INSTALLATION RESTORATION PROGRAM

OHIO AIR NATIONAL GUARD
178th FIGHTER GROUP
SPRINGFIELD-BECKLEY MUNICIPAL AIRPORT
SPRINGFIELD, OHIO

APPENDICES
VOLUME I

FINAL

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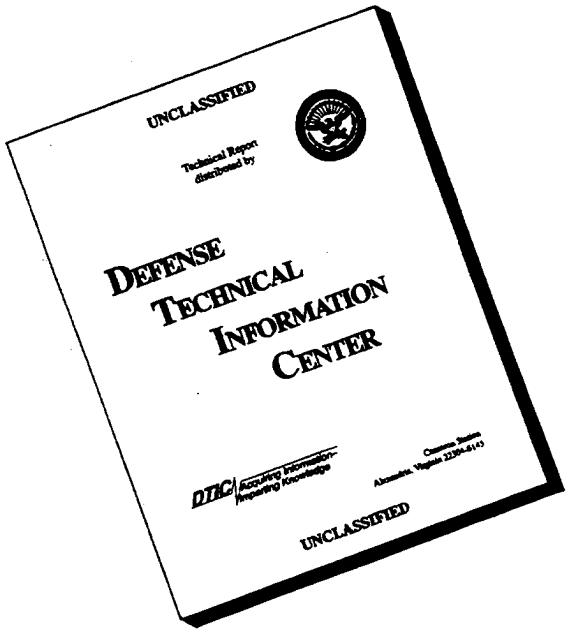

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13. ABSTRACT *(Maximum 200 words)*

Site Investigation Report, Ohio Air National Guard, 178 Fughter Group, Springfield-Beckley Municipal Airport, Springfield, Ohio, Text. This is the second volume of a three volume site investigation report. Five sites (Site 1 - Fire Training Area No. 1, Site 2 - Fire Training Area No. 2, Site 3 - Leach Field, Site 4 - POL Storage Area, and Site 5 - Ramp Drainage Ditch) were investigated under the Installation Restoration Program. Soil and groundwater samples were collected and analyzed. No further action was recommended for any of the five sites under current land use.

14. SUBJECT TERMS

Installation Restoration Program; Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); Air National Guard; Site Investigation, Ohio Air National Guard; Springfield, Ohio

15. NUMBER OF PAGES

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Unclassified	Unclassified	Unclassified	None

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G	- Grant	**TA**	- Task
PE	- Program Element	**WU**	- Work Unit Accession No.

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APPENDIX A

Soil Boring Logs, Monitoring Well/Piezometer Logs, and Monitoring Well/ Piezometer As-Built Diagrams

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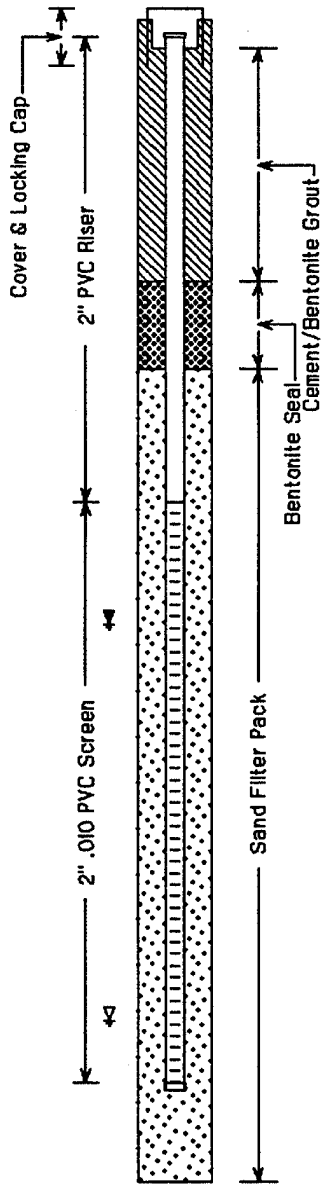
SOIL BORING/WELL LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: MWBGI-1
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-12-92/08-13-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 20
Elev (ft MSL): 1051.5
Coordinates (N,E): 8896.5, 13883.9
SAIC Proj No: 01-0827-03-0200-002



Depth (feet)	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (*=Sample sent to Lab)	Sample Type	Sample Rec (feet)
		ML-SILT; 7.5YR 4/4 brown; loose; dry. *Screening Results (1-3 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*					
			0	5-9-11-12	MWBGI-1*	Grab	3.0
5		ML-SANDY SILT, coarse sand, trace pebbles; 10YR 4/4 dark yellowish brown; firm; consistant; moist.	NR			Grab	4.0
		ML-SANDY SILT, coarse sand; 10YR 4/6 dark yellowish brown; loose; moist. *Screening Results (8-10 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	0	4-5-6-8	MWBGI-2*	SS	0.7
10		SANDY SILT, trace coarse sand; 10YR 3/6 dark yellowish brown; loose; moist.		4-7-9-11	Sample not taken	SS	0
					MWBGI-3	Grab	3.0
15		Boring caved in from 20 to 15 feet while waiting to determine if water would enter the borehole. Redrilled and attempted 3 times to collect sample. Unable to collect representative sample from soil/water interface. Collected borehole water for onsite screening. *Water screening results: TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	NR				
20		*Bottom of Boring at 20 feet*		NR	MWBGI-4	SS	0

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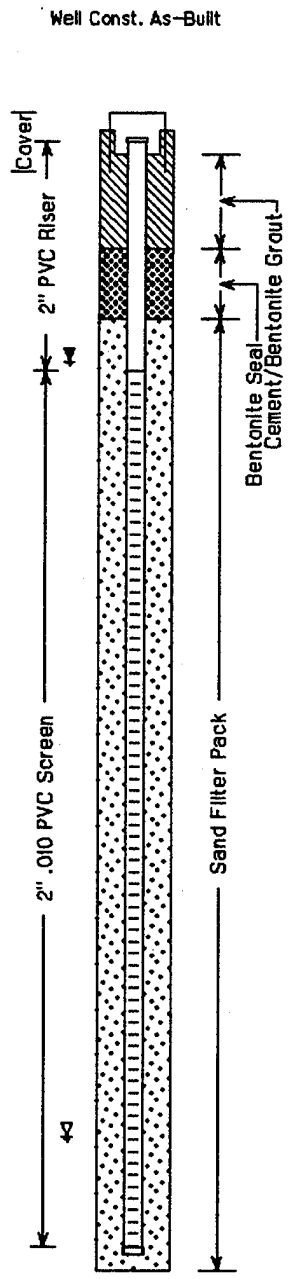
SOIL BORING/WELL LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: MWBG2-1
Geologist: John Pendleton
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-19-92/08-19-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 19.5
Elev (ft MSL): 1046.4
Coordinates (N,E): 8450.0, 12515.2
SAIC Proj No: 01-0827-03-0200-002



Depth (feet)	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (*=Sample sent to Lab)	Sample Type	Sample Rec (feet)
		CL-SILTY CLAY, large % organic matter; 10YR 2/5 grayish brown; moderately stiff; low plasticity; very dry. (Probably fill material) *Screening Results (0.5-2 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	NR				
			0	8-4-7	MWBG2-1*	SS	0.9
		CL-SILTY CLAY; 10YR 4/4 brown; consistant; stiff; moderate plasticity; moist.				Grab	2.5
5						Grab	5.0
10			NR				
		CL-SILTY CLAY; 10YR 5/1 gray very firm; dense; moist. *Screening Results (13-15 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		5-5-7-10	MWBG2-2	SS	0
15		SM-SILTY SAND, fine; 10YR 5/1, well sorted; subangular; saturated. *Screening Results (17.5-19.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		5-8-11-15	MWBG2-3*	SS	0
20		*Bottom of Boring at 19.5 feet*					

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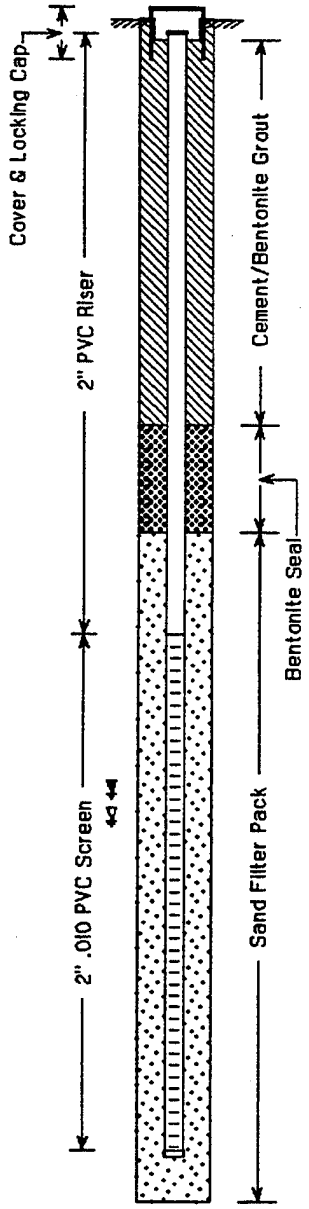
SOIL BORING/WELL LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: MW1-1
Geologist: John Pendleton
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-14-92/08-14-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 23
Elev (ft MSL): 1048.7 TOC
Coordinates (N,E): 9828.7, 14181.0
SAIC Proj No: 01-0827-03-0200-002



Depth (feet)	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (*=Sample sent to Lab)	Sample Type	Sample Rec (feet)
0		CL-SILTY CLAY, small percent organics; 10YR 4/4 brown; low plasticity; moderately stiff; good consistancy; very dry to slightly moist.	0		MW1-1-1	Grab	8.0
5				4-5-6		SS	0
10		CL-SILTY CLAY, small percent fine sand, trace pebbles; 10YR 4/3 brown; very firm; moist.	NR		MW1-1-2	Grab	5.0
		CL-SANDY CLAY, 10% sand and pebbles; 10YR 4/2 brownish gray; very firm; moderately plastic; hard; slightly moist.					
15		ML-SANDY SILT, 30-40% fine sand intermixed with small pebbles, some organics (burnt wood); 10YR 4/4 yellowish brown; very firm; plastic; moist.		3-2-3-4		SS	0
		CL-CLAY, some small pebbles, very fine; 10YR 5/2 grayish brown; very firm; slightly moist.	0		MW1-1-3	Grab	1.0
		SP-SAND, coarse; 10YR 5/2 grayish brown; poorly sorted; slightly moist		4-11-17-19		SS	0
20		GP-SANDY GRAVEL, very coarse, large % dolomitic gravel; poorly sorted.			MW1-1-4	Grab	4.0
		SW-SAND, very fine; 10YR 4/1 gray; well sorted; saturated.		10-4-6		SS	0
25		*Bottom of Boring at 24 feet; Boring stayed open to 23 feet*					

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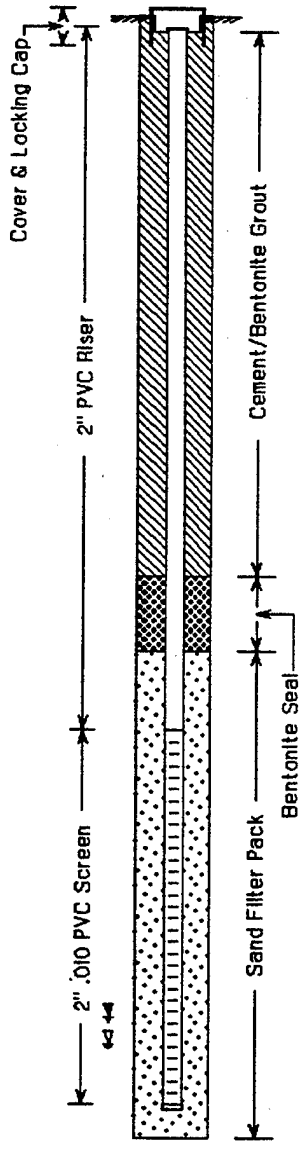
SOIL BORING/WELL LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: MW2-1
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-15-92/08-16-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 30
Elev (ft MSL): 1045.0 TOC
Coordinates (N,E): 10408.5, 14575.5
SAIC Proj No: 01-0827-03-0200-002



Depth (feet)	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (*=Sample sent to Lab)	Sample Type	Sample Rec (feet)
0		GP-GRAVEL.					
		ML-SANDY SILT, very coarse sand, trace medium pebbles; 10YR 4/6 dark yellowish brown; loose; moist.					
5							
		ML-SILT, small percent coarse sand and gravel, trace clay; 2.5YR 4/4 olive brown; moist. *Screening Results (6-8 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		3-3-4-4	MW2-1-1	SS	1.0
10		ML-SILT, fine to very coarse gravel, small percent clay and fine sand; 10YR 4/2 dark grayish brown; moist.		3-5-7-8	MW2-1-2	SS	1.5
15							
		ML-SILT, small percent fine sand; 10YR 4/6 dark yellowish brown grading to SILT, higher percent very coarse sand and pieces of chert; 10YR5/4 yellowish brown; moist.	NR	10-9-13-10	MW2-1-3	SS	1.3
20		ML-SILT, coarse sand, trace small pebbles; 10YR 4/6 dark yellowish brown; wet.		3-4-7-10	MW2-1-4	SS	1.5
25							
30		SP-SAND, very coarse; 5YR 3/1 very dark gray; poorly sorted; saturated.		4-5-7-8	MW2-1-5	SS	NR
35		*Bottom of Boring at 34 feet, stayed open to 30 feet*					

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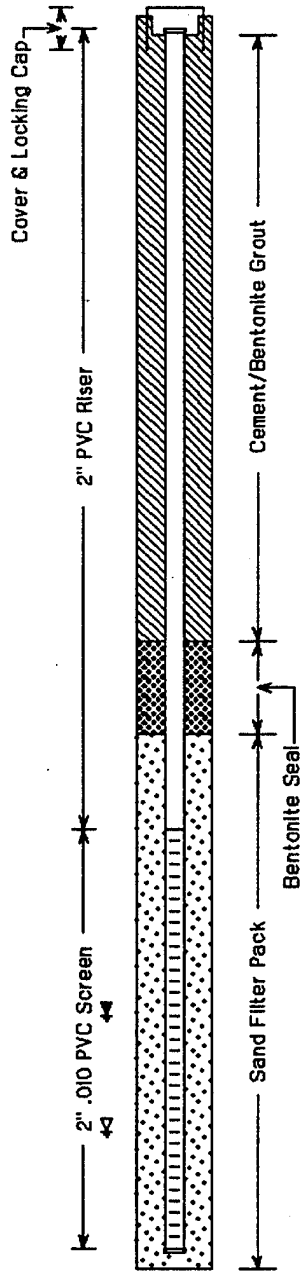
SOIL BORING/WELL LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: MW2-2
Geologist: Tom Weatherly
Drilling Co: Environmental Exploration Inc.
Driller: Allan Wolfes
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 05-18-92/05-18-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 30
Elev (ft MSL): 1045.0
Coordinates (N,E): 800.208, 3485.587
SAIC Proj No: 01-0827-03-0200-003



Depth (feet)	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (*=Sample sent to Lab)	Sample Type	Sample Rec (feet)
0		ML-SILT, some clay, some sand; 10YR 5/4 yellowish brown.	NR	NR	No Samples Taken		
10		ML-SILT, some clay with trace sand; 10YR 4/2 dark greyish brown.					
20		GP-GRAVEL, cobbles according to driller.					
		ML-SILT, some clay, some very coarse sand with trace pebbles; 10YR 4/3 brown.					
25		GP-GRAVEL according to driller.					
		ML-SILT, some clay, some very coarse sand with trace pebbles; 10YR 4/3 brown.					
30		*Bottom of Boring at 30 feet.*					

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SOIL BORING/WELL LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: MW3-1
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-21-92/08-25-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 18
Elev (ft MSL): 1037.8
Coordinates (N,E): 10839.6, 13347.2
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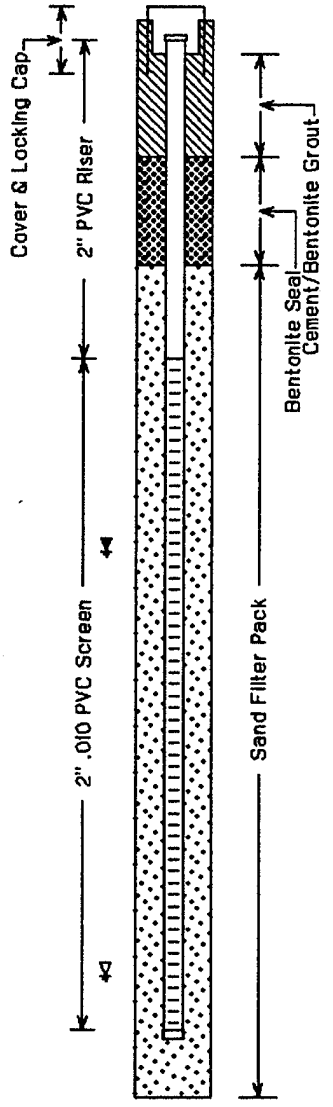

Depth (feet)	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (*=Sample sent to Lab)	Sample Type	Sample Rec (feet)
		ML-SILT, trace medium pebbles; 10YR 3/4 dark yellowish brown; loose; dry. *Screening Results (0.5-1.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND. Screening Results (2-4 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*			MW3-1-1*	HA	0
				4-5-4-4	MW3-1-2	SS	1.0
5		ML-SANDY SILT, very coarse sand, trace medium pebbles; 5Y 3/2 dark olive gray; loose; dry. *Screening Results (4-6 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		2-2-2-4	MW3-1-3	SS	1.5
		ML-CLAYEY SILT, trace very coarse sand; 5Y 4/4 olive; loose; dry. *Screening Results (6-8 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		2-2-2-2	MW3-1-4	SS	1.8
		ML-CLAYEY SILT, trace very coarse sand; 10YR 4/6 dark yellowish brown; dense; dry.	NR	3-3-3-3	MW3-1-5	SS	1.3
10		ML-SANDY SILT, very coarse sand; 10YR 4/6 dark yellowish brown; wet. *Screening Results (10-12 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		2-2-2-3	MW3-1-6	SS	0.8
		ML-CLAYEY SILT; 10YR 4/6 dark yellowish brown; wet.		1-3-3-4	MW3-1-7	SS	2.0
15		ML-SANDY SILT, trace medium to large pebbles; 10YR 4/6 dark yellowish brown; loose; saturated. *Screening Results (14-16 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		NR	MW3-1-8*	SS	1.0
		Geotechnical sample 16 to 18 ft.		NR	Soil 2	ST	0.7
20		*Bottom of Boring at 18 feet; Boring stayed open to 16 feet*					

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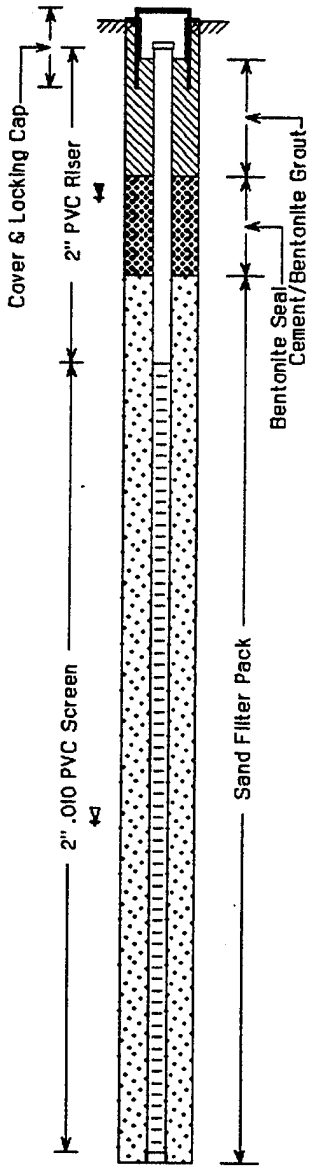
SOIL BORING/WELL LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: MW4-1
Geologist: John Pendleton
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-26-92/08-26-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 14.5
Elev (ft MSL): 1040.7
Coordinates (N,E): 8848.7, 12263.8
SAIC Proj No: 01-0827-03-0200-002



Depth (feet)	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (*=Sample sent to Lab)	Sample Type	Sample Rec (feet)
		CL-SILTY CLAY; 10YR 5/4 brown; firm; dry with some CLAY; 10YR4/1 gray mottling; dense; high plasticity. *Screening Results (0.5-2 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=400.*	NR	4-5-6	MW4-1-1*	SS	1.0
		CL-SILTY CLAY; 10YR 5/4 light brown; firm; low consistancy; moderate plasticity; very dry. *Screening Results (2.5-4 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=13 ug/kg, TOL=ND, ETBZ=ND, XYL=ND, TVO=2700.*		4-2-4	MW4-1-2	SS	0.5
5		CL-SILTY CLAY; 10YR 4/4 brown; firm; consistant; high plasticity; slightly moist. *Screening Results (4.5-6 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=1100.*		3-6-7	MW4-1-3	SS	0.7
		CL-SILTY CLAY; 10YR 4/3 brown; firm; consistant; high plasticity; slightly moist. *Screening Results (6-7.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=32 ug/kg, TOL=ND, ETBZ=ND, XYL=ND, TVO=3300.*	0	10-3-5	MW4-1-4*	SS	1.0
		CL-SILTY CLAY, large percent gravel; 10YR 4/3 brown; firm; consistant; high plasticity; wet. *Screening Results (8-9.5 BLS); TCA=ND, CCl4=ND, TCE=157 ug/kg PCE=ND, BEN=10 ug/kg, TOL=ND, ETBZ=ND, XYL=ND, TVO=6400.*		NR	MW4-1-5*	SS	1.2
10		CH-CLAY, trace pebbles; 10YR 3/3 dark brown; very firm; very consistant; high plasticity; saturated. *Screening Results (10-12 BLS); TCA=ND, CCl4=ND, TCE=193 ug/kg PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=25,000.*		4-5-5-8	MW4-1-6	SS	0.4
		CL-CLAY, large percent gravel and pebbles; 10YR 4/3 dark brown; dense; saturated. At 12.5' grades into SILTY CLAY, very fine; 10YR 4/1 gray; very firm; high plasticity; saturated. *Screening Results (12-14 BLS); TCA=ND, CCl4=ND, TCE=5 ug/kg PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=2500.*		1-1-1-2	MW4-1-7	SS	1.2
15		*Bottom of Boring at 14.5 feet*					

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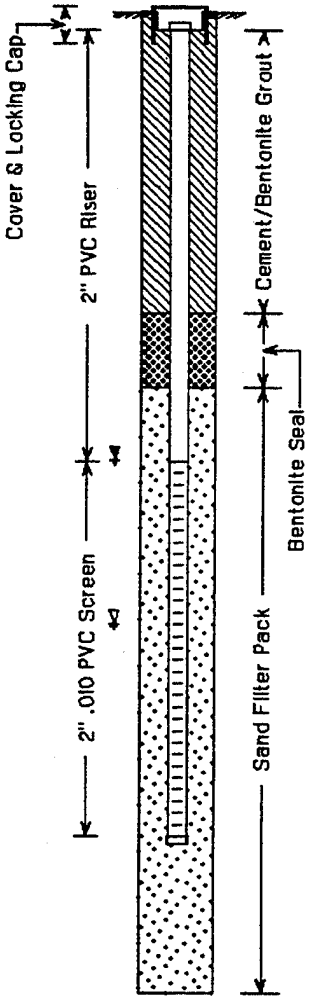
SOIL BORING/WELL LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: P-1
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: David Walters
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 05-02-92/05-02-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 25
Elev (ft MSL): 1048.9
Coordinates (N,E): 8204.5, 12492.0
SAIC Proj No: 01-0827-03-0200-002



Depth (feet)	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (*=Sample sent to Lab)	Sample Type	Sample Rec (feet)
		FILL; ML-SILT, 7.5YR4/8 brown.		6-9-11-16	P1-1	SS	0.5
		ML-SILT, some coarse sand, 10YR8/2 light brownish gray, moist, dense; some med pebbles					
5		ML-SILT, some v. coarse sand, some med pebbles 10YR5/8 yellowish brown, moist, dense;		6-9-9-13	P1-2	SS	1.8
10		ML-SILT, some sand, some pebbles, 10YR5/4 yellowish brown, moist, loose.		5-6-9-11	P1-3	SS	2.0
15		ML-SILT, some med to lg pebbles, some v. coarse sand, poorly sorted, 5YR3/1 v. dark gray.	0	13-20-35-49	P1-4	SS	0
		SP-SAND, fine to v. coarse, wet, loose, some silt, 7.5YR4/4 brown to dk brown.		16-22-31-32	P1-5	SS	2.0
20		SP-SAND, 10YR4/2 dk. grayish brown.					
		ML-SILT, some fine sand, dense, some med pebbles, 5YR4/1 dk. gray.		24-22-18-21	P1-6	SS	0
25				7-8-10-12-13	P1-7	SS	2.0
30		ML-SILT and sand, dense, saturated.		32-42-24-25	P1-8	SS	2.0
		Saturated GP-GRAVEL, some sand, loose.					
		SP-SAND, fine to v. coarse, loose, some med pebbles, moderately sorted, saturated.					
35		*Augered to 30 feet, borehole remained open to 26.2 feet when augers were removed*					

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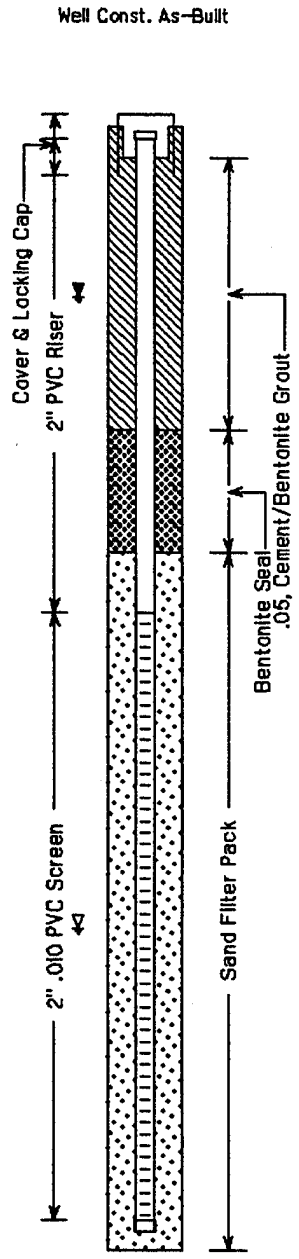
SOIL BORING/WELL LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: P-2
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: David Walters
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 04-30-92/04-30-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 18
Elev (ft MSL): 1051.2
Coordinates (N,E): 8591.5, 13055.1
SAIC Proj No: 01-0827-03-0200-002



Depth (feet)	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (*=Sample sent to Lab)	Sample Type	Sample Rec (feet)
		FILL; ML-SILT, brownish yellow 10YR5/6.			P2-1	GRAB	2.0
5				2-6-10-8	P2-2	SS	1.0
		ML-SILT, brownish yellow 10YR6/8, some sub angular fine pebbles; med dense, moist		5-8-9-11	P2-3	SS	2.0
		GW-GRAVEL, small pebbles, dense, moist.	NR	4-9-23-24	P2-4	SS	2.0
10		SW-SAND, medium, well-sorted, wet.					
		GW-GRAVEL, fine sub angular pebbles, dense, moist.		17-25-27-26	P2-5	SS	0
		ML-SILT, v. dk grayish brown 2.5Y3/2, saturated, loose.		14-17-19-20	P2-6	SS	1.1
		ML-SILT, v. dk grayish brown 2.5Y3/2, some v.fine sand, dense, wet.		9-10-17-24	P2-7	SS	1.8
15		GW-SILTY GRAVEL, pebbles, fine to v. fine silt, some v. fine sand, dense.					
		Bottom of Boring at 18 feet		10-11-17-19	P2-8	SS	0
20							

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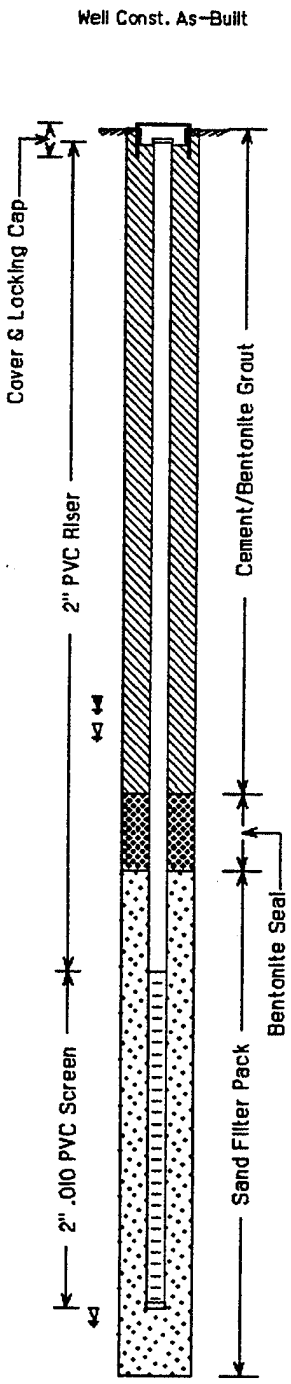
SOIL BORING/WELL LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: P-3
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: David Walters
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 05-04-82/05-04-82

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 37
Elev (ft MSL): 1048.0
Coordinates (N,E): 9088.8, 13047.1
SAIC Proj No.: 01-0827-03-0200-002



Depth (feet)	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (*=Sample sent to Lab)	Sample Type	Sample Rec (feet)
		FILL; ML-SILT, 7.5YR5/8 strong brown.		GRAB	P3-1	GRAB	3.0
5		ML-SILT, moist, med dense; some fine to coarse sand, some med to lg pebbles, poorly sorted, 10YR5/3 brown.		6-9-10-10	P3-2	SS	2.0
		CL-CLAY and silt, dense, 10YR4/6 dark yellowish brown.					
10		ML-SILT, wet, med dense, med to v.lg pebbles, some fine to coarse sand, 10YR4/6 dark yellowish brown.	0	5-7-12-15	P3-3	SS	2.0
		ML-SILT, dense; med to lg pebbles, some coarse sand, 10YR4/6 dark yellowish brown.					
15		ML-SILT, moist, med dense; some fine to coarse sand, trace med pebbles, 10YR3/2 v. dark grayish brown.		8-8-16-17	P3-4	SS	0.8
20		ML-SILT and coarse sand, some med pebbles, 10YR3/1 v. dark gray.		20-13-18-21	P3-5	SS	0.3
						ST	0.7
25		ML-SILT with cobbles and gravel, moist, med dense, 10YR3/2 v. dark grayish brown.	12	11-14-17-21	P3-6	SS	2.0
		ML-SILT, moist, dense, some coarse sand, some med pebbles, 10YR4/1 dark gray.					
30			0	18-18 21-24	P3-7	SS	0
		ML-SILT, moist, dense, some gravel, some fine sand, 10YR3/2 v. dark grayish brown.		9-12-14-13	P3-8	SS	1.8
35		ML-SILT, saturated, some fine to coarse sand, some lg pebbles, 10YR3/2 v. dark grayish brown.		10-10-11-9	P3-9	SS	1.2
		Bottom of Boring at 37 feet					
40							

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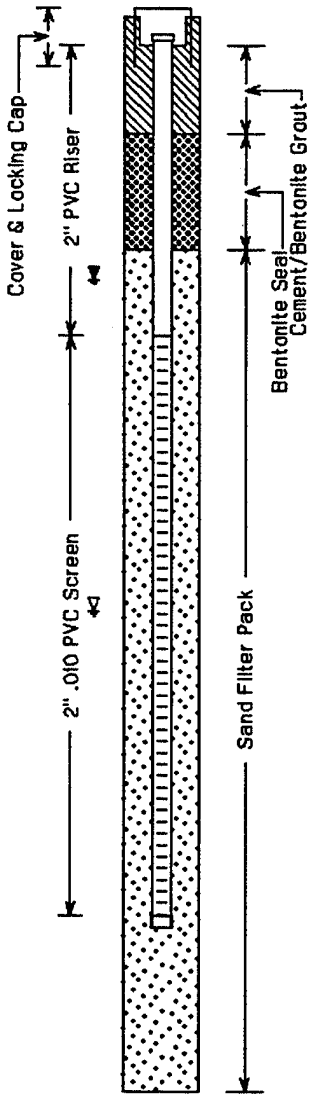
SOIL BORING/WELL LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: P-4
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: David Walters
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 05-03-92/05-03-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 18.5
Elev (ft MSL): 1040.2
Coordinates (N,E): 10281.2, 13228.8
SAIC Proj No: 01-0827-03-0200-002



Depth (feet)	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (*=Sample sent to Lab)	Sample Type	Sample Rec (feet)
		No sample collected					
				GRAB	P4-1	GRAB	1.0
5		CL-CLAY, soft, moist, 5Y2,5.2 /black.		8-7-7-8	P4-2	SS	2.0
		ML-SILT, some coarse sand, moist, 10YR4/4 dark yellowish brown.					
			NR				
10		SP-SAND, loose, saturated, v. fine to v. coarse,7.5YR4/8 strong brown.		8-13-16-19	P4-3	SS/ST	2.0
15		ML-SILT, some fine to coarse sand, saturated, med dense. 10YR6/8 yellowish brown		16-14-13-19	P4-4	SS	2.0
		GW-GRAVEL, some silt, med dense, 10YR6/8 yellowish brown.					
		ML-SILT, moist, some med to lg pebbles, some v. coarse sand, dense, 10YR3/3 dark brown.					
20		*Bottom of Boring at 18.5 feet*					

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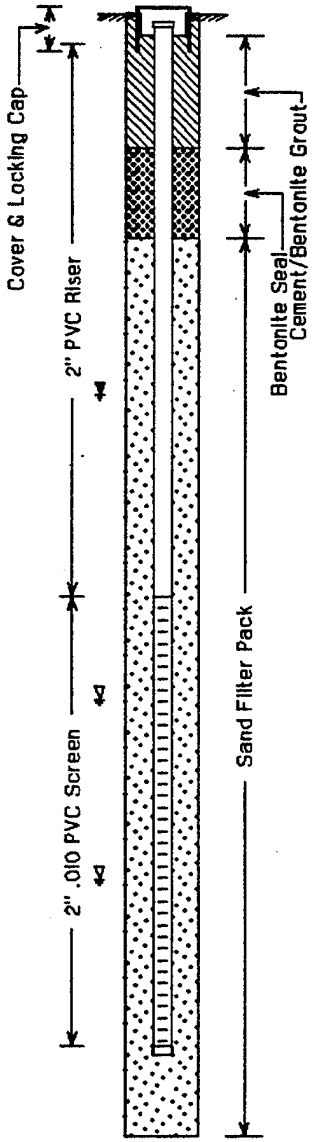
SOIL BORING/WELL LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: P-5
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: David Walters
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 05-02-82/05-03-82

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 25
Elev (ft MSL): 1047.0
Coordinates (N,E): 10018.6, 13683.2
SAIC Proj No: 01-0827-03-0200-002



Depth (feet)	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (*=Sample sent to Lab)	Sample Type	Sample Rec (feet)
		FILL; ML-SILT, 10YR3/6 dark yellowish brown, moist.		GRAB	P5-1	GRAB	2.0
5				GRAB	P5-2	GRAB	2.0
		ML-SILT, moist, dense; some coarse sand, some med to lg pebbles, poorly sorted, 10YR4/6 dark yellowish brown.					
10				6-7-8-14	P5-3	SS	1.8
		ML-SILT, some sand, moist, 10YR4/6 dark yellowish brown.	0				
15		SW-SAND, coarse, med. dense, wet, 10YR4/6 dark yellowish brown.		6-7-9-11	P5-4	SS	1.5
20		SW-SAND, coarse, saturated, med pebbles, loose, some silt, 10YR5/6 yellowish brown.		10-12-13-15	P5-5	SS	2.0
		ML-SILT, moist, dense; some sand, 5YR3/1 v. dark gray.					
		GW-GRAVEL, saturated, loose, 10YR4/6 dark yellowish brown.		13-15-28-35	P5-6	SS	2.0
25		ML-SILT, moist, dense; some fine to coarse sand, 10YR3/1 v. dark gray.					
		SP-SAND, fine to v. coarse, some med pebbles, loose, 10YR3/1 v. dark gray					
		Bottom of Boring at 25 feet					
30							

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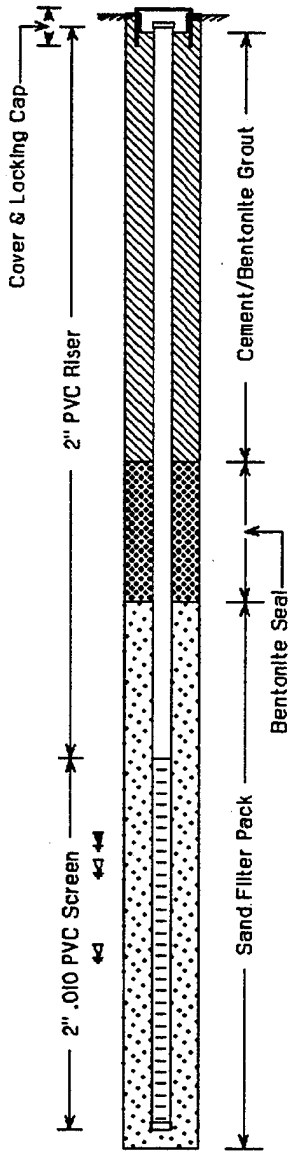
SOIL BORING/WELL LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: P-6
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: David Walters
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 04-30-92/05-01-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 18
Elev (ft MSL): 1041.1
Coordinates (N,E): 10770.1, 14403.1
SAIC Proj No: 01-0827-03-0200-002



Depth (feet)	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (*=Sample sent to Lab)	Sample Type	Sample Rec (feet)
		FILL; ML-SILT, some med pebbles, moist, 7.5YR5/4 brown.	NR	4-8-6-3	P6-1	SS	1.8
		SW-SAND, v. crse, some med pebbles, saturated, 5YR3/4 dk reddish brown					
5		SW-SAND, v. fine, saturated, well-sorted, 7.5YR4/6 strong brown.		8-8-16-16	P6-2	SS	2.1
		SW-SAND, v. fine, well-sorted, saturated, 10YR4/6 dk yellowish brown.					
		SP-SAND, v. fine, to sm. poorly-sorted gravel, saturated, 10YR5/8 yellowish brown.					
10		ML-SILT, trace f. sand, med pebbles, dense, moist, 10YR4/4 dk yellowish brown.		3-3-4-5	P6-3	SS	0.0
		No Recovery.					
		COBBLES, dry.		40-42-43-50	P6-4	SS	1.7
		ML-SILT and v. fine sand, dense, moist, 10YR5/4 yellowish brown.					
15		ML-SILT and v. fine sand, dense, moist, 10YR4/2 dk grayish brown.		50-115	P6-5	SS	1.8
		SW-SAND, v. fine, well-sorted, moist, dense, 10YR4/4 dk yellowish brown.					
20		ML-SILT, some v. fine sand, dense, moist, 5YR4/2 dk grayish brown.	0	7-11-13-14	P6-6	SS	1.8
		CL-CLAY, some v. fine sand, med. pebbles, dense, moist, 5YR4/2 dk grayish brown.					
25		SP-SAND, v. fine to v. coarse, saturated, poorly-sorted, very loose, some pebbles, one cobble, 10YR5/3 brown.		13-12-14-13	P6-7	SS	1.0
		SP-SAND, fine, sm. pebbles, poorly-sorted, 10YR3/2 V. dark grayish brown, saturated.					
30		ML-SILT and sand, dense, moist, 10YR3/1 V. dark gray.		19-18-22-27	P6-8	SS	1.8
		SW-SAND, saturated, well-sorted, v. fine, 10YR3/1 v. dark gray.					
35		*Bottom of Boring at 30 feet*					

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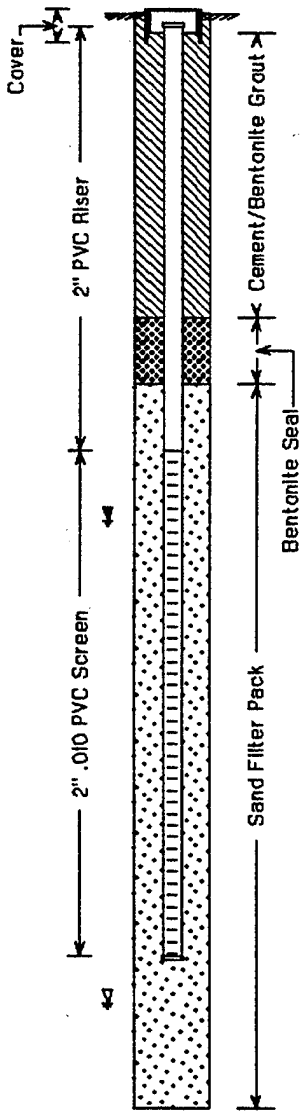
SOIL BORING/WELL LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: SB5-4, P-7
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-18-92/08-18-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 32.5
Elev (ft MSL): 1050.7
Coordinates (N,E): 9544.0, 13797.9
SAIC Proj No: 01-0827-03-0200-002

Well Const. As-Built



Depth (feet)	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (*=Sample sent to Lab)	Sample Type	Sample Rec (feet)
0		ML-SANDY SILT, very coarse sand, small percent medium to large pebbles; 10YR 4/6 dark yellowish brown; loose; dry. *Screening Results (0.5-2.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=100. Screening Results (0.5-2.5 BLS) Duplicate; TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	NR	6-10-10-12	SB5-4-1*	SS	1.3
30		Large limestone cobble. *Screening Results (28.5-30.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		8-26-35-31	SB5-4-2*	SS	0.5
				5-7-7-11	SB5-4-3	SS	1.0
		SP-SAND, very coarse, gravel; 10YR 3/1 dark gray; angular; poorly sorted; saturated.		8-8-12	SB5-4-4	SS	0.5
35		GP-GRAVEL, very coarse sand; 10YR 3/1 dark gray; angular; poorly sorted; saturated.					
		Bottom of Boring at 32.5 feet					
40							

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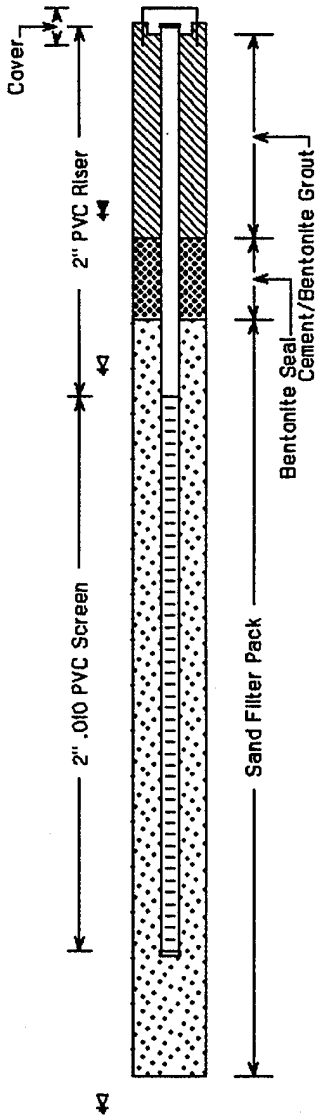
SOIL BORING/WELL LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: P-8
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-25-92/08-25-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 29
Elev (ft MSL): 1044.9
Coordinates (N,E): 8778.5, 12750.7
SAIC Proj No: 01-0827-03-0200-002



Depth (feet)	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (*=Sample sent to Lab)	Sample Type	Sample Rec (feet)
		FILL; 10YR 4/6 dark yellowish brown; loose; good consistancy; moderate plasticity; dry.	NR				
5		CL-SILTY CLAY; 10YR 3/3 dark brown; firm; good consistancy; moderate plasticity; moist.					
		CL-CLAY; 10YR 4/6 dark yellowish brown; moist.					
10		SW-SAND, very coarse, small percent large pebbles and gravel; 10YR 4/6 dark yellowish brown; wet.		4-4-4-6	P-8-1	SS	1.7
		ML-CLAYEY SILT, trace coarse sand and medium to large pebbles; 5YR 4/2 olive gray; moist. *Screening Results (9-11 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		NR	Soil1	ST	0
15		ML-CLAYEY SILT, small percent coarse sand; 5YR 4/2 olive gray; moist.		1-2-7-8	P-8-2	SS	1.7
		ML-SILT; 10YR 4/6 dark yellowish brown; wet. *Screening Results (14-16 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*					
20		ML-SILT, fine sand, medium pebbles; 10YR 4/6 dark yellowish brown; wet.		16-19-9-8	P-8-3	SS	1.1
		CL-CLAY; 10YR 4/6 dark yellowish brown; moist. *Screening Results (18-21 BLS); TCA=ND, CCl4=ND, TCE=0.6 ug/kg, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*					
25		ML-SILT, small percent very coarse sand and medium pebbes; 10YR 3/1 very dark gray.		5-10-12-17	P-8-4	SS	1.7
30		CL-CLAY, trace coarse sand; 10YR 4/6 dark yellowish brown; moist.		2-2-3-1	P-8-5	SS	1.2
		Bottom of Boring at 29 feet					
35							

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SOIL BORING LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: SBI-1
Geologist: John Pendleton
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-13-92/08-13-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 19.5
Elev (ft MSL): 1050.4
Coordinates (N,E) 9649.8, 14047.8
SAIC Proj No 01-0827-03-0200-002

Depth (feet)	Water During Drilling	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (* = Sample sent to Lab)	Sample Type	Sample Rec (feet)
			CL-SILTY CLAY; 10YR 4/4 brown; firm; dry; small percent mottling. *Screening Results (0.5-2.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	0	8-11-11-16	SBI-1-1*	SS	1.7
			CL-SILTY CLAY; 10YR 5/4 brown; moist; small percent gray mottling. *Screening Results (2.5-4.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		2-6-7-8	SBI-1-2	SS	1.1
5					3-7-11-17	No Recovery	SS	0
			CL-SANDY CLAY, some coarse sand, trace pebbles; 10YR 4/3 brown; firm; cohesive; moist. *Screening Results (6.5-8.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND. Screening Results (8.5-10.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		5-5-7-10	SBI-1-3*	SS	1.3
10					3-8-17-18	SBI-1-4	SS	0.3
			CL-SILTY CLAY, trace pebbles; 10YR 3/3 dark brown; slightly moist. *Screening Results (10.5-12.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	NR	5-10-18-20	SBI-1-5	SS	0.2
			CL-SILTY CLAY; 10YR 4/1 gray; very firm; moderately moist.		5-8-9-10	No Recovery	SS	0
15			CL-SILTY CLAY; 10YR 4/1 gray; firm; moderately moist; small percent brown mottling.					
			SM-SILTY SAND, coarse; angular; poorly sorted; wet.					
20	▼		SW-GRAVELLY SAND, very coarse; wet to saturated.	0	10-12-21	SBI-1-6*	SS	1.8
			Bottom of Boring at 19.5 feet					
25								

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SOIL BORING LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: SB1-2
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-13-92/08-13-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 14.5
Elev (ft MSL): 1050.1
Coordinates (N,E) 9856.3, 14147.7
SAIC Proj No. 01-0827-03-0200-002

Depth (feet)	Water During Drilling	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (* = Sample sent to Lab)	Sample Type	Sample Rec (feet)
			CL-SILTY CLAY, trace pebbles; 10YR 4/6 yellowish brown; firm; dry; small amount of gray mottling. *Screening Results (0.5-2.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		7-11-14-14	SB1-2-1*	SS	1.3
			CL-SILTY CLAY; 10YR 4/6 yellowish brown; firm; slightly moist. *Screening Results (2.5-4 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		3-8-12	SB1-2-2	SS	0
5			CL-SILTY CLAY; 10YR 4/4 brown; firm; dry; moderate orange mottling. (One large dolomite stone approx. 1" in diameter) *Screening Results (4.5-6 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		3-3-5	SB1-2-3*	SS	1.4
			CL-SANDY CLAY, very fine, rounded sand intermixed with firm clay, trace pebbles; 10YR 4/6 yellowish brown; dry clay. *Screening Results (6.5-8 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	0	6-12-14	SB1-2-4	SS	1.3
10			CL-SILTY CLAY, very firm, small percent pebbles; 10YR 4/4 brown; low plasticity; dry. *Screening Results (8.5-10 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		1-5-10	SB1-2-5	SS	1.3
			CL-CLAY; 10YR 5/1 gray; firm; dense; dry. *Screening Results (10.5-12 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		5-5-5	SB1-2-6	SS	0
			CL-SILTY CLAY; 10YR 4/6 yellowish brown; low plasticity; stiff; moderately moist intermixed with CLAY; 10YR 5/1 gray; firm; stiff. *Screening Results (12.5-14 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		5-5-5	SB1-2-7	SS	1.7
15	▽		SM-SILTY SAND, very fine; 10YR 4/6 yellowish brown; subangular sand; well sorted grading to gravel; saturated. *Screening Results (14.5-16 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		12-8-5	SB1-2-8*	SS	1.5
			Bottom of Boring at 14.5 feet					
20								

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SOIL BORING LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: SBI-3
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-14-92/08-14-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 20.5
Elev (ft MSL): 1051.3
Coordinates (N,E) 9785.9, 14077.8
SAIC Proj No 01-0827-03-0200-002

Depth (feet)	Water During Drilling	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (* = Sample sent to Lab)	Sample Type	Sample Rec (feet)
			SM-SILTY SAND, very fine; 10YR 4/4 dark yellowish brown; loose; dry. *Screening Results (0.5-2 BLS); TAC=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	0	9-12-15	SBI-3-1*	SS	0.8
			ML-CLAYEY SILT, trace coarse sand; 7.5YR 3/4 dark brown; some burned wood; loose; moist. *Screening Results (2.5-4 BLS); TAC=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=41 ug/kg, TOL=10 ug/kg, ETBZ=ND, XYL=ND, TVO=160. Screening Results (4.5-6 BLS); TAC=ND, CCl4=ND, TCE=0.6 ug/kg, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=270.*		3-3-5	SBI-3-2	SS	1.3
5					4-6-6	SBI-3-3*	SS	1.3
			ML-CLAYEY SILT, trace coarse sand; 10YR 3/3 dark brown; loose; moist. *Screening Results (8.5-8 BLS); TAC=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		4-7-8	SBI-3-4	SS	1.5
			CL-SILTY CLAY, trace coarse sand; 10YR 3/3 dark brown; loose; moist clay. *Screening Results (8.5-10 BLS); TAC=2.5 ug/kg, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND. Screening Results (10.5-12 BLS); TAC=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND. Screening Results (12.5-14 BLS); TAC=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	NR	3-3-5	SBI-3-5	SS	1.0
10					2-3-5	SBI-3-6	SS	1.2
					2-2-3	SBI-3-7	SS	1.3
			CL-SILTY CLAY, trace coarse sand; 10YR 4/1 dark gray; firm; loose; wet clay. *Screening Results (14.5-16 BLS); TAC=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	0	2-2-5	SBI-3-8	SS	1.5
15			CL-SILTY CLAY, trace pebbles; 10YR 3/4 brown; wet. *Screening Results (16.5-18 BLS); TAC=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		3-3-5	SBI-3-9	SS	1.5
			CL-CLAY; 10YR 3/4 brown and gray dense clay intermixed with fine subangular sand. *Screening Results (18.5-20 BLS); TAC=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		3-2-5	SBI-3-10	SS	1.3
20	▼		SM-SILTY SAND, fine, trace gravel 1-1 1/2" diameter; 10YR 4/1 gray; poorly sorted; subangular sand. *Screening Results (20.5-22 BLS); TAC=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		3-3-5	SBI-3-11*	SS	1.5
			Bottom of Boring at 20.5 feet					
25								

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SOIL BORING LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: SB2-1
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-15-92/08-15-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 30
Elev (ft MSL): 1048.1
Coordinates (N,E) 10355.5, 14547.3
SAIC Proj No. 01-0827-03-0200-002

Depth (feet)	Water During Drilling	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (* = Sample sent to Lab)	Sample Type	Sample Rec (feet)
			FILL; gravel.	NR				
			ML-SILT, trace sand and medium pebbles; 10YR 5/8 yellowish brown. *Screening Results (2-3.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	0	3-7-10	SB2-1-1*	SS	1.0
5			ML-SILT, trace very coarse sand; 10YR 4/6 dark yellowish brown; moist. *Screening Results (4-5.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=110. Screening Results (6-7.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		6-10-14	SB2-1-2	SS	1.0
					3-12-15	SB2-1-3	SS	0
			ML-SILT, trace clay and fine sand; 10YR 3/3 dark brown; well rounded sand; loose; moist. *Screening Results (8-9.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=390.*		4-7-10	SB2-1-4*	SS	0.7
10			ML-SILT, trace clay and coarse sand; 10YR 3/3 dark brown; loose; moist. *Screening Results (10-11.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=85 ug/kg, TOL=ND, ETBZ=ND, XYL=ND, TVO=160.*	NR	5-7-10	SB2-1-5	SS	0.3
			ML-SILT, trace clay and coarse sand; 10YR 4/1 dark gray; loose; moist. *Screening Results (12-13.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND. Screening Results (12-13.5 BLS) Duplicate; TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	0	5-11-11	SB2-1-6	SS	1.4
15			ML-SILT, trace clay , coarse sand and small pebbles; 10YR 4/1 dark gray; loose; moist. *Screening Results (14-15.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		7-11-12	SB2-1-7	SS	1.3
			ML-SILT, trace coarse sand and medium pebbles; 10YR 4/4 dark yellowish brown; moderately dense. *Screening Results (16-17.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=120.*		19-20-19	SB2-1-8	SS	1.3

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SOIL BORING LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: SB2-1
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-15-92/08-15-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 30
Elev (ft MSL): 1048.1
Coordinates (N,E) 10355.5, 14547.3
SAIC Proj No. 01-0827-03-0200-002

Depth (feet)	Water During Drilling	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (* = Sample sent to Lab)	Sample Type	Sample Rec (feet)
			SP-SAND, trace silt and pebbles; 10YR 4/4 dark yellowish brown. *Screening Results (18-19.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	0	2-8-9	SB2-1-9	SS	1.1
			ML-CLAYEY SILT, trace coarse sand and medium pebbles; 10YR 3/3 dark brown; wet. *Screening Results (20-21.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		4-5-7	SB2-1-10	SS	1.4
23			ML-CLAYEY SILT, trace coarse sand and medium pebbles; 10YR 3/2 very dark grayish brown; loose; wet. *Screening Results (22-23.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	NR	4-4-6	SB2-1-11	SS	1.8
			CL-SILTY CLAY, trace fine sand and small pebbles; 10YR 4/2 dark grayish brown; loose; wet. *Screening Results (24-25.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	0	2-4-5	SB2-1-12	SS	1.8
			CL-SANDY CLAY, trace silt, coarse sand; 2.5Y 4/2 dark grayish brown; wet. *Screening Results (26-27.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		5-5-7	SB2-1-13	SS	1.8
28	▼		CL-SANDY CLAY, coarse sand; 10YR 4/1 dark gray; loose; wet. *Screening Results (28-30 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		5-5-8-8	SB2-1-14*	SS	0.5
			SP-SAND, very coarse; 5Y 3/1 very dark gray; poorly sorted; saturated. *Screening Results (30-32 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	NR	4-5-7-7	SB2-1-15	SS	0
33			*Bottom of Boring at 30 feet*					

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SOIL BORING LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: SB2-2
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-16-92/08-18-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 33.5
Elev (ft MSL): 1046.7
Coordinates (N,E) 10287.5, 14556.2
SAIC Proj No 01-0827-03-0200-002

Depth (feet)	Water During Drilling	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (* = Sample sent to Lab)	Sample Type	Sample Rec (feet)
			GRAVEL.	NR				
			ML-SILT, trace fine sand; 5Y 4/2 olive gray; loose; moist. *Screening Results (1.5-3 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=64 ug/kg, TOL=287 ug/kg, ETBZ=158 ug/kg, XYL=1010 ug/kg, TVO=2,500.*		7-7-9	SB2-2-1*	SS	1.3
			ML-SILT, small percent fine sand; 5YR 3/2 dark olive gray; loose; moist. *Screening Results (3.5-5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=181 ug/kg, TOL=751 ug/kg, ETBZ=370 ug/kg, XYL=2740 ug/kg, TVO=8,200.*		3-5-5	SB2-2-2*	SS	1.0
5			CL-SILTY CLAY, trace fine sand; 2.5Y 5/4 light olive brown; dense; moist. *Screening Results (5.5-7 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=21 ug/kg, TOL=64 ug/kg, ETBZ=29 ug/kg, XYL=221 ug/kg, TVO=1,000.*		2-2-5	SB2-2-3	SS	1.5
			CL-SILTY CLAY, trace fine sand; 2.5Y 4/4 olive brown; loose; moist. *Screening Results (7.5-9 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=67 ug/kg, TOL=378 ug/kg, ETBZ=178 ug/kg, XYL=1150 ug/kg, TVO=4,000.*		3-4-7	SB2-2-4	SS	1.3
10			ML-CLAYEY SILT, trace fine sand; 10YR 4/4 dark yellowish brown; dense; moist. *Screening Results (9.5-11 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND. Screening Results (11.5-13 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		3-6-11	SB2-2-5	SS	1.7
					3-5-5	SB2-2-6	SS	0
			ML-CLAYEY SILT, trace fine sand and pebbles; 10YR 4/2 dark grayish brown; loose; moist. *Screening Results (13.5-15.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		2-2-4-5	SB2-2-7	SS	2.0
15			ML-SANDY SILT, coarse sand, trace small pebbles; 5YR 4/6 yellowish red; subangular sand; loose; moist.		12-21-25-32	SB2-2-8	SS	1.9
			ML-CLAYEY SILT, trace fine sand and small pebbles; 10YR 4/2 dark grayish brown; loose; moist.					
			ML-SANDY SILT, trace small pebbles; 10YR 3/3 dark brown; dense; dry. *Screening Results (15.5-17.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		2-10-16-10	SB2-2-9	SS	1.8
			SM-SILTY SAND, very fine sand, trace pebbles; 7.5YR 4/6 brown, very loose, moist. *Screening Results (17.5-19.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*					

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SOIL BORING LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: SB2-2
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-18-92/08-18-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 33.5
Elev (ft MSL): 1046.7
Coordinates (N,E) 10287.5, 14556.2
SAIC Proj No. 01-0827-03-0200-002

Depth (feet)	Water During Drilling	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (* = Sample sent to Lab)	Sample Type	Sample Rec (feet)
			ML-SANDY SILT, fine sand, trace medium pebbles; 10YR 3/3 dark brown; loose; moist. *Screening Results (19.5-21.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	NR	7-8-11-11	SB2-2-10	SS	1.2
			ML-CLAYEY SILT, trace coarse sand; 5Y 3/1 very dark gray; loose; wet. *Screening Results (21.5-23.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND. Screening Results (23.5-25.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		8-12-16-18	SB2-2-11	SS	1.9
24.5					3-4-4-4	SB2-2-12	SS	0
			CL-SILTY CLAY, some coarse sand; 10YR 3/1 very dark gray; very consistent; firm; high plasticity; dense; wet. *Screening Results (25.5-27.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=180. Screening Results (27.5-29.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=80. Screening Results (29.5-31.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		2-2-3-3	SB2-2-13	SS	1.0
29.5					3-3-5-8	SB2-2-14	SS	2.0
					2-2-3-7	SB2-2-15	SS	1.8
			CL-SILTY CLAY, small percent coarse sand; 10YR 4/1 dark gray; dense; wet. *Screening Results (31.5-33.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		4-5-6-5	SB2-2-16	SS	1.3
34.5	▼		CL-SILTY CLAY, small percent coarse sand; 10YR 4/1 dark gray; dense; saturated. *Screening Results (33.5-35.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=150.*		6-10-10-20	SB2-2-17*	SS	0
			Bottom of Boring at 33.5 feet					

Science Applications International Corporation
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SOIL BORING LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: SB2-3
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-17-92/08-18-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 31.5
Elev (ft MSL): 1048.4
Coordinates (N,E) 10327.2, 14588.2
SAIC Proj No. 01-0827-03-0200-002

Depth (feet)	Water During Drilling	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (* = Sample sent to Lab)	Sample Type	Sample Rec (feet)
			GRAVEL FILL.	NR				
			ML-SILT, trace fine sand and medium to large pebbles; 2.5Y 4/4 olive brown; loose; moist. *Screening Results (1.5-3.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=0.4 ug/kg, BEN=100 ug/kg, TOL=86 ug/kg, ETBZ=204 ug/kg, XYL=450 ug/kg, TVO=3,800.*	2	5-11-18-21	SB2-3-1*	SS	1.7
			ML-SILT, trace coarse sand and medium pebbles; 2.5Y 5/4 light olive brown; loose; moist. *Screening Results (3.5-5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=94 ug/kg, TOL=93 ug/kg, ETBZ=488 ug/kg, XYL=689 ug/kg, TVO=2,200.*		7-12-19	SB2-3-2	SS	1.3
5			ML-SILT, trace coarse sand and medium pebbles; 10YR 4/6 dark yellowish brown; dense; moist. *Screening Results (5.5-7.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=86 ug/kg, TOL=83 ug/kg, ETBZ=330 ug/kg, XYL=406 ug/kg, TVO=1,600.*	0	3-11-13-15	SB2-3-3	SS	1.8
			ML-SILT, trace fine sand; 2.5YR 5/4 olive brown; very loose; moist. *Screening Results (7.5-9.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=57 ug/kg, TOL=59 ug/kg, ETBZ=335 ug/kg, XYL=416 ug/kg, TVO=1,200.*		6-8-8-10	SB2-3-4*	SS	0
10			ML-CLAYEY SILT, trace coarse sand and large pebbles; 10YR 3/3 dark brown; dense; moist. *Screening Results (9.5-11.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=25 ug/kg, TOL=24 ug/kg, ETBZ=72 ug/kg, XYL=107 ug/kg, TVO=840.*		6-8-8-10	SB2-3-5	SS	1.8
			CL-CLAY, trace silt, coarse sand, and medium pebbles; 10YR 4/1 dark gray; dense; moist. *Screening Results (11.5-13.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		3-4-5-8	SB2-3-6	SS	0.9
15			CL-CLAY, small percent medium to large pebbles, trace silt; 10YR 3/1 very dark gray; dense; moist. *Screening Results (13.5-15.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=120.*	NR	2-1-4-5	SB2-3-7	SS	1.2
			CL-SILTY CLAY, trace large pebbles; 10YR 4/2 dark grayish brown; dense; moist grading to SILTY SAND; 5YR 4/6 yellowish red; poorly sorted; loose; dry. *Screening Results (15.5-17.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND. Screening Results (15.5-17.5 BLS) Duplicate; TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		4-10-11-12	SB2-3-8	SS	1.5
			SP-SAND; 10YR 4/6 dark yellowish brown; loose; poorly sorted. *Screening Results (17.5-19.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		9-10-12-9	SB2-3-9	SS	1.3

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SOIL BORING LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: SB2-3
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-17-92/08-18-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 31.5
Elev (ft MSL): 1048.4
Coordinates (N,E) 10327.2, 14588.2
SAIC Proj No. 01-0827-03-0200-002

Depth (feet)	Water During Drilling	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (* = Sample sent to Lab)	Sample Type	Sample Rec (feet)
			SM-SILTY SAND, some limestone pebbles; 10YR 5/4 yellowish brown; loose; poorly sorted. *Screening Results (19.5-21.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		6-15-8-7	SB2-3-10	SS	1.2
			ML-SANDY SILT, trace clay and medium to large pebbles; 2.5YR 3/2 very dark grayish brown; loose; moist. *Screening Results (21.5-23.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		4-4-5-5	SB2-3-11	SS	1.8
24.5			CL-SILTY CLAY, trace fine sand and coarse pebbles; 2.5Y 4/2 dark grayish brown; loose; moist. *Screening Results (23.5-25.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND. Screening Results (25.5-27.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		4-5-8-11	SB2-3-12	SS	2.0
				NR	3-7-6-8	SB2-3-13	SS	0
			CL-SILTY CLAY, trace fine sand and medium pebbles; 5YR 3/1 very dark gray; wet. *Screening Results (27.5-29.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		4-5-14-20	SB2-3-14	SS	1.9
29.5			ML-SANDY SILT, very fine sand; 2.5YR 4/2 dark grayish brown; wet. *Screening Results (29.5-31.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		10-7-7-14	SB2-3-15	SS	2.0
	▼		SP-SAND, very coarse; 10YR 3/2 very dark grayish brown; poorly sorted; saturated. *Screening Results (31.5-33.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		5-9-9-9	SB2-3-16*	SS	2.0
34.5			*Bottom of Boring at 31.5 feet*					

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SOIL BORING LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: SB2-4
Geologist: Tom Weatherly
Drilling Co: Environmental Exploration Inc.
Driller: Allan Wolfe
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 05-18-93/05-18-93

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 25
Elev (ft MSL): 1048.4
Coordinates (N,E) 795.836, 3357.587
SAIC Proj No. 01-0827-03-0200-003

Depth (feet)	Water During Drilling	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (* = Sample sent to Lab)	Sample Type	Sample Rec (feet)
			FILL; gravel.					
5			GM-GRAVEL, some silt; 2.5Y 9/2 dark greyish brown; wet.	NR				
			SM-SANDY-SILT, trace pebbles; 10YR 4/4 dark yellowish brown.	0	10-21-31-34	SB2-4-1*	SS	2
10			CL-SILTY-CLAY, some sand with trace pebbles; 10YR 4/3 brown; dense; dry.	1	NR	SB2-4-1A	SS	2
15			ML-SILT, some clay, some pebbles; 10YR 4/3 brown; dry. (Discolored area approx. 8", some staining and hydrocarbon odor 15 - 15.5')	4	NR	SB2-4-1B	SS	1
20								
25			CL-SILTY-CLAY, some sand with trace coarse sand; 10YR 5/4 yellowish brown; slightly plastic; moist. (Some discoloration, smell in upper 3" of sample)	0	NR	SB2-4-2*	SS	2
			CL-SILTY-CLAY, trace sand, trace pebbles; 10 YR 4/1 dark grey; dense.					
30			*Bottom of Boring at 25 feet*					

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SOIL BORING LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: SB2-5
Geologist: Tom Weatherly
Drilling Co: Environmental Exploration Inc.
Driller: Allan Wolfe
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 05-18-93/05-18-93

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 27
Elev (ft MSL): 1048.5
Coordinates (N,E): 748.373, 3378.887
SAIC Proj No: 01-0827-03-0200-003

Depth (feet)	Water During Drilling	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (* = Sample sent to Lab)	Sample Type	Sample Rec (feet)
0			No description.	NR				
10			ML-SILT, some clay, some sand with trace pebbles; 10YR 4/4 dark yellowish brown.	1	15-16-31-34	SB2-5-1*	SS	1.0
15			ML-SILTY-SAND; 10YR 4/3 brown; non-plastic; slightly moist.					
			SP-SAND, some silt with trace pebbles; 10YR 5/4 yellowish brown; medium to coarse grained; moist. (Discoloration and hydrocarbon odor 14 to 15 feet)	2	NR	SB2-5-1A	SS	2.0
20			ML-SILT, some sand with trace pebbles; 10YR 3/3 dark brown; dense; dry.	1	NR	SB2-5-1B	SS	1.5
25			ML-SILT, some sand and pebbles; 10 YR 4/4 dark yellowish brown; moist. (Discolored, organic smell)	NR	NR	SB2-5-2*	SS	NR
			ML-SILTY-CLAY, with trace sand and pebbles; 10 YR 4/1 dark grey; dense.					
30			*Bottom of Boring at 27 feet*					

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SOIL BORING LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: SB2-6
Geologist: Tom Weatherly
Drilling Co: Environmental Exploration Inc.
Driller: Allan Wolfe
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 05-20-93/05-20-93

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 17.5
Elev (ft MSL): 1048.4
Coordinates (N,E) 787.3, 3358.1
SAIC Proj No. 01-0827-03-0200-003

Depth (feet)	Water During Drilling	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (* = Sample sent to Lab)	Sample Type	Sample Rec (feet)
5			No description.	NR				
10								
15				NR	NR	SB2-6-1*	SS	2.0
				NR	NR	No sample taken	SS	NR
20			*Bottom of Boring at 17.5 feet*					

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SOIL BORING LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: SB3-1
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-19-92/08-20-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 14.5
Elev (ft MSL): 1038.8
Coordinates (N,E): 10558.3, 13257.7
SAIC Proj No: 01-0827-03-0200-002

Depth (feet)	Water During Drilling	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (* = Sample sent to Lab)	Sample Type	Sample Rec (feet)
			ML-SILT; 10YR 4/4 brown; non-consistant; low plasticity; very dry. *Screening Results (0.5-2 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND. Screening Results (2.5-4 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	NR				
				0	5-9-9	SB3-1-1*	SS	0.8
				NR	NR	SB3-1-2	SS	0.7
5			CL-SILTY CLAY, trace angular pebbles; 10YR 4/4 brown; soft to firm; slightly moist. *Screening Results (4.5-6.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	0	NR	SB3-1-3	SS	0.7
			CL-SILTY CLAY; 10YR tannish brown; consistant; moderately firm; low plasticity; slightly moist. *Screening Results (6.5-8 BLS); TCA=0.2 ug/kg, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	NR	10-15-13	SB3-1-4	SS	0.3
10			ML-SANDY SILT, very fine sand; 10YR brown; well sorted sand; low plasticity; consistant; moist. *Screening Results (8.5-10 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	0	3-3-5	SB3-1-5	SS	1.0
			CL-SILTY CLAY; 10YR 4/4 brown; firm; consistant; slightly moist grading to SILTY CLAY; 10YR 4/1 gray; very fine; moist. *Screening Results (10.5-12.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=120.*		4-6-8-10	SB3-1-6	SS	2.0
			ML-SANDY SILT, very fine sand; 10YR 4/1 gray; well sorted; firm, consistent; well rounded sand; very wet. *Screening Results (12.5-14.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	NR	NR	SB3-1-7	SS	0
15	▼		CL-SILTY CLAY, very fine; 10YR 4/1 gray; very firm; consistent; saturated. *Screening Results (14.5-16 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	0	3-8-19	SB3-1-8*	SS	0.8
			Bottom of Boring at 14.5 feet					
20								

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SOIL BORING LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: SB3-2
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-20-92/08-20-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 12.5
Elev (ft MSL): 1038.9
Coordinates (N,E) 10822.2, 13330.4
SAIC Proj No 01-0827-03-0200-002

Depth (feet)	Water During Drilling	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (* = Sample sent to Lab)	Sample Type	Sample Rec (feet)
			CL-SILTY CLAY, trace organics; 2.5YR 4/4 tannish brown; loose; dry. *Screening Results (0.5-2.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	NR				
				0	3-3-3-2	SB3-2-1*	SS	0.8
			CL-SILTY CLAY; 10YR 4/2 dark brown; firm; low plasticity; slightly moist. *Screening Results (2.5-4.5 BLS); TCA=0.7 ug/kg, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	NR	NR	SB3-2-2	SS	1.2
5			CL-SILTY CLAY; 10YR 4/1 dark grayish brown; firm; low plasticity; slightly moist. (Hydrocarbon odor) *Screening Results (4.5-6.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=18 ug/kg, TOL=18 ug/kg, ETBZ=172 ug/kg, XYL=390 ug/kg, TVO=>1,200.*	0	3-5-6-5	SB3-2-3	SS	0.5
			SP-SAND, coarse, some cobbles (1 to 2" diameter); 10YR 2/1 black; poorly sorted. (Pronounced hydrocarbon odor, black liquid in last 3-4" of sample) *Screening Results (6.5-8 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=17 ug/kg, TOL=58 ug/kg, ETBZ=ND, XYL=1090 ug/kg, TVO=>1,700.*	NR	3-5-5	SB3-2-4*	SS	0.7
10			SP-SAND, very coarse, some gravel; 10YR 2/1 dark black; angular; poorly sorted; saturated. (Very pronounced hydrocarbon odor) *Screening Results (8.5-10 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=55 ug/kg, TVO=430. Screening Results (10.5-12.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=185 ug/kg, TVO=200.*		2-2-4	SB3-2-5	SS	0.7
					2-4-4-7	SB3-2-6	SS	0
	▼		CL-SILTY CLAY; 10YR 4/4 brown; firm; moist (slight hydrocarbon odor) grades to SILTY CLAY; 10YR 4/1 gray; firm; dense; saturated. *Screening Results (12.5-14 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=140. Screening Results (12.5-14 BLS) Duplicate; TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	0	2-3-8	SB3-2-7*	SS	1.5
15			*Bottom of Boring at 12.5 feet*					
20								

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SOIL BORING LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: SB3-3
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-20-92/08-20-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 14.5
Elev (ft MSL): 1040.9
Coordinates (N,E) 10492.7, 13284.7
SAIC Proj No. 01-0827-03-0200-002

Depth (feet)	Water During Drilling	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (* = Sample sent to Lab)	Sample Type	Sample Rec (feet)
			FILL, some silty clay; 10YR 4/4 brown; loose; low plasticity; dry. *Screening Results (0.5–2.5 BLS); TCA=1.2 ug/kg, CCl4=ND, TCE=0.4 ug/kg, PCE=ND, BEN=97 ug/kg, TOL=11 ug/kg, ETBZ=32 ug/kg, XYL=143 ug/kg, TVO=690.*	NR	4-4-4-4	SB3-3-1*	SS	0.3
			CL-SILTY CLAY; 10YR grayish brown; firm; low plasticity; dry with small percent gray mottling. *Screening Results (2.5–4.5 BLS); TCA=0.2 ug/kg, CCl4=ND, TCE=ND, PCE=ND, BEN=25 ug/kg, TOL=ND, ETBZ=ND, XYL=ND, TVO=270.*		3-2-3-3	SB3-3-2	SS	0.8
5			CL-SILTY CLAY; 10YR 5/4 tannish brown with mottling of CLAY; 10YR 4/1 gray and CLAY, trace pebbles; 10YR 5/8 rust color; firm; low plasticity; moist. *Screening Results (4.5–6.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		2-3-4-4	SB3-3-3	SS	1.4
			CL-SANDY CLAY, very fine sand and pebbles (1–2 cm), 10YR 4/4 brown; moderately firm; moderate plasticity; moist with trace gray mottling. *Screening Results (6.5–8.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=330.*	0	3-4-6-7	SB3-3-4	SS	0.7
10			CL-SILTY CLAY; 10YR 4/4 brown; firm; moist; with 2" sand layer; fine; well sorted; well rounded. *Screening Results (8.5–10.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=100.*		2-2-2-3	SB3-3-5	SS	1.1
			CL-SILTY CLAY, trace pebbles; 10YR 4/4 brown; firm; low plasticity; moist. *Screening Results (10.5–12.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		2-2-5-7	SB3-3-6	SS	1.5
			CL-SILTY CLAY; 10YR 4/4 brown; firm; moist grades into SILTY SAND; very coarse; angular; poorly sorted; saturated. *Screening Results (12.5–14.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		5-8-11-9	SB3-3-7	SS	1.3
15	▼		SP-SAND, small percent gravel; very angular; poorly sorted; saturated. *Screening Results (14.5–16 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND. Screening Results (14.5–16 BLS) Duplicate; TCA=0.3 ug/kg, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=600.*		8-14-15	SB3-3-8*	SS	1.2
20			Bottom of Boring at 14.5 feet					

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SOIL BORING LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: SB3-4
Geologist: Tom Weatherly
Drilling Co: Environmental Exploration Inc.
Driller: Allan Wolfe
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 05-19-93/05-19-93

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 14
Elev (ft MSL): 1040.5
Coordinates (N,E) 1580.8, 2340.3
SAIC Proj No. 01-0827-03-0200-003

Depth (feet)	Water During Drilling	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (* = Sample sent to Lab)	Sample Type	Sample Rec (feet)
5			ML-SILT; 10YR 5/4 yellowish brown to 10YR 3/3 dark brown.	NR				
			GP-GRAVEL, some coarse sand; black; saturated.	NR	NR	3-4-1A	SS	1.0
			GP-SANDY-GRAVEL; black; saturated. (Hydrocarbon smell)	40	NR	3-4-1*	SS	0.5
10								
			CL-SILTY-CLAY; 10YR 4/2 dark greyish brown.	0	11-18-21-26	3-4-2*	SS	NR
15			*Bottom of Boring at 14 feet*					
20								

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SOIL BORING LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: SB3-5
Geologist: Tom Weatherly
Drilling Co: Environmental Exploration Inc.
Driller: Allan Wolfe
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 05-18-93/05-19-93

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 18
Elev (ft MSL): 1039.5
Coordinates (N,E) 1654.8, 2330.3
SAIC Proj No. 01-0827-03-0200-003

Depth (feet)	Water During Drilling	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (* = Sample sent to Lab)	Sample Type	Sample Rec (feet)
			No description.	NR				
5			GP-SANDY-GRAVEL; black; saturated. (Hydrocarbon odor)	5	NR	SB3-5-1*	SS	NR
			No description.					
10				5	NR	SB3-5-1A	SS	1.0
15				NR	NR	SB3-5-2*	SS	1.0
			Bottom of Boring at 18 feet					
20								

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SOIL BORING LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: SB4-1
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-12-92/08-12-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 8
Elev (ft MSL): 1040.2
Coordinates (N,E) 8720.9, 12232.7
SAIC Proj No. 01-0827-03-0200-002

Depth (feet)	Water During Drilling	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (* = Sample sent to Lab)	Sample Type	Sample Rec (feet)
			SM-SILTY SAND, some pebbles, fine sand; 10YR 3/3 brown; loose; well rounded sand; low plasticity; dry. *Screening Results (0.5-2.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	NR				
					18-20-21-13	SB4-1-1*	SS	1.1
	▼		CL-SILTY CLAY, trace fine sand; 10YR 3/6 dark yellowish brown; well rounded; dry to 4.0, moist below. *Screening Results (2.5-4.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		3-6-8-9	SB4-1-2*	SS	1.8
5			CL-CLAY, trace sand; 10YR 3/6 dark yellowish brown; moist. *Screening Results (4.5-6.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	0	2-2-4-4	SB4-1-3	SS	1.8
			CL-CLAY; 10YR 3/6 dark yellowish brown; saturated.					
			SP-CLAYEY SAND, very coarse, trace silt; 10YR 4/6 dark yellowish brown; angular sand; poorly sorted; wet.		1-3-3-11	SB4-1-4	SS	0.8
10			*Bottom of Boring at 8 feet*					
15								
20								

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SOIL BORING LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: SB4-2
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-12-92/08-12-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 6.5
Elev (ft MSL): 1040.9
Coordinates (N,E) 8758.8, 12268.4
SAIC Proj No. 01-0827-03-0200-002

Depth (feet)	Water During Drilling	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (* = Sample sent to Lab)	Sample Type	Sample Rec (feet)
			ML-SILT, trace sand; 10YR 3/4 dark yellowish brown; medium dense; dry. *Screening Results (0.5-2.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	NR	10-9-11-12	SB4-2-1*	SS	1.5
5	▽		ML-SANDY SILT, trace pebbles; 10YR 3/3 brown; dry to 4.0, wet below. *Screening Results (2.5-4.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND. Screening Results (4.5-6.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	0	2-8-12-16	SB4-2-2*	SS	1.8
				NR	3-7-7-12	SB4-2-3	Grab	2.0
			SM-SILTY SAND, very coarse sand; 10YR 4/6 dark yellowish brown; angular; poorly sorted; saturated. *Screening Results (6.5-8.5 BLS); TCA=0.3 ug/kg, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=120.*	0	1-5-10-12	SB4-2-4	SS	1.8
10			*Bottom of Boring at 6.5 feet*					
15								
20								

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SOIL BORING LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: SB4-3
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-12-92/08-12-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 8.5
Elev (ft MSL): 1041.0
Coordinates (N,E) 8722.7, 12277.2
SAIC Proj No 01-0827-03-0200-002

Depth (feet)	Water During Drilling	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (* = Sample sent to Lab)	Sample Type	Sample Rec (feet)
			ML-CLAYEY SILT, trace fine sand and pebbles; 5YR 3/1 very dark gray; loose; dry. *Screening Results (0.5-2.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=260.*	NR				
				0	11-11-13-14	SB4-3-1*	SS	1.3
	▼		ML-SILT, trace fine sand and pebbles; 10YR 4/4 dark yellowish brown; loose; moist to wet. *Screening Results (2.5-4.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND. Screening Results (4.5-6.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=68 ug/kg, TOL=214 ug/kg, ETBZ=622 ug/kg, XYL=674 ug/kg, TVO=5,900.*		3-4-8-8	SB4-3-2*	SS	0.5
5				2	4-4-4-5	SB4-3-3*	SS	1.0
			ML-SILT, trace pebbles and very fine sand; 10YR 3/3 dark brown; saturated. *Screening Results (6.5-8.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*	0	4-4-5-4	SB4-3-4	SS	1.0
10			*Bottom of Boring at 8.5 feet*					
15								
20								

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OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: SB5-1
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-17-92/08-17-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 27
Elev (ft MSL): 1042.0
Coordinates (N,E) 10032.9, 13072.3
SAIC Proj No. 01-0827-03-0200-002

Depth (feet)	Water During Drilling	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (* = Sample sent to Lab)	Sample Type	Sample Rec (feet)
			CL-CLAY, trace coarse sand and medium pebbles; 10YR 4/3 brown to dark brown; loose; moist.					
5			CL-SILTY CLAY, trace coarse sand; 10YR 4/6 dark yellowish brown; loose; moist. *Screening Results (5-7 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		2-3-4-7	SB5-1-1*	SS	2.0
			ML-CLAYEY SILT, trace coarse sand and medium to large pebbles; 10YR 3/3 dark brown; firm; moderate plasticity. *Screening Results (7-9 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=170.*		1-1-3-3	SB5-1-2	SS	1.4
10								
			CL-SILTY CLAY, trace medium pebbles; 10YR 4/1 dark gray; firm; high plasticity; consistant; loose; moist. *Screening Results (11-13 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=130.*		2-3-7-6	SB5-1-3	SS	2.0
15								
			CL-SILTY CLAY, trace very coarse sand and medium to large pebbles; 10YR4/1 dark gray; firm; consistant; high plasticity; dense; moist.		3-3-5-5	SB5-1-4	SS	1.4
					2-4-5-6	SB5-1-5	SS	1.7
20								
			CL-SILTY CLAY, trace medium to large pebbles and sand; 10YR4/1 dark gray; firm; consistant; high plasticity; wet.		3-8-13-11	SB5-1-6	SS	1.2
25	▼		SP-SAND, very coarse, some pebbles; 10YR 3/1 very dark gray; loose; poorly sorted; saturated. *Screening Results (25-27 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		7-7-7-12	SB5-1-7*	SS	1.9
			Bottom of Boring at 27 feet					
30								

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OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: SB5-2
Geologist: Paul Parrish
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-18-92/08-18-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 31
Elev (ft MSL): 1048.8
Coordinates (N,E): 9336.5, 13131.6
SAIC Proj No: 01-0827-03-0200-002

Depth (feet)	Water During Drilling	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (* = Sample sent to Lab)	Sample Type	Sample Rec (feet)
0			CL-CLAY, trace silt and coarse sand; 2.5YR 4/4 olive brown; dense; moist. *Screening Results (5-7 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=1,500.*					
5					2-4-4-5	SB5-2-1*	SS	1.2
10								
15			CL-SANDY CLAY, coarse sand; 10YR 3/3 dark brown; consistant; dense; firm; moist.	NR			Grab	1.0
20								
25			CL-SILTY CLAY, small percent very coarse sand and medium pebbles; 10YR 4/1 dark gray; dense; moist.		7-4-4-10	SB5-2-2*	SS	1.5
			CL-SANDY CLAY, very coarse sand; 10YR 4/1 dark gray; dense; moist; large limestone cobble.		2-5-13	SB5-2-3	SS	1.0
30								
	▽		SP-SAND, very coarse, medium pebbles; 10YR 3/1 very dark gray; poorly sorted; saturated. *Screening Results (31-32.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		3-8-13	SB5-2-4	SS	0
35			*Bottom of Boring at 31 feet*					

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SOIL BORING LOG

OHIO AIR NATIONAL GUARD IRP SITE INVESTIGATION
SPRINGFIELD AIR NATIONAL GUARD BASE

Borehole No.: SB5-3
Geologist: Tom Weatherly
Drilling Co: Environmental Exploration Inc.
Driller: Jeffery Childs
Drilling Meth: Hollow Stem Auger
Start/Finish Date: 08-18-92/08-18-92

Site Location: Springfield ANGB
County: Clark
Total Depth (feet): 28.5
Elev (ft MSL): 1042.2
Coordinates (N,E) 10303.9, 13384.6
SAIC Proj No. 01-0827-03-0200-002

Depth (feet)	Water During Drilling	Lithologic Symbol	Material Description	HNU (ppm)	Blows/6 in.	Sample No. (* = Sample sent to Lab)	Sample Type	Sample Rec (feet)
			ML-SANDY SILT, trace clay; 10YR 5/4 light olive brown; dry. *Screening Results (0.5-2 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		7-11-9	SB5-3-1*	SS	0
5								
10			ML-SANDY SILT, trace medium pebbles; 10YR 5/4; moist.				Grab	1.0
			ML-SANDY SILT, trace clay; 10YR 4/4 olive brown.				Grab	1.0
15								
			ML-SANDY SILT, some cobbles (up to 40 mm), trace clay; 2.5YR 4/2 dark grayish brown; slightly moist.				Grab	1.0
20								
			ML-CLAYEY SILT, some coarse sand and gravel; 10YR 4/1 dark gray; moist.				Grab	2.0
25					9-11-23-24	No Recovery	SS	0
	▼		ML-CLAYEY SILT, some coarse sand and gravel; 10YR 4/2 dark grayish brown; firm; consistant; saturated. *Screening Results (26.5-28.5 BLS); TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND. Screening Results (26.5-28.5 BLS) Duplicate; TCA=ND, CCl4=ND, TCE=ND, PCE=ND, BEN=ND, TOL=ND, ETBZ=ND, XYL=ND, TVO=ND.*		2-8-11-12	SB5-3-2*	SS	NR
30			*Bottom of Boring at 26.5 feet*					

AQUIFER TESTING

Introduction

Single well aquifer testing was used to aid in the aquifer characterization at the Springfield OANG Air Station in Springfield, Ohio. Values of hydraulic conductivity were estimated using data generated from single well slug tests in 6 monitoring wells. A "slug" (ie. an enclosed cylinder of known volume) was used to instantaneously displace known volumes of water within each monitoring well, subsequently, raising or lowering the water level within the wells. The re-equilibration of the water level within each well to the instantaneous stress was accurately measured using a pressure transducer and an automatic recording device. After the water level within each well had re-equilibrated, or after sufficient time had passed to effectively characterize the rate of re-equilibration, the tests were ended. The recorded water level measurements and times were then analyzed using a slug test model for unconfined aquifers which provided estimates of hydraulic conductivity.

Methodology

All down-hole equipment was decontaminated before and after each slug test as specified in FP 3-1 of the SOPs (Science Applications International Corporation, 1991).

Water levels within all monitoring wells were recorded with an electric water level indicator and allowed to equilibrate to atmospheric pressure prior to all slug testing.

An In-Situ Inc. Hermit Environmental Data Logger (Model SE 1000C) and an In-Situ Inc. 50 psi pressure transducer were used to record all slug test data. Before each test the pressure transducer was lowered to at least 10 feet below the water level or to within 1 foot of the bottom of the well. Water levels within the wells were then monitored periodically until becoming stable. The pressure transducer was then checked for accuracy by taking a water level reading, raising the pressure transducer a measured distance, taking another water level reading, and comparing the difference of the pressure transducer water level readings to that of the measured distance. The data logger was then programmed by entering a slug test identification number, specific pressure transducer information, and the frequency at which to take water level measurements.

A 6-foot, 1¼-inch outer diameter stainless steel slug was used in all slug tests. The slug was quickly lowered ("slug in") to approximately 0.5 feet above the pressure transducer (to obtain a maximum displacement) at the beginning of each test while simultaneously starting the data logger.

Water levels were continuously recorded by the data logger and periodically monitored by field personnel to track the re-equilibration of the water level within the wells. When re-equilibration was complete, or after sufficient time had passed to effectively characterize the rate of re-equilibration, the data logger was stopped. If water levels had completely re-equilibrated, a second slug test was performed by instantaneously removing the slug ("slug out").

Slug test data were down-loaded and saved in magnetic format at the end of each day.

After all the slug test data were collected, the data were analyzed using the Bouwer and Rice slug test method (Bouwer and Rice, 1976; Bouwer, 1989a; Bouwer, 1989b) as outlined in Appendix A.

Results

The results of the Bouwer and Rice slug test analyses are tabulated in Table 1.

Table 1: Bouwer and Rice Slug Test Results

Well Identification	Test Type	Estimated Hydraulic Conductivity (ft/min)
MWBG1-1	Slug In	displacement too small
	Slug Out	4.129×10^{-2}
MWBG2-1	Slug In	displacement too small
	Slug Out	2.822×10^{-4}
MW1-1	Slug In	5.459×10^{-5}
MW2-1	Slug In	6.866×10^{-4}
	Slug Out	water level below pressure transducer
MW3-1	Slug In	2.101×10^{-5}
MW4-1	Slug In	1.620×10^{-4}
	Slug Out	2.828×10^{-4}

Discussion and Conclusions

The accuracy of the pressure transducer was checked prior to each slug test. The recorded difference between pressure transducer readings for a measured distance never exceeded ±2%, which is considered acceptable for a Hermit 50 psi pressure transducer.

Data collected from the "slug in" tests for MWBG1-1 and MWBG2-1 were not used due to low initial head displacements. The difference in head displacements between the "slug in" and "slug out" tests was probably the result of the different rates the slug was lowered and raised; the slug was much easier to remove from the well ("slug out") and therefore could be done quicker. Data from a "slug out" test was unobtainable for MW2-1 because the water level within the well went below the pressure transducer. "Slug out" tests were not performed for monitoring wells MW1-1 and MW3-1 due to very low recovery rates.

Various assumptions regarding the hydrogeology were made to accommodate the monitoring well data to the Bouwer and Rice model. Some of these assumptions include:

- The aquifer is unconfined. Only monitoring well MWBG2-1 has characteristics of a confined aquifer. Ground water was not encountered during drilling until a sand zone, approximately 17 feet below ground surface, was drilled into. Current water level measurements are approximately 5 feet below ground surface, which supports the concept of confining pressures in this sand unit. However, it was not possible to fit the slug test data for this well to a confined aquifer slug test model.

- The aquifer bottom is at the bottom of the screened portion of the well. True aquifer classifications and depths are unknown at the site, therefore, for reasons of consistency, the thickness of the aquifer was considered to be from the water table to the bottom of the screen in the well. Under homogeneous and horizontal flow conditions, hydraulic conductivity values would be relatively insensitive to changes in the aquifer thickness parameter.

- The saturated material along the screened section of the well is one hydrogeologic unit. The geologic sequences along the screened portion of the wells are actually comprised of different units of silts and clays, and even sands in some wells. In this scenario, under horizontal flow conditions, the single value of hydraulic conductivity calculated for each well would actually represent the arithmetic average of each unit's hydraulic conductivity.

The calculated hydraulic conductivities for monitoring wells MWBG2-1, MW1-1, MW2-1, MW3-1, and MW4-1 are consistent with values common to silt, and the calculated hydraulic conductivity for monitoring well MWBG1-1 is similar to values common for a clean sand (Freeze and Cherry, 1979). The sand unit in monitoring well MWBG1-1 comprises approximately 50% of the saturated sequence, and, as shown in Table 1, the resulting calculated hydraulic conductivity is greatly influence by this permeable sand. However, the sand units present in MWBG2-1 and MW1-1 apparently do not contribute to the calculated hydraulic conductivities for these wells.

The pre-slug test water levels for all monitoring wells, except MW4-1, were recorded to fall within the screened portion of the wells. Therefore, adjustments to the casing radii (r_c) and screen lengths (L) were made (as outlined by Bouwer 1989a, 1989b) to account for the effects of the gravel pack and original borehole diameter on water level changes in the screened portion of the wells (Appendix A, Appendix B).

References

Bouwer, H. and R.C. Rice, 1976. "A Slug Test for Determining Hydraulic Conductivity of Unconfined Aquifers With Completely or Partially Penetrating Wells," *Water Resources Research*, v. 12, pp. 423-428.

Bouwer, H., 1989a. "The Bouwer and Rice Slug Test - An Update," *Ground Water*, v. 27, n. 3, pp. 304-309.

Bouwer, H., 1989b. "DISCUSSION OF 'The Bouwer and Rice Slug Test - An Update,'" *Ground Water*, v. 27, n. 5, p. 715.

Freeze, R.A. and J.A. Cherry, 1979. Groundwater, Prentice-Hall, Inc., Englewood Cliffs, N.J., 604 p.

Kruseman, G.P. and N.A. de Ridder, 1990. Analysis and Evaluation of Pumping Test Data, International Institute for Land Reclaimation and Improvement, Wageningen, The Netherlands, 377 p.

Science Applications International Corporation, 1991. *Installation Restoration Program, Ohio Air National Guard, Springfield-Beckley Municipal Airport, Springfield, Ohio and Blue Ash National Guard Station, Cincinnati, Ohio, Standard Operating Procedures*, Draft Final.

ATTACHMENT 1

The Bouwer and Rice Slug Test Model

Theory

Based on the Thiem equation, Bouwer and Rice (1976) developed a method to determine the hydraulic conductivity of an unconfined aquifer from a slug test. The method accommodates a variety of well geometries including partial penetration and screened or open wells. The ground water flow rate into the well when the water level in the well is a distance y (Figure 1) above or below the static ground water table is described by the Thiem equation as:

$$Q = 2\pi KL\frac{y}{\ln(R_e/r_w)} \quad (1)$$

where;

Q	=	volumetric flow rate into well, [L^3/T];
K	=	hydraulic conductivity of aquifer around well, [L/T];
L	=	length of screened or open section of well, [L] (Figure 1);
R_e	=	effective radius over which y is dissipated, [L];
r_w	=	radial distance to undisturbed portion of aquifer, [L] (Figure 1).

The rate of change (dy/dt) of the water level in the well is defined as:

$$\frac{dy}{dt} = -\frac{Q}{\pi r_c^2} \quad (2)$$

Combining equations 1 and 2, integrating the result and solving for hydraulic conductivity (K) yields:

$$K = \frac{r_c^2 \ln(R_e/r_w)}{2L}\frac{1}{t}\ln\frac{y_o}{y_t} \quad (3)$$

where;

r_c	=	radial distance of well casing, [L] (Figure 1),
y_o	=	y at time 0, [L],
y_t	=	y at time t, [L].

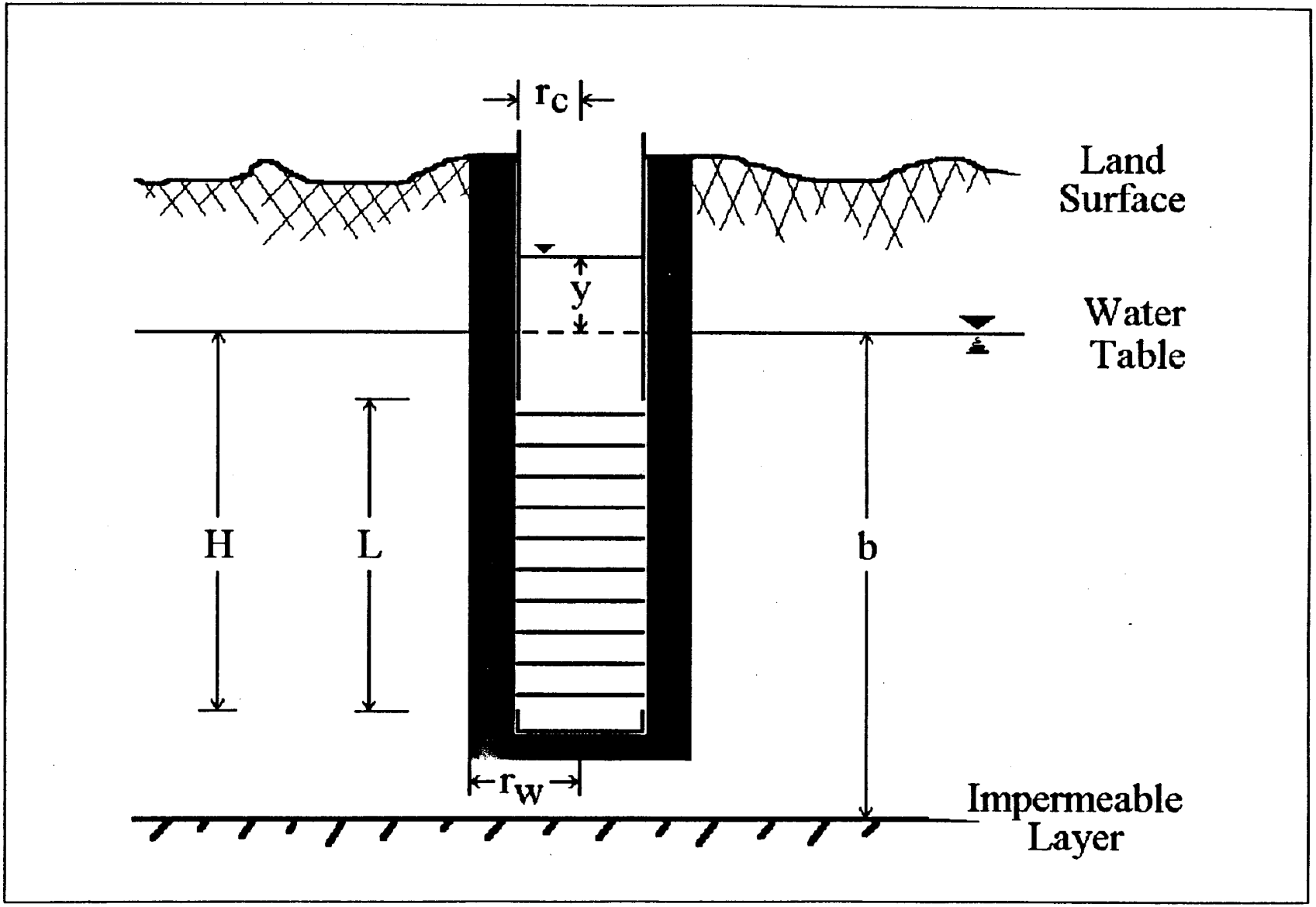


Figure 1: Bouwer and Rice Well and System Definitions

A set of empirical equations, developed experimentally, were derived by Bouwer and Rice which relate R_e to the geometry and boundary conditions of the system. For a partially penetrating well:

$$\ln\frac{R_e}{r_w} = \left[\frac{1.1}{\ln(H/r_w)} + \frac{A+B\ln[(b-H)/r_w]}{L/r_w}\right]^{-1} \quad (4)$$

and for a fully penetrating well:

$$\ln\frac{R_e}{r_w} = \left[\frac{1.1}{\ln(H/r_w)} + \frac{C}{L/r_w}\right]^{-1} \quad (5)$$

where;

A,B,C = parameters which are functions of L/r_w, [dimensionless];
H = depth from the original water table to the bottom of the well, [L] (Figure 1);
b = depth from the original water table to the bottom of the aquifer, [L] (Figure 1).

When the ground water level is below the top of the screen (Figure 1), Bouwer (1989a,b) stated L should be taken as only the length of the screen that is below the static water table. In addition, water level changes in the screened or open section of the well with a gravel pack should be accounted for by using the thickness and porosity of the gravel envelope when calculating the equivalent value of r_c for the rising water level. This calculation is as follows:

$$r_{eq}=\sqrt{[(1-n)r_c^2+nr_w^2]} \quad (6)$$

where;

r_{eq} = equivalent casing radius, [L].

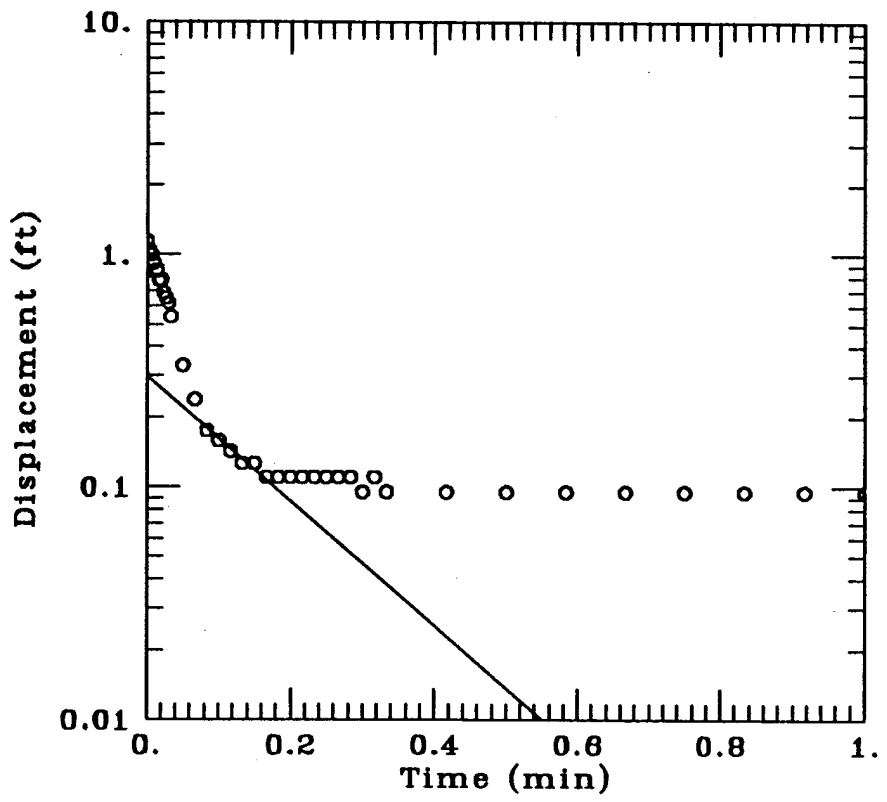
Data Analysis Procedure

Values of y_t are plotted versus t on a semi-logarithmic graph (y_t on the logarithmic axis), and a straight line is fit through the data points. From the straight line an arbitrary value of t and the corresponding y_t are chosen. Knowing L/r_w, values for A and B, for partially penetrating wells (or C, for fully penetrating wells), are determined graphically (Bouwer and Rice, 1976). The term $\ln(R_e/r_w)$ is solved for knowing values of A and B (or C), b, H, L, and r_w using equation 4 for partially penetrating wells, or equation 5 for fully penetrating wells. Using equation 3, K is calculated knowing $\ln(R_e/r_w)$, t, y_o, y_t, r_c and L.

ATTACHMENT 2

S. A. I. C.	Client: Ohio Air National Guard
Project No.: 01-0513-03-0200-xxx	Location: Springfield, Ohio

Bouwer and Rice Slug Test Analysis



DATA SET:
BGMW1B.DAT
10/27/92

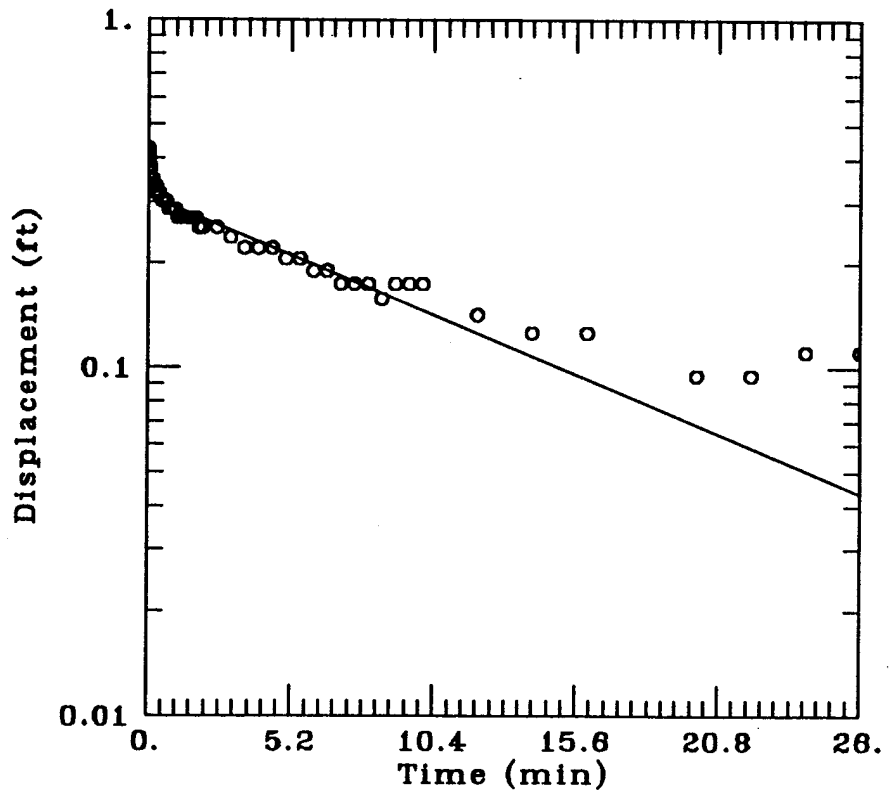
AQUIFER TYPE:
Unconfined
SOLUTION METHOD:
Bouwer-Rice
TEST DATE:
September 29, 1992
TEST WELL:
BGMW1-1
OBS. WELL:
N/A

ESTIMATED PARAMETERS:
K = 0.04129 ft/min
y0 = 0.2977 ft

TEST DATA:
H0 = 1.14 ft
rc = 0.19 ft
rw = 0.33 ft
L = 5.62 ft
b = 5.62 ft
H = 5.62 ft

S. A. I. C.	Client: Ohio Air National Guard
Project No.: 01-0513-03-0200-xxx	Location: Springfield, Ohio

Bouwer and Rice Slug Test Analysis



DATA SET:
BGMW2B.DAT
10/27/92

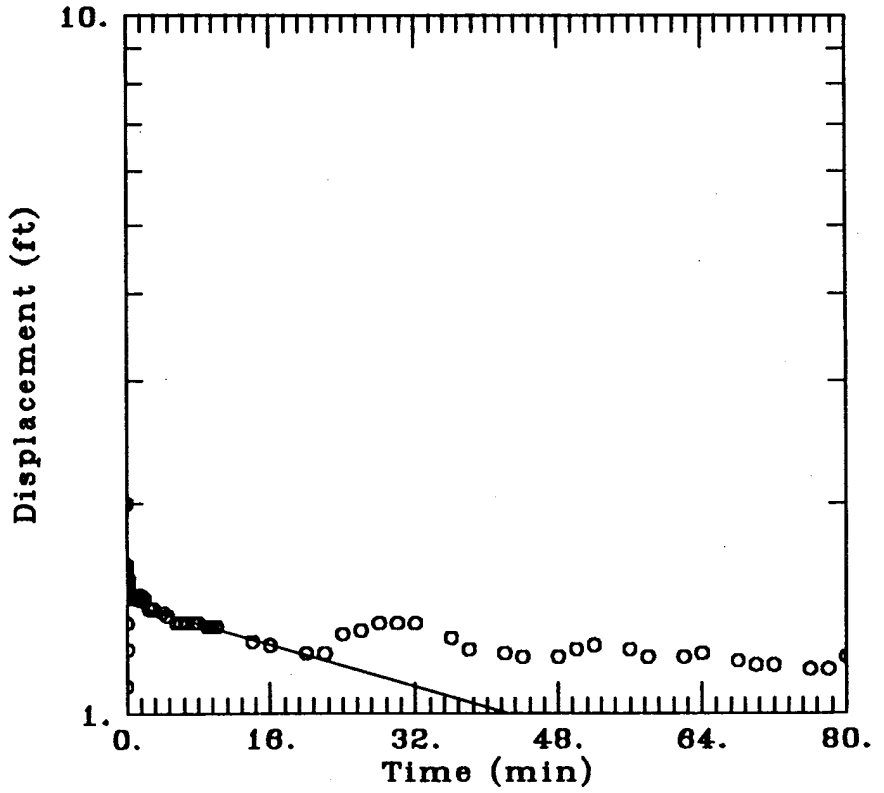
AQUIFER TYPE:
Unconfined
SOLUTION METHOD:
Bouwer-Rice
TEST DATE:
September 28, 1992
TEST WELL:
BGMW2-1
OBS. WELL:
N/A

ESTIMATED PARAMETERS:
K = 0.0002822 ft/min
y0 = 0.3108 ft

TEST DATA:
H0 = 0.427 ft
rc = 0.19 ft
rw = 0.33 ft
L = 13.8 ft
b = 13.8 ft
H = 13.8 ft

S. A. I. C.	Client: Ohio Air National Guard
Project No.: 01-0513-03-0200-xxx	Location: Springfield, Ohio

Bouwer and Rice Slug Test Analysis



DATA SET:
MW1-1.DAT
10/27/92

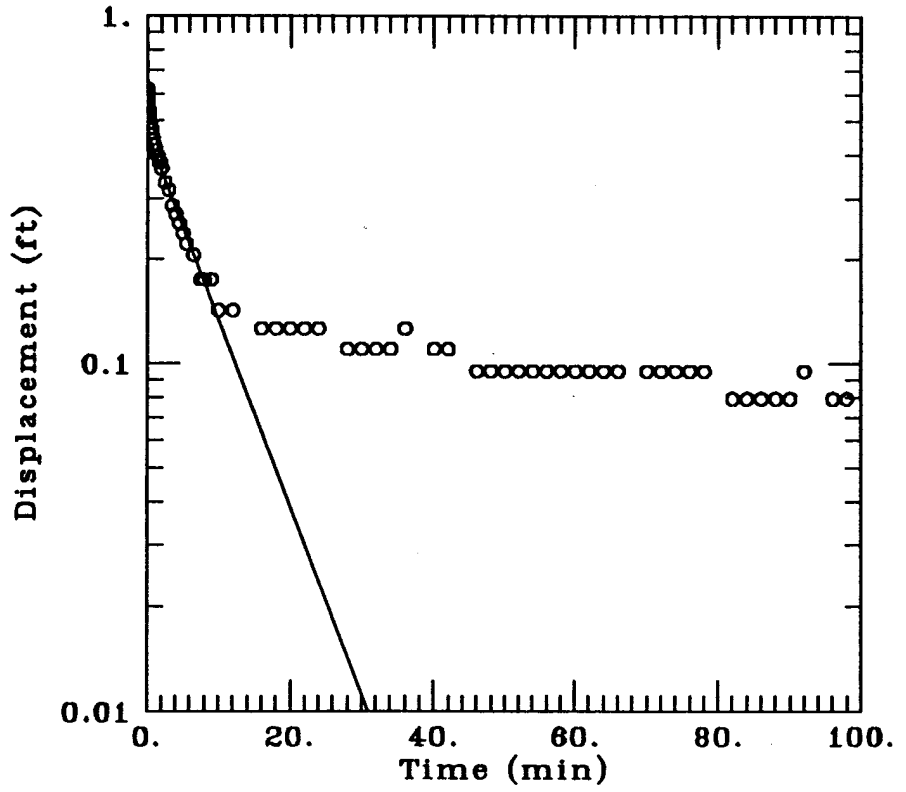
AQUIFER TYPE:
Unconfined
SOLUTION METHOD:
Bouwer-Rice
TEST DATE:
September 29, 1992
TEST WELL:
MW1-1
OBS. WELL:
N/A

ESTIMATED PARAMETERS:
K = 5.4595E-05 ft/min
y0 = 1.437 ft

TEST DATA:
H0 = 1.631 ft
rc = 0.19 ft
rw = 0.33 ft
L = 6.12 ft
b = 6.12 ft
H = 6.12 ft

S. A. I. C.	Client: Ohio Air National Guard
Project No.: 01-0513-03-0200-xxx	Location: Springfield, Ohio

Bouwer and Rice Slug Test Analysis



DATA SET:
MW2-1A.DAT
10/27/92

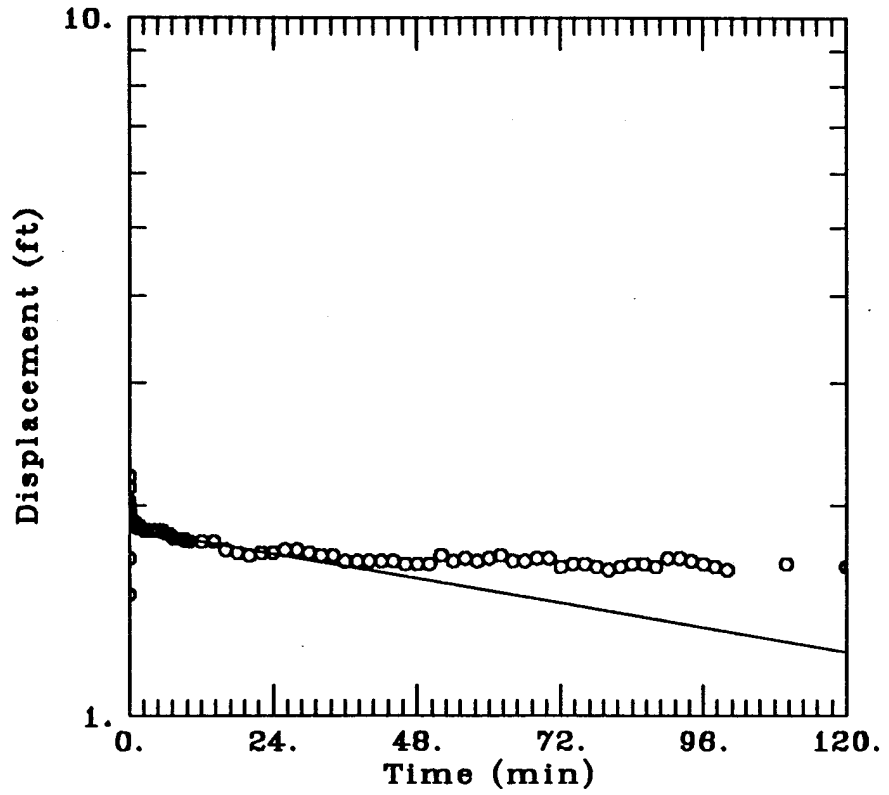
AQUIFER TYPE:
Unconfined
SOLUTION METHOD:
Bouwer-Rice
TEST DATE:
October 6, 1992
TEST WELL:
MW2-1
OBS. WELL:
N/A

ESTIMATED PARAMETERS:
K = 0.0006866 ft/min
y0 = 0.4545 ft

TEST DATA:
H0 = 0.617 ft
rc = 0.19 ft
rw = 0.33 ft
L = 7.6 ft
b = 7.6 ft
H = 7.6 ft

S. A. I. C.	Client: Ohio Air National Guard
Project No.: 01-0513-03-0200-xxx	Location: Springfield, Ohio

Bouwer and Rice Slug Test Analysis



DATA SET:
MW3-1.DAT
10/27/92

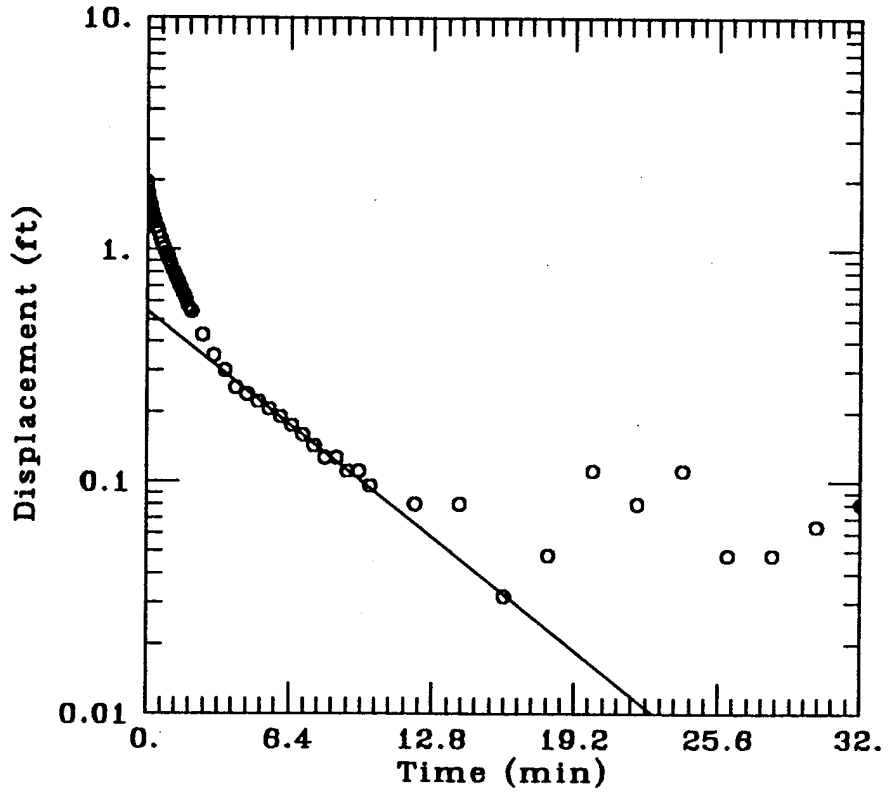
AQUIFER TYPE:
Unconfined
SOLUTION METHOD:
Bouwer-Rice
TEST DATE:
September 29, 1992
TEST WELL:
MW3-1
OBS. WELL:
N/A

ESTIMATED PARAMETERS:
K = 2.1016E-05 ft/min
y0 = 1.846 ft

TEST DATA:
H0 = 2.202 ft
rc = 0.19 ft
rw = 0.33 ft
L = 6.36 ft
b = 6.36 ft
H = 6.36 ft

S. A. I. C.	Client: Ohio Air National Guard
Project No.: 01-0513-03-0200-xxx	Location: Springfield, Ohio

Bouwer and Rice Slug Test Analysis



DATA SET:
mw4-1a.dat
10/26/92

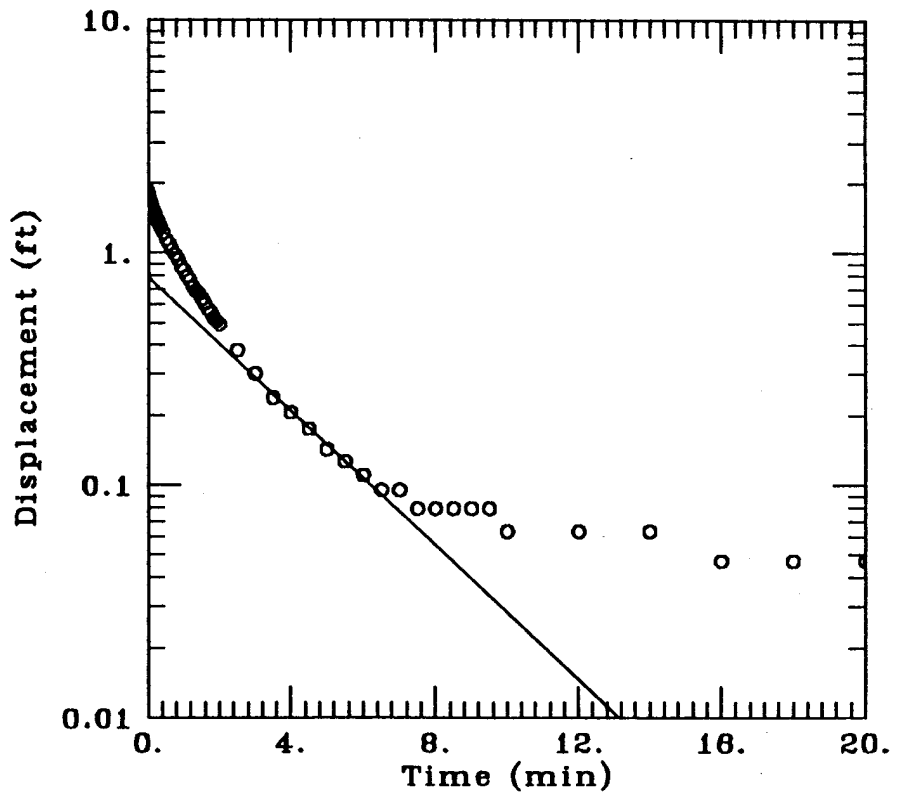
AQUIFER TYPE:
Unconfined
SOLUTION METHOD:
Bouwer-Rice
TEST DATE:
September 28, 1992
TEST WELL:
MW4-1
OBS. WELL:
N/A

ESTIMATED PARAMETERS:
K = 0.000162 ft/min
y0 = 0.5401 ft

TEST DATA:
H0 = 1.328 ft
rc = 0.083 ft
rw = 0.33 ft
L = 10. ft
b = 11.67 ft
H = 11.67 ft

S. A. I. C.	Client: Ohio Air National Guard
Project No.: 01-0513-03-0200-xxx	Location: Springfield, Ohio

Bouwer and Rice Slug Test Analysis



DATA SET:
mw4-1b.dat
11/02/92

AQUIFER TYPE:
Unconfined
SOLUTION METHOD:
Bouwer-Rice
TEST DATE:
September 28, 1992
TEST WELL:
MW4-1
OBS. WELL:
N/A

ESTIMATED PARAMETERS:
K = 0.0002828 ft/min
y0 = 0.7762 ft

TEST DATA:
H0 = 1.837 ft
rc = 0.08 ft
rw = 0.33 ft
L = 10. ft
b = 11.48 ft
H = 11.48 ft

1.0 BLUE ASH AND SPRINGFIELD ANG INVESTIGATION

Tracer Research Corporation (Tracer Research) performed a shallow soil gas investigation at the Blue Ash Air National Guard (ANG) in Cincinnati, Ohio, and the Springfield ANG in Springfield, Ohio. The investigation was conducted April 28 through May 4, 1992 for Science Applications International Corporation (SAIC).

1.1 Objective

The purpose of the investigation was to evaluate the extent of possible subsurface contamination by screening shallow soil gas for the presence of volatile organic chemicals (VOCs). Soil gas samples were collected and analyzed for the following halocarbons and hydrocarbons.

1,1,1-trichloroethane (TCA)
trichloroethene (TCE)
tetrachloroethene (PCE)
carbon tetrachloride (CCl_4)
benzene, toluene, ethylbenzene, and xylenes (BTEX)
total volatile hydrocarbons (TVHC)

1.2 Overview of Results

For this investigation, 114 soil gas samples were collected at depths of 1.5 to 10 feet below grade from 114 locations. At the Blue Ash ANG site, low levels of benzene, TVHC, TCA, TCE, PCE, and CCl_4 were detected in concentrations ranging from 0.0004 to 1 micrograms per liter (ug/l).

At the Springfield ANG site, benzene and TVHC were detected throughout the site in concentrations ranging from 0.008 to 670 ug/l. Toluene was detected at one location at a concentration of 22 ug/l and xylenes were detected at four locations in concentrations from 3 to 13 ug/l. Low levels of TCA, TCE, PCE, and CCl_4 were also detected at this site in concentrations from 0.0004 to 0.3 ug/l.

2.0 SITE DESCRIPTION

The subsurface of both the Blue Ash ANG and Springfield ANG sites consists of clay and sand interfaces. The depth to groundwater at the Blue Ash ANG site is 6 to 8 feet below grade. The groundwater flow is to the southeast. The depth to groundwater at the Springfield ANG site is 2 to 10 feet below grade. The direction of the groundwater flow is unknown.

3.0 SAMPLING PARAMETERS

Soil gas sampling probes consisted of 7- and 14-foot lengths of 3/4-inch diameter hollow steel pipe. The probes were fitted with detachable drive tips and advanced to the desired depth. The probes at Blue Ash ANG were hand pounded to depths of 1.5 to 3 feet below grade. The probes at the Springfield ANG were hydraulically pushed to depths of 2 to 10 feet below grade.

The aboveground end of each probe was fitted with an aluminum reducer (manifold) and a length of polyethylene tubing leading to a vacuum pump. Soil gas was pulled by the vacuum pump into the probe. Samples were collected in a glass syringe by inserting a syringe needle through a silicone rubber segment in the evacuation line and down into the steel probe. The vacuum was monitored by a vacuum gauge to ensure an adequate gas flow from the vadose zone was maintained.

The volume of air within the probe was purged by evacuating 2 to 5 probe volumes of gas. The evacuation time in minutes versus the vacuum in inches of mercury (Hg) was used to calculate the necessary evacuation time. The vacuum in inches Hg was recorded at each sampling location.

Except for Samples BA-SG-EF-1 and BA-SG-EF-3, sample probe vacuums at the Blue Ash ANG ranged from 3 to 12 inches Hg. Both BA-SG-EF-1 and BA-SG-EF-3 had vacuums of 15 inches Hg. The maximum vacuum recorded at the Blue Ash ANG was 26 inches Hg.

Except for Samples S-LF-SG-B12, S-LF-SG-D6, and S-LF-SG-D2, sample probe vacuums at the Springfield ANG ranged from 3 to 20 inches Hg. Sample S-LF-SG-B12 had a vacuum of 22 inches Hg; S-LF-SG-D6 and S-LF-SG-D2 had vacuums of 23 inches Hg. The maximum vaccum recorded at the Springfield ANG was 26 inches Hg.

At the Blue Ash ANG, a strong hydrocarbon odor was persceptible in Sample BA-SG-CD-2. At the Springfield ANG, water was encountered at sampling locations S-LF-SG-B8, S-LF-SG-J0, S-LF-SG-F0, S-LF-SG-B6, and S-FL-SG-F6 at 4 to 6 feet below grade.

4.0 ANALYTICAL PARAMETERS

During this investigation, at the Blue Ash ANG 4 to 8 milliliters (ml) of soil gas were collected for each sample and immediately analyzed in the Tracer Research analytical van. Subsamples (duplicates) from these samples were injected into the gas chromatograph (GC) in a volume of 500 microliters (ul).

At the Springfield ANG, 3 to 9 ml of soil gas were collected for each sample and immediately analyzed. Subsamples from these samples were injected into the GC in volumes of 1 to 1,000 ul.

4.1 Analyte Class

The soil gas samples were analyzed for the following analyte classes and compounds:

Analyte Class: Aromatic, Aliphatic, and Alicyclic Hydrocarbon
benzene, toluene, ethylbenzene, xylenes (BTEX)
total volatile hydrocarbons (TVHC

Analyte Class: Halogenated hydrocarbon
1,1,1-trichloroethane (TCA)
trichloroethene (TCE)
tetrachloroethene (PCE)
carbon tetrachloride (CCl_4)

4.2 Chromatographic System

A Hewlett Packard 5890 Series II gas chromatograph, equipped with an electron capture detector (ECD), a flame ionization detector (FID), and two computing integrators. was used for the soil gas analyses. Compounds were separated in the GC on 6 foot by 1/8

inch outer diameter (OD) packed analytical columns with chromosorb (OV101) as the stationary phase in a temperature controlled oven. Hydrocarbons were detected on the FID and halocarbons were detected on the ECD. Nitrogen was used as the carrier gas. The instrument calibrations were checked periodically throughout each day to monitor the response factor and retention time. The following paragraphs explain the GC, ECD, and FID processes.

GC Process

The soil gas vapor is injected into the GC where it is swept through the analytical column by the carrier gas. The detector senses the presence of a component different from the carrier gas and converts that information to an electrical signal. The components of the sample pass through the column at different rates, according to their individual properties, and are detected by the detector. Compounds are identified by the time it takes them to pass through the column (retention time).

ECD Process

The ECD captures low energy thermal electrons that have been ionized by beta particles. The flow of these captured electrons into an electrode produces a small current, which is collected and measured. When the halogen atoms (halocarbons) are introduced into the detector, electrons that would otherwise be collected at the electrode are captured by the sample, resulting in decreased current. The current causes the computing integrator to record a peak on a chromatogram. The area of the peak is compared to the peak generated by a known standard to determine the concentration of the analyte.

FID Process

The FID utilizes a flame produced by the combustion of hydrogen and air. When a component, which has been separated on the GC analytical column, is introduced into the flame, a large increase in ions occurs. A collector with a polarizing voltage is applied near the flame and the ions are attracted and produce a current, which is proportional to the amount of the sample compound in the flame. The electrical current causes the computing integrator to record a peak on a chromatogram. By measuring the area of the peak and comparing that area to the integrator response of a known aqueous standard, the concentration of the analyte in the sample is determined.

4.3 Analyses

The detection limits for target compounds depend on the sensitivity of the detector to the individual compound as well as the volume of the injection. The detection limits of the target compounds were calculated from the response factor, the sample size, and the calculated minimum peak size (area) observed under the conditions of the analyses. If any compound was not detected in an analysis, the detection limit is given as a "less than" value, e.g., <0.1 micrograms per liter (ug/l). The detection limits for the target compounds are presented for both sites in the table below.

Table 1. Detection Limits for Soil Gas Compounds

Compound	Detection Limits (ug/l)	
	Blue Ash	Springfield
benzene	0.06	0.05
toluene	0.1	0.01
ethylbenzene	0.3	0.05
xylenes	0.3	0.05
total volatile hydrocarbons	0.3	0.06
1,1,1-trichloroethane	0.0004	0.0005
trichloroethene	0.0008	0.0004
tetrachloroethene	0.001	0.0005
carbon tetrachloride	0.0004	0.0005

5.0 QUALITY ASSURANCE AND QUALITY CONTROL

Tracer Research's Quality Assurance (QA) and Quality Control (QC) program was followed to maintain data that was reproducible through the investigation. An overview presenting the significant aspects of this program is presented below.

Soil Gas Sampling Quality Assurance

To ensure consistent collection of soil gas samples, the following procedures are performed:

- Sampling Manifolds

Tracer Research's custom designed sampling manifold connects the sample probe to the vacuum line and pump. The manifold is designed to eliminate sample exposure to the polymeric (plastic) materials that connect the probe to the vacuum pump.

The sampling manifold attached to the end of the probe, forming an air tight union between the probe and the silicon tubing septum. The septum connect the manifold to the pump vacuum line and permits syringe sampling.

This sampling system allows the sample to be taken upstream of the sampling pump, manifold, and septum. Since cross contamination of sampling equipment can be a major problem, Tracer Research replaces the materials (probe and syringe), between sampling points, that contact the soil gas before or during sampling. If the equipment is contaminated, all the components are replaced. At the end of each day the manifold is cleaned with soap and water and baked in the GC oven.

-Sampling Probes

Steel probes are used only once each day. To eliminate the possibility of cross contamination, they are washed with high pressure soap and hot water spray, or steam-cleaned. Enough sampling probes are carried on each van to avoid the need to re-use any during the day.

-Glass Syringes

Glass syringes are usually used for only one sample a day and are washed and baked out at night. If they must be used twice, they are purged with carrier gas (nitrogen) and baked out between probe samplings.

-Sampling Efficiency

Soil gas pumping is monitored by a vacuum gauge to ensure that an adequate flow of gas from the vadose zone is maintained. A reliable gas sample can be obtained if the sample vacuum gauge reading is at least 2 inches Hg less than the maximum measured vacuum of the vacuum pump.

Analytical Quality Assurance Samples

Quality assurance samples are performed at the below listed, or greater, frequencies according to the number of soil gas samples analyzed:

Table 2. Quality Assurance Samples

Sample type	Frequency
Ambient Air Samples	2 per day or per site
Analytical Method Blanks	5% (1 per 20 samples or 1 a day)
Continuing Calibration Check	20% (1 every 5 samples)
Field System Blank	10% (1 every 10 samples or 1 a day)
Reagent Blank	1 per set of working standards
Duplicate Samples	20% to 100% of all soil gas samples

The ambient air samples are obtained on site by sampling the air immediately outside the mobile analytical van and directly injecting it into the GC. Analytical method blanks are taken to demonstrate that the analytical instrumentation is not contaminated. These are performed by injecting carrier gas (nitrogen) into the GC with the sampling syringe. Subsampling syringes are also checked in this fashion.

The injector port septa through which soil gas samples are injected into the GC are replaced daily to prevent possible gas leaks from the chromatographic column. All sampling and subsampling syringes are decontaminated after use and are not used again until they have been decontaminated by washing in anionic detergent and baking at 100°C.

Field blanks are analyzed to check for contamination of the sampling apparatus, e.g., probe, sampling manifold, sampling pump, and vacuum line. A sample is collected using standard soil gas sampling procedures, but without putting the probe into the ground. The results are compared to those obtained from a concurrently sampled ambient air analysis.

If the blanks detect compounds of interest at concentrations that indicate equipment contamination or concentrations that exceed normal background levels (ambient air analysis), corrective actions are performed. If the problem cannot be corrected, an out-of-control event is documented and reported.

A reagent blank is performed to ensure the solvent used to dilute the stock standards is not contaminated. Analytical instruments are calibrated daily using fresh working standards made from National Institute of Sciences and Technology traceable standards and reagent blanked solvents.

Quantitative precision is assured by duplicating analysis of at least 20 percent of the soil gas samples. Duplicate analyses are performed by subsampling vapors from the original syringe. If short analysis times are involved, 100 percent of the samples are analyzed in duplicate.

6.0 RESULTS

The analytical results from this soil gas investigation are condensed in Appendix A. The data are presented by location and by analyte concentration. When the compound was not detected, the detection limit is presented as a "less than" value, e.g., <0.0001 ug/l. Summaries of the soil gas samples at both sites are presented in the tables on the following pages.

Table 4. Springfield Soil Gas Sample Summary

Compound	# of samples in which compound was detected	Low conc. ug/L	High conc. ug/L	Sample(s) with high conc.
Benzene	60	0.008	18	SG-D6
Toluene	1	N/A	22	SG-D6
Ethylbenzene	0	N/A	N/A	N/A
Total xylenes	4	3	13	S-LF-SG-B4
TVHC	57	0.01	670	S-F2-SG-48
TCA	79	0.0002	0.1	S-F2-SG-J6
TCE	15	0.0004	0.3	S-LF-SG-B4
PCE	4	0.001	0.005	S-LF-SG-D4
CCl_4	64	0.0003	0.02	SG-B12

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ATTACHMENT 1

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TRACER RESEARCH CORPORATION-ANALYTICAL RESULTS
SAIC/SPRINGFIELD AIR NATIONAL GUARD/CINCINNATI, OHIO/1-92-204-S
04/30/92

SAMPLE	TCA ug/l	CCl4 ug/l	TCE ug/l	PCE ug/l	BENZENE ug/l	TOLUENE ug/l	ETHYL BENZENE ug/l	XYLENES ug/l	TVHC ug/l
AIR	0.002	0.0005	<0.0004	<0.0007	0.06	0.1	<0.1	<0.1	1
S-F2-SG-H10-3' 0	<0.3	<0.3	<0.4	<0.7	<28	<58	<130	<150	500
S-F2-SG-H10-8' 0	<0.3	<0.3	<0.4	<0.7	<28	<58	<130	<150	220
S-F2-SG-H8-4'	<0.05	<0.05	<0.09	<0.1	<9	<19	<43	<49	670
S-F2-SG-F8-3'	0.05	<0.0005	<0.0009	<0.001	<0.06	<0.1	<0.3	<0.3	31
S-F2-SG-F10-3'	0.008	<0.003	<0.004	<0.007	<0.3	<0.6	<1	<1	170
S-F2-SG-J10-3'	0.002	0.0005	<0.0009	<0.001	0.06	<0.1	<0.3	<0.3	<0.3
S-F2-SG-J8-2'	0.02	<0.0005	<0.0009	<0.001	<0.06	<0.1	<0.3	<0.3	0.6
S-F2-SG-N6-2'	0.04	<0.0005	<0.0009	<0.001	0.1	<0.1	<0.3	<0.3	<0.3
S-F2-SG-L4-2'	0.001	0.0005	<0.0009	<0.001	<0.06	<0.1	<0.3	<0.3	<0.3
AIR	0.0008	0.0005	<0.0004	<0.001	0.03	<0.06	<0.1	<0.1	0.2
S-F2-SG-H4-2'	0.01	0.0005	<0.0009	<0.001	<0.06	<0.1	<0.3	<0.3	<0.3
S-F2-SG-D8-3'	0.001	<0.0005	<0.0009	<0.001	0.7	<0.1	<0.3	<0.3	0.7
S-F2-SG-H12-3'	0.002	0.0005	<0.0009	<0.001	<0.06	<0.1	<0.3	<0.3	<0.3
S-F2-SG-F12-3'	<0.0005	<0.0005	<0.0009	0.001	<0.06	<0.1	<0.3	<0.3	<0.3
S-F2-SG-B10-2	0.001	0.0005	<0.0009	<0.001	<0.06	<0.1	<0.3	<0.3	0.6
S-F2-SG-F4-2'	0.0009	0.0005	<0.0009	<0.001	<0.06	<0.1	<0.3	<0.3	0.6
S-F2-SG-F4-8'	0.001	0.0005	<0.0009	<0.001	0.1	<0.1	<0.3	<0.3	<0.3
S-F2-SG-J4-2'	0.0009	0.0005	<0.0009	<0.001	0.06	<0.1	<0.3	<0.3	<0.3
S-F2-SG-J6-3'	0.1	<0.0005	<0.0009	<0.001	<0.06	<0.1	<0.3	<0.3	<0.3
S-F2-SG-H2-2'	0.02	0.0005	<0.0009	<0.001	0.06	<0.1	<0.3	<0.3	<0.3
AIR	0.0009	0.0005	<0.0004	<0.0007	0.1	<0.06	<0.1	<0.1	0.3
S-F2-SG-F6-3'	<0.0005	<0.0005	<0.0009	<0.001	0.1	<0.1	<0.3	<0.3	<0.3

Analyzed by: D. Ho
Proofed by: M. Stivers

TRACER RESEARCH CORPORATION-ANALYTICAL DATA
SAIC/SPRINGFIELD AIR NATIONAL GUARD/SPRINGFIELD, OHIO/1-92-204-S
05/01/92

SAMPLE	TCA ug/l	CCl4 ug/l	TCE ug/l	PCE ug/l	BENZENE ug/l	TOLUENE ug/l	ETHYL BENZENE ug/l	XYLENES ug/l	TVHC ug/l
AIR	0.001	0.0006	<0.0004	<0.0006	0.2	<0.05	<0.1	<0.1	0.2
S-LF-SG-F8-2'	0.002	<0.0005	<0.0008	<0.001	0.3	<0.1	<0.2	<0.3	<0.3
S-LF-SG-F8-10'	0.002	0.0005	<0.0008	<0.001	0.2	<0.1	<0.2	<0.3	<0.3
S-LF-SG-D10-3'	0.001	<0.0005	<0.0008	<0.001	<0.05	<0.1	<0.2	<0.3	<0.3
S-LF-SG-D12-2'	0.002	<0.0005	<0.0008	<0.001	0.05	<0.1	<0.2	<0.3	<0.3
S-LF-SG-B8-3'	0.001	<0.0005	0.008	<0.001	<0.05	<0.1	<0.2	<0.3	0.3
S-LF-SG-D6-3'	0.001	0.0005	<0.0008	<0.001	0.05	<0.1	<0.2	<0.3	<0.3
S-LF-SG-D6-8'	<0.002	<0.002	0.04	<0.004	<0.2	<0.4	<0.8	3	140
S-LF-SG-F4-8'	0.003	<0.0005	0.1	0.003	<0.05	<0.1	<0.2	11	210
S-LF-SG-H6-4'	0.001	0.0005	<0.0008	<0.001	0.2	<0.1	<0.2	<0.3	<0.3
S-LF-SG-H2-4'	0.0005	<0.0005	<0.0008	<0.001	0.1	<0.1	<0.2	<0.3	<0.3
S-LF-SG-D2-7'	0.002	0.0005	<0.0008	<0.001	0.4	<0.1	<0.2	<0.3	0.4
S-LF-SG-B4-8'	<0.0009	<0.001	0.3	0.002	<0.3	<0.5	<1	13	270
AIR	0.0009	0.0006	<0.0004	<0.0006	0.03	<0.05	<0.1	<0.1	<0.1
S-LF-SG-B8-5'	0.0009	0.0005	0.0008	<0.001	<0.05	<0.1	<0.2	<0.3	<0.3
S-LF-SG-J0-3'	0.0009	0.0005	<0.0008	<0.001	<0.05	<0.1	<0.2	<0.3	<0.3
S-LF-SG-F0-4'	0.0007	0.0005	<0.0008	<0.001	0.1	<0.1	<0.2	<0.3	<0.3
S-LF-SG-B0-3'	0.001	0.0005	<0.0008	<0.001	<0.05	<0.1	<0.2	<0.3	<0.3
S-LF-SG-D4-8'	0.0009	<0.0005	0.04	0.005	<0.3	<0.5	<1	4	120
S-LF-SG-B6-3'	0.0007	0.0005	0.006	<0.001	<0.05	<0.1	<0.2	<0.3	0.7
S-LF-SG-B12-3'	0.0009	<0.0005	<0.0008	<0.001	0.2	<0.1	<0.2	<0.3	<0.3
S-LF-SG-J4-3'	0.0005	<0.0005	<0.0008	<0.001	0.4	<0.1	<0.2	<0.3	0.3
S-LF-SG-J8-3'	0.001	0.0005	<0.0008	<0.001	<0.05	<0.1	<0.2	<0.3	<0.3

Analyzed by: D. Ho
Proofed by: M. Stivers

TRACER RESEARCH CORPORATION-ANALYTICAL RESULTS
SAIC/SPRINGFIELD AIR NATIONAL GUARD/SPRINGFIELD, OHIO/#1-92-204-S
05/01/92

SAMPLE	TCA ug/l	CCl4 ug/l	TCE ug/l	PCE ug/l	BENZENE ug/l	TOLUENE ug/l	ETHYL BENZENE ug/l	XYLENES ug/l	TVHC ug/l
S-LF-SG-H10-2'	0.0009	0.0005	<0.0008	<0.001	0.1	<0.1	<0.2	<0.3	<0.3
S-LF-SG-H12-2'	0.0009	0.0005	<0.0008	<0.001	0.1	<0.1	<0.2	<0.3	<0.3
S-LF-SG-F14-4'	0.0009	0.0005	<0.0008	<0.001	0.05	<0.1	<0.2	<0.3	<0.3
AIR	0.002	0.0005	<0.0004	<0.0006	<0.03	<0.05	<0.1	<0.1	<0.1

Analyzed by: D. Ho
Proofed by: M. Stivers

TRACER RESEARCH CORPORATION-ANALYTICAL RESULTS
SAIC/SPRINGFIELD AIR NATIONAL GUARD/SPRINGFIELD, OHIO/1-91-204-S
05/03/92

SAMPLE	TCA ug/l	CCL4 ug/l	TCE ug/l	PCE ug/l	BENZENE ug/l	TOLUENE ug/l	ETHYL BENZENE ug/l	XYLENES ug/l	TVHC ug/l
AIR	0.0005	0.001	0.0004	<0.0005	0.1	<0.02	<0.05	<0.05	1
S-F1-SG-F6-2'	0.002	0.0006	0.0004	<0.0005	0.09	<0.04	<0.09	<0.1	0.9
S-F1-SG-F8-2'	0.002	0.0009	0.0007	<0.0005	0.4	<0.02	<0.05	<0.05	4
S-F1-SG-D8-2'	0.002	0.002	0.02	<0.001	0.1	<0.04	<0.09	<0.1	1
S-F1-SG-D6-2'	0.002	0.001	<0.0007	<0.001	0.1	<0.04	<0.09	<0.1	1
S-F1-SG-D4-2'	0.002	0.001	0.04	<0.001	0.4	<0.04	<0.09	<0.1	4
S-F1-SG-F4-2'	0.001	0.001	<0.0007	<0.001	0.3	<0.04	<0.09	<0.1	3
S-F1-SG-H4-2'	0.002	0.001	0.002	<0.001	0.06	<0.04	<0.09	<0.1	0.6
S-F1-SG-H4-7'	0.002	0.002	0.03	<0.001	0.4	<0.04	<0.09	<0.1	4
S-F1-SG-H6-2'	0.001	0.001	<0.0007	<0.001	0.09	<0.04	<0.09	<0.1	0.9
S-F1-SG-J6-2'	0.002	0.002	<0.0007	<0.001	0.2	<0.04	<0.09	<0.1	2
S-F1-SG-H8-2'	0.001	0.001	<0.0004	<0.0005	0.2	<0.02	<0.05	<0.05	2
AIR	0.001	0.0004	<0.0004	<0.0005	0.03	<0.02	<0.05	<0.05	0.3
S-F1-SG-J8-2'	0.002	0.001	<0.0004	<0.0005	0.04	<0.02	<0.05	<0.05	0.4
S-F1-SG-F10-2'	0.002	0.0003	<0.0004	<0.0005	0.06	<0.02	<0.05	<0.05	0.6
S-F1-SG-D10-2'	0.002	0.001	<0.0004	<0.0005	0.08	<0.02	<0.05	<0.05	0.8
S-F1-SG-B6-2'	0.002	0.002	<0.0004	<0.0005	0.04	<0.02	<0.05	<0.05	0.4
S-F1-SG-B4-2'	0.001	0.001	<0.0004	<0.0005	0.04	<0.02	<0.05	<0.05	0.4
S-F1-SG-D2-2'	0.002	0.001	<0.0004	<0.0005	0.06	<0.02	<0.05	<0.05	0.6
S-F1-SG-F2-2'	0.002	0.002	<0.0004	<0.0005	0.09	<0.02	<0.05	<0.05	1
S-F1-SG-H2-2'	0.002	0.001	<0.0004	<0.0005	0.1	<0.02	<0.05	<0.05	1

Analyzed by: M. Gervasini
Proofed by: M. Stivers

TRACER RESEARCH CORPORATION-ANALYTICAL DATA
SAIC/SPRINGFIELD AIR NATIONAL GUARD/SPRINGFIELD, OHIO/1-92-204-S
05/03/92

SAMPLE	TCA ug/l	CCL4 ug/l	TCE ug/l	PCE ug/l	BENZENE ug/l	TOLUENE ug/l	E.BENZENE ug/l	XYLENES ug/l	TVHC ug/l
S-F1-SG-J4-2'	0.002	0.002	<0.0004	<0.0005	0.05	<0.02	<0.05	<0.05	0.05
AIR	0.002	0.001	<0.0004	<0.0005	0.02	<0.02	<0.05	<0.05	0.02

Analyzed by: M. Gervasini
Proofed by: M. Stivers

TRACER RESEARCH CORPORATION-ANALYTICAL RESULTS
SAIC/SPRINGFIELD AIR NATIONAL GUARD/SPRINGFIELD, OHIO/1-92-204-S
05/04/92

SAMPLE	TCA ug/l	CCL ug/l	TCE ug/l	PCE ug/l	BENZENE ug/l	TOLUENE ug/l	ETHYL BENZENE ug/l	XYLENES ug/l	TVHC ug/l
AIR	0.002	0.001	<0.0004	<0.0008	<0.01	<0.02	<0.05	<0.06	<0.06
SG-B2-2'	0.002	0.001	<0.0004	<0.0008	0.01	<0.02	<0.05	<0.06	0.01
SG-B4-2'	0.002	0.001	<0.0004	<0.0008	0.09	<0.02	<0.05	<0.06	0.09
SG-B6-2'	0.002	0.0006	<0.0004	<0.0008	0.04	<0.02	<0.05	<0.06	0.04
SG-B8-2'	0.002	0.001	<0.0004	<0.0008	0.04	<0.02	<0.05	<0.06	0.04
SG-B10-2'	0.002	0.0009	0.02	<0.0008	0.04	<0.02	<0.05	<0.06	0.04
SG-B12-2'	0.001	0.02	<0.0004	<0.0008	0.01	<0.02	<0.05	<0.06	0.01
SG-D10-2'	0.002	0.002	<0.0004	<0.0008	0.02	<0.02	<0.05	<0.06	0.02
SG-D8-2'	0.002	0.001	<0.0004	<0.0008	0.02	<0.02	<0.05	<0.06	0.02
SG-D6-2'	0.002	0.002	0.001	<0.0008	18	22	<5	<6	170
SG-D4-2'	0.002	0.0006	<0.0004	<0.0008	0.01	<0.02	<0.05	<0.06	0.01
AIR	0.001	0.001	<0.0004	<0.0008	<0.01	<0.02	<0.05	<0.06	<0.05
SG-D2-2'	0.0008	0.001	<0.0004	<0.0008	<0.01	<0.02	<0.05	<0.06	<0.06
SG-F2-2'	0.0002	0.002	<0.0004	<0.0008	0.02	<0.02	<0.05	<0.06	0.02
SG-F4-2'	0.0002	0.0003	<0.0004	<0.0008	0.008	<0.02	<0.05	<0.06	0.04
SG-F6-2'	0.002	0.001	<0.0004	<0.0008	0.04	<0.02	<0.05	<0.06	0.04
SG-H6-2'	0.002	0.002	<0.0004	<0.0008	0.07	<0.02	<0.05	<0.06	0.08
SG-H4-2'	0.002	0.001	<0.0004	<0.0008	0.01	<0.02	<0.05	<0.06	0.01
SG-H2-2'	0.002	0.002	<0.0004	<0.0008	0.07	<0.02	<0.05	<0.06	0.08
SG-D5-2'	0.0002	0.0003	<0.0004	<0.0008	0.01	<0.02	<0.05	<0.06	0.01

Analyzed by: M. Gervasini
Proofed by: M. Stivers

TRACER RESEARCH CORPORATION-ANALYTICAL DATA
SAIC/SPRINGFIELD AIR NATIONAL GUARD/SPRINGFIELD, OHIO/1-92-204- S
05/04/92

SAMPLE	TCA ug/l	CCL4 ug/l	TCE ug/l	PCE ug/l	BENZENE ug/l	TOLUENE ug/l	ETHYL BENZENE ug/l	XYLENES ug/l	TVHC ug/l
SG-C6-2'	0.002	0.002	<0.0004	<0.0008	0.03	<0.02	<0.05	<0.06	0.03
AIR	0.002	0.0009	<0.0004	<0.0008	0.02	<0.02	<0.05	<0.06	0.02
SG-L6-2'	0.002	0.002	<0.0004	<0.0008	0.03	<0.02	<0.05	<0.06	0.03
SG-N14-2'	0.002	0.0004	<0.0004	<0.0008	<0.01	<0.02	<0.05	<0.06	<0.06
SG-L16-2'	0.002	0.0005	<0.0004	<0.0008	0.01	<0.02	<0.05	<0.06	0.01

Analyzed by: M. Gervasini
Proofed by: M. Stivers

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APPENDIX D

Onsite Gas Chromatography Results

Table D–1. Onsite Gas Chromatography Results for Soil at Site 1 – Fire Training Area 1 for Ohio Air National Guard, 178th Tactical Fighter Group, Springfield–Beckley Municipal Airport, Springfield, Ohio

Soil Boring	Sample Number	Depth (feet BLS)	Analytical Parameters (µg/kg) TVO	TCA	CCl_4	TCE	PCE	BEN	TOL	ETZ	XYL	Comments
SB1–1	SB1–1–01	0.5–2.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	Sample sent to lab 8/13/92
	SB1–1–02	2.5–4.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	No recovery, no GC sample taken for 4.5–6.5 interval.
	SB1–1–03	6.5–8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	GC sample from top and bottom of spoon. Sample sent to lab 8/14/92.
	SB1–1–04	8.5–10.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB1–1–05	10.5–12.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
SB1–2	SB1–2–01	0.5–2.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	Sample sent to lab 8/13/92.
	SB1–2–02	2.5–4.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB1–2–03	4.5–6.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	Sample sent to lab 8/13/92.
	SB1–2–04	6.5–8.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB1–2–05	8.5–10.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB1–2–06	10.5–12.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB1–2–07	12.5–14.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB1–2–08	14.5–16.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	Saturated interval (soil/water interface). Sample sent to lab 8/13/92.
SB1–3	SB1–3–01	0.5–2.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	Sent sample to lab 8/14/92.
	SB1–3–02	2.5–4.5	160	ND	ND	ND	ND	41	10	ND	ND	Large piece of burnt wood lodged in split spoon.
	SB1–3–03	4.5–6.5	270	ND	ND	0.6	ND	ND	ND	ND	ND	Sample sent to lab 8/14/92.
	SB1–3–04	6.5–8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB1–3–05	8.5–10.0	ND	2.5	ND	ND	ND	ND	ND	ND	ND	
	SB1–3–06	10.5–12.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB1–3–07	12.5–14.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB1–3–08	14.5–16.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	Replicate soil sample taken.
	SB1–3–09	16.5–18.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB1–3–10	18.5–20.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB1–3–11	20.5–22.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	Replicate soil sample taken at Saturated interval (soil/water interface). Sample and replicate sent to lab 8/14/92.

Table D–2. Onsite Gas Chromatography Results for Soil at Site 2 – Fire Training Area 2 for Ohio Air National Guard, 178th Tactical Fighter Group, Springfield–Beckley Municipal Airport, Springfield, Ohio

Soil Boring	Sample Number	Depth (feet BLS)	Analytical Parameters (µg/kg) TVO	TCA	CCl_4	TCE	PCE	BEN	TOL	ETZ	XYL	Comments
SB2–1	SB2–1–01	2.0–3.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	Approximately two feet of gravel overlying FTA–2. Sample sent to lab 8/18/92.
	SB2–1–02	4.0–5.5	110	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–1–03	6.0–7.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–1–04	8.0–9.5	390	ND	ND	ND	ND	ND	ND	ND	ND	Sample sent to lab 8/18/92.
	SB2–1–05	10.0–11.5	160	ND	ND	ND	ND	85	ND	ND	ND	
	SB2–1–06	12.0–13.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	Replicate GC sample taken.
	SB2–1–07	14.0–15.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–1–08	16.0–17.5	120	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–1–09	18.0–19.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–1–10	20.0–21.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–1–11	22.0–23.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–1–12	24.0–25.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–1–13	26.0–27.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–1–14	28.0–30.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	Saturated interval (soil/water interface). Sample sent to lab 8/17/92.
	SB2–1–15	30.0–32.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	Saturated interval.
SB2–2	SB2–2–01	1.5–3.5	2500	ND	ND	ND	ND	64	297	158	1010	Approximately two feet of gravel overlying FTA–2. Replicate sample taken Sample and replicate sent to lab 8/17/92.
	SB2–2–02	3.5–5.0	8200	ND	ND	ND	ND	161	751	370	2740	Mild hydrocarbon odor present. Sample sent to lab 8/17/92.
	SB2–2–03	5.5–7.0	1000	ND	ND	ND	ND	21	64	29	221	
	SB2–2–04	7.5–9.0	4000	ND	ND	ND	ND	67	376	178	1150	
	SB2–2–05	9.5–11.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–2–06	11.5–13.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–2–07	13.5–15.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–2–08	15.5–17.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–2–09	17.5–19.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–2–10	19.5–21.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–2–11	21.5–23.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–2–12	23.5–25.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–2–13	25.5–27.5	180	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–2–14	27.5–29.5	80	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–2–15	29.5–31.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–2–16	31.0–33.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–2–17	33.0–35.0	150	ND	ND	ND	ND	ND	ND	ND	ND	Saturated interval (soil/water interface). Sample sent to lab 8/17/92.
SB2–3	SB2–3–01	1.5–3.5	3800	ND	ND	ND	0.4	100	86	204	450	Approximately two feet of gravel overlying FTA–2. Sample sent to lab 8/17/92.
	SB2–3–02	3.5–5.0	2200	ND	ND	ND	ND	94	93	488	689	Mild hydrocarbon odor present.
	SB2–3–03	5.5–7.5	1600	ND	ND	ND	ND	86	63	330	406	
	SB2–3–04	7.5–9.5	1200	ND	ND	ND	ND	57	59	335	416	Sample sent to lab 8/17/92.
	SB2–3–05	9.5–11.5	840	ND	ND	ND	ND	25	24	72	107	
	SB2–3–06	11.5–13.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–3–07	13.5–15.5	120	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–3–08A	15.5–17.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	Replicate GC sample taken in this interval.
	SB2–3–08B	15.5–17.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–3–09	17.5–19.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–3–10	19.5–21.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–3–11	21.5–23.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–3–12	23.5–25.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–3–13	25.5–27.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–3–14	27.5–29.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–3–15	29.5–31.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB2–3–16	31.5–33.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	Saturated interval (soil/water interface). Sample sent to lab 8/17/92.
MW2–1	MW2–1–01	6.0–8.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	

Table D–3. Onsite Gas Chromatography Results for Soil at Site 3 – Leach Field and Outfall for Ohio Air National Guard, 178th Tactical Fighter Group, Springfield–Beckley Municipal Airport, Springfield, Ohio

Soil Boring	Sample Number	Depth (feet BLS)	Analytical Parameters (µg/kg) TVO	TCA	CCl_4	TCE	PCE	BEN	TOL	ETZ	XYL	Comments
SB3–1	SB3–1–01	0.5–2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	Sample sent to lab 8/19/92.
	SB3–1–02	2.5–4.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB3–1–03	4.5–6.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB3–1–04	6.5–8.5	ND	0.2	ND	ND	ND	ND	ND	ND	ND	
	SB3–1–05	8.5–10.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB3–1–06	10.5–12.5	120	ND	ND	ND	ND	ND	ND	ND	ND	
	SB3–1–07	12.5–14.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB3–1–08	14.5–16.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	Saturated interval (soil/water interface). Sample sent to lab 8/20/92.
SB3–2	SB3–2–01	0.5–2.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	Sample sent to lab 8/20/92.
	SB3–2–02	2.5–4.5	ND	0.7	ND	ND	ND	ND	ND	ND	ND	
	SB3–2–03	4.5–6.5	>1200	ND	ND	ND	ND	18	18	172	390	Hydrocarbon odor.
	SB3–2–04	6.5–8.0	>1700	ND	ND	ND	ND	17	58	ND	1090	Pronounced hydrocarbon odor. Sample sent to lab 8/20/92.
	SB3–2–05	8.5–10.0	430	ND	ND	ND	ND	ND	ND	ND	55	Pronounced hydrocarbon odor.
	SB3–2–06	10.5–12.5	200	ND	ND	ND	ND	ND	ND	ND	185	Slight hydrocarbon odor.
	SB3–2–07A	12.5–14.0	140	ND	ND	ND	ND	ND	ND	ND	ND	Sample sent to lab 8/20/92.
	SB3–2–07B	12.5–14.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	Soil/water interface.
SB3–3	SB3–3–01	0.5–2.5	690	1.2	ND	0.4	ND	97	11	32	143	Sample sent to lab 8/20/92.
	SB3–3–02	2.5–4.5	270	0.2	ND	ND	ND	25	ND	ND	ND	
	SB3–3–03	4.5–6.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB3–3–04	6.5–8.5	330	ND	ND	ND	ND	ND	ND	ND	ND	
	SB3–3–05	8.5–10.5	100	ND	ND	ND	ND	ND	ND	ND	ND	
	SB3–3–06	10.5–12.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB3–3–07	12.5–14.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB3–3–08	14.5–16.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	Saturated interval (soil/water interface). Sample sent to lab 8/20/92.
	SB3–3–08D	14.5–16.5	600	0.3	ND	ND	ND	ND	ND	ND	ND	Replicate GC sample taken.
MW3–1	MW3–1–01	0.5–1.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	Sample sent to lab 8/21/92. Replicate sample collected.
	MW3–1–02	2.0–4.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	MW3–1–03	4.0–6.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	MW3–1–04	6.0–8.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	MW3–1–06	10.0–12.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	MW3–1–08	14.0–16.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	Saturated interval (soil/water interface). Sample sent to lab 8/21/92.

Table D–4. Onsite Gas Chromatography Results for Soil at Site 4 – POL Storage Area for Ohio Air National Guard, 178th Tactical Fighter Group, Springfield–Beckley Municipal Airport, Springfield, Ohio

Soil Boring	Sample Number	Depth (feet BLS)	Analytical Parameters (µg/kg) TVO	TCA	CCl_4	TCE	PCE	BEN	TOL	ETZ	XYL	Comments
SB4–1	SB4–1–01	0.5–2.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND Sample sent to lab 8/13/92.
	SB4–1–02	2.5–4.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND Soil/water interface. Soil Sample sent to lab 8/13/92.
	SB4–1–03	4.5–6.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND Saturated interval.
SB4–2	SB4–2–01	0.5–2.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND Sample sent to lab 8/13/92.
	SB4–2–02	2.5–4.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND Soil/water interface. Sample sent to lab 8/13/92.
	SB4–2–03	4.5–6.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SB4–2–04	6.5–8.5	120	0.3	ND	ND	ND	ND	ND	ND	ND	ND Saturated interval.
SB4–3	SB4–3–01	0.5–2.5	260	ND	ND	ND	ND	ND	ND	ND	ND	ND Replicate sample taken. Sample and replicate sample sent to lab 8/13/92.
	SB4–3–02	2.5–4.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND Sample sent to lab 8/13/92.
	SB4–3–03	4.5–6.5	5900	ND	ND	ND	ND	68	214	622	674	Soil/water interface. Sample sent to lab 8/13/92.
	SB4–3–04	6.5–8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND Saturated interval.
MW4–1	MW4–1–01	0.5–2.5	400	ND	ND	ND	ND	ND	ND	ND	ND	ND Sample sent to lab 8/26/92.
	MW4–1–02	2.5–4.0	2700	ND	ND	ND	ND	13	ND	ND	ND	ND
	MW4–1–03	4.5–6.0	1100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	MW4–1–04	6.0–7.5	3300	ND	ND	ND	ND	32	ND	ND	ND	ND Sample sent to lab 8/26/92.
	MW4–1–05	8.0–9.5	6400	ND	ND	157	ND	10	ND	ND	ND	ND Soil/water interface. Sample sent to lab 8/26/92.
	MW4–1–06	10.0–12.0	25000	ND	ND	193	ND	ND	ND	ND	ND	ND
	MW4–1–07	12.0–14.0	2500	ND	ND	5	ND	ND	ND	ND	ND	ND

Table D–5. Onsite Gas Chromatography Results for Soil at Site 5 – Ramp Drainage Ditch for Ohio Air National Guard, 178th Tactical Fighter Group, Springfield–Beckley Municipal Airport, Springfield, Ohio

Soil Boring	Sample Number	Depth (feet BLS)	Analytical Parameters (μg/kg) TVO	TCA	CCl_4	TCE	PCE	BEN	TOL	ETZ	XYL	Comments
SB5–1	SB5–1–01	5.0–7.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	Drainage ditch wet due to prior rain. Sample sent to lab 8/17/92.
	SB5–1–02	7.0–9.0	170	ND	ND	ND	ND	ND	ND	ND	ND	
	SB5–1–03	11.0–13.0	130	ND	ND	ND	ND	ND	ND	ND	ND	
	SB5–1–07	25.0–27.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	Saturated interval (soil/water interface). Sample sent to lab 8/17/92.
SB5–2	SB5–2–01	5.0–7.0	1500	ND	ND	ND	ND	ND	ND	ND	ND	Gravel recovered initially; paused to verify water and sewer lines. Sample sent to lab 8/18/92.
	SB5–2–04	31.0–32.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	Saturated interval (soil/water interface).
SB5–3	SB5–3–01	0.5–2.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	Sample sent to lab 8/18/92.
	SB5–3–02	26.5–28.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	Saturated interval (soil/water interface). Replicate GC taken. Sample sent to lab 8/18/92.
	SB5–3–02D	26.5–28.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
SB5–4	SB5–4–01	0.5–2.5	100	ND	ND	ND	ND	ND	ND	ND	ND	Replicate GC and replicate samples taken. Sample and replicate sent to lab 8/18/92.
	SB5–4–01D	0.5–2.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	
	SB5–4–02	28.5–30.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	Saturated interval (soil/water interface). Sample sent to lab 8/18/92.

Table D–6. Onsite Gas Chromatography Results for Soil at Background Locations for Ohio Air National Guard, 178th Tactical Fighter Group, Springfield–Beckley Municipal Airport, Springfield, Ohio

Soil Boring	Sample Number	Depth (feet BLS)	Analytical Parameters (µg/kg) TVO	TCA	CCl_4	TCE	PCE	BEN	TOL	ETZ	XYL	Comments
MWBG–1	MWBG–1–01		ND	ND	ND	ND	ND	ND	ND	ND	ND	Sample sent 8/12/92.
	MWBG–1–02		ND	ND	ND	ND	ND	ND	ND	ND	ND	
MWBG–2	MWBG–2–01		ND	ND	ND	ND	ND	ND	ND	ND	ND	Sample sent 8/19/92.
	MWBG–2–02		ND	ND	ND	ND	ND	ND	ND	ND	ND	
	MWBG–2–03		ND	ND	ND	ND	ND	ND	ND	ND	ND	

Table D–7. Onsite Gas Chromatography Results for Water at Sites 1 – 5 for Ohio Air National Guard, 178th Tactical Fighter Group, Springfield–Beckley Municipal Airport, Springfield, Ohio

Soil Boring	Sample Number	Analytical Parameters (μg/L) TVO	TCA	CCl_4	TCE	PCE	BEN	TOL	ETZ	XYL
SB1–1	SB1–1W	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB1–3	SB1–3W	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW1–1	MW1–1W	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB2–1	SB2–1W	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW2–1	MW2–1W	2.43	ND	ND	ND	ND	ND	ND	ND	ND
	MW2–1WD	2.48	ND	ND	ND	ND	ND	ND	ND	ND
SB3–1	SB3–1W	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW3–1	MW3–1W	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB4–1	SB4–1W	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB4–2	SB4–2W	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB4–3	SB4–3W	77	ND	ND	ND	ND	1.5	1.5	ND	ND
MW4–1	MW4–1W	2300	ND	ND	>85	ND	ND	ND	ND	2
SB5–1	SB5–1W	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SB5–1WD	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB5–2	SB5–2–04W	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB5–3	SB5–3W	ND	ND	ND	ND	ND	ND	ND	ND	ND
SB5–4	SB5–4W	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SB5–4WD	ND	ND	ND	ND	ND	ND	ND	ND	ND
MWBG–1	MWBG–1W	ND	ND	ND	ND	ND	ND	ND	ND	ND
EB2–1	EB2–1W	ND	0.28	ND	ND	ND	ND	ND	ND	ND
FB5–1	FB5–1W	ND	ND	ND	ND	ND	ND	ND	ND	ND
P–8	P–8W	230	ND	ND	ND	ND	ND	ND	ND	ND

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Survey Coordinates, Springfield ANGB, Springfield, Ohio			
Location ID	Easting (x)	Northing (y)	Elevation (msl)
Monitoring Wells			
MW1-1	2794.12	542.05	1049.70
MW2-1	3420.25	857.89	1045.00
MW3-1	2457.99	1655.51	1037.90
MW4-1	642.01	614.49	1040.70
MWBG1-1	1907.40	-32.27	1051.50
MWBG2-1	668.77	143.80	1046.40
Soil Borings			
SB1-1	2590.89	450.15	1050.40
SB1-2	2681.41	407.41	1050.10
SB1-3	2673.41	537.15	1051.30
SB2-1	3369.89	825.21	1046.10
SB2-2	3344.70	761.42	1046.70
SB2-3	3391.94	780.63	1046.40
SB3-1	2340.30	1627.79	1039.80
SB3-2	2434.86	1648.44	1038.90
SB3-3	2314.62	1567.03	1040.90
SB4-1	553.02	517.70	1040.20
SB4-2	602.62	533.54	1040.90
SB4-3	592.82	497.70	1041.00
SB5-1	1923.42	1258.15	1042.00
SB5-2	1637.67	620.32	1048.80
SB5-3	2327.95	1343.77	1042.20
Piezometers			
P-1	1014.27	814.95	1046.90
P-2	1209.58	5.81	1051.20
P-3	1442.75	442.98	1049.00
P-4	2178.93	1400.42	1040.20
P-5	2449.83	947.73	1047.00
P-6	3444.77	1257.74	1041.10
P-7	2321.02	478.77	1050.70
P-8	1518.81	1191.56	1044.90
Soil Gas Coordinates			
1-J-10	2785.72	542.36	
1-B-10	2597.85	611.85	
1-B-2	2524.90	425.79	
1-J-2	2712.37	356.41	
2-UNK	3182.74	758.82	
2-B-10	3328.84	916.79	
2-N-10	3450.60	645.33	
2-N-2	3263.16	575.32	
3-NW	2113.09	1355.28	
3-UNK	2185.51	1627.84	
3-UNK	2546.78	1727.61	
4-B-12	712.90	652.26	
4-B-2	492.91	533.41	
4-H-2	555.53	396.60	
4-N-6	686.03	351.93	
Control Points For Site Locations			
NW Blg 128	2667.50	1186.40	
NE Parking	2348.30	986.80	
NE Taxiway	3703.20	465.80	

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APPENDIX F

Chemical Analysis Results

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Table F–1. Data Presentation Table: Soil – Background Site, 178 th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

SAIC ID Number				MWBG1–1	MWBG1–2	MWBG–2–1
Laboratory ID Number				94527	94526	94912
Collection Date				8–12–92	8–12–92	8–19–92
Collection Depth (ft)				1.3–2.0	8.0–10.0	0.5–2.0
Percent Solids				90	87	82
Associated Field QC Sample				TB–1 on 8–12–92	TB–1 on 8–12–92	TB–6
				ER1–1	ER1–1	EB3–1
				FB1–1	FB1–1	FB3–1
				SD5–FB	SD5–FB	SD5–FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)						
Extraction Date				8–17–92	N/A	8–30–92
Analysis Date				9–17–92	N/A	9–16–92
Dilution Factor				1	N/A	1
Parameter	Units	MDL				
Diesel Fuel	mg/kg	2		7	NA	<2
Heavy Oil	mg/kg	2		14	NA	2
PRIORITY POLLUTANT METALS						
Digestion Date(s)				9–3 and 9–9–92	2–1–93	9–14 and 9–16–92
Analysis Date(s)				9–8 to 9–11–92	2–2 to 2–3–93	9–16 to 10–5–92
Dilution Factor		IDL	or IDL	1	1	1
AA METALS						
Antimony (SW3050/7041)	mg/kg	2	1.3	0.15 UJ(N)	R(N)	R(N)
Arsenic (SW3050/7060)	mg/kg	1.5	1.5	7	6.8	6.1 J(N)
Lead (SW3050/7421)	mg/kg	0.5	0.5	8.2	87 J(*)	15.3
Mercury (SW3050/7471)	mg/kg	0.2	0.2	0.11 U	NA	0.08 U
Selenium (SW3050/7740)	mg/kg	0.7	1.4	0.06 UJ(N,W)	R(N)	0.13 UJ(N,W)
Thallium (SW3050/7841)	mg/kg	0.7	0.7	0.3 UJ(N,W)	0.16 J(N,W)	0.17 U(MB)
ICP METALS (SW 3050/6010)						
Beryllium	mg/kg	0.3	0.3	0.27 B	0.32 B	0.53 B
Cadmium	mg/kg	2.1	2.1	0.3 B	0.39 U	0.2 U
Chromium	mg/kg	4	4	6.4	8.4	13.5
Copper	mg/kg	3.9	3.9	12.4	16.9 U(EB)	11.7
Nickel	mg/kg	10.3	10.3	13.1	11.6	13
Silver	mg/kg	3	3	1.6 U(MB)	0.32 U	0.97 U(MB)
Zinc	mg/kg	3.5	3.5	43.9 J(E)	38.8 J(E)	39.1 J(E)

Table F–1. Data Presentation Table: Soil – Background Site, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MWBG1–1	MWBG1–2	MWBG–2–1
Laboratory ID Number			94527	94526	94912
Collection Date			8–12–92	8–12–92	8–19–92
Collection Depth (ft)			1.3–2.0	8.0–10.0	0.5–2.0
Percent Solids			90	87	82
Associated Field QC Sample			TB–1 on 8–12–92	TB–1 on 8–12–92	TB–6
			ER1–1	ER1–1	EB3–1
			FB1–1	FB1–1	FB3–1
			SD5–FB	SD5–FB	SD5–FB
VOLATILE ORGANICS (SW 8240 [A])					
Analysis Date			8–18–92	8–18–92	8–26–92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Chloromethane	µg/kg	10	11 U	11 U	12 U
Bromomethane	µg/kg	10	11 U	11 U	12 U
Vinyl Chloride	µg/kg	10	11 U	11 U	12 U
Chloroethane	µg/kg	10	11 U	11 U	12 U
Methylene Chloride	µg/kg	10	11 U	11 U	12 U
Acetone	µg/kg	10	11 U	11 U	12 U
Carbon Disulfide	µg/kg	10	11 U	11 U	12 U
1,1–Dichloroethene	µg/kg	10	11 U	11 U	12 U
1,1–Dichloroethane	µg/kg	10	11 U	11 U	12 U
1,2–Dichloroethene (total)	µg/kg	10	11 U	11 U	12 U
Chloroform	µg/kg	10	11 U	11 U	12 U
1,2–Dichloroethane	µg/kg	10	11 U	11 U	12 U
2–Butanone	µg/kg	10	11 U	11 U	12 U
1,1,1–Trichloroethane	µg/kg	10	11 U	11 U	12 U
Carbon Tetrachloride	µg/kg	10	11 U	11 U	12 U
Bromodichloromethane	µg/kg	10	11 U	11 U	12 U
1,2–Dichloropropane	µg/kg	10	11 U	11 U	12 U
cis–1,3–Dichloropropene	µg/kg	10	11 U	11 U	12 U
Trichloroethene	µg/kg	10	11 U	11 U	12 U
Dibromochloro methane	µg/kg	10	11 U	11 U	12 U
1,1,2–Trichloroethane	µg/kg	10	11 U	11 U	12 U
Benzene	µg/kg	10	11 U	11 U	12 U
trans–1,3–Dichloropropene	µg/kg	10	11 U	11 U	12 U
Bromoform	µg/kg	10	11 U	11 U	12 U
4–Methyl–2–pentanone	µg/kg	10	11 U	11 U	12 U
2–Hexanone	µg/kg	10	11 U	11 U	12 U
Tetrachloroethene	µg/kg	10	11 U	11 U	12 U
1,1,2,2–Tetrachloroethane	µg/kg	10	11 U	11 U	12 U
Toluene	µg/kg	10	11 U	11 U	12 U
Chlorobenzene	µg/kg	10	11 U	11 U	12 U
Ethylbenzene	µg/kg	10	11 U	11 U	12 U
Styrene	µg/kg	10	11 U	11 U	12 U
Xylene (total)	µg/kg	10	11 U	11 U	12 U
TICs	µg/kg		0 (0)	0 (0)	0 (0)
TIC Total	µg/kg		0 (0)	0 (0)	0 (0)

Table F–1. Data Presentation Table: Soil – Background Site, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MWBG1–1	MWBG1–2	MWBG–2–1
Laboratory ID Number			94527	94526	94912
Collection Date			8–12–92	8–12–92	8–19–92
Collection Depth (ft)			1.3–2.0	8.0–10.0	0.5–2.0
Percent Solids			90	87	82
Associated Field QC Sample			TB–1 on 8–12–92	TB–1 on 8–12–92	TB–6
			ER1–1	ER1–1	EB3–1
			FB1–1	FB1–1	FB3–1
			SD5–FB	SD5–FB	SD5–FB
SEMIVOLATILE ORGANICS (SW 8270 [B])					
Extraction Date			8–18–92	8–18–92	9–1–92
Analysis Date			9–4–92	9–4–92	9–16–92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Phenol	µg/kg	330	330 U	330 U	400 U
bis(2–Chloroethyl)ether	µg/kg	330	330 U	330 U	400 U
2–Chlorophenol	µg/kg	330	330 U	330 U	400 U
1,3–Dichlorobenzene	µg/kg	330	330 U	330 U	400 U
1,4–Dichlorobenzene	µg/kg	330	330 U	330 U	400 U
1,2–Dichlorobenzene	µg/kg	330	330 U	330 U	400 U
2–Methylphenol	µg/kg	330	330 U	330 U	400 U
2,2–oxibis–(1–Chloropropane)	µg/kg	330	330 U	330 U	400 UJ(CCV)
4–Methylphenol	µg/kg	330	330 U	330 U	400 U
N–Nitroso–di–N–propylamine	µg/kg	330	330 U	330 U	400 U
Hexachloroethane	µg/kg	330	330 U	330 U	400 U
Nitrobenzene	µg/kg	330	330 U	330 U	400 U
Isophorone	µg/kg	330	330 U	330 U	400 U
2–Nitrophenol	µg/kg	330	330 U	330 U	400 U
2,4–Dimethylphenol	µg/kg	330	330 U	330 U	400 U
bis(2–Chloroethoxy)methane	µg/kg	330	330 U	330 U	400 U
2,4–Dichlorophenol	µg/kg	330	330 U	330 U	400 U
1,2,4–Trichlorobenzene	µg/kg	330	330 U	330 U	400 U
Naphthalene	µg/kg	330	330 U	330 U	400 U
4–Chloroaniline	µg/kg	330	330 U	330 U	400 U
Hexachlorobutadiene	µg/kg	330	330 U	330 U	400 UJ(CCV)
4–Chloro–3–methylphenol	µg/kg	330	330 U	330 U	400 U
2–Methylnaphthalene	µg/kg	330	330 U	330 U	400 U
Hexachlorocyclopentadiene	µg/kg	330	330 U	330 U	400 U
2,4,6–Trichlorophenol	µg/kg	330	330 U	330 U	400 U
2,4,5–Trichlorophenol	µg/kg	800	800 UJ(CCV)	810 UJ(CCV)	960 U
2–Chloronaphthalene	µg/kg	330	330 U	330 U	400 U
2–Nitroaniline	µg/kg	800	800 U	810 U	960 UJ(CCV)
Dimethyl phthalate	µg/kg	330	330 U	330 U	400 U
Acenaphthylene	µg/kg	330	330 U	330 U	400 U
2,6–Dinitrotoluene	µg/kg	330	330 U	330 U	400 UJ(CCV)
3–Nitroaniline	µg/kg	800	800 U	810 U	960 U
Acenaphthene	µg/kg	330	330 U	330 U	400 U
2,4–Dinitrophenol	µg/kg	800	800 U	810 U	960 U
4–Nitrophenol	µg/kg	800	800 U	810 U	960 UJ(CCV)
Dibenzofuran	µg/kg	330	330 U	330 U	400 U
2,4–Dinitrotoluene	µg/kg	330	330 U	330 U	400 U
Diethyl phthalate	µg/kg	330	330 U	330 U	400 U
4–Chlorophenyl phenyl ether	µg/kg	330	330 U	330 U	400 U
Fluorene	µg/kg	330	330 U	330 U	400 U
4–Nitroaniline	µg/kg	800	800 U	810 U	960 U
4,6–Dinitro–2–methylphenol	µg/kg	800	800 U	810 U	960 U
N–Nitrosodiphenylamine (1)	µg/kg	330	330 U	330 U	400 U

Table F–1. Data Presentation Table: Soil – Background Site, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MWBG1–1	MWBG1–2	MWBG–2–1
Laboratory ID Number			94527	94526	94912
Collection Date			8–12–92	8–12–92	8–19–92
Collection Depth (ft)			1.3–2.0	8.0–10.0	0.5–2.0
Percent Solids			90	87	82
Associated Field QC Sample			TB–1 on 8–12–92	TB–1 on 8–12–92	TB–6
			ER1–1	ER1–1	EB3–1
			FB1–1	FB1–1	FB3–1
			SD5–FB	SD5–FB	SD5–FB
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)					
Extraction Date			8–18–92	8–18–92	9–1–92
Analysis Date			9–4–92	9–4–92	9–16–92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
4–Bromophenyl phenyl ether	µg/kg	330	330 U	330 U	400 U
Hexachlorobenzene	µg/kg	330	330 U	330 U	400 U
Pentachlorophenol	µg/kg	800	800 UJ(CCV)	810 UJ(CCV)	960 U
Phenanthrene	µg/kg	330	330 U	330 U	400 U
Anthracene	µg/kg	330	330 U	330 U	400 U
Carbazole	µg/kg	330	330 U	330 U	400 U
di–N–Butyl phthalate	µg/kg	330	330 U	330 U	400 U
Fluoranthene	µg/kg	330	330 U	330 U	82 J
Pyrene	µg/kg	330	330 U	330 U	75 J
Butylbenzylphthalate	µg/kg	330	330 U	330 U	400 U
3,3'–Dichlorobenzidine	µg/kg	330	330 U	330 U	400 U
Benzo(a)anthracene	µg/kg	330	330 U	330 U	400 U
Chrysene	µg/kg	330	330 U	330 U	400 U
bis(2–Ethylhexyl)phthalate	µg/kg	330	330 U	36 J	400 U
di–N–Octyl phthalate	µg/kg	330	330 U	330 U	400 UJ(CCV)
Benzo(b)fluoranthene	µg/kg	330	330 U	330 U	47 J
Benzo(k)fluoranthene	µg/kg	330	330 U	330 U	400 U
Benzo(a)pyrene	µg/kg	330	330 U	330 U	400 U
Indeno(1,2,3–c,d)pyrene	µg/kg	330	330 U	330 U	400 U
Dibenzo(a,h)anthracene	µg/kg	330	330 U	330 U	400 U
Benzo(g,h,i)perylene	µg/kg	330	330 U	330 U	400 U
TICs	µg/kg		4–Hydroxy–4–Methyl–2–Pentanone [a] 19000 B,J,N,A (RT 4.83)	4–Hydroxy–4–Methyl–2–Pentanone [a] 17000 B,J,N,A (RT 4.82)	4–Hydroxy–4–Methyl–2–Pentanone [a] 14000 B,J,N,A (RT 5.40)
			9–Hexadecenoic Acid [f] 240 J,N (RT 23.72)	Unknown [d] 71 J (RT 23.02)	Unknown [d] 270 J (RT 32.91)
			Hexadecanoic Acid [f] 160 J,N (RT 23.87)	9–Hexadecenoic Acid [f] 83 J,N (RT 23.69)	Unknown [d] 270 J (RT 33.94)
			Nonanamide [e] 95 J,N (RT 23.97)	Hexadecanoic Acid [f] 110 J,N (RT 23.85)	Unknown [d] 160 J (RT 34.06)
			Unknown [d] 68 J (RT 24.32)	Unknown [d] 82 J (RT 24.32)	Pentatriacontane [b] 350 J,N (RT 34.99)
			Unknown [d] 56 J (RT 25.57)	Unknown [d] 71 J (RT 25.57)	Unknown [d] 390 J (RT 37.26)
			Unknown [d] 91 J (RT 26.04)	Unknown [d] 160 J (RT 26.24)	Unknown [d] 360 J (RT 38.92)
			Unknown [d] 290 J (RT 26.26)	Dodecanamide [e] 140 J,N (RT 26.49)	
			Dodecanamide [e] 280 J,N (RT 26.51)	Unknown [d] 120 J (RT 26.76)	
			Unknown [d] 74 J (RT 26.76)	Unknown [d] 170 J (RT 27.91)	
			Unknown [d] 110 J (RT 27.41)	Unknown [d] 170 J (RT 28.51)	
			Unknown [d] 100 J (RT 27.91)	Unknown [d] 2900 J (RT 28.61)	
			Unknown [d] 350 J (RT 28.51)	Unknown [d] 55 J (RT 28.86)	
			Unknown [d] 5300 J (RT 28.64)	Unknown [d] 140 J (RT 29.02)	
			Unknown [d] 74 J (RT 28.86)	Unknown [d] 180 J (RT 30.09)	
			Unknown [d] 77 J (RT 29.02)	Unknown [d] 150 J (RT 31.16)	
			Unknown [d] 110 J (RT 30.09)	Unknown [d] 330 J (RT 32.22)	
			Unknown [d] 74 J (RT 31.16)	Unknown [d] 1600 J (RT 33.09)	
			Unknown [d] 190 J (RT 32.22)	Unknown [d] 230 J (RT 33.31)	
			Unknown [d] 1700 J (RT 33.09)	Unknown [d] 360 J (RT 34.41)	
			Ci70 D12–Chrysene [e] 360 J (RT 34.19)	Unknown [d] 340 J (RT 36.92)	
			Unknown [d] 300 J (RT 34.41)		
TIC Total	µg/kg		29099 (22)	24462 (21)	15800 (7)

Table F-1. Data Presentation Table: Soil – Background Site, 178 th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MWBG-2-3	MWBG-2-3R
Laboratory ID Number			94913	94914
Collection Date			8-19-92	8-19-92
Collection Depth (ft)			17.5-19.5	17.5-19.5
Percent Solids			86	88
Associated Field QC Sample			TB-6	TB-6
			EB3-1	EB3-1
			FB3-1	FB3-1
			SD5-FB	SD5-FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)				
Extraction Date			8-30-92	8-30-92
Analysis Date			9-16-92	9-16-92
Dilution Factor			1	1
Parameter	Units	MDL		
Diesel Fuel	mg/kg	2	39 J(FD)	4 J(FD)
Heavy Oil	mg/kg	2	97 J(FD)	2 J(FD)
PRIORITY POLLUTANT METALS				
Digestion Date(s)			9-14 and 9-16-92	9-14 and 9-16-92
Analysis Date(s)			9-16 to 10-5-92	9-16 to 10-5-92
Dilution Factor		IDL	1	1
AA METALS				
Antimony (SW 3050/7041)	mg/kg	1.3	R(N)	R(N)
Arsenic (SW 3050/7060)	mg/kg	1.5	5.7 J(N)	3.8 J(N)
Lead (SW 3050/7421)	mg/kg	0.5	7.4	5.7
Mercury (SW 3050/7471)	mg/kg	0.2	0.08 U	0.1 U
Selenium (SW 3050/7740)	mg/kg	1.4	0.13 UJ(N,W)	0.16 UJ(MB,N,W)
Thallium (SW 3050/7841)	mg/kg	0.7	0.18 UJ(MB,W)	0.14 UJ(MB,W)
ICP METALS (SW 3050/6010)				
Beryllium	mg/kg	0.3	0.37 B	0.33 B
Cadmium	mg/kg	2.1	0.94 U	0.88 U
Chromium	mg/kg	4	8.8	7.6
Copper	mg/kg	3.9	21.7	13.6
Nickel	mg/kg	10.3	21.7	13
Silver	mg/kg	3	2.8 U(MB)	3 U(MB)
Zinc	mg/kg	3.5	46.7 J(E)	39.7 J(E)

Table F–1. Data Presentation Table: Soil – Background Site, 178 th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MWBG–2–3			MWBG–2–3R
Laboratory ID Number			94913			94914
Collection Date			8–19–92			8–19–92
Collection Depth (ft)			17.5–19.5			17.5–19.5
Percent Solids			86			88
Associated Field QC Sample			TB–6			TB–6
			EB3–1			EB3–1
			FB3–1			FB3–1
			SD5–FB			SD5–FB
VOLATILE ORGANICS (SW 8240 [A])						
Analysis Date			8–27–92			8–27–92
Dilution Factor			1			1
Parameter	Units	CRQL				
Chloromethane	µg/kg	10	12 UJ(SR)			13 U
Bromomethane	µg/kg	10	12 UJ(SR)			13 U
Vinyl Chloride	µg/kg	10	12 UJ(SR)			13 U
Chloroethane	µg/kg	10	12 UJ(SR)			13 U
Methylene Chloride	µg/kg	10	12 UJ(SR)			13 U
Acetone	µg/kg	10	12 UJ(SR)			13 U
Carbon Disulfide	µg/kg	10	12 UJ(SR)			13 U
1,1–Dichloroethene	µg/kg	10	12 UJ(SR)			13 U
1,1–Dichloroethane	µg/kg	10	12 UJ(SR)			13 U
1,2–Dichloroethene (total)	µg/kg	10	12 UJ(SR)			13 U
Chloroform	µg/kg	10	12 UJ(SR)			13 U
1,2–Dichloroethane	µg/kg	10	12 UJ(SR)			13 U
2–Butanone	µg/kg	10	12 UJ(SR)			13 U
1,1,1–Trichloroethane	µg/kg	10	12 UJ(SR)			13 U
Carbon Tetrachloride	µg/kg	10	12 UJ(SR)			13 U
Bromodichloromethane	µg/kg	10	12 UJ(SR)			13 U
1,2–Dichloropropane	µg/kg	10	12 UJ(SR)			13 U
cis–1,3–Dichloropropene	µg/kg	10	12 UJ(SR)			13 U
Trichloroethene	µg/kg	10	12 UJ(SR)			13 U
Dibromochloromethane	µg/kg	10	12 UJ(SR)			13 U
1,1,2–Trichloroethane	µg/kg	10	12 UJ(SR)			13 U
Benzene	µg/kg	10	3 J(SR)			13 U
trans–1,3–Dichloropropene	µg/kg	10	12 UJ(SR)			13 U
Bromoform	µg/kg	10	12 UJ(SR)			13 U
4–Methyl–2–pentanone	µg/kg	10	12 UJ(SR)			13 U
2–Hexanone	µg/kg	10	12 UJ(SR)			13 U
Tetrachloroethene	µg/kg	10	12 UJ(SR)			13 U
1,1,2,2–Tetrachloroethane	µg/kg	10	12 UJ(SR)			13 U
Toluene	µg/kg	10	14 J(SR)			6 J
Chlorobenzene	µg/kg	10	12 UJ(SR)			13 U
Ethylbenzene	µg/kg	10	10 J(SR)			13 U
Styrene	µg/kg	10	12 UJ(SR)			13 U
Xylene (total)	µg/kg	10	72 J(SR, FD)			13 U
TICs	µg/kg		Ethyl Ester Acetic Acid [c]	19 J,N	(RT 10.16)	0 (0)
			4H–Pyran–4–One, 2,6–Dimethyl [c]	34 J,N	(RT 27.02)	
			1–Ethyl–4–Methyl–Benzene [b]	36 J,N	(RT 27.11)	
			1,2,4–Trimethyl–Benzene [b]	38 J,N	(RT 27.29)	
TIC Total	µg/kg			127 (4)		0 (0)

Table F–1. Data Presentation Table: Soil – Background Site, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MWBG–2–3	MWBG–2–3R
Laboratory ID Number			94913	94914
Collection Date			8–19–92	8–19–92
Collection Depth (ft)			17.5–19.5	17.5–19.5
Percent Solids			86	88
Associated Field QC Sample			TB–6	TB–6
			EB3–1	EB3–1
			FB3–1	FB3–1
			SD5–FB	SD5–FB
SEMI VOLATILE ORGANICS (S W 8270 [B])				
Extraction Date			9–1–92	9–1–92
Analysis Date			9–16–92	9–16–92
Dilution Factor			1	1
Parameter	Units	CRQL		
Phenol	µg/kg	330	350 U	390 U
bis(2–Chloroethyl)ether	µg/kg	330	350 U	390 U
2–Chlorophenol	µg/kg	330	350 U	390 U
1,3–Dichlorobenzene	µg/kg	330	350 U	390 U
1,4–Dichlorobenzene	µg/kg	330	350 U	390 U
1,2–Dichlorobenzene	µg/kg	330	350 U	390 U
2–Methylphenol	µg/kg	330	350 U	390 U
2,2–oxibis–(1–Chloropropane)	µg/kg	330	350 UJ(CCV)	390 UJ(CCV)
4–Methylphenol	µg/kg	330	350 U	390 U
N–Nitroso–di–N–propylamine	µg/kg	330	350 U	390 U
Hexachloroethane	µg/kg	330	350 U	390 U
Nitrobenzene	µg/kg	330	350 U	390 U
Isophorone	µg/kg	330	350 U	390 U
2–Nitrophenol	µg/kg	330	350 U	390 U
2,4–Dimethylphenol	µg/kg	330	350 U	390 U
bis(2–Chloroethoxy)methane	µg/kg	330	350 U	390 U
2,4–Dichlorophenol	µg/kg	330	350 U	390 U
1,2,4–Trichlorobenzene	µg/kg	330	350 U	390 U
Naphthalene	µg/kg	330	350 U	390 U
4–Chloroaniline	µg/kg	330	350 U	390 U
Hexachlorobutadiene	µg/kg	330	350 UJ(CCV)	390 UJ(CCV)
4–Chloro–3–methylphenol	µg/kg	330	350 U	390 U
2–Methylnaphthalene	µg/kg	330	350 U	390 U
Hexachlorocyclopentadiene	µg/kg	330	350 U	390 U
2,4,6–Trichlorophenol	µg/kg	330	350 U	390 U
2,4,5–Trichlorophenol	µg/kg	800	850 U	950 U
2–Chloronaphthalene	µg/kg	330	350 U	390 U
2–Nitroaniline	µg/kg	800	850 UJ(CCV)	950 UJ(CCV)
Dimethyl phthalate	µg/kg	330	350 U	390 U
Acenaphthylene	µg/kg	330	350 U	390 U
2,6–Dinitrotoluene	µg/kg	330	350 UJ(CCV)	390 UJ(CCV)
3–Nitroaniline	µg/kg	800	850 U	950 U
Acenaphthene	µg/kg	330	350 U	390 U
2,4–Dinitrophenol	µg/kg	800	850 U	950 U
4–Nitrophenol	µg/kg	800	850 UJ(CCV)	950 UJ(CCV)
Dibenzofuran	µg/kg	330	350 U	390 U
2,4–Dinitrotoluene	µg/kg	330	350 U	390 U
Diethyl phthalate	µg/kg	330	350 U	390 U
4–Chlorophenyl phenyl ether	µg/kg	330	350 U	390 U
Fluorene	µg/kg	330	350 U	390 U
4–Nitroaniline	µg/kg	800	850 U	950 U
4,6–Dinitro–2–methylphenol	µg/kg	800	850 U	950 U
N–Nitrosodiphenylamine (1)	µg/kg	330	350 U	390 U

Table F–1. Data Presentation Table: Soil – Background Site, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MWBG–2–3			MWBG–2–3R		
Laboratory ID Number			94913			94914		
Collection Date			8–19–92			8–19–92		
Collection Depth (ft)			17.5–19.5			17.5–19.5		
Percent Solids			86			88		
Associated Field QC Sample			TB–6			TB–6		
			EB3–1			EB3–1		
			FB3–1			FB3–1		
			SD5–FB			SD5–FB		
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)								
Extraction Date			9–1–92			9–1–92		
Analysis Date			9–16–92			9–16–92		
Dilution Factor			1			1		
Parameter	Units	CRQL						
4–Bromophenyl phenyl ether	µg/kg	330	350 U			390 U		
Hexachlorobenzene	µg/kg	330	350 U			390 U		
Pentachlorophenol	µg/kg	800	850 U			950 U		
Phenanthrene	µg/kg	330	350 U			390 U		
Anthracene	µg/kg	330	350 U			390 U		
Carbazole	µg/kg	330	350 U			390 U		
di–N–Butyl phthalate	µg/kg	330	350 U			390 U		
Fluoranthene	µg/kg	330	350 U			390 U		
Pyrene	µg/kg	330	350 U			390 U		
Butylbenzylphthalate	µg/kg	330	350 U			390 U		
3,3'–Dichlorobenzidine	µg/kg	330	350 U			390 U		
Benzo(a)anthracene	µg/kg	330	350 U			390 U		
Chrysene	µg/kg	330	350 U			390 U		
bis(2–Ethylhexyl)phthalate	µg/kg	330	350 U			390 U		
di–N–Octyl phthalate	µg/kg	330	350 UJ(CCV)			390 UJ(CCV)		
Benzo(b)fluoranthene	µg/kg	330	350 U			390 U		
Benzo(k)fluoranthene	µg/kg	330	350 U			390 U		
Benzo(a)pyrene	µg/kg	330	350 U			390 U		
Indeno(1,2,3–c,d)pyrene	µg/kg	330	350 U			390 U		
Dibenzo(a,h)anthracene	µg/kg	330	350 U			390 U		
Benzo(g,h,i)perylene	µg/kg	330	350 U			390 U		
TICs	µg/kg		4–Hydroxy–4–Methyl–2–Pentanone [a]	12000 B,J,N,A	(RT 5.37)	4–Hydroxy–4–Methyl–2–Pentanone [a]	13000 B,J,N,A	(RT 5.37)
			Unknown [d]	110 J	(RT 12.50)	Unknown [d]	110 J	(RT 32.91)
			Unknown [d]	260 J	(RT 14.40)	Unknown [d]	84 J	(RT 34.99)
			Unknown [d]	80 J	(RT 15.75)			
			Unknown [d]	340 J	(RT 16.19)			
			Heptadecane, 2,6,10,14–Tetra [b]	210 J,N	(RT 17.19)			
			Unknown [d]	370 J	(RT 17.85)			
			Hexadecane [b]	310 J,N	(RT 19.45)			
			Unknown [d]	180 J	(RT 20.15)			
			Heptadecane [b]	470 J,N	(RT 20.95)			
			2,6–Dimethyl–Heptadecane [b]	350 J,N	(RT 21.00)			
			Unknown [d]	280 J	(RT 22.39)			
			Unknown [d]	240 J	(RT 22.47)			
			Unknown [d]	320 J	(RT 23.75)			
			Iron, Tricarbonyl[N–(Phenyl– [b]	270 J,N	(RT 25.06)			
			Unknown [d]	250 J	(RT 26.31)			
			Unknown [d]	300 J	(RT 28.64)			
			Unknown [d]	300 J	(RT 29.76)			
			Pentacosane [b]	270 J,N	(RT 30.84)			
			Octacosane [b]	200 J,N	(RT 31.89)			
			Unknown [d]	490 J	(RT 32.92)			
TIC Total	µg/kg			17600 (21)			13194 (3)	

Table F–1. Data Presentation Table: Soil – Background Site, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

Validation note: All descriptive data qualifiers applied to the reported values by the laboratory are reported in parentheses.
Each data point has been assessed to determine whether the value is considered usable (i.e., no qualifier), usable but estimated (i.e., "J"), or not usable (i.e., "R"). All usability qualifiers are followed by the applicable laboratory or field QC qualifier, presented in parentheses and defined below. Usability qualifiers were not applied to values qualified by the laboratory, but were not considered to have been adversely impacted by the applicable laboratory QC result (e.g., duplicated and matrix spike analysis).

A – samples were analyzed for VOCs using SW 8240, laboratory analyses followed methods outlined in the March 1990 CLP SOW for organic analyses
B – samples were analyzed for SVOCs using SW 3550/8270, laboratory analysis followed method details outlined in the March 1990 CLP SOW for organic analyses
CRQL – Contract Required Quantitation Limit
IDL – Instrument Detection Limit
MDL – Method Detection Limit
NA – not analyzed
N/A – not applicable
RT – retention time in minutes
TICs–tentatively identified compounds, total concentration is listed and the total number of tentatively identified compounds is inside the parenthases

Data Validation Qualifiers

J – associated numerical value is the approximate concentration
R – rejected value
U – compound/element was included in analysis, but was not detected
UJ – reported quantitation limit is approximate and may or may not represent the actual quantitation necessary to accurately and precisely measure the analyte

Explanatory Data Validation Qualifiers

CCV – continuing calibration verification
EB – compound/element was also detected in the associated equipment blank
MB – compound/element was also detected in the associated laboratory method blank
SR – surrogate recovery outside control limits

EPA–defined CLP SOW Laboratory Qualifiers

A(TICs) – suspects ALDOL–condensation product
B(metals) – the reported value is estimated because it is greater than the Instrument Detection Limit (IDL), but less than the Contract Required Detection Limit(CRDL)
B(organics) – compound was also detected in the associated laboratory method blank
E(metals) – the reported value is estimated due to the presence of interference
N – spiked sample recovery outside of control limits
N(TICs) – presumptive evidence of a compound
W – post–digestion spike for Graphite Furnace Atomic Absorption (GFAA) analysis is out of control limits (85–115%), while sample absorbance is less than 50% of the spike absorbance
* – duplicate sample analysis outside of control limits

SAIC TIC Evaluation Categories

[a] – laboratory and extraction artifacts
[b] – petroleum or petroleum degradation products
[c] – other
[d] – unknown
[e] – polycyclic aromatic hydrocarbons
[f] – naturally occuring organic compounds

Table F–2. Data Presentation Table: Surface Soil – Background Site, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

SAIC ID Number			SD3–1	SD3–2	SD3–2R
Laboratory ID Number			9555	9556	9557
Collection Date			5–21–93	5–21–93	5–21–93
Collection Depth (ft)			0.0–0.5	0.0–0.5	0.0–0.5
Percent Solids			85	90	91
Associated Field QC Sample			TB52093	TB52093	TB52093
			EB2–2, EB3–2	EB2–2, EB3–2	EB2–2, EB3–2
			N/A	N/A	N/A
			FB2–2, FB3–2	FB2–2, FB3–2	FB2–2, FB3–2
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)					
Extraction Date			5–25 and 5–29–93	5–25 and 5–29–93	5–25 and 5–29–93
Analysis Date			6–8 and 6–18–93	6–8 and 6–18–93	6–8 and 6–18–93
Dilution Factor			10	10	10
Parameter	Units	MDL			
Gasoline	mg/kg	0.05	<0.05	<0.05	<0.05
Diesel Fuel	mg/kg	2	37	24	23
Heavy Oil	mg/kg	3	160	120	99
PRIORITY POLLUTANT METALS					
Digestion Date(s)			6–11 and 6–17–93	6–11 and 6–17–93	6–11 and 6–17–93
Analysis Date(s)			6–11 to 6–25–93	6–11 to 6–25–93	6–11 to 6–25–93
Dilution Factor		IDL	1	1	1
AA METALS					
Antimony (SW 3050/7041)	mg/kg	0.6	0.21 J(N,W)	0.09 UJ(N,W)	0.15 J(N,W)
Arsenic (SW 3050/7060)	mg/kg	0.6	11.3 J(N)	6.7 J(N)	7.2 J(N)
Lead (SW 3050/7421)	mg/kg	0.5	126 J(N)	21.3 J(N)	17.7 J(N)
Mercury (SW 3050/7471)	mg/kg	0.1	0.5	0.04 U	0.04 U
Selenium (SW 3050/7740)	mg/kg	0.9	0.25 J(W)	0.14 UJ(W)	0.15 UJ(W)
Thallium (SW 3050/7841)	mg/kg	1.4	0.4 J(W)	0.22 J(W)	0.23 UJ(W)
ICP METALS (SW 3050/6010)					
Beryllium	mg/kg	0.3	0.55 B	0.34 U(MB)	0.4 B
Cadmium	mg/kg	3.7	1.5	0.61 U	0.55 U
Chromium	mg/kg	2.8	121	17.3	20.3
Copper	mg/kg	2.7	48.7	15.2	18.6
Nickel	mg/kg	19.8	61.5	13.7	13.8
Silver	mg/kg	2.9	5.3	0.66 B	0.61 B
Zinc	mg/kg	1.6	343 J(E)	65.1 J(E)	75.5 J(E)

Table F–2. Data Presentation Table: Surface Soil – Background Site, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD3–1	SD3–2	SD3–2R
Laboratory ID Number			9555	9556	9557
Collection Date			5–21–93	5–21–93	5–21–93
Collection Depth (ft)			0.0–0.5	0.0–0.5	0.0–0.5
Percent Solids			85	90	91
Associated Field QC Sample			TB52093	TB52093	TB52093
			EB2–2, EB3–2	EB2–2, EB3–2	EB2–2, EB3–2
			N/A	N/A	N/A
			FB2–2, FB3–2	FB2–2, FB3–2	FB2–2, FB3–2
VOLATILE ORGANICS (SW 8240 [A])					
Analysis Date			5–27–93	5–27–93	5–27–93
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Chloromethane	µg/kg	10	12 U	11 U	11 U
Bromomethane	µg/kg	10	12 U	11 U	11 U
Vinyl Chloride	µg/kg	10	12 U	11 U	11 U
Chloroethane	µg/kg	10	12 U	11 U	11 U
Methylene Chloride	µg/kg	10	12 U	11 U	11 U
Acetone	µg/kg	10	12 U	11 U	11 U
Carbon Disulfide	µg/kg	10	12 U	11 U	11 U
1,1–Dichloroethene	µg/kg	10	12 U	11 U	11 U
1,1–Dichloroethane	µg/kg	10	12 U	11 U	11 U
1,2–Dichloroethene (total)	µg/kg	10	12 U	11 U	11 U
Chloroform	µg/kg	10	12 U	11 U	11 U
1,2–Dichloroethane	µg/kg	10	12 U	11 U	11 U
2–Butanone	µg/kg	10	12 U	11 U	11 U
1,1,1–Trichloroethane	µg/kg	10	12 U	11 U	11 U
Carbon Tetrachloride	µg/kg	10	12 U	11 U	11 U
Bromodichloromethane	µg/kg	10	12 U	11 U	11 U
1,2–Dichloropropane	µg/kg	10	12 U	11 U	11 U
cis–1,3–Dichloropropene	µg/kg	10	12 U	11 U	11 U
Trichloroethene	µg/kg	10	12 U	11 U	11 U
Dibromochloromethane	µg/kg	10	12 U	11 U	11 U
1,1,2–Trichloroethane	µg/kg	10	12 U	11 U	11 U
Benzene	µg/kg	10	12 U	11 U	11 U
trans–1,3–Dichloropropene	µg/kg	10	12 U	11 U	11 U
Bromoform	µg/kg	10	12 U	11 U	11 U
4–Methyl–2–pentanone	µg/kg	10	12 U	11 U	11 U
2–Hexanone	µg/kg	10	12 U	11 U	11 U
Tetrachloroethene	µg/kg	10	12 U	11 U	11 U
1,1,2,2–Tetrachloroethane	µg/kg	10	12 U	11 U	11 U
Toluene	µg/kg	10	12 U	11 U	11 U
Chlorobenzene	µg/kg	10	12 U	11 U	11 U
Ethylbenzene	µg/kg	10	12 U	11 U	11 U
Styrene	µg/kg	10	12 U	11 U	11 U
Xylene (total)	µg/kg	10	12 U	11 U	11 U
TICs	µg/kg		0 (0)	0 (0)	0 (0)
TIC Total	µg/kg		0 (0)	0 (0)	0 (0)

Table F–2. Data Presentation Table: Surface Soil – Background Site, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD3–1	SD3–2	SD3–2R
Laboratory ID Number			9555	9556	9557
Collection Date			5–21–93	5–21–93	5–21–93
Collection Depth (ft)			0.0–0.5	0.0–0.5	0.0–0.5
Percent Solids			85	90	91
Associated Field QC Sample			TB52093 EB2–2, EB3–2 N/A FB2–2, FB3–2	TB52093 EB2–2, EB3–2 N/A FB2–2, FB3–2	TB52093 EB2–2, EB3–2 N/A FB2–2, FB3–2
SEMIVOLATILE ORGANICS (SW 8270 [B])					
Extraction Date			5–27–93	5–27–93	5–27–93
Analysis Date			6–4–93	6–4–93	6–4–93
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Phenol	µg/kg	330	390 U	360 U	360 U
bis(2–Chloroethyl)ether	µg/kg	330	390 U	360 U	360 U
2–Chlorophenol	µg/kg	330	390 U	360 U	360 U
1,3–Dichlorobenzene	µg/kg	330	390 U	360 U	360 U
1,4–Dichlorobenzene	µg/kg	330	390 U	360 U	360 U
1,2–Dichlorobenzene	µg/kg	330	390 U	360 U	360 U
2–Methylphenol	µg/kg	330	390 U	360 U	360 U
2,2–oxibis–(1–Chloropropane)	µg/kg	330	390 UJ(CCV)	360 U	360 U
4–Methylphenol	µg/kg	330	390 U	360 U	360 U
N–Nitroso–di–N–propylamine	µg/kg	330	390 U	360 U	360 U
Hexachloroethane	µg/kg	330	390 U	360 U	360 U
Nitrobenzene	µg/kg	330	390 U	360 U	360 U
Isophorone	µg/kg	330	390 U	360 U	360 U
2–Nitrophenol	µg/kg	330	390 U	360 U	360 U
2,4–Dimethylphenol	µg/kg	330	390 U	360 U	360 U
bis(2–Chloroethoxy)methane	µg/kg	330	390 U	360 U	360 U
2,4–Dichlorophenol	µg/kg	330	390 U	360 U	360 U
1,2,4–Trichlorobenzene	µg/kg	330	390 U	360 U	360 U
Naphthalene	µg/kg	330	390 U	360 U	360 U
4–Chloroaniline	µg/kg	330	390 U	360 U	360 U
Hexachlorobutadiene	µg/kg	330	390 U	360 U	360 U
4–Chloro–3–methylphenol	µg/kg	330	390 U	360 U	360 U
2–Methylnaphthalene	µg/kg	330	390 U	360 U	360 U
Hexachlorocyclopentadiene	µg/kg	330	390 UJ(CCV)	360 UJ(CCV)	360 UJ(CCV)
2,4,6–Trichlorophenol	µg/kg	330	390 U	360 U	360 U
2,4,5–Trichlorophenol	µg/kg	800	940 U	880 U	870 U
2–Chloronaphthalene	µg/kg	330	390 U	360 U	360 U
2–Nitroaniline	µg/kg	800	940 U	880 U	870 U
Dimethyl phthalate	µg/kg	330	390 U	360 U	360 U
Acenaphthylene	µg/kg	330	41 J	39 J	360 U
2,6–Dinitrotoluene	µg/kg	330	390 UJ(CCV)	360 U	360 U
3–Nitroaniline	µg/kg	800	940 U	880 U	870 U
Acenaphthene	µg/kg	330	390 U	360 U	360 U
2,4–Dinitrophenol	µg/kg	800	940 U	880 U	870 U
4–Nitrophenol	µg/kg	800	940 U	880 U	870 U
Dibenzofuran	µg/kg	330	390 U	360 U	360 U
2,4–Dinitrotoluene	µg/kg	330	390 U	360 U	360 U
Diethyl phthalate	µg/kg	330	390 U	360 U	360 U
4–Chlorophenyl phenyl ether	µg/kg	330	390 U	360 U	360 U
Fluorene	µg/kg	330	390 U	360 U	360 U
4–Nitroaniline	µg/kg	800	940 U	880 U	870 U
4,6–Dinitro–2–methylphenol	µg/kg	800	940 U	880 U	870 U
N–Nitrosodiphenylamine (1)	µg/kg	330	390 U	360 U	360 U

Table F–2. Data Presentation Table: Surface Soil – Background Site, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD3–1			SD3–2			SD3–2R			
Laboratory ID Number			9555			9556			9557			
Collection Date			5–21–93			5–21–93			5–21–93			
Collection Depth (ft)			0.0–0.5			0.0–0.5			0.0–0.5			
Percent Solids			85			90			91			
Associated Field QC Sample			TB52093 EB2–2, EB3–2 N/A FB2–2, FB3–2			TB52093 EB2–2, EB3–2 N/A FB2–2, FB3–2			TB52093 EB2–2, EB3–2 N/A FB2–2, FB3–2			
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)												
Extraction Date			5–27–93			5–27–93			5–27–93			
Analysis Date			6–4–93			6–4–93			6–4–93			
Dilution Factor			1			1			1			
Parameter	Units	CRQL										
4–Bromophenyl phenyl ether	µg/kg	330	390 U			360 U			360 U			
Hexachlorobenzene	µg/kg	330	390 U			360 U			360 U			
Pentachlorophenol	µg/kg	800	940 U			880 U			870 U			
Phenanthrene	µg/kg	330	102 J			150 J			380			
Anthracene	µg/kg	330	390 U			360 U			52 J			
Carbazole	µg/kg	330	390 UJ(CCV)			44 J			360 U			
di–N–Butyl phthalate	µg/kg	330	390 U			360 U			360 U			
Fluoranthene	µg/kg	330	297 J			330 J			550			
Pyrene	µg/kg	330	301 J			330 J			550			
Butylbenzylphthalate	µg/kg	330	390 U			360 U			360 U			
3,3'–Dichlorobenzidine	µg/kg	330	390 UJ(CCV)			360 U			360 U			
Benzo(a)anthracene	µg/kg	330	177 J			190 J			220 J			
Chrysene	µg/kg	330	214 J			210 J			280 J			
bis(2–Ethylhexyl)phthalate	µg/kg	330	390 U(MB)			360 U(MB)			360 U(MB)			
di–N–Octyl phthalate	µg/kg	330	390 U			360 U			360 U			
Benzo(b)fluoranthene	µg/kg	330	419			330 J			410			
Benzo(k)fluoranthene	µg/kg	330	153 J			120 J			130 J			
Benzo(a)pyrene	µg/kg	330	193 J			190 J			250 J			
Indeno(1,2,3–c,d)pyrene	µg/kg	330	274 J			210 J			240 J			
Dibenzo(a,h)anthracene	µg/kg	330	390 U			360 U			360 U			
Benzo(g,h,i)perylene	µg/kg	330	211 J			190 J			200 J			
TICs	µg/kg		Benzene, 1–Chloro–3–Isocyana[b]	8 J,N	(RT 9.24)	4–Hydroxy–4–Methyl–2–Pentanone[a]	19000 B,J,N,A	(RT 3.93)	4–Hydroxy–4–Methyl–2–Pentanone[a]	18000 B,J,N,A	(RT 3.93)	
			Hexadecanoic Acid[f]	18 J,N	(RT 22.34)	Unknown[d]	220 J	(RT 18.77)	Unknown[d]	180 J	(RT 18.77)	
			Unknown[d]	4 J	(RT 27.36)	Unknown[d]	130 J	(RT 20.15)	Unknown[d]	220 J	(RT 21.50)	
			Unknown[d]	4 J	(RT 28.41)	Unknown[d]	210 J	(RT 21.50)	Hexadecanoic Acid[f]	270 J,N	(RT 22.35)	
			Unknown[d]	3 J	(RT 29.94)	Hexadecanoic Acid[f]	360 J,N	(RT 22.35)	Unknown[d]	140 J	(RT 22.79)	
			Unknown[d]	6 J	(RT 30.44)	Unknown[d]	130 J	(RT 22.79)	Unknown[d]	160 J	(RT 24.00)	
			Unknown[d]	4 J	(RT 31.51)	Unknown[d]	290 J	(RT 24.00)	Unknown[d]	87 J	(RT 25.17)	
			Unknown[d]	6 J	(RT 32.21)	Unknown[d]	110 J	(RT 25.17)	Unknown[d]	390 J	(RT 26.31)	
			Unknown[d]	7 J	(RT 32.41)	Unknown[d]	200 J	(RT 26.31)	Hexanedioic Acid, Mono(2–Eth[e]	1700 J,N	(RT 27.27)	
			Unknown[d]	5 J	(RT 32.47)	Unknown[d]	190 J	(RT 27.39)	Unknown[d]	250 J	(RT 27.39)	
			Unknown[d]	12 J	(RT 33.82)	Unknown[d]	280 J	(RT 28.44)	Unknown[d]	1700 J	(RT 28.44)	
			Unknown[d]	9 J	(RT 34.14)	Unknown[d]	320 J	(RT 29.44)	Unknown[d]	250 J	(RT 29.46)	
			Unknown[d]	6 J	(RT 34.34)	Unknown[d]	610 J	(RT 30.46)	Unknown[d]	320 J	(RT 30.46)	
			Unknown[d]	15 J	(RT 34.44)	Unknown[d]	400 J	(RT 31.42)	Unknown[d]	300 J	(RT 31.42)	
			Unknown[d]	7 J	(RT 34.61)	Octacosane[b]	970 J,N	(RT 32.39)	Unknown[d]	510 J	(RT 32.39)	
			Unknown[d]	14 J	(RT 35.46)	Pentatriacontane[b]	1200 J,N	(RT 34.31)	Pentatriacontane[b]	830 J,N	(RT 34.32)	
			Unknown[d]	15 J	(RT 36.34)	Unknown[d]	860 J	(RT 35.42)	Unknown[d]	650 J	(RT 35.42)	
			Unknown[d]	6 J	(RT 36.67)	Unknown[d]	910 J	(RT 35.71)	Unknown[d]	630 J	(RT 35.69)	
			Unknown[d]	10 J	(RT 36.81)	Unknown[d]	2400 J	(RT 36.29)	Unknown[d]	1500 J	(RT 36.31)	
			Unknown[d]	9 J	(RT 37.14)	Unknown[d]	3900 J	(RT 36.77)	Unknown[d]	550 J	(RT 36.72)	
						Unknown[d]	760 J	(RT 37.11)	Unknown[d]	570 J	(RT 37.09)	
TIC Total	µg/kg			168 (20)			33450 (21)			29207 (21)		

Table F–2. Data Presentation Table: Surface Soil – Background Site, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

Validation note: All descriptive data qualifiers applied to the reported values by the laboratory are reported in parentheses.
Each data point has been assessed to determine whether the value is considered usable (i.e., no qualifier), usable but estimated (i.e., "J"), or not usable (i.e., "R"). All usability qualifiers are followed by the applicable laboratory or field QC qualifier, presented in parentheses and defined below. Usability qualifiers were not applied to values qualified by the laboratory, but were not considered to have been adversely impacted by the applicable laboratory QC result (e.g., duplicated and matrix spike analysis).
A – samples were analyzed for VOCs using SW 8240, laboratory analyses followed methods outlined in the March 1990 CLP SOW for organic analyses
B – samples were analyzed for SVOCs using SW 3550/8270, laboratory analysis followed method details outlined in the March 1990 CLP SOW for organic analyses
CRQL – Contract Required Quantitation Limit
IDL – Instrument Detection Limit
MDL – Method Detection Limit
N/A – not applicable
RT – retention time in minutes
TICs–tentatively identified compounds, total concentration is listed and the total number of tentatively identified compounds is inside the parenthases
Data Validation Qualifiers
J – associated numerical value is the approximate concentration
U – compound/element was included in analysis, but was not detected
UJ – reported quantitation limit is approximate and may or may not represent the actual quantitation necessary to accurately and precisely measure the analyte
Explanatory Data Validation Qualifiers
CCV – continuing calibration verification
MB – compound/element was also detected in the associated laboratory method blank
EPA–defined CLP SOW Laboratory Qualifiers
A(TICs) – suspects ALDOL–condensation product
B(metals) – the reported value is estimated because it is greater than the Instrument Detection Limit (IDL), but less than the Contract Required Detection Limit(CRDL)
B(organics) – compound was also detected in the associated laboratory method blank
E(metals) – the reported value is estimated due to the presence of interference
N – spiked sample recovery outside of control limits
N(TICs) – presumptive evidence of a compound
W – post–digestion spike for Graphite Furnace Atomic Absorption (GFAA) analysis is out of control limits (85–115%), while sample absorbance is less than 50% of the spike absorbance
SAIC TIC Evaluation Categories
[a] – laboratory and extraction artifacts
[b] – petroleum or petroleum degradation products
[c] – other
[d] – unknown
[f] – naturally occuring organic compounds

Table F–3. Data Presentation Table: Groundwater – Background Site, 178 th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

SAIC ID Number				MWBG–1–1	MWBG–1–2	MWBG–2–1	MWBG–2–2
Laboratory ID Number				97309	9573, 9589	9727.1	9574, 9590
Collection Date				9–30–92	5–21–93	9–29–92	5–21–93
Associated Field QC Sample				TB–14	TB52193	TB–12,13	TB52193
				ERBG–2	EB2–2, EB3–2	ERBG–2	EB2–2, EB3–2
				FBBA–1	N/A	FBBA–1	N/A
				FBCE–1	FB2–2, FB3–2	FBCE–1	FB2–2, FB3–2
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)							
Extraction Date				10–6–92	5–26–93	10–6–92	5–26–93
Analysis Date				10–21–92	5–26 and 6–17–93	10–20–92	5–26 and 6–17–93
Dilution Factor				1	1	1	1
Parameter	Units	MDL	or MDL				
Gasoline	mg/L	N/A	0.05	NA	<0.25	NA	<0.25
Diesel Fuel	mg/L	0.1	0.05	<0.2	<0.13	<0.2	<0.13
Heavy Oil	mg/L	0.1	0.1	<0.2	<0.25	<0.2	<0.25
TOTAL PRIORITY POLLUTANT METALS							
Digestion Date(s)				10–19 and 10–20–92	6–11 and 6–16–93	10–19 and 10–20–92	6–11 and 6–16–93
Analysis Date(s)				10–20 to 11–6–92	6–11 to 6–25–93	10–20 to 11–6–92	6–11 to 6–25–93
Dilution Factor		IDL	or IDL	1	1	1	1
AA METALS							
Antimony (SW 3020/7041)	µg/L	1.2	0.6	R(N)	1.5 J(N,W)	1.4 J(N)	1 J(N)
Arsenic (SW 3020/7060)	µg/L	0.7	0.6	16.2	2.8 J(N)	4 B	6 J(N)
Lead (SW 3020/7421)	µg/L	0.5	0.5	16.6 U(FB)	55 S	4.1 U(FB)	9.8
Mercury (SW 7470)	µg/L	0.1	0.1	0.1 U	0.1 U	0.1 U	0.1 U
Selenium (SW 7740)	µg/L	1.4	0.9	R(N)	R(N)	R(N)	R(N)
Thallium (SW 3020/7841)	µg/L	1.4	1.4	1.4 UJ(N)	1.4 U	1.4 UJ(N)	1.4 U
ICP METALS (SW 3005/6010)							
Beryllium	µg/L	0.3	0.3	0.57 B	2.6 B	0.3 U	0.46 B
Cadmium	µg/L	2.1	3.7	2.1 U	3.7 U	2.1 U	3.7 U
Chromium	µg/L	2.9	2.8	23.1	78.6	9.1 B	18.1
Copper	µg/L	3.4	2.7	34.4 U(FB)	109	11.6 U(FB)	24.5 B
Nickel	µg/L	12.9	19.8	28.2 B	133	12.9 U	30.1 B
Silver	µg/L	3.8	2.9	3.8 U	3.3 J(N)	3.8 U	2.9 UJ(N)
Zinc	µg/L	2.9	1.6	132 U(FB)	511 J(E)	39.7 U(FB)	97.1 J(E)
DISSOLVED PRIORITY POLLUTANT METALS							
Digestion Date(s)				N/A	6–8 and 6–16–93	N/A	6–8 and 6–16–93
Analysis Date(s)				N/A	6–16 to 6–22–93	N/A	6–16 to 6–22–93
Dilution Factor		IDL		N/A	1	N/A	1
AA METALS							
Antimony (SW 3020/7041)	µg/L	0.6		NA	0.9 B	NA	1.2 B
Arsenic (SW 3020/7060)	µg/L	0.6		NA	0.6 UJ(W)	NA	0.6 UJ(W)
Lead (SW 3020/7421)	µg/L	0.5		NA	0.6 U(EB)	NA	0.5 U
Mercury (SW 7470)	µg/L	0.1		NA	0.1 U	NA	0.1 U
Selenium (SW 7740)	µg/L	0.9		NA	0.9 U(MB)	NA	0.9 U
Thallium (SW 3020/7841)	µg/L	1.4		NA	1.4 U	NA	1.4 U
ICP METALS (SW 3005/6010)							
Beryllium	µg/L	0.3		NA	0.3 U	NA	0.3 U
Cadmium	µg/L	3.7		NA	3.7 U	NA	3.7 U
Chromium	µg/L	2.8		NA	2.8 U	NA	2.8 U
Copper	µg/L	2.7		NA	2.7 U	NA	5.3 U(FB)
Nickel	µg/L	19.8		NA	19.8 U	NA	19.8 U
Silver	µg/L	2.9		NA	2.9 UJ(N)	NA	2.9 UJ(N)
Zinc	µg/L	1.6		NA	10.1 U(MB)	NA	5.8 U(MB)

Table F–3. Data Presentation Table: Groundwater – Background Site, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MWBG–1–1	MWBG–1–2	MWBG–2–1	MWBG–2–2
Laboratory ID Number			97309	9573, 9589	97Z71	9574, 9590
Collection Date			9–30–92	5–21–93	9–29–92	5–21–93
Associated Field QC Sample			TB–14	TB52193	TB–12,13	TB52193
			ERBG–2	EB2–2, EB3–2	ERBG–2	EB2–2, EB3–2
			FBBA–1	N/A	FBBA–1	N/A
			FBCE–1	FB2–2, FB3–2	FBCE–1	FB2–2, FB3–2
VOLATILE ORGANICS (A)						
Analysis Date			10–6–92	5–24–93	10–6–92	5–25–93
Dilution Factor			1	1	1	1
Parameter	Units	CRQL				
Chloromethane	µg/L	0.3	0.3 U	0.3 U	0.3 U	0.3 U
Bromomethane	µg/L	0.4	0.4 U	0.4 U	0.4 U	0.4 U
Vinyl Chloride	µg/L	0.5	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	µg/L	0.2	0.2 U	0.2 U	0.2 U	0.2 U
Methylene Chloride	µg/L	0.4	0.4 U	0.4 U	0.4 U	0.4 U
Acetone	µg/L	1	1 U	1 U	1 U	1 U
Carbon Disulfide	µg/L	0.5	0.5 U	0.5 U	0.5 U	0.5 U
1,1–Dichloroethene	µg/L	0.5	0.5 U	0.5 U	0.5 U	0.5 U
1,1–Dichloroethane	µg/L	0.4	0.4 U	0.4 U	0.4 U	0.4 U
1,2–Dichloroethene (total)	µg/L	0.5	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	µg/L	0.4	0.4 U	0.4 U	0.4 U	0.4 U
1,2–Dichloroethane	µg/L	0.4	0.4 U	0.4 U	0.4 U	0.4 U
2–Butanone	µg/L	1	1 U	1 U	1 U	1 U
1,1,1–Trichloroethane	µg/L	0.4	0.4 U	0.4 U	0.4 U	0.4 U
Carbon Tetrachloride	µg/L	0.4	0.4 U	0.4 U	0.4 U	0.4 U
Bromodichloromethane	µg/L	0.4	0.4 U	0.4 U	0.4 U	0.4 U
1,2–Dichloropropane	µg/L	0.3	0.3 U	0.3 U	0.3 U	0.3 U
cis–1,3–Dichloropropene	µg/L	0.8	0.8 U	0.8 U	0.8 U	0.8 U
Trichloroethene	µg/L	0.5	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	µg/L	0.5	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2–Trichloroethane	µg/L	0.8	0.8 U	0.8 U	0.8 U	0.8 U
Benzene	µg/L	0.5	0.5 U	0.5 U	0.5 U	0.5 U
trans–1,3–Dichloropropene	µg/L	0.8	0.8 U	0.8 U	0.8 U	0.8 U
Bromoform	µg/L	0.9	0.9 U	0.9 U	0.9 U	0.9 U
4–Methyl–2–pentanone	µg/L	0.6	0.6 U	0.6 U	0.6 U	0.6 U
2–Hexanone	µg/L	2	2 U	2 U	2 U	2 U
Tetrachloroethene	µg/L	0.4	0.4 U	0.4 U	0.4 U	0.4 U
1,1,2,2–Tetrachloroethane	µg/L	0.7	0.7 U	0.7 U	0.7 U	0.7 U
Toluene	µg/L	0.4	0.4 U	0.4 U	0.4 U	0.4 U
Chlorobenzene	µg/L	0.4	0.4 U	0.4 U	0.4 U	0.4 U
Ethylbenzene	µg/L	0.7	0.7 U	0.7 U	0.7 U	0.7 U
Styrene	µg/L	0.2	0.2 U	0.2 U	0.2 U	0.2 U
Xylene (total)	µg/L	0.7	0.7 U	0.7 U	0.7 U	0.7 U
TICs	µg/L		0 (0)	0 (0)	0 (0)	0 (0)
TIC Total	µg/L		0 (0)	0 (0)	0 (0)	0 (0)

Table F–3. Data Presentation Table: Groundwater – Background Site, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MWBG–1–1	MWBG–1–2	MWBG–2–1	MWBG–2–2
Laboratory ID Number			97309	9573, 9589	97271	9574, 9590
Collection Date			9–30–92	5–21–93	9–29–92	5–21–93
Associated Field QC Sample			TB–14	TB52193	TB–12,13	TB52193
			ERBG–2	EB2–2, EB3–2	ERBG–2	EB2–2, EB3–2
			FBBA–1	N/A	FBBA–1	N/A
			FBCE–1	FB2–2, FB3–2	FBCE–1	FB2–2, FB3–2
SEMIVOLATILE ORGANIC (SW 8270 [B])						
Extraction Date			10–5–92	5–26–93	10–1–92	5–26–93
Analysis Date			10–28–92	6–1–93	10–27–92	6–1–93
Dilution Factor			1	1	1	1
Parameter	Units	CRQL				
Phenol	µg/L	10	11 U	11 U	10 U	10 U
bis(2–Chloroethyl)ether	µg/L	10	11 U	11 U	10 U	10 U
2–Chlorophenol	µg/L	10	11 U	11 U	10 U	10 U
1,3–Dichlorobenzene	µg/L	10	11 U	11 U	10 U	10 U
1,4–Dichlorobenzene	µg/L	10	11 U	11 U	10 U	10 U
1,2–Dichlorobenzene	µg/L	10	11 U	11 U	10 U	10 U
2–Methylphenol	µg/L	10	11 U	11 U	10 U	10 U
2,2–oxibis–(1–Chloropropane)	µg/L	10	11 U	11 U	10 U	10 U
4–Methylphenol	µg/L	10	11 U	11 U	10 U	10 U
N–Nitroso–di–N–propylamine	µg/L	10	11 U	11 U	10 U	10 U
Hexachloroethane	µg/L	10	11 U	11 UJ(CCV)	10 U	10 UJ(CCV)
Nitrobenzene	µg/L	10	11 U	11 U	10 U	10 U
Isophorone	µg/L	10	11 U	11 U	10 U	10 U
2–Nitrophenol	µg/L	10	11 U	11 U	10 U	10 U
2,4–Dimethylphenol	µg/L	10	11 U	11 U	10 U	10 U
bis(2–Chloroethoxy)methane	µg/L	10	11 U	11 U	10 U	10 U
2,4–Dichlorophenol	µg/L	10	11 U	11 U	10 U	10 U
1,2,4–Trichlorobenzene	µg/L	10	11 U	11 U	10 U	10 U
Naphthalene	µg/L	10	11 U	11 U	10 U	10 U
4–Chloroaniline	µg/L	10	11 U	11 U	10 U	10 U
Hexachlorobutadiene	µg/L	10	11 U	11 UJ(CCV)	10 U	10 UJ(CCV)
4–Chloro–3–methylphenol	µg/L	10	11 U	11 U	10 U	10 U
2–Methylnaphthalene	µg/L	10	11 U	11 U	10 U	10 U
Hexachlorocyclopentadiene	µg/L	10	11 U	11 U	10 U	10 U
2,4,6–Trichlorophenol	µg/L	10	11 U	11 U	10 U	10 U
2,4,5–Trichlorophenol	µg/L	25	27 U	27 U	25 U	26 U
2–Chloronaphthalene	µg/L	10	11 U	11 U	10 U	10 U
2–Nitroaniline	µg/L	25	27 U	27 U	25 U	26 U
Dimethyl phthalate	µg/L	10	11 U	11 U	10 U	10 U
Acenaphthylene	µg/L	10	11 U	11 U	10 U	10 U
2,6–Dinitrotoluene	µg/L	10	11 U	11 U	10 U	10 U
3–Nitroaniline	µg/L	25	27 U	27 UJ(CCV)	25 U	26 UJ(CCV)
Acenaphthene	µg/L	10	11 U	11 U	10 U	10 U
2,4–Dinitrophenol	µg/L	25	27 U	27 UJ(CCV)	25 U	26 UJ(CCV)
4–Nitrophenol	µg/L	25	27 UJ(CCV)	27 U	25 UJ(CCV)	26 U
Dibenzofuran	µg/L	10	11 U	11 U	10 U	10 U
2,4–Dinitrotoluene	µg/L	10	11 U	11 U	10 U	10 U
Diethyl phthalate	µg/L	10	11 U	11 U	10 U	10 U
4–Chlorophenyl phenyl ether	µg/L	10	11 U	11 U	10 U	10 U
Fluorene	µg/L	10	11 U	11 U	10 U	10 U
4–Nitroaniline	µg/L	25	27 U	27 U	25 U	26 U
4,6–Dinitro–2–methylphenol	µg/L	25	27 U	27 UJ(CCV)	25 U	26 UJ(CCV)
N–Nitrosodiphenylamine (1)	µg/L	10	11 U	11 U	10 U	10 U

Table F–3. Data Presentation Table: Groundwater – Background Site, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MWBG–1–1	MWBG–1–2	MWBG–2–1	MWBG–2–2
Laboratory ID Number			97309	9573, 9589	97271	9574, 9590
Collection Date			9–30–92	5–21–93	9–29–92	5–21–93
Associated Field QC Sample			TB–14	TB52193	TB–12,13	TB52193
			ERBG–2	EB2–2, EB3–2	ERBG–2	EB2–2, EB3–2
			FBBA–1	N/A	FBBA–1	N/A
			FBCE–1	FB2–2, FB3–2	FBCE–1	FB2–2, FB3–2
SEMIVOLATILE ORGANIC (SW 8270 [B]) (Continued)						
Extraction Date			10–5–92	5–26–93	10–1–92	5–26–93
Analysis Date			10–28–92	6–1–93	10–27–92	6–1–93
Dilution Factor			1	1	1	1
Parameter	Units	CRQL				
4–Bromophenyl phenyl ether	µg/L	10	11 U	11 U	10 U	10 U
Hexachlorobenzene	µg/L	10	11 U	11 UJ(CCV)	10 U	10 UJ(CCV)
Pentachlorophenol	µg/L	25	27 U	27 UJ(CCV)	25 U	26 UJ(CCV)
Phenanthrene	µg/L	10	11 U	11 U	10 U	10 U
Anthracene	µg/L	10	11 U	11 U	10 U	10 U
Carbazole	µg/L	10	11 U	11 UJ(CCV)	10 U	10 UJ(CCV)
di–N–Butyl phthalate	µg/L	10	11 U	11 U	10 U	10 U
Fluoranthene	µg/L	10	11 U	11 U	10 U	10 U
Pyrene	µg/L	10	11 U	11 U	10 U	10 U
Butylbenzylphthalate	µg/L	10	11 U	11 U	10 U	10 U
3,3'–Dichlorobenzidine	µg/L	10	11 UJ(CCV)	11 U	10 UJ(CCV)	10 U
Benzo(a)anthracene	µg/L	10	11 U	11 U	10 U	10 U
Chrysene	µg/L	10	11 U	11 U	10 U	10 U
bis(2–Ethylhexyl)phthalate	µg/L	10	11 U	11 U	10 U(EB)	10 U(FB)
di–N–Octyl phthalate	µg/L	10	11 U	11 U	10 U	10 U
Benzo(b)fluoranthene	µg/L	10	11 U	11 U	10 U	10 U
Benzo(k)fluoranthene	µg/L	10	11 U	11 U	10 U	10 U
Benzo(a)pyrene	µg/L	10	11 U	11 U	10 U	10 U
Indeno(1,2,3–c,d)pyrene	µg/L	10	11 U	11 U	10 U	10 U
Dibenzo(a,h)anthracene	µg/L	10	11 U	11 U	10 U	10 U
Benzo(g,h,i)perylene	µg/L	10	11 U	11 U	10 U	10 U
TICs	µg/L		4,5–Dimethyl–2–Hepten–3–Ol[e] 2 J,N (RT 7.4)	0 (0)	4–Diamine–1,3,5–Triazine–2[e] 4 J,N (RT 21.45)	6–Amino–Hexanoic Acid[f] 7 J,N (RT 11.87) 1,3,5–Triazine–2,4–Diamine,[e] 5 J,N (RT 19.67)
TIC Total	µg/L		2 (1)	0 (0)	4 (1)	12 (2)

Table F–3. Data Presentation Table: Groundwater – Background Site, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

Validation note: All descriptive data qualifiers applied to the reported values by the laboratory are reported in parentheses.
Each data point has been assessed to determine whether the value is considered usable (i.e., no qualifier), usable but estimated (i.e., "J"), or not usable (i.e., "R"). All usability qualifiers are followed by the applicable laboratory or field QC qualifier, presented in parentheses and defined below. Usability qualifiers were not applied to values qualified by the laboratory, but were not considered to have been adversely impacted by the applicable laboratory QC result (e.g., duplicated and matrix spike analysis).

A – groundwater samples were analyzed for volatile halogenated compounds and volatile aromatic compounds by E 524.2 for samples collected in 1992 or SW 8240 (25 ml purge for low level volatiles) for samples collected in 1993; these methods have been modified to incorporate CLP–type QC requirements
B – SVOCs in groundwater and field QC blanks were analyzed using EPA method 3510/8270
CRQL – Contract Required Quantitation Limit
IDL – Instrument Detection Limit
MDL – Method Detection Limit
NA – not analyzed
N/A – not applicable
RT – retention time in minutes
TICs–tentatively identified compounds, total concentration is listed and the total number of tentatively identified compounds is inside the parenthases

Data Validation Qualifiers

J – associated numerical value is the approximate concentration
R – rejected value
U – compound/element was included in analysis, but was not detected
UJ – reported quantitation limit is approximate and may or may not represent the actual quantitation necessary to accurately and precisely measure the analyte

Explanatory Data Validation Qualifiers

CCV – continuing calibration verification
EB – compound/element was also detected in the associated equipment blank
FB – compound/element was also detected in the associated field blank

EPA–defined CLP SOW Laboratory Qualifiers

B(metals) – the reported value is estimated because it is greater than the Instrument Detection Limit (IDL), but less than the Contract Required Detection Limit(CRDL)
E(metals) – the reported value is estimated due to the presence of interference
N – spiked sample recovery outside of control limits
N(TICs) – presumptive evidence of a compound
S – the reported value was determined by the Method of Standard Additions (MSA)
W – post–digestion spike for Graphite Furnace Atomic Absorption (GFAA) analysis is out of control limits (85–115%), while sample absorbance is less than 50% of the spike absorbance

SAIC TIC Evaluation Categories

^{c} – other
^{l} – naturally occuring organic compounds

Table F–4. Data Presentation Table: Soil – Site 1 – Fire Training Area 1, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

SAIC ID Number				SB1–1–1	SB1–1–3	SB1–1–6
Laboratory ID Number				94524	94602	94532
Collection Date				8–13–92	8–13–92	8–13–92
Collection Depth (ft)				0.5–2.5	6.5–8.5	19.5–21.0
Percent Solids				82	88	92
Associated Field QC Sample				TB–2 on 8–13–92	TB–3	TB–2 on 8–13–92
				ER1–1	ER1–1	ER1–1
				FB1–1	FB1–1	FB1–1
				SD5–FB	SD5–FB	SD5–FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)						
Extraction Date				8–17–92	8–27–92	8–17–92
Analysis Date				9–12–92	9–14–92	9–12–92
Dilution Factor				1	1	1
Parameter	Units	MDL				
Diesel Fuel	mg/kg	2		<2	<2	57
Heavy Oil	mg/kg	2		<2	<2	55
PRIORITY POLLUTANT METALS						
Digestion Date(s)				9–3 and 9–9–92	8–27 and 9–13–92	9–3 and 9–9–92
Analysis Date(s)				9–8 to 9–11–92	8–29 to 9–15–92	9–8 to 9–11–92
Dilution Factor		IDL or IDL		1	1	1
AA METALS						
Antimony (SW 3050/7041)	mg/kg	2	2	0.21 J(N,W)	0.22 J(N,r)	0.31 J(N,W)
Arsenic (SW 3050/7060)	mg/kg	1.5	1.5	6.2	6.1 J(N)	12.6
Lead (SW 3050/7421)	mg/kg	0.5	0.5	11.3	6.3	8.5
Mercury (SW 3050/7471)	mg/kg	0.2	0.2	0.11 U	0.1 U	0.1 U
Selenium (SW 3050/7740)	mg/kg	0.7	0.7	0.08 J(N,W)	0.11 UJ(N,W)	0.08 UJ(N,W)
Thallium (SW 3050/7841)	mg/kg	0.7	0.8	0.13 J(N)	0.12 J(W)	0.11 J(N,W)
ICP METALS (SW 3050/6010)						
Beryllium	mg/kg	0.3	0.3	0.31 B	0.27 B	0.14 B
Cadmium	mg/kg	2.1	2.1	0.22 U	0.21 U	0.19 U
Chromium	mg/kg	4	4	7.7	7.2	4.1
Copper	mg/kg	3.9	3.9	8.5	16.7	14.2
Nickel	mg/kg	10.3	10.3	8.2	14.1	10.6
Silver	mg/kg	3	3	0.32 U	1.9 U(MB)	1.3 U(MB)
Zinc	mg/kg	3.5	3.5	27.4 J(E)	46.7 J(E)	72.6 J(E)

Table F–4. Data Presentation Table: Soil – Site 1 – Fire Training Area 1, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB1–1–1	SB1–1–3	SB1–1–6
Laboratory ID Number			94524	94602	94532
Collection Date			8–13–92	8–13–92	8–13–92
Collection Depth (ft)			0.5–2.5	6.5–8.5	19.5–21.0
Percent Solids			82	88	92
Associated Field QC Sample			TB–2 on 8–13–92	TB–3	TB–2 on 8–13–92
			ER1–1	ER1–1	ER1–1
			FB1–1	FB1–1	FB1–1
			SD5–FB	SD5–FB	SD5–FB
VOLATILE ORGANICS (SW 8240 [A])					
Analysis Date			8–18–92	8–19–92	8–18–92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Chloromethane	µg/kg	10	12 U	11 U	11 U
Bromomethane	µg/kg	10	12 U	11 U	11 U
Vinyl Chloride	µg/kg	10	12 U	11 U	11 U
Chloroethane	µg/kg	10	12 U	11 U	11 U
Methylene Chloride	µg/kg	10	12 U	11 U	11 U
Acetone	µg/kg	10	12 U	11 U	11 U(FB)
Carbon Disulfide	µg/kg	10	12 U	11 U	11 U
1,1–Dichloroethene	µg/kg	10	12 U	11 U	11 U
1,1–Dichloroethane	µg/kg	10	12 U	11 U	11 U
1,2–Dichloroethene (total)	µg/kg	10	12 U	11 U	11 U
Chloroform	µg/kg	10	12 U	11 U	11 U
1,2–Dichloroethane	µg/kg	10	12 U	11 U	11 U
2–Butanone	µg/kg	10	12 U	11 U	11 U
1,1,1–Trichloroethane	µg/kg	10	12 U	11 U	11 U
Carbon Tetrachloride	µg/kg	10	12 U	11 U	11 U
Bromodichloromethane	µg/kg	10	12 U	11 U	11 U
1,2–Dichloropropane	µg/kg	10	12 U	11 U	11 U
cis–1,3–Dichloropropene	µg/kg	10	12 U	11 U	11 U
Trichloroethene	µg/kg	10	12 U	11 U	11 U
Dibromochloromethane	µg/kg	10	12 U	11 U	11 U
1,1,2–Trichloroethane	µg/kg	10	12 U	11 U	11 U
Benzene	µg/kg	10	12 U	11 U	11 U
trans–1,3–Dichloropropene	µg/kg	10	12 U	11 U	11 U
Bromoform	µg/kg	10	12 U	11 U	11 U
4–Methyl–2–pentanone	µg/kg	10	12 U	11 U	11 U
2–Hexanone	µg/kg	10	12 U	11 U	11 U
Tetrachloroethene	µg/kg	10	12 U	11 U	11 U
1,1,2,2–Tetrachloroethane	µg/kg	10	12 U	11 U	11 U
Toluene	µg/kg	10	3 J	11 U	11 U
Chlorobenzene	µg/kg	10	12 U	11 U	11 U
Ethylbenzene	µg/kg	10	12 U	11 U	11 U
Styrene	µg/kg	10	12 U	11 U	11 U
Xylene (total)	µg/kg	10	12 U	11 U	11 U
TICs	µg/kg		0 (0)	0 (0)	0 (0)
TIC Total	µg/kg		0 (0)	0 (0)	0 (0)

Table F–4. Data Presentation Table: Soil – Site 1 – Fire Training Area 1, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB1–1–1	SB1–1–3	SB1–1–6
Laboratory ID Number			94524	94602	94532
Collection Date			8–13–92	8–13–92	8–13–92
Collection Depth (ft)			0.5–2.5	6.5–8.5	19.5–21.0
Percent Solids			82	88	92
Associated Field QC Sample			TB–2 on 8–13–92	TB–3	TB–2 on 8–13–92
			ER1–1	ER1–1	ER1–1
			FB1–1	FB1–1	FB1–1
			SD5–FB	SD5–FB	SD5–FB
SEMIVOLATILE ORGANICS (SW 8270 [B])					
Extraction Date			9–5–92	8–25–92	8–18–92
Analysis Date			9–10–92	9–11–92	9–4–92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Phenol	µg/kg	330	390 U	370 U	370 U
bis(2–Chloroethyl)ether	µg/kg	330	390 U	370 U	370 U
2–Chlorophenol	µg/kg	330	390 U	370 U	370 U
1,3–Dichlorobenzene	µg/kg	330	390 U	370 U	370 U
1,4–Dichlorobenzene	µg/kg	330	390 U	370 U	370 U
1,2–Dichlorobenzene	µg/kg	330	390 U	370 U	370 U
2–Methylphenol	µg/kg	330	390 U	370 U	370 U
2,2–oxibis–(1–Chloropropane)	µg/kg	330	390 U	370 U	370 U
4–Methylphenol	µg/kg	330	390 U	370 U	370 U
N–Nitroso–di–N–propylamine	µg/kg	330	390 U	370 U	370 U
Hexