg/kg	4360 J	6480 J	10900 J	8710 J	7230 J	6140 J	5240 J	8090	8930	9740	9190	11500	5450	16800
Lead	mg/kg	4.9 J	4.6 J	39.7 J	12.4 J	5.6 J	3.9 J	10.6 J	26	43.4	52	29.5	57.7	9.1	171
Magnesium	mg/kg	662 J	564 J	2050 J	1710 J	960 J	507 J	681 J	781	694	872	842	1240	565	1050
Manganese	mg/kg	42.9 J	57.3 J	120 J	175 J	61	40.1	92.4	59.8	73.5	73.2	84.8	76.2	75.3	92.4
Mercury	mg/kg	0.06 U	0.1	0.07 U	0.11 U	0.06 U	0.09 U	0.07 U	0.14	0.12 U	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U
Nickel	mg/kg	4 J	4.6 J	7.4	7.5 J	4.6 J	2.3 J	3.1 J	8.3 U	8.5 U	8.2 U	7.5 U	8.5 U	7.7 U	30.8
Potassium	mg/kg	360 J	441 J	1030 J	818 J	545 J	369 J	444 J	470 U	715 U	461 U	697 U	701 U	701 U	1050
Selenium	mg/kg	0.21 U	0.21 U	0.21 U	0.16 U	0.19 U	0.31 J	0.19 U	0.37 U	0.38 U	0.36 U	0.34 U	0.38 U	0.34 U	0.39 U
Silver		0.74 U	0.66 U	0.47 J	0.77 U	0.87 U	0.86 U	0.25 J	1.3 U	1.4 U	1.3 U	28	1.4 U	1.2 U	1.4 U
Sodium	mg/kg	26 U	25.6 U	23.5 U	50.4 J	39.5 U	32.6 U	28 U	435 U	445 U	426U	393 U	445 U	456 U	520 U
Vanadium	mg/kg	5.9 J	8.2 J	12.3 J	9.3 J	7.3 J	7.1 J	4.3 J	11.1	10.4 B	13.2	7.7	19.9	5.5	25.4
Zinc	mg/kg	27	37.5	22.8	42.9	31.5	20.6	44.8	44.8	42.4	40.4	52.7	40.8	29.7	197
Cyanide	mg/kg	0.19 U	0.19 U	0.23 J	0.22 U	0.19 U	0.21 U	0.17 U	0.58 U	0.59 U	0.57 U	0.52 U	0.59 U	0.54 U	0.62 U
TPH	mg/kg														

DATA USED FOR RISK ASSESSMENT
HITS ONLY SURFACE SOIL ANALYTICAL RESULTS

Sample ID:		TRC-P1	TRC-P1	TRC-P1	S-08-06-00-SRC	S-08-06-00-SDRC	S-08-09-00-SRC	S-08-09-00-SDRC	M&E	M&E	M&E	M&E	M&E
Laboratory ID:		S-08-08-00-S	S-08-09-00-S	S-08-10-00-S					SB-7	SB-11	SB-16	SB-18	SB-26
									88154	88179	88148	88353	88354
Depth (ft.):									0-2'	0-2'	0-2'	0-2'	0-2'
Date:									9/93	9/93	9/93	9/93	9/93
Parameter	***Units:***												
VOCs													
Acetone	µg/kg	89	12 U	75	11 UJ	10 U	29 UJ	11 U	11 U	11 U	11 U	10 U	11 U
Methylene Chloride	µg/kg	23 UJ	17 UJ	27 UJ	15 UJ	8 UJ	37 UJ	8 UJ					
Chloroform	µg/kg	1 J	6 U	2 J	5 U	5 U	5 U	5 U					
Toluene	µg/kg	6 U	6 U	6 U	5 U	5 U	5 U	5 U	10	11 U	11 U	10 U	11 U
Tetrachloroethene	µg/kg	6 U	6 U	6 U	5 U	5 U	5 U	5 U	11 U	11 U	11 U	10 U	2 J
SVOCs-BNA													
Acenaphthylene	µg/kg	370 U	380 U	420 U	340 U	330 U	360 U	360 U					
Pentachlorophenol	µg/kg												
Phenanthrene	µg/kg	75 J	380 U	46 J	53 J	170 J	360 U	360 U					
Anthracene	µg/kg	370 U	380 U	420 U	340 U	330 U	360 U	360 U					
Fluoranthene	µg/kg	150 J	380 U	120 J	150 J	290 J	360 U	360 U					
Pyrene	µg/kg	150 J	45 J	95 J	130 J	200 J	360 U	360 U					
Butylbenzylphthalate	µg/kg	370 U	380 U	420 U	340 U	330 U	360 U	360 U					
Benzo(a)anthracene	µg/kg	72 J	380 U	59 J	68 J	180 J	360 U	360 U					
Chrysene	µg/kg	110 J	59 J	84 J	95 J	170 J	360 U	360 U					
bis(2-ethylhexyl)phthalate	µg/kg	78 J	370 J	110 J	88 J	52 J	77 J	130 J					
Benzo(b)fluoranthene	µg/kg	140 J	380 U	130 J	213 J	490 J	360 U	360 U					
Benzo(k)fluoranthene	µg/kg												
Benzo(a)pyrene	µg/kg	80 J	380 U	59 J	79 J	160 J	360 U	360 U					
Indeno(1,2,3-c,d)pyrene	µg/kg	43 J	380 U	420 U	340 U	73 J	360 U	360 U					
Dibenz(a,h)anthracene	µg/kg	370 U	380 U	420 U	340 U	40 J	360 U	360 U					
Benzo(g,h,i)perylene	µg/kg	38 J	380 U	420 U	340 U	78 J	360 U	360 U					
Acenaphthene	µg/kg	370 U	67 J	420 U	340 U	330 U	360 U	360 U					
2,4-Dinitrotoluene	µg/kg	370 U	380 U	420 U	340 U	330 U	360 U	360 U					
Benzoic acid	µg/kg	1800 U	52 J	49 J	88 J	1600 U	140 J	120 J					
Pesticides/PCBs													
4,4'-DDE	µg/kg	18 U	190 U	20 U	17 U	16 U	18 U	18 U					
Endrin	µg/kg												
4,4'-DDT	µg/kg	18 U	190 U	20 U	17 U	16 U	18 U	18 U					
Endrin Keytone	µg/kg	18 U	190 U	20 U	17 U	16 U	18 U	18 U					
Aroclor-1260	µg/kg	180 U	1900 U	200 U	170 U	160 U	180 U	180 U					
Inorganic Compounds													
Aluminum	mg/kg	4560	4410	4910	3150	3150	4700	4630					
Antimony		11.1 U	11.7	12.9 U	4.4 U	4.3 U	4.6 U	4.6 U					
Arsenic	mg/kg	0.89	0.94	1.3	0.64	1.3 J	2.6 J	0.82 J					
Barium	mg/kg	8.2	8.6	10.6	7.7	6.4	8.3	7.9					
Beryllium	mg/kg	0.72	0.44	0.47	0.33	0.32	0.32	0.36					
Cadmium		0.97 U	1 U	1.1 U	1 U	1 U	1.1 U	1.1 U					
Calcium	mg/kg	305	314	354	299	277	296	274					
Chromium	mg/kg	5.6	7	14.2	5.2	5.6 J	4.8	5.2					
Cobalt	mg/kg	4.3 U	5 U	4.8 U	2.4	1.1	1.9	1.6					
Copper	mg/kg	8.9	9.4	16.4	9.3	10.7	9.7	8.9					
Iron	mg/kg	7540	12200	9930	10300	12700 J	8540	8040					
Lead	mg/kg	21.3	67.7	160	33.6	32.1 J	23.3	117 J					
Magnesium	mg/kg	916	1020	1070	827	823	925	899					
Manganese	mg/kg	84.7	89.6	67.7	78.3	73.4	59.1	59					
Mercury	mg/kg	0.1 U	0.12 U	0.11 U	0.1 U	0.1 U	0.11 U	0.11 U					
Nickel	mg/kg	10.2	8.3 U	9.2 U	6.1 U	6.1	6.4 U	7.4					
Potassium	mg/kg	448 U	1320	1050	562	398	503	425					
Selenium	mg/kg	0.35 U	0.36 U	0.41 U	0.42 UJ	0.4 UJ	2.2 UJ	2.2 UJ					
Silver		1.3 U	1.3 U	1.5 U	0.84 U	0.81 U	0.88 U	0.88 U					
Sodium	mg/kg	495 U	667 U	589 U	312 U	302 U	328 U	327 U					
Vanadium	mg/kg	9.8	14.9	18.7	15.5	15.9	13.8	13.6					
Zinc	mg/kg	43.3	34.9	54.4	30.2	30.6	27.6	26.4					
Cyanide	mg/kg	0.56 U	0.58 U	0.64 U	0.52 U	0.51 U	0.55 U	0.55 U					
TPH	mg/kg												

* Regular sample and duplicate collected
Higher concentration of each analyte is listed
** Only parameters above detection limits are listed
U = The compound was not detected The associated numerical value is the compound quantitation limit
UJ = The compound was not detected The compound quantitation limit is an estimated value.
J = The associated numerical value is an estmiated quantity
R = The datum was rejected

DATA USED FOR RISK ASSESSMENT
HITS ONLY SUBSURFACE SOIL ANALYTICAL RESULTS

Sample ID:		DFSWSB06-X2	DFSWSB06-X8	DFSWSB05-X3	DFSWSB05-X11	DFSWSB01-X2	DFSWSB03-X2	DFSWSB02-X3	DFSWSB02-X13	TRC-P2	TRC-P2	TRC-P2	TRC-P2
Laboratory ID:		C1190-01	C1190-03	C1190-07	C1190-08	C1190-12	C1190-16	C1190-19	C1190-20	08-B01-02	08-B02-02	08-B03-03	08-B04-02
Depth (ft.):		2-4	30-30.3	4-6	44-46	2-4	2-4	4-6	49-51	35114-2	35114-4	35098-2	35098-4
Date:		10/21/1996	10/21/1996	10/23/1996	10/24/1996	10/28/1996	10/28/1996	10/29/1996	10/30/1996	2/93	2/93	2/93	2/93
*Parameter***	*Units:*												
VOCs													
Carbon Disulfide	µg/kg	16 U	14 U	15 U	14 U	13 U	14 U	13 U	14 U	12 U	11 U	11 U	11 U
Acetone	µg/kg	28 U	8 U	44 U	8 U	8 U	9 U	9 U	10 U	43	11 U	65	11 U
Methylene Chloride	µg/kg	12 UJ	8 UJ	11 UJ	8 UJ	8 UJ	10 UJ	7 UJ	20 UJ	12 U	11 U	11 U	11 U
2-Butanone	µg/kg	6 U	6 U	6 U	6 U	5 U	6 U	5 U	6 U	12 U	11 U	11 U	11 U
Chloroform	µg/kg	6 U	6 U	6 U	6 U	5 U	6 U	5 U	6 U				
1,1,1-Trichloroethane	µg/kg	6 U	6 U	6 U	6 U	5 U	6 U	5 U	6 U	12 U	11 U	11 U	11 U
Trichloroethene	µg/kg	6 U	6 U	6 U	6 U	5 U	6 U	5 U	6 U	12 U	11 U	11 U	11 U
Toluene	µg/kg	6 U	6 U	6 U	6 U	5 U	6 U	5 U	6 U	12 U	11 U	11 U	11 U
Tetrachloroethene	µg/kg	6 U	6 U	6 U	6 U	5 U	6 U	5 U	6 U	12 U	11 U	11 U	11 U
Ethylbenzene	µg/kg	6 U	6 U	6 U	6 U	5 U	6 U	5 U	6 U	12 U	11 U	11 U	11 U
Xylene (total)	µg/kg	6 U	6 U	6 U	6 U	5 U	6 U	5 U	6 U	12 U	11 U	11 U	11 U
Chloroethane	µg/kg									12 U	11 U	11 U	11 U
SVOCs-BNA													
Naphthalene	µg/kg	380 U	360 U	370 U	360 U	360 U	370 U	340 U	380 U	2800 U	360 U	390 U	350 U
Acenaphthene	µg/kg	380 U	360 U	370 U	360 U	360 U	370 U	340 U	380 U	2800 U	360 U	390 U	350 U
Fluorene	µg/kg	380 U	360 U	370 U	360 U	360 U	370 U	340 U	380 U	2800 U	360 U	390 U	350 U
Phenanthrene	µg/kg	380 U	360 U	370 U	360 U	360 U	370 U	340 U	380 U	2800 U	360 U	390 U	350 U
Anthracene	µg/kg	380 U	360 U	370 U	360 U	360 U	370 U	340 U	380 U	2800 U	360 U	390 U	350 U
Carbazole	µg/kg	380 U	360 U	370 U	360 U	360 U	370 U	340 U	380 U	2800 U	360 U	390 U	350 U
Fluoranthene	µg/kg	380 U	360 U	370 U	360 U	360 U	370 U	50 J	380 U	2800 U	360 U	390 U	350 U
Pyrene	µg/kg	380 UJ	360 UJ	370 UJ	360 UJ	360 U	370 U	44 J	380 U	2800 U	360 U	390 U	350 U
Butylbenzylphthalate	µg/kg	380 U	360 U	370 U	360 U	700	370 U	340 U	380 U	2800 U	360 U	390 U	350 U
Benzo(a)anthracene	µg/kg	380 U	360 U	370 U	360 U	360 U	370 U	340 U	380 U	2800 U	360 U	390 U	350 U
Chrysene	µg/kg	380 U	360 U	370 U	360 U	360 U	370 U	340 U	380 U	2800 U	360 U	390 U	350 U
bis(2-ethylhexyl)phthalate	µg/kg	380 U	360 U	43 J	360 U	360 U	370 U	41 J	61 J				
Di-n-octylphthalate	µg/kg	380 U	360 U	370 U	360 U	360 U	370 U	340 U	380 U	2800 U	360 U	390 U	350 U
Benzo(b)fluoranthene	µg/kg	380 U	360 U	370 U	360 U	360 U	370 U	340 U	380 U	2800 U	360 U	390 U	350 U
Benzo(k)fluoranthene	µg/kg	380 UJ	360 UJ	370 UJ	360 UJ	360 U	370 U	340 U	380 U	2800 U	360 U	390 U	350 U
Benzo(a)pyrene	µg/kg	380 U	360 U	370 U	360 U	360 U	370 U	340 U	380 U	2800 U	360 U	390 U	350 U
Indeno(1,2,3-c,d)pyrene	µg/kg	380 U	360 U	370 U	360 U	360 U	370 U	340 U	380 U	2800 U	360 U	390 U	350 U
Dibenz(a,h)anthracene	µg/kg	380 U	360 U	370 U	360 U	360 U	370 U	340 U	380 U	2800 U	360 U	390 U	350 U
Benzo(g,h,i)perylene	µg/kg	380 U	360 U	370 U	360 U	360 U	370 U	340 U	380 U	2800 U	360 U	390 U	350 U
2-Methylnaphthalene	µg/kg	380 U	360 U	370 U	360 U	360 U	370 U	340 U	380 U				
Acenaphthylene	µg/kg	380 U	360 U	370 U	360 U	360 U	370 U	340 U	380 U	2800 U	360 U	390 U	350 U
Benzoic acid	µg/kg												
Pesticides/PCBs													
Heptachlor	µg/kg	2 U	1.8 U	2 U	1.9 U	1.9 U	1.9 U	1.8 U	2 U	1.8 UJ	1.8 UJ	2 UJ	1.8 UJ
Aldrin	µg/kg	2 U	1.8 U	2 U	1.9 U	1.9 U	1.9 U	1.8 U	2 U	1.8 UJ	1.8 UJ	2 UJ	1.8 UJ
delta-BHC	µg/kg	2 U	1.8 U	2 U	1.9 U	1.9 U	1.9 U	1.8 U	2 U	1.8 UJ	1.8 UJ	2 UJ	1.8 UJ
4,4'-DDE	µg/kg	4 U	3.7 U	3.9 U	3.8 U	3.7 U	3.9 U	3.6 U	4 U	3.5 UJ	3.5 UJ	3.9 UJ	3.6 UJ
Endosulfan II	µg/kg	4 U	3.7 U	3.9 U	3.8 U	3.7 U	3.9 U	3.6 U	4 U	3.5 UJ	3.5 UJ	3.9 UJ	3.6 UJ
4,4'-DDT	µg/kg	4 U	3.7 U	3.9 U	3.8 U	3.7 U	3.9 U	3.6 U	4 U	3.5 UJ	3.5 UJ	3.9 UJ	3.6 UJ
Methoxychlor	µg/kg	20 U	18 U	20 U	19 U	19 U	19 U	18 U	20 U	18 UJ	18 UJ	20 UJ	18 UJ
Endrin Keytone	µg/kg	2 U	3.7 U	3.9 U	3.8 U	3.7 U	3.9 U	3.6 U	4 U	3.5 UJ	3.5 UJ	3.9 UJ	3.6 UJ
Aroclor-1260	µg/kg	39 U	36 U	38 U	36 U	36 U	38 U	35 U	39 U	23 J	35 UJ	39 UJ	36 UJ

DATA USED FOR RISK ASSESSMENT
HITS ONLY SUBSURFACE SOIL ANALYTICAL RESULTS

Sample ID:		DFSWSB06-X2	DFSWSB06-X8	DFSWSB05-X3	DFSWSB05-X11	DFSWSB01-X2	DFSWSB03-X2	DFSWSB02-X3	DFSWSB02-X13	TRC-P2	TRC-P2	TRC-P2	TRC-P2
Laboratory ID:		C1190-01	C1190-03	C1190-07	C1190-08	C1190-12	C1190-16	C1190-19	C1190-20	08-B01-02	08-B02-02	08-B03-03	08-B04-02
Depth (ft.):		2-4	30-30.3	4-6	44-46	2-4	2-4	4-6	49-51	35114-2	35114-4	35098-2	35098-4
Date:		10/21/1996	10/21/1996	10/23/1996	10/24/1996	10/28/1996	10/28/1996	10/29/1996	10/30/1996	2/93	2/93	2/93	2/93
Parameter	***Units:***												
Inorganic Compounds													
Aluminum	mg/kg	2600 J	5400 J	4100 J	2600 J	3000 J	4400 J	7400 J	7600 J	4240	2880	5390	1940
Antimony	mg/kg	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	2.1 UJ	2.5 UJ	2.8 J	2.3 UJ
Arsenic	mg/kg	2	1 U	1	1	2	2	1 U	2	0.42 J	0.36 J	0.82 J	0.41 J
Barium	mg/kg	7	5	10	44	9	10	9	12	10.2 J	8.9 J	10 J	6.5 J
Beryllium	mg/kg	0.3	0.6	0.4	0.3	0.7	0.3	0.9	0.4	0.51 J	0.48 J	0.38 J	0.38 J
Cadmium	mg/kg	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.44 U	0.55 U	0.5 U	0.48 U
Calcium	mg/kg	65 J	710 J	810 J	85 J	86 J	100 J	2100 J	76 J	217 J	262 J	196 J	98.7 J
Chromium	mg/kg	2	6	6	3	4	5	14	6	5 J	3.2 J	4.7 J	1.4 J
Cobalt	mg/kg	1.6	7.5	6.2	1.5	3.5	1.9	8.6	2.3	2.7 J	2.7 J	3.4 J	0.99 J
Copper	mg/kg	3.5	3.9	18	5.8	14	6	21	4.2	5.9	3 J	6.3	1.8 J
Iron	mg/kg	3900 J	11000 J	9500 J	5000 J	7700 J	5700 J	19000 J	7600 J	6770 J	5130 J	6200 J	3510 J
Lead	mg/kg	4	1.7	2.8	22	26	29	0.5 U	5	8 J	5.8 J	5.1 J	4 J
Magnesium	mg/kg	370	2200	1800	340	700	530	3700	590	722 J	398 J	803 J	189 J
Manganese	mg/kg	43	170	77	57	110	50	140	50	46.6 J	45.1 J	49.1 J	32.4 J
Mercury	mg/kg	0.4	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.08 U	0.05 U	0.04 U	0.09 U
Nickel	mg/kg	1.6	24	11	1.8	3.7	2.3	16	3	4 J	2.4 J	4.6 J	1.6 U
Potassium	mg/kg	1400	1200	1400	840	1600	940	1800	600	478 J	492 J	545 J	339 J
Selenium	mg/kg	2 U	3	2	2 U	2 U	2 U	3	2 U	0.19 U	0.21 U	0.24 U	0.19 U
Sodium	mg/kg	150	180	180	170	190	200	300	240	25.3 U	36.1 U	35.9 U	23.2 U
Vanadium	mg/kg	4	9	8	4	6	7	17	10	6.1 J	4.1 J	8.3 J	2 J
Zinc	mg/kg	19	51	30	130	44	26	44	15	34.4	34.6	26.1	29
Cyanide	mg/kg									0.18 U	0.4	0.21 U	0.18 U
TPH	mg/kg	88	33 U		33 U	90 J	66 J	120 J	37 J				
TRPH	mg/kg												

* Regular sample and duplicate collected. Higher concentration of each analyte is listed
** Only parameters above detection limits are listed.
U = The compound was not detected The associated numerical value is the compound quantitation limit.
UJ = The compound was not detected. The compound quantitation limit is an estimated value.
J = The associated numerical value is an estmiated quantity.
R = The datum was rejected

DATA USED FOR RISK ASSESSMENT
HITS ONLY SUBSURFACE SOIL ANALYTICAL RESULTS

Sample ID:		TRC-P2	TRC-P2	TRC-P2	TRC-P1	TRC-P1	TRC-P1	TRC-P1	TRC-P1	M&E	M&E	M&E	M&E	M&E *
Laboratory ID:		08-B05-02	08-MW01-02	08-MW03-02	S-08-01-03-S	S-08-05-03-S	S-08-06-03-S	S-08-07-03-S	S-08-09-03-S	ME-1	ME-1	ME-2	ME-2	ME-3
		35132-2	35062-2	35078-2						88191	88183	88047	88057	88058
Depth (ft.):										2-6'	4-6'	10-14'	12-14'	8-10'
Date:		2/93	2/93	2/93						34213	34213	34213	34213	34213
Parameter	***Units:***													
VOCs														
Carbon Disulfide	µg/kg	10 U	11 U	12 U	5 U	6 U	5 U		5 U		11 U		14 U	13 U
Acetone	µg/kg	10 U	11 U	40 J	13 UJ	12 U	11 U		34 UJ		11 U		14 U	13 UJ
Methylene Chloride	µg/kg	10 U	11 U	6 J	15 UJ	25 UJ	16 UJ		110 UJ		11 U		14 U	13 U
2-Butanone	µg/kg	10 U	11 U	12 U	11 U	12 U	11 U		11 U		11 U		16 U	13 U
Chloroform	µg/kg				5 U	6 U	5 U	1 J	6 UJ					
1,1,1-Trichloroethane	µg/kg	10 U	11 U	12 U	5 U	6 U	5 U		5 U		11 U		14 U	13 U
Trichloroethene	µg/kg	10 U	11 U	12 U	5 U	6 U	5 U		5 U		11 U		14 U	13 U
Toluene	µg/kg	10 U	11 U	12 U	5 U	6 U	5 U		5 U		1 J		14 U	2 J
Tetrachloroethene	µg/kg	10 U	11 U	12 U	5 U	6 U	5 U		5 U		11 U		14 U	13 U
Ethylbenzene	µg/kg	10 U	11 U	12 U	5 U	6 U	5 U		3 J		11 U		14 U	13 U
Xylene (total)	µg/kg	10 U	11 U	12 U	5 U	6 U	5 U		210		11 U		14 U	13 U
Chloroethane	µg/kg	10 U	11 U	12 U	11 U	12 U	5 U		11 U		11 U		4 J	13 U
SVOCs-BNA														
Naphthalene	µg/kg	360 U	350 U	370 U	360 U	360 U	360 U		720 U	370 U		370 U		
Acenaphthene	µg/kg	360 U	350 U	370 U	360 U	360 U	370 U		720 U	370 U		370 U		
Fluorene	µg/kg	360 U	350 U	370 U	360 U	360 U	360 U		1100	370 U		370 U		
Phenanthrene	µg/kg	360 U	350 U	370 U	360 U	360 U	360 U		170 J	370 U		370 U		
Anthracene	µg/kg	360 U	350 U	370 U	360 U	360 U	370 U		720 U	370 U		370 U		
Carbazole	µg/kg	360 U	350 U	370 U						370 U		370 U		
Fluoranthene	µg/kg	360 U	350 U	370 U	360 U	46 J	360 U		720 U	370 U		370 U		
Pyrene	µg/kg	360 U	350 U	370 U	360 U	57 J	360 U		720 U	370 U		370 U		
Butylbenzylphthalate	µg/kg	360 U	350 U	370 U	360 U	360 U	360 U		720 U	370 U		370 U		
Benzo(a)anthracene	µg/kg	360 U	350 U	370 U	360 U	360 J	72 J		720 U	370 U		370 U		
Chrysene	µg/kg	360 U	350 U	370 U	360 U	42 J	360 U		720 U	370 U		370 U		
bis(2-ethylhexyl)phthalate	µg/kg				440	280 J	470		120 J					
Di-n-octylphthalate	µg/kg	360 U	350 U	370 U	360 U	360 U	360 U		720 U	370 U		370 U		
Benzo(b)fluoranthene	µg/kg	200 J	350 U	370 U	360 U	54 J	140 J		720 U	370 U		370 U		
Benzo(k)fluoranthene	µg/kg	360 U	350 U	370 U	360 U	54 J	140 J		720 U	370 U		370 U		
Benzo(a)pyrene	µg/kg	360 U	350 U	370 U	360 U	360 J	80 J		720 U	370 U		370 U		
Indeno(1,2,3-c,d)pyrene	µg/kg	360 U	350 U	370 U	360 U	360 U	360 U		720 U	370 U		370 U		
Dibenz(a,h)anthracene	µg/kg	360 U	350 U	370 U	360 U	360 U	360 U		720 U	370 U		370 U		
Benzo(g,h,i)perylene	µg/kg	360 U	350 U	370 U	360 U	360 U	38 J		720 U	370 U		370 U		
2-Methylnaphthalene	µg/kg								2400					
Acenaphthylene	µg/kg	360 U	350 U	370 U	360 U	360 U	370 U		720 U	370 U		370 U		
Benzoic acid	µg/kg							45 J						
Pesticides/PCBs														
Heptachlor	µg/kg	1.8 U	1.8 U	1.9 U	8.8 U	170 U	8.7 U		350 U	0.27 J		1.8 J		
Aldrin	µg/kg	1.8 U	1.8 U	1.9 U	8.8 U	170 U	8.7 U		350 U	1.9 U		1.8 U		
delta-BHC	µg/kg	1.8 U	1.8 U	1.9 U	8.8 U	170 U	8.7 U		350 U	1.9 U		1.8 U		
4,4'-DDE	µg/kg	3.6 U	3.6 U	3.7 U	18 U	350 U	17 U		700 U	3.7 U		3.5 U		
Endosulfan II	µg/kg	3.6 U	3.6 U	3.7 U	18 U	350 U	17 U		700 U	3.7 U		3.5 U		
4,4'-DDT	µg/kg	3.6 U	3.6 U	3.7 U	18 U	350 U	17 U		700 U	3.7 U		3.5 U		
Methoxychlor	µg/kg	18 U	18 U	19 U	88 U	1700 U	87 U		3500 U	19 U		18 U		
Endrin Keytone	µg/kg	3.6 U	3.6 U	3.7 U	18 U	350 U	17 U		700 U	3.7 U		3.5 U		
Aroclor-1260	µg/kg	36 U	36 U	37 U	180 U	3500 U	170 U		7000 U	37 U		35 U		

DATA USED FOR RISK ASSESSMENT
HITS ONLY SUBSURFACE SOIL ANALYTICAL RESULTS

Sample ID:		TRC-P2	TRC-P2	TRC-P2	TRC-P1	TRC-P1	TRC-P1	TRC-P1	TRC-P1	M&E	M&E	M&E	M&E	M&E *
Laboratory ID:		08-B05-02	08-MW01-02	08-MW03-02	S-08-01-03-S	S-08-05-03-S	S-08-06-03-S	S-08-07-03-S	S-08-09-03-S	ME-1	ME-1	ME-2	ME-2	ME-3
Depth (ft.):		35132-2	35062-2	35078-2						88191	88183	88047	88057	88058
										2-6'	4-6'	10-14'	12-14'	8-10'
Date:		2/93	2/93	2/93						34213	34213	34213	34213	34213
Parameter	***Units:***													
Inorganic Compounds														
Aluminum	mg/kg	3210	4230	1940	2220	4890	3910	3430	2890	4610		1750		3190
Antimony	mg/kg	2.5 UJ	2.4 UJ	2.9 UJ	11.1 U	11.9 U	10.6 U		10.9 U	1.1 UJ		1 UJ		1.1 UJ
Arsenic	mg/kg	0.51 J	0.61 J	0.39 J	0.54	0.84	0.46 U	0.67	1.3	1.1		1.3		0.8
Barium	mg/kg	10.5 J	13.5 J	7 J	7.3	16.2	19.3	8.9	9	18.3		6.2		8.4
Beryllium	mg/kg	0.49 J	0.66 J	0.34 J	0.73	1.4	0.71	0.76	0.77 U	0.83		0.25		0.32
Cadmium	mg/kg	0.53 U	0.52 U	0.62 U	0.97 U	1 U	0.93 U		0.96 U	0.2 U		0.1 U		0.11 U
Calcium	mg/kg	439 J	333 J	143 J	212	930	249	251	322	1010		150		327
Chromium	mg/kg	3.5 J	3.4	2.1	11.3	3.1	11.6	3.3	5.5	6.2		2.6		3.9
Cobalt	mg/kg	1.9 J	2.6 J	0.92 J	1.8	3.4	4.1 U	3	3.4 U	5.3 U		1.5		2.1
Copper	mg/kg	5.8	8.1	1.8	1.6 U	4.2	5.7	4.3	4.4	4.8 U		4.1 U		4.5 U
Iron	mg/kg	5010 J	7530 J	2860 J	4410	11000	6480	5600	5810	9330		4390		6980
Lead	mg/kg	13.4 J	7.3 J	3.4 J	2.6	5.1	6.9	12.7	10	9.3		2.7		3.7
Magnesium	mg/kg	469 J	914	197 J	354	744	966	471	664	1400		431		859
Manganese	mg/kg	42 J	65.2	54.3	78.9	169	103	83	53.6	114		55.5 J		81.8 J
Mercury	mg/kg	0.11 U	0.07 U	0.09 U	0.11 U	0.12 U	0.1 U		0.1 U	0.11 J		0.1 J		0.11 J
Nickel	mg/kg	1.8 U	5.8 J	2.1 U	7.9 U	8.5 U	7.6 U		7.8 U	5.5		3.4		4.3
Potassium	mg/kg	447 J	777 J	333 J	446 U	701 U	1360	657	999 U	1020		284		558
Selenium	mg/kg	0.13 U	0.21 U	0.24 J	0.35 U	0.38 U	0.34 U		0.34 U	0.22 U		0.21 U		0.22 U
Sodium	mg/kg	28.3 U	43.7 U	30.3 U	413 U	445 U	395 U	482	746 U	51.4		37.6		54.5
Vanadium	mg/kg	4.4 J	5.2 J	1.8 J	1 U	5.6	7.8	2.8	2.8	8.3		2.2		3.7
Zinc	mg/kg	35.2	44.5	57.7	32.3	68.5	35.7	35.8	33.2	50.2		18.9		27.6
Cyanide	mg/kg	0.2 U	0.18 U	0.2 U	0.55 U	0.59 U	0.54 U		0.54 U					
TPH	mg/kg													
TRPH	mg/kg									80		70 U		

DATA USED FOR RISK ASSESSMENT
HITS ONLY SUBSURFACE SOIL ANALYTICAL RESULTS

Sample ID:		M&E *	M&E *	M&E *	M&E	M&E	M&E	M&E	M&E	M&E	M&E	M&E	M&E	M&E	M&E
Laboratory ID:		ME-3	SB-1	SB-1	SB-2	SB-2	SB-3	SB-4	SB-5	SB-5	SB-6	SB-6	SB-7	SB-8	SB-9
Depth (ft.):		88048	88192	88184	88186	88178	88194	88195	88180	88188	88190	88182	88163	88165	88355
Date:		6-12'	2-6'	4-6'	2-6'	4-6'	4-6'	4-6'	2-4'	2-6'	0-4'	2-4'	0-4'	4-6'	0-4'
		34213	34213	34213	34213	34213	34213	34213	34213	34213	34213	34213	34213	34213	34213
Parameter	***Units:***														
VOCs															
Carbon Disulfide	µg/kg			12 U		10 U	11 U	12 U	10 U			10 U		13 U	
Acetone	µg/kg			12 U		10 U	11 U	12 U	10 U			10 U		13 U	
Methylene Chloride	µg/kg			12 U		10 U	11 U	12 U	10 U			10 U		13 U	
2-Butanone	µg/kg			12 U		10 U	11 U	50	10 U			10 U		13 U	
Chloroform	µg/kg														
1,1,1-Trichloroethane	µg/kg			12 U		10 U	11 U	12 U	10 U			10 U		13 U	
Trichloroethene	µg/kg			12 U		10 U	11 U	12 U	10 U			10 U		13 U	
Toluene	µg/kg			1 J		10 U	11 U	2 J	10 U			3 J		13 U	
Tetrachloroethene	µg/kg			12 U		10 U	11 U	360	10 U			10 U		13 U	
Ethylbenzene	µg/kg			12 U		10 U	11 U	12 U	10 U			1 J		13 U	
Xylene (total)	µg/kg			12 U		10 U	11 U	12 U	10 U			10 U		13 U	
Chloroethane	µg/kg			12 U		10 U	11 U	12 U	10 U			10 U		13 U	
SVOCs-BNA															
Naphthalene	µg/kg	370 U	390 U		340 U		360 U	400 U		340 U	350 U		340 U	390 U	53 J
Acenaphthene	µg/kg	370 U	390 U		36 J		360 U	400 U		340 U	350 U		340 U	390 U	350 U
Fluorene	µg/kg	370 U	390 U		340 U		360 U	400 U		340 U	350 U		340 U	390 U	350 U
Phenanthrene	µg/kg	370 U	390 U		220 J		360 U	400 U		64 J	88 J		340 U	390 U	290 J
Anthracene	µg/kg	370 U	390 U		47 J		360 U	400 U		340 U	350 U		340 U	390 U	190 J
Carbazole	µg/kg	370 U	390 U		340 U		360 U	400 U		340 U	350 U		340 U	390 U	61 J
Fluoranthene	µg/kg	140 J	49 J		360		360 U	400 U		120 J	130 J		340 U	390 U	820
Pyrene	µg/kg	98 J	41 J		270 J		360 U	400 U		91 J	100 J		340 U	390 U	630
Butylbenzylphthalate	µg/kg	370 U	390 U		340 U		360 U	400 U		340 U	350 U		340 U	390 U	87 J
Benzo(a)anthracene	µg/kg	60 J	390 U		150 J		360 U	400 U		47 J	49 J		340 U	390 U	440
Chrysene	µg/kg	62 J	390 U		180 J		360 U	400 U		58 J	66 J		340 U	390 U	550
bis(2-ethylhexyl)phthalate	µg/kg														
Di-n-octylphthalate	µg/kg	370 U	390 U		340 U		360 U	400 U		340 U	350 U		39	390 U	35 J
Benzo(b)fluoranthene	µg/kg	63 J	390 U		200 J		360 U	400 U		69 J	80 J		340 U	390 U	1000
Benzo(k)fluoranthene	µg/kg	370 U	390 U		81 J		360 U	400 U		340 U	350 U		340 U	390 U	350
Benzo(a)pyrene	µg/kg	45 J	390 U		140 J		360 U	400 U		48 J	54 J		340 U	390 U	460
Indeno(1,2,3-c,d)pyrene	µg/kg	370 U	390 U		95 J		360 U	400 U		340 U	350 U		340 U	390 U	270 J
Dibenz(a,h)anthracene	µg/kg	370 U	390 U		340 U		360 U	400 U		340 U	350 U		340 U	390 U	66 J
Benzo(g,h,i)perylene	µg/kg	370 U	390 U		90 J		360 U	400 U		340 U	350 U		340 U	390 U	200 J
2-Methylnaphthalene	µg/kg														
Acenaphthylene	µg/kg	370 U	390 U		340 U		360 U	400 U		340 U	350 U		340 U	390 U	280 J
Benzoic acid	µg/kg														
Pesticides/PCBs															
Heptachlor	µg/kg	1.9 U	2 U		1.9 U		1.8 U	2 U		1.7 U	0.68 J		1.8 U	2 U	8.9 U
Aldrin	µg/kg	0.32 J	2 U		1.9 U		1.8 U	2 U		1.7 U	1.8 U		0.57	2 U	8.9 U
delta-BHC	µg/kg	1.9 U	2 U		1.9 U		1.8 U	2 U		1.7 U	1.8 U		1.8 U	2 U	8.9 U
4,4'-DDE	µg/kg	3.7 U	3.9 U		3.6 U		3.6 U	3.9 U		3.4 U	0.99 J		3.4 U	3.9 U	17 U
Endosulfan II	µg/kg	3.7 U	3.9 U		3.6 U		3.6 U	3.9 U		3.4 U	3.5 U		3.4 U	3.9 U	17 U
4,4'-DDT	µg/kg	3.7 U	3.9 U		3.6 U		3.6 U	3.9 U		3.4 U	3.5 U		3.4 U	3.9 U	19
Methoxychlor	µg/kg	19 U	20 U		19 U		18 U	20 U		17 U	18 U		18 U	20 U	89 U
Endrin Keytone	µg/kg	3.7 U	3.9 U		3.6 U		3.6 U	3.9 U		3.4 U	3.5 U		3.4 U	3.9 U	17 U
Aroclor-1260	µg/kg	37 U	39 U		36 U		36 U	39 U		34 U	35 U		34 U	39 U	170 U

DATA USED FOR RISK ASSESSMENT
HITS ONLY SUBSURFACE SOIL ANALYTICAL RESULTS

Sample ID:		M&E *	M&E *	M&E *	M&E	M&E	M&E	M&E	M&E	M&E	M&E	M&E	M&E	M&E	M&E
Laboratory ID:		ME-3	SB-1	SB-1	SB-2	SB-2	SB-3	SB-4	SB-5	SB-5	SB-6	SB-6	SB-7	SB-8	SB-9
		88048	88192	88184	88186	88178	88194	88195	88180	88188	88190	88182	88163	88165	88355
Depth (ft.):		6-12'	2-6'	4-6'	2-6'	4-6'	4-6'	4-6'	2-4'	2-6'	0-4'	2-4'	0-4'	4-6'	0-4'
Date:		34213	34213	34213	34213	34213	34213	34213	34213	34213	34213	34213	34213	34213	34213
*Parameter***	*Units:*														
Inorganic Compounds															
Aluminum	mg/kg	3750	5460		4220		8760	10900		3610	4060		4770	4150	5430
Antimony	mg/kg	1.1 UJ	1.2 UJ		1 UJ		1.1 UJ	1.2 UJ		1 UJ	1.1 UJ		1 UJ	1.2 UJ	R
Arsenic	mg/kg	0.96	0.71 U		1.3		1.9	2.2		1.2	1.9		1.5	0.73 U	1.5
Barium	mg/kg	9.4	19.8		7.9		19.4	16.6		9.6	10.5		10.3	18.1	15.5
Beryllium	mg/kg	0.39	0.68		0.35		0.62	0.48		0.53	0.56		0.44	0.24 U	0.55 U
Cadmium	mg/kg	0.11 U	0.12 U		0.1 U		0.22 U	0.12 U		0.23 U	0.17 U		0.1 U	0.19 U	0.17
Calcium	mg/kg	351	1710		170		594	940		268	262		208	1480	402
Chromium	mg/kg	5.1	7.3		8.9		11.1	10.1		5.6	5.6		5.3	3.6	8.9 U
Cobalt	mg/kg	3	4 U		3 U		5.8 U	5.5 U		3 U	6.1 U		2.3 U	3.1 U	4.3 U
Copper	mg/kg	5.1 U	2.9 U		7.6 U		12.4	6.6 U		2.9 U	7.3 U		3.1 U	0.73 U	10.5
Iron	mg/kg	7950	7690		9740		14900	11000		8100	10700		7310	5390	10700
Lead	mg/kg	5.2	12.1		4.5		4.5	8.9		16.6	35.4		9.6	2	26.1
Magnesium	mg/kg	1120	1440		1290		3300	1890		744	1090		642	1060	1430
Manganese	mg/kg	93.6 J	94.6		87.2		120	59.6		112	178		79.2	76.5	115
Mercury	mg/kg	0.11 J	0.12 U		0.1 U		0.11 U	0.12 U		0.1 U	0.11 U		0.1 U	0.12 U	0.1 U
Nickel	mg/kg	5	7.7		3.7		13.8	7.8		3.1	5.2		2.6	2.5	7
Potassium	mg/kg	685	1070		568		1750	826		876	623		530	1100	810
Selenium	mg/kg	0.23 U	0.26		0.33		0.22 U	0.55		0.49	0.34		0.47	0.24 U	0.42 U
Sodium	mg/kg	60.1	83.1		22.6		59.3	78.8		50.8	49.1		29.9	40.4	50.4 U
Vanadium	mg/kg	4.6	9.5		5.8		14	14.5		4.6	6.9		6.7	6.5	9.9 U
Zinc	mg/kg	31.1	53.5		29.6		55.6	31.2		47.5	38.9		32.2	20.8	57.6
Cyanide	mg/kg														
TPH	mg/kg														
TRPH	mg/kg	73 U	78 U		69 U		72 U	79 U		68 U	70 U		69 U	79 U	70 U

DATA USED FOR RISK ASSESSMENT
HITS ONLY SUBSURFACE SOIL ANALYTICAL RESULTS

Sample ID:		M&E SB-9	M&E SB-10	M&E SB-11	M&E SB-12	M&E * SB-12	M&E SB-13	M&E SB-13	M&E SB-15	M&E SB-15	M&E SB-16	M&E SB-17	M&E SB-18	M&E SB-19	M&E SB-20
Laboratory ID:		88352	88181/88189	88187	88159	88152	88157	88150	88156	88149	88155	88161	88356	88164	88162
Depth (ft.):		2-4'	2-4'	0-4'	0-6'	2-4'	2-6'	4-6'	2-6'	4-6'	0-6'	4-6'	0-4'	2-4'	2-6'
Date:		34213	34213	34213	34213	34213	34213	34213	34213	34213	34213	34213	34213	34213	34213
*Parameter***	*Units:*														
VOCs															
Carbon Disulfide	µg/kg	10 U	11 U			11 U		11 U		13 U		11 UJ		10 U	
Acetone	µg/kg	10 U	11 U			11 U		11 U		13 U		11 UJ		10 U	
Methylene Chloride	µg/kg	10 U	11 U			11 U		11 U		13 U		11 UJ		10 U	
2-Butanone	µg/kg	10 U	11 U			11 U		11 U		13 U		11 UJ		10 U	
Chloroform	µg/kg														
1,1,1-Trichloroethane	µg/kg	10 U	11 U			11 U		11 U		13 U		11 UJ		10 U	
Trichloroethene	µg/kg	10 U	11 U			11 U		11 U		13 U		11 UJ		10 U	
Toluene	µg/kg	10 U	11 U			4 J		11 U		13 U		11 UJ		10 U	
Tetrachloroethene	µg/kg	10 U	11 U			11 U		11 U		13 U		11 UJ		10 U	
Ethylbenzene	µg/kg	10 U	11 U			11 U		11 U		13 U		11 UJ		10 U	
Xylene (total)	µg/kg	10 U	11 U			11 U		11 U		13 U		11 UJ		10 U	
Chloroethane	µg/kg	10 U	11 U			11 U		11 U		13 U		11 UJ		10 U	
SVOCs-BNA															
Naphthalene	µg/kg		76 J	370 U	360 U	330 U	340 U		82 J		360 U	360 U	350 U	340 U	360 UJ
Acenaphthene	µg/kg		360 U	370 U	360 U	330 U	340 U		420 U		360 U	360 U	350 U	340 U	360 UJ
Fluorene	µg/kg		38 J	370 U	360 U	330 U	340 U		420 U		360 U	360 U	350 U	340 U	360 UJ
Phenanthrene	µg/kg		420	66 J	360 U	330 U	180 J		420 U		360 U	360 U	350 U	340 U	360 UJ
Anthracene	µg/kg		92 J	370 U	360 U	330 U	340 U		420 U		360 U	360 U	350 U	340 U	360 UJ
Carbazole	µg/kg		360 U	370 U	360 U	330 U	340 U		420 U		360 U	360 U	350 U	340 U	360 UJ
Fluoranthene	µg/kg		710	92 J	360 U	330 U	260 J		420 U		360 U	360 U	350 U	340 U	360 UJ
Pyrene	µg/kg		540	74 J	360 U	330 U	160 J		420 U		360 U	360 U	350 U	340 U	360 UJ
Butylbenzylphthalate	µg/kg		360 U	370 U	360 U	330 U	340 U		420 U		360 U	360 U	350 U	340 U	360 UJ
Benzo(a)anthracene	µg/kg		290 J	370 U	360 U	330 U	79 J		420 U		360 U	360 U	350 U	340 U	360 UJ
Chrysene	µg/kg		420	54 J	360 U	330 U	120 J		420 U		360 U	360 U	350 U	340 U	360 UJ
bis(2-ethylhexyl)phthalate	µg/kg														
Di-n-octylphthalate	µg/kg		360 U	370 U	53 J	45 J	81 J		420 U		360 U	360 U	350 U	43 J	360 UJ
Benzo(b)fluoranthene	µg/kg		500	69 J	360 U	330 U	83 J		420 U		360 U	360 U	350 U	340 U	360 UJ
Benzo(k)fluoranthene	µg/kg		190 J	370 U	360 U	330 U	94 J		420 U		360 U	360 U	350 U	340 U	360 UJ
Benzo(a)pyrene	µg/kg		270 J	41 J	360 U	330 U	75 J		420 U		360 U	360 U	350 U	340 U	360 UJ
Indeno(1,2,3-c,d)pyrene	µg/kg		130 J	370 U	360 U	330 U	42 J		420 U		360 U	360 U	350 U	340 U	360 UJ
Dibenz(a,h)anthracene	µg/kg		42 J	370 U	360 U	330 U	340 U		420 U		360 U	360 U	350 U	340 U	360 UJ
Benzo(g,h,i)perylene	µg/kg		110 J	370 U	360 U	330 U	38 J		420 U		360 U	360 U	350 U	340 U	360 UJ
2-Methylnaphthalene	µg/kg														
Acenaphthylene	µg/kg		130 J	370 U	360 U	330 U	43 J		420 U		360 U	360 U	350 U	340 U	360 UJ
Benzoic acid	µg/kg														
Pesticides/PCBs															
Heptachlor	µg/kg		0.33 J	1.9 U	1.8 U	1.8 U	1.8 U		2.2 U		2 U	1.8 U	0.9 U	1.8 U	1.8 U
Aldrin	µg/kg		1.8 U	1.9 U	0.86 J	0.64 J	1.6 J		2.2 U		2 U	1.8 U	0.9 U	0.56 J	1.8 U
delta-BHC	µg/kg		0.55 J	1.9 U	1.8 U	1.8 U	1.8 U		2.2 U		2 U	1.8 U	0.9 U	1.8 U	1.8 U
4,4'-DDE	µg/kg		2.8 J	3.6 U	3.5 U	3.5 U	0.93 J		4.2 U		3.8 U	3.6 U	1.8 U	3.6 U	3.5 U
Endosulfan II	µg/kg		3.5 U	3.6 U	3.5 U	3.5 U	3.5 U		4.2 U		3.8 U	3.6 U	1.8 U	3.6 U	3.5 U
4,4'-DDT	µg/kg		3.5 U	3.6 U	3.5 U	3.5 U	3.5 U		4.2 U		3.8 U	3.6 U	1.8 U	3.6 U	3.5 U
Methoxychlor	µg/kg		18 U	19 U	18 U	18 U	18 U		22 U		20 U	18 U	9 U	18 U	18 U
Endrin Keytone	µg/kg		3.5 U	3.6 U	3.5 U	3.5 U	3.5 U		4.2 U		3.8 U	3.6 U	1.8 U	3.6 U	3.5 U
Aroclor-1260	µg/kg		35 U	36 U	35 U	35 U	35 U		42 U		38 U	36 U	18 U	36 U	20 J

DATA USED FOR RISK ASSESSMENT
HITS ONLY SUBSURFACE SOIL ANALYTICAL RESULTS

Sample ID:		M&E SB-9	M&E SB-10	M&E SB-11	M&E SB-12	M&E SB-12 *	M&E SB-13	M&E SB-13	M&E SB-15	M&E SB-15	M&E SB-16	M&E SB-17	M&E SB-18	M&E SB-19	M&E SB-20
Laboratory ID:		88352	88181/88189	88187	88159	88152	88157	88150	88156	88149	88155	88161	88356	88164	88162
Depth (ft.):		2-4'	2-4'	0-4'	0-6'	2-4'	2-6'	4-6'	2-6'	4-6'	0-6'	4-6'	0-4'	2-4'	2-6'
Date:		34213	34213	34213	34213	34213	34213	34213	34213	34213	34213	34213	34213	34213	34213
Parameter**	***Units:***														
Inorganic Compounds															
Aluminum	mg/kg		4410	6120	3750	4300	3820		7860		4550	8670	6420	8360	5630
Antimony	mg/kg		1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ		1.3 UJ		1.1 UJ	1.1 UJ	R	1.1 UJ	1.1 UJ
Arsenic	mg/kg		1.8	2.3	1.1	1.4	0.77		1.4		1.1	1.6	1.2	1.9	1.1
Barium	mg/kg		12.3	12.4	8.2	11.1	8.3		16.4		14	25.6	14.5 U	19.6	23.8
Beryllium	mg/kg		0.46	0.33	0.32	0.49	0.46		0.59		0.7	0.68	0.56 U	0.47	0.38
Cadmium	mg/kg		0.51 U	0.46 U	0.11 U	0.13 U	0.11 U		0.13 U		0.12 U	0.11 U	0.1	0.21 U	0.19 U
Calcium	mg/kg		317	173	154	178	205		383		579	569	501	326	612
Chromium	mg/kg		6.3	6.2	4.1	4.8	8.5		8.1		6.9	10.1	8.6 U	9	10
Cobalt	mg/kg		5.6 U	2.5 U	2.5 U	3.1 U	2.7 U		4.2 U		3.4 U	6.8 U	4.8 U	5.9 U	4.7 U
Copper	mg/kg		7.9 U	3.4 U	0.78 U	0.64 U	0.65 U		1.7 U		3.4 U	11	9.3	7.8 U	4.7 U
Iron	mg/kg		11900	7830	5370	6500	6530		8040		7640	14500	11200	12500	9780
Lead	mg/kg		26.7	16.2	5.6	6.3	4.6		6.4		7.8	5.2	11.4	12.3	4.4
Magnesium	mg/kg		978	870	531	628	445		1440		1190	2810	1870	2010	2010
Manganese	mg/kg		180	53.9	69.7	94.6	79.9		55.8		79.3	116	109	110	90.8
Mercury	mg/kg		0.11 U	0.11 U	0.11 U	0.11 U	0.11 U		0.13 U		0.11 U	0.11 U	0.1 U	0.11 U	0.11 U
Nickel	mg/kg		5.2	3.9	2.3	2.8	2.2 U		5.8		4.3	8.9	7.3	7.7	5.9
Potassium	mg/kg		542	545	293	583	461		616		867	1910	1100	1210	1990
Selenium	mg/kg		0.29	0.52	0.21 U	0.38	0.31		0.42		0.35	0.23	0.42 U	0.36	0.44
Sodium	mg/kg		40.5	31.5	38	36.7	56.9		43.9		70.7	57.3	55.6 U	43.6	60.4
Vanadium	mg/kg		8.8	9.4	4.4	5.4	4.8		11.9		7.2	14.3	11.5 U	13.6	10.3
Zinc	mg/kg		37.9	20.8	19.2	22.9	24.5		31.9		30	41.6	35.7	33.4	29.7
Cyanide	mg/kg														
TPH	mg/kg														
TRPH	mg/kg		72 U	73 U	72 U	72 U	72 U		1100		77 U	72 U	71 U	72 U	72 U

DATA USED FOR RISK ASSESSMENT
HITS ONLY SUBSURFACE SOIL ANALYTICAL RESULTS

Sample ID:		M&E SB-20	M&E * SB-22	M&E * SB-22	M&E SB-23	M&E SB-24	M&E SB-24	M&E SB-25	M&E SB-26
Laboratory ID:		88153	88054	88063	88064	88055	88065	88358	88357
Depth (ft.):		4-6'	0-6'	2-4'	4-6'	0-6'	2-4'	2-4'	0-5'
Date:		34213	34213	34213	34213	34213	34213	34213	34213
Parameter	***Units:***								
VOCs									
Carbon Disulfide	µg/kg	11 U		2 J	10 U		11 U	11 U	
Acetone	µg/kg	11 U		10 UJ	10 U		11 U	11 U	
Methylene Chloride	µg/kg	11 U		10 U	10 U		11 U	11 U	
2-Butanone	µg/kg	11 U		10 U	10 U		11 U	11 U	
Chloroform	µg/kg								
1,1,1-Trichloroethane	µg/kg	11 U		10 U	10 U		4 J	11 U	
Trichloroethene	µg/kg	11 U		10 U	10 U		2 J	11 U	
Toluene	µg/kg	11 U		10 U	10 U		3 J	11 U	
Tetrachloroethene	µg/kg	11 U		10 U	10 U		11 U	11 U	
Ethylbenzene	µg/kg	11 U		10 U	10 U		11 U	11 U	
Xylene (total)	µg/kg	11 U		10 U	10 U		11 U	11 U	
Chloroethane	µg/kg	11 U		10 U	10 U		11 U	11 U	
SVOCs-BNA									
Naphthalene	µg/kg		330 U		330 U	340 U		370 U	360 U
Acenaphthene	µg/kg		330 U		330 U	340 U		370 U	360 U
Fluorene	µg/kg		330 U		330 U	340 U		370 U	360 U
Phenanthrene	µg/kg		330 U		330 U	33 J		370 U	73 J
Anthracene	µg/kg		330 U		330 U	340 U		370 U	84 J
Carbazole	µg/kg		330 U		330 U	340 U		370 U	360 U
Fluoranthene	µg/kg		330 U		330 U	120 J		370 U	330 J
Pyrene	µg/kg		330 U		330 U	88 J		370 U	270 J
Butylbenzylphthalate	µg/kg		330 U		330 U	340 U		370 U	360 U
Benzo(a)anthracene	µg/kg		330 U		330 U	54 J		370 U	190 J
Chrysene	µg/kg		330 U		330 U	79 J		370 U	290 J
bis(2-ethylhexyl)phthalate	µg/kg								
Di-n-octylphthalate	µg/kg		330 U		330 U	340 U		370 U	360 U
Benzo(b)fluoranthene	µg/kg		330 U		330 U	340 U		370 U	520
Benzo(k)fluoranthene	µg/kg		330 U		330 U	340 U		370 U	150 J
Benzo(a)pyrene	µg/kg		330 U		330 U	54 J		370 U	180 J
Indeno(1,2,3-c,d)pyrene	µg/kg		330 U		330 U	35 J		370 U	130 J
Dibenz(a,h)anthracene	µg/kg		330 U		330 U	340 U		370 U	360 U
Benzo(g,h,i)perylene	µg/kg		330 U		330 U	340 U		370 U	99 J
2-Methylnaphthalene	µg/kg								
Acenaphthylene	µg/kg		330 U		330 U	340 U		370 U	81 J
Benzoic acid	µg/kg								
Pesticides/PCBs									
Heptachlor	µg/kg		1.8 U		1.7 U	1.8 U		0.95 U	0.93 U
Aldrin	µg/kg		1.8 U		0.71 J	0.62 J		0.95 U	0.93 U
delta-BHC	µg/kg		1.8 U		1.7 U	1.8 U		0.95 U	0.93 U
4,4'-DDE	µg/kg		3.4 U		3.3 U	3.4 U		1.9 U	1.8 U
Endosulfan II	µg/kg		3.4 U		3.3 U	3.4 U		1.9 U	1.95
4,4'-DDT	µg/kg		3.4 U		3.3 U	3.4 U		1.9 U	1.8 U
Methoxychlor	µg/kg		18 U		17 U	18 U		9.5 U	10.5
Endrin Keytone	µg/kg		3.4 U		3.3 U	3.4 U		1.9 U	3.8
Aroclor-1260	µg/kg		34 U		33 U	34 U		19 U	18 U

DATA USED FOR RISK ASSESSMENT
HITS ONLY SUBSURFACE SOIL ANALYTICAL RESULTS

Sample ID:		M&E SB-20	M&E * SB-22	M&E * SB-22	M&E SB-23	M&E SB-24	M&E SB-24	M&E SB-25	M&E SB-26
Laboratory ID:		88153	88054	88063	88064	88055	88065	88358	88357
Depth (ft.):		4-6'	0-6'	2-4'	4-6'	0-6'	2-4'	2-4'	0-5'
Date:		34213	34213	34213	34213	34213	34213	34213	34213
Parameter	***Units:***								
Inorganic Compounds									
Aluminum	mg/kg		2280		3340	3990		8110	7140
Antimony	mg/kg		1 UJ		1 UJ	1 U		R	R
Arsenic	mg/kg		0.94		1.4	0.83		1.2	1.4
Barium	mg/kg		5.6		8.4	14		22.3 U	24.2 U
Beryllium	mg/kg		0.25		0.34	0.32		0.68 U	0.66 U
Cadmium	mg/kg		0.1 U		0.16 U	0.42 U		0.11 U	0.18
Calcium	mg/kg		244		244	237		873	671
Chromium	mg/kg		3.1		5.5	3.7		9.8	10.2
Cobalt	mg/kg		2.1		3.2	1.7		5.9 U	6 U
Copper	mg/kg		3.6 U		5.9 U	1.3 U		13	15.5
Iron	mg/kg		5760		8180	5530		12900	12100
Lead	mg/kg		4.3		4.7	6		5.3	9.5
Magnesium	mg/kg		665		878	445		2900	2420
Manganese	mg/kg		75.4 J		140 J	81.9 J		122	131
Mercury	mg/kg		0.1 U		0.1 U	0.1 U		0.11 U	0.11 U
Nickel	mg/kg		3		4.9	3.2		10	9.2
Potassium	mg/kg		336		579	479		1930	2040
Selenium	mg/kg		0.21 U		0.2 U	0.21 U		0.43 U	0.44 U
Sodium	mg/kg		45.9		64.1	45.6		61.2 U	75.3 U
Vanadium	mg/kg		3.4		3.4	4		14	13
Zinc	mg/kg		22.5		37.5	31.2		38	38.6
Cyanide	mg/kg								
TPH	mg/kg								
TRPH	mg/kg		72 U		67 U	71 U		75 U	73 U

DATA USED FOR RISK ASSESSMENT
HITS ONLY GROUNDWATER ANALYTICAL RESULTS

Sample ID:		DFSWME04	DFSWME03	DFSWME02	DFSWPA04 *	DFSWDMW02	DFSWMW03	DFSWPA02	DFSWDMW01	DFSWDMW03	DFSWMW02 *	DFSWMW01	DFSWME01	DFSWPA01	DFSWPA03	DFSWDMW04
Laboratory ID:		C1269-01	C1269-03	C1269-04	C1269-05	C1269-08	C1269-09	C1269-11	C1269-13	C1269-14	C1269-15	C1269-17	C1269-18	C1269-19	C1269-02	C1269-07
Date:		11/6/1996	11/6/1996	11/6/1996	11/7/1996	11/7/1996	11/7/1996	11/7/1996	11/8/1996	11/8/1996	11/8/1996	11/8/1996	11/8/1996	11/8/1996	11/6/1996	11/7/1996
*Parameter***	*Units:*															
Inorganic Compounds (total)																
Aluminum	µg/l	1000 J	80 U	80 U	80 U	80 U	80 U	300 J	80 U	80 U	110 J	720 J	120 J	670 J	600 J	80 U
Barium	µg/l	10	10 U	10 U	10 U	10 U	10	10 U	10 U	10 U	20	20	10 U	20	10 U	10 U
Cadmium	µg/l	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Calcium	µg/l	1400	4300	2000	3600	4100	11000	100 U	4600	1400	6900	6400	4200	7200	1500	7000
Chromium	µg/l	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10	10 U
Cobalt	µg/l	5 U	5 U	5 U	5 U	5 U	5 U	30	5 U	5 U	5	5 U	5 U	5 U	5 U	7
Copper	µg/l	7	5 U	5 U	5 U	5 U	5 U	5 U	5 U	7	5 U	5 U	5 U	9	5 U	5 U
Iron	µg/l	2400	80 U	80 U	130	4300	1100	260	7400	80 U	660	3100	220	3200	1100	10000
Magnesium	µg/l	700	300	500	1200	1300	2500	700	1300	700	2400	2300	900	900	600	1200
Manganese	µg/l	130 J	5 U	10 J	1100 J	250 J	630 J	2100 J	250 J	30 J	900 J	320 J	20 J	250 J	30 J	1300 J
Nickel	µg/l	7	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	6	5 U	5 U	5 U	9	5 U
Potassium	µg/l	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000	2000 U	2000 U	2000 U	2000 U	2000 U
Sodium	µg/l	3700	2500	2400	3000	5100	7000	5400	3400	2600	10000	6700	6800	4300	3000	6900
Thallium	µg/l	5	3 U	3 U	3 U	3 U	3 U	3 U	3	3 U	3 U	3 U	8	5	3	3 U
Zinc	µg/l	80	20 U	20 U	20 U	40	20 U	20 U	20 U	20 U	20 U	20 U	80	320	20 U	20

* Regular sample and duplicate collected Higher concentration of each analyte is listed.
** Only parameters above detection limits are listed.
U = The compound was not detected The associated numerical value is the compound quantitation limit.
UJ = The compound was not detected. The compound quantitation limit is an estimated value
J = The associated numerical value is an estmiated quantity
R = The datum was rejected

DATA USED FOR RISK ASSESSMENT
HITS ONLY SEDIMENT ANALYTICAL RESULTS

		Downstream					Fire Pond				Black Swamp						
Sample ID:		DFSWSD01	CDM SD-06	CDM SD-07	TRC-P2 * SD-29	EA TRC29	DFSWSD02	DFSWSD03	DFSWSD04	TRC-P2 SD-28	DFSWSD09	DFSWSD13	DFSWSD12	DFSWSD11	CDM SD-03	CDM SD-04	CDM SD-05
Laboratory ID:		C1257-01	93040892	93040893	35973-14		C1257-14	C1257-15	C1257-17	35973-13	C1257-08	C1257-10	C1257-11	C1257-12	93040889	93040890	93040891
Date:		11/4/1996	4/95	4/95			11/13/1996	11/13/1996	11/13/1996		11/5/1996	11/12/1996	11/13/1996	11/13/1996	4/95	4/95	4/95
Parameter	***Units***																
VOCs																	
Acetone	µg/kg	15 U	15 J	11 UJ	120	11 U	480	86 U	73	50	26 U	59 U	13 U	27 U	76	R	72
Methylene Chloride	µg/kg	31 U	12 U	11 U	17 U	11 U	240	30 U	30 U	14 U	21 U	64 U	26 U	98 U	17 U	R	30 U
2-Butanone	µg/kg	7 U	12 U	11 U	17 U	11 U	130	30	31	14 U	11 U	30	8	9 U	17 U	R	30 U
Toluene	µg/kg	7 U	12 U	11 U	6 J	11 U	19 U	12 U	10 U	14 U	11 U	30	7 U	9 U	17 U	R	30 U
SVOCs-BNA																	
Phenol	µg/kg	600 U	400 U	380 U	550 U	380 U	3000 U	1900 U	1400 U	480 U	430 U	98 J	470 U	550 U	560 U	R	1000 U
4-methylphenol	µg/kg	600 U	400 U	380 U	550 U	380 U	3000 U	1900 U	1400 U	480 U	430 U	680 J	120 J	550 U	560 U	R	1000 U
Acenaphthylene	µg/kg	600 U	400 U	380 U	550 U	180 U	3000 U	1900 U	1400 U	480 U	430 U	200 J	470 U	550 U	560 U	R	1000 U
Acenaphthene	µg/kg	600 U	400 U	380 U	550 U	350 J	3000 U	1900 U	1400 U	480 U	430 U	960 U	470 U	550 U	560 U	R	1000 U
Fluorene	µg/kg	600 U	400 U	380 U	550 U	35 U	3000 U	1900 U	1400 U	480 U	430 U	960 U	470 U	550 J	560 U	R	1000 U
Phenanthrene	µg/kg	600 U	400 U	380 U	550 U	273 J	560 J	840 J	290 J	340 J	430 U	310 J	470 U	550 U	560 U	R	1000 U
Anthracene	µg/kg	600 U	400 UJ	380 UJ	550 U	89 J	3000 U	1900 U	1400 U	480 U	430 U	120 J	470 U	550 U	560 UJ	R	1000 UJ
Di-n-butylphthalate	µg/kg	600 U	400 U	380 U	550 U	380 U	3000 U	1900 U	1400 U	480 U	430 U	960 U	470 U	550 U	560 U	1500 J	3000
Fluoranthene	µg/kg	600 U	400 U	170 J	550 U	631 J	1100 J	640 J	310 J	690	430 U	550 J	470 U	550 U	560 U	R	400 J
Pyrene	µg/kg	600 U	400 U	140 J	550 U	524 J	1400 J	1200 J	550 J	440 J	430 U	1400	470 U	550 U	560 U	R	380 J
Butylbenzylphthalate	µg/kg	600 U	400 U	380 U	550 U	380 U	3000 U	290 J	1400 U	480 U	430 U	160 J	73 J	92 J	560 U	R	1000 U
Benzo(a)anthracene	µg/kg	600 U	400 U	380 U	550 U	222 J	350 J	550 J	240 J	480 U	430 U	450 J	470 U	550 U	560 U	R	1000 U
Chrysene	µg/kg	600 U	400 U	380 U	550 U	327 J	570 J	1100 J	430 J	340 J	430 U	720 J	470 U	550 U	560 U	R	1000 U
Benzo(b)fluoranthene	µg/kg	600 U	400 U	380 U	550 U	270 J	760 J	1000 J	350 J	290 J	430 U	1300	470 U	550 U	560 U	R	470 J
Benzo(k)fluoranthene	µg/kg	600 U	400 U	380 U	550 U	132 J	3000 U	300 J	160 J	270 J	430 U	310 J	470 U	550 U	560 U	R	1000 U
Benzo(a)pyrene	µg/kg	600 U	400 U	380 U	550 U	192 J	300 J	780 J	260 J	480 U	430 U	550 J	470 U	550 U	560 U	R	1000 U
Indeno(1,2,3-c,d)pyrene	µg/kg	600 U	400 U	380 U	550 U	146 J	3000 U	1900 U	1400 U	480 U	430 U	320 J	470 U	550 U	560 U	R	1000 U
Dibenz(a,h)anthracene	µg/kg	600 U	400 U	380 U	550 U	14 J	3000 U	1900 U	1400 U	480 U	430 U	960 U	470 U	550 U	560 U	R	1000 U
Benzo(g,h,i)perylene	µg/kg	600 U	400 U	380 U	550 U	50 J	3000 U	340 J	1400 U	480 U	430 U	360 J	470 U	550 U	560 U	R	1000 U
Pesticides/PCBs																	
delta-BHC	µg/kg	3.1 U	2 U	2 U	2.9 U		23	32	3.6 U	2.4 U	2.2 U	5 U	2.4 U	2.8 U	2.9 U	R	5.5 U
Endosulfan I	µg/kg	3.1 U	1.1 J	0.86 J	2.9 U		7.6 U	4.9 U	3.6 U	2.4 U	2.2 U	5 U	2.4 U	2.8 U	2.9 U	R	R
4,4'-DDE	µg/kg	6.2 U	4 U	3.8 U	5.6 U		110	92	45	4.8 U	4.4 U	9.9 U	4.8 U	5.7 U	5.6 U	R	7.9 J
Dieldrin	µg/kg	6.2 U	4 U	3.8 U	5.6 U	0.078 J	16	9.8 U	7.3 U	4.8 U	4.4 U	9.9 U	4.8 U	5.7 U	5.6 U	R	11 U
Endrin	µg/kg	6.2 U	4 U	3.8 U	5.6 U	0.7 J	15 U	9.8 U	7.3 U	4.8 U	4.4 U	9.9 U	4.8 U	5.7 U	5.6 U	R	10 J
4,4'-DDD	µg/kg	6.2 U	4 U	3.8 U	5.6 U	0.93 J	130	1100	59	4.8 U	8.5	9.9 U	4.8 U	5.7 U	5.6 U	R	57 J
4,4'-DDT	µg/kg	6.2 U	4 U	3.8 U	5.6 U	2.3 J	15 U	24	39	4.8 U	4.4 U	9.9 U	4.8 U	5.7 U	5.6 U	R	11 U
Endrin aldehyde	µg/kg	6.2 U	4 U	3.8 U	5.6 U		39	9.8 U	7.3 U	4.8 U	4.4 U	9.9 U	4.8 U	5.7 U	5.6 U	R	11 U
alpha-Chlordane	µg/kg	3.1 U	2 U	2 U	5.6 U	0.25 J	7.6 U	4.9 U	3.6 U	4.8 U	2.2 U	5 U	2.4 U	2.8 U	2.9 U	R	5.5 U
gamma-Chlordane	µg/kg	3.1 U	2 U	2 U	5.6 U	0.39 J	22	8.5	9.1	4.8 U	2.2 U	5 U	2.4 U	2.8 U	2.9 U	R	5.5 U
Toxaphene	µg/kg	310 U	200 U	200 U	290 U		760 U	490 U	360	240 U	220 U	500 U	240 U	280 U	290 U	R	550 U
Aroclor-1254	µg/kg	62 U	40 U	38 U	56 U		5600	2800	1200	170 J	44 U	99 U	48 U	57 U	56 U	R	110 U
Aroclor-1260	µg/kg	62 U	40 U	38 U	56 U	18 J	150 U	98 U	73 U	48 U	44 U	99 U	48 U	57 U	56 U	R	110 U

DATA USED FOR RISK ASSESSMENT
HITS ONLY SEDIMENT ANALYTICAL RESULTS

		Downstream					Fire Pond				Black Swamp						
Sample ID:		DFSWSD01	CDM SD-06	CDM SD-07	TRC-P2 * SD-29	EA TRC29	DFSWSD02	DFSWSD03	DFSWSD04	TRC-P2 SD-28	DFSWSD09	DFSWSD13	DFSWSD12	DFSWSD11	CDM SD-03	CDM SD-04	CDM SD-05
Laboratory ID:		C1257-01	93040892	93040893	35973-14		C1257-14	C1257-15	C1257-17	35973-13	C1257-08	C1257-10	C1257-11	C1257-12	93040889	93040890	93040891
Date:		11/4/1996	4/95	4/95			11/13/1996	11/13/1996	11/13/1996		11/5/1996	11/12/1996	11/13/1996	11/13/1996	4/95	4/95	4/95
Parameter	***Units***																
Total Metals																	
Aluminum	mg/kg	1100 J	3300	2660	1940	1810	4900 J	6900 J	1400 J	1060	1200 J	9200 J	5800 J	2300 J	8840	68000 J	7540
Arsenic	mg/kg	2 J	1.9	1.5	0.99 J	2.8	9 J	6 J	7 J	0.63 J	1 UJ	25 J	1 UJ	2 UJ	2.3	53.5 J	2.6
Barium	mg/kg	5	10 U	10.6 U	6.8	7.5 U	35	28	10	4.7	5	67	11	7	35.2 U	599 J	21.7 U
Beryllium	mg/kg	1.8	0.49 U	0.25 U	0.48 J	0.66 J	1.2	1.4	0.3	0.22 J	0.1	1.3	0.2	0.2	0.96	17.9 J	0.39 U
Calcium	mg/kg	330 J	461	344	431	311 J	880 J	1400 J	330 J	281	88 U	1700 J	430 J	190 J	2300	40800 J	820
Chromium	mg/kg	16	3.8	3.3	2.7	4.1 J	7	10	2	3.4	1 U	55	3	4	9.9	80.9 J	7.7
Cobalt	mg/kg	1.9	1.9	2	0.84	1.8 U	3	5.6	3	0.52 U	0.5	5	1.2	0.9	5	42.7 J	2.4 J
Copper	mg/kg	3.0	9.1 UJ	3.4 UJ	2.8 J	15.2	20.0	24.0	8.9	2.7 J	0.9	46.0	2.5	1.9	16.6 UJ	174 J	10 UJ
Iron	mg/kg	4800	6890	5390	2720	10200 J	38000	11000	15000	2550	2100	13000	2600	1500	11600	41700 J	7690
Lead	mg/kg	8.7 J	19.1 J	12.9 J	9.8 J	48.8 J	70 J	69 J	21 J	12.5 J	5.4 J	32 J	2.5 J	5.6 J	29 J	194 J	27.2 J
Magnesium	mg/kg	190	757	761	461	433 J	770	1600	260	161	170	2300	720	310	2110	4420 J	1320
Manganese	mg/kg	120	56.8 J	226 J	77.1	71.2	100	73	260	39.6	35	190	24	10	91.1 J	1500 J	69.4 J
Nickel	mg/kg	2.9	4.5	3.7	3.6 J	2 J	6.0	19.0	2.5	2.2 J	0.9	10.0	3.7	3.7	9.8	89.6 J	6.4
Potassium	mg/kg	1000 J	462	486	103	256 J	2700 J	2800 J	910 J	171	540 J	3900 J	400 J	190 J	880	2520 J	409 U
Silver	mg/kg	1 UJ	0.41 U	0.4 U	0.93 UJ	3.8 J	8 UJ	2 UJ	1 UJ	0.58 UJ	1 UJ	2 UJ	1 UJ	1 UJ	0.79 U	R	0.94 U
Sodium	mg/kg	73	84.7 U	55 U	42.2	46.3 U	270	280	100	23.6	50 U	390	110	50 U	102 U	2050 J	159 U
Vanadium	mg/kg	3	5.9	5.4	3 J	6.7 J	46	43	12	5.1 J	1 U	16	5	4	15.8	56.2 J	11.7
Zinc	mg/kg	110	82.1 J	39.4 J	21.3 J	49.9	120	160	94	18.1 J	13	140	12	7	159 J	972 J	75 J
Cyanide	mg/kg		0.55 U	0.56 U	0.29 J	1.3 U				0.19 UJ					1.1 U	R	1.4 U
TPH	mg/kg	64					700 J	2200 J	6700 J		620	610 J	270 J	650 J			

* Regular sample and duplicate collected Higher concentration of each analyte is listed.
** Only parameters above detection limits are listed
U = The compound was not detected The associated numerical value is the compound quantitation limit
UJ = The compound was not detected The compound quantitation limit is an estimated value
J = The associated numerical value is an estmiated quantity.
R = The datum was rejected.

DATA USED FOR RISK ASSESSMENT
HITS ONLY SEDIMENT ANALYTICAL RESULTS

		Background								
Sample ID:		DFSWSD10	CDM SD-01	CDM SD-02	TRC-P2 SD-24	TRC-P2 SD-25	TRC-P2 SD-26	EA SHW02	EA SHW03	EA TRC25
Laboratory ID:		C1257-13	93040887	93040888	35973-10	35973-11	35973-12			
Date:		11/13/1996	4/95	4/95						
Parameter	***Units***									
VOCs										
Acetone	µg/kg	14 U	20	18	140	510	330	15 U	67 U	71 U
Toluene	µg/kg	7 U	15 U	16 U	37 U	85 U	89 U	2 J	20 U	71 UJ
SVOCs-BNA										
Fluorene	µg/kg	550 J	500 U	520 U	1200 U	2700 U	3000 U	43 U	79 U	250 U
Phenanthrene	µg/kg	550 U	500 U	520 U	1200 U	2700 U	3000 U	17 U	256	93 J
Anthracene	µg/kg	550 U	500 UJ	520 UJ	1200 U	2700 U	3000 U	5.2 J	63	30 J
Di-n-butylphthalate	µg/kg	550 U	3300	2600	1200 U	2700 U	3000 U	430 U	780 U	2500 U
Fluoranthene	µg/kg	550 U	500 U	520 U	1200 U	2700 U	3000 U	22 U	388	160
Pyrene	µg/kg	550 U	500 U	520 U	1200 U	2700 U	3000 U	43 U	329	120 J
Butylbenzylphthalate	µg/kg	550 U	620	520 U	1200 U	2700 U	3000 U	430 U	780 U	2500 U
Benzo(a)anthracene	µg/kg	550 U	500 U	520 U	1200 U	2700 U	3000 U	22 U	111	130 U
Chrysene	µg/kg	550 U	500 U	520 U	1200 U	2700 U	3000 U	22 U	40 U	240
bis(2-ethylhexyl)phthalate	µg/kg	550 U	1700 U	520 U	1200 U	2700 U	3000 U	56 J	780 U	2500 U
Benzo(b)fluoranthene	µg/kg	550 U	500 U	520 U	1200 U	2700 U	3000 U	8.7 U	105	50 U
Benzo(k)fluoranthene	µg/kg	550 U	500 U	520 U	1200 U	2700 U	3000 U	8.7 U	78	50 U
Benzo(a)pyrene	µg/kg	550 U	500 U	520 U	1200 U	2700 U	3000 U	22 U	97	130 U
Dibenz(a,h)anthracene	µg/kg	550 U	500 U	520 U	1200 U	2700 U	3000 U	17.5 J	32 J	100 J
Pesticides/PCBs										
4,4'-DDE	µg/kg	5.7 U	0.9 J	5.2 U	13 U	27 UJ	30 UJ	0.22 U	9.4	1.3 J
Dieldrin	µg/kg	5.7 U	5 U	5.2 U	13 U	27 UJ	30 UJ	0.026 U	0.54 J	0.36 J
4,4'-DDD	µg/kg	5.7 U	5 U	5.2 U	13 U	27 UJ	30 UJ	0.22 U	130	1.3 U
4,4'-DDT	µg/kg	5.7 U	5 U	5.2 U	13 U	27 UJ	30 UJ	0.22 U	26	1.3 U
Endosulfan sulfate	µg/kg	25 U	5 U	5.2 U	13 U	27 UJ	30 UJ	0.22 U	4 U	2 J
alpha-Chlordane	µg/kg	2.8 U	2.6 U	2.7 U	6.5 U	14 UJ	15 UJ	0.11 U	11 J	0.63 U
gamma-Chlordane	µg/kg	2.8 U	2.6 U	2.7 U	6.5 U	14 UJ	15 UJ	0.11 U	8.9	0.63 U
Aroclor-1254	µg/kg	57 U	50 U	52 U	130 U	170 J	210 J	4.3 U	78 U	25 U
Aroclor-1260	µg/kg	57 U	50 U	52 U	130 U	270 UJ	300 UJ	4.3 U	24 J	25 U
Total Metals										
Aluminum	mg/kg	3000 J	4120	893	4440	4550	7290	475	5070	2160
Arsenic	mg/kg	1 UJ	0.99 J	0.51 U	0.8	4.1	3.2 J	0.43 U	1.4 J	2.7 U
Barium	mg/kg	11	6.2 U	6.6 U	32	34.4	46.4	3.2 J	18.5 J	29.5 J
Beryllium	mg/kg	0.4	0.06 U	0.06 U	0.91	0.46 UJ	1 J	0.22 U	0.52 J	1.3 U
Calcium	mg/kg	400 J	170	618	2410	2480	7580	327.5 J	1310 J	1540 J
Chromium	mg/kg	4	5.7	1.6 U	5.5	6.1	6.5	1.1 U	4.3	6.7 U
Cobalt	mg/kg	1.3	1.4 J	0.68 U	1.3 U	4 U	3.8 U	1.9 U	2.6 U	12 U
Copper	mg/kg	1.0 U	5 UJ	2.5 UJ	4 J	18 J	20.4 J	1.3 U	9	13.6 J
Iron	mg/kg	3600	4510	609	2880	4370	6900	515 J	4830 J	1770 J
Lead	mg/kg	5.3 J	8.2 J	4.2 J	16.6 J	115 J	133 J	3.95 J	35.9 J	63.7 J
Magnesium	mg/kg	710	728	113	296	496	1100	84.4 J	1010 J	342 J
Manganese	mg/kg	28	10.2 J	11.6 J	28.9	54.4	93.9	11.55	54.9	20.5
Nickel	mg/kg	6.6	3.4	1.5 J	4.1 UJ	12.2 UJ	11.5 UJ	1.9 U	3.2 J	12
Potassium	mg/kg	500 J	292 U	72 UJ	148 U	443 U	418 U	63.05 J	498 J	283 J
Selenium	mg/kg	2 U	1.2 J	0.8 U	0.65	1.2 U	1.1 U	0.86 UJ	1.2 UJ	5.3 UJ
Sodium	mg/kg	57	59.5 U	67.6 U	100	176	227	44.3 U	88.6 U	240 U
Thallium	mg/kg	1 U	0.98 U	0.88 U	0.38 U	0.87 U	0.95	1.1 UJ	1.5 UJ	6.7 UJ
Vanadium	mg/kg	5	9.4	1.9	5.2 J	18.3 J	31.9 J	1.6 J	10.9 J	9.7 J
Zinc	mg/kg	9	14.3 J	10.6 J	28.2 J	111 J	91.3 J	3.35 J	37.7	22.1 J
Cyanide	mg/kg		0.78 U	0.75 U	0.59 UJ	0.97 UJ	1.2 J	1.4 U	1.8 U	9.3 U
TPH	mg/kg	150 J								

** Only parameters above detection limits are listed
U = The compound was not detected The associated numerical value is the compound quantitation limit.
UJ = The compound was not detected. The compound quantitation limit is an estimated value
J = The associated numerical value is an estmiated quantity.

DATA USED FOR RISK ASSESSMENT
HITS ONLY SURFACE WATER ANALYTICAL RESULTS

Sample ID:		DFSWSW09	DFSWSW13	DFSWSW12	DFSWSW11	DFSWSW02	DFSWSW03	DFSWSW04 *	DFSWSW01
Laboratory ID:		C1431-01	C1204-11	C1204-12	C1204-14	C1204-15	C1204-17	C1204-18	C1371-01
Date:		12/3/1996	11/12/1996	11/12/1996	11/13/1996	11/13/1996	11/13/1996	11/13/1996	11/21/1996
Parameter	***Units***								
Total Metals									
Aluminum	µg/l	400	3500	880	810	360	300	330	170
Antimony	µg/l	3 U	4	5	3	4	4	3	3 U
Arsenic	µg/l	10 U	160	100	110	10 U	10 U	10 U	10 U
Barium	µg/l	10 U	40	30	20	10	10	10	10 U
Calcium	µg/l	1100	8700	3900	1600	3200	3100	3300	3300
Chromium	µg/l	10 U	50	30	20	10 U	10 U	10 U	10 U
Cobalt	µg/l	5 U	5	5 U	5 U	5 U	5 U	5 U	5 U
Copper	µg/l	5 U	60	40	10	5 U	5 U	5 U	30 U
Iron	µg/l	910	14000	8600	9800	2000	1800	1900	1800
Lead	µg/l	10	20	10	5 U	5	5 U	5	5 U
Magnesium	µg/l	600	1600	1000	700	1200	1100	1100	1000
Manganese	µg/l	50	650	250	90	130	130	140	140
Nickel	µg/l	5 U	7	5	5 U	5 U	5 U	5 U	5 U
Potassium	µg/l	2000 U	4000	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Sodium	µg/l	2900	3500	2800	2300	6400	6100	6800	6600
Thallium	µg/l	5	3 U	10 U	5 U	3 U	3 U	3 U	6 U
Zinc	µg/l	30	40	150	30	20	20	20	20 U
Dissolved Metals									
Aluminum	µg/l	360	140	570	500	290	280	280	200
Antimony	µg/l	3 U	4	4	3 U	3 U	3 U	3 U	3 U
Arsenic	µg/l	10 U	90	50	20	10 U	10 U	10 U	10 U
Barium	µg/l	10 U	30	20	20	20	10	30	10
Calcium	µg/l	1200	9300	3700	1500	3000	3100	3000	3300
Chromium	µg/l	10 U	20	20	10	10 U	10 U	10 U	10 U
Cobalt	µg/l	5 U	6	5 U	5 U	5 U	5 U	5 U	5 U
Copper	µg/l	5 U	6	30	5 U	5 U	5 U	5 U	5 U
Iron	µg/l	790	5100	3700	1900	1500	1500	1500	1500
Lead	µg/l	5 U	5 U	6	5	5 U	5 U	5 U	7
Magnesium	µg/l	690	1200	1000	700	1000	1000	1000	1000
Manganese	µg/l	50	610	220	90	120	120	120	130
Nickel	µg/l	5 U	6	7	5 U	5 U	5 U	5 U	5 U
Potassium	µg/l	2000 U	3000	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Sodium	µg/l	2700	3100	3800	3400	6600	6900	6700	6400
Thallium	µg/l	3 U	3 U	3 U	3 U	3 U	3 U	3 U	3
Zinc	µg/l	20	20	140	30	10	20	20	20 U

* Regular sample and duplicate collected. Higher concentration of each analyte is listed.
** Only parameters above detection limits are listed.
U = The compound was not detected. The associated numerical value is the compound quantitation limit.

APPENDIX J

RIDEM LETTER DATED 29 SEPTEMBER 2000

29 September 2000

Ms. Deborah Acone, Engineering Manager
U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742-2751

RE: Army Corps of Engineers Responses to RIDEM Comments
Draft Supplemental Report to Phase II EEC
Devil's Foot Road Dump
North Kingstown, Rhode Island

Dear Ms. Acone;

The Rhode Island Department of Environmental Management, Office of Waste Management (RIDEM) has reviewed the above referenced responses (undated) to RIDEM's 29 November 1999 comments on the Draft Supplement to Report – Phase II Engineering Evaluation of Contamination Devil's Foot Road Dump Site and Surrounding Areas, November 1999. RIDEM finds the responses to be acceptable, however, disagrees with some of the conclusions drawn. Specifically:

1. Fire Pond – While the ecological risk analysis concludes no excess ecological risk from Fire Pond it is noted that the electrofishing study indicated no fish life in the pond and the macro-invertebrate study yielded a low count with the majority of the species which were present are pollutant tolerant Concentrations of the following compounds are noted as being significantly higher in the pond than in upstream and downstream locations: delta-BHC, 4,4'-DDE, 4,4'-DDD, 4,4'-DDT, endrin aldehyde, gamma-Chlordane, Arochlor-1254, Acetone, Methylene Chloride, and 2-Butanone. Fire Pond is located in a GAA aquifer and the Total Petroleum Hydrocarbon (TPH) leachability criteria for this type of aquifer is 500 mg/kg. All three sediment samples from Fire Pond exceed the 500-mg/kg criteria, ranging from 700 to 6,700 mg/kg. Based on the above RIDEM will require the remediation of the sediments in Fire Pond to appropriate levels.

2. Catch Basins - TPH of sediment samples in the catch basins range from 450 to 10,000 mg/kg. The catch basins discharge to Sandhill Brook. RIDEM will require that the catch basins be cleaned out.

3. Sampling Station - Station DFSWD09 may require remediation due to TPH levels in the sediment.

RIDEM looks forward to working with the Army Corps of Engineers on the remediation of Devil's Foot Road Dump. A remedial action work plan, delineating how the Army Corps intends to remediate the site, should be submitted to RIDEM within 30 days from receipt of this letter If you have any questions or require additional information please call me at (401) 222-2797 ext. 7138.

Sincerely,

Richard Gottlieb, P.E.
Principal Sanitary Engineer

Cc: H. Cohen, RIEDC

Devil's Foot Road Dump DR PHIL EFC 092800-1\RICHG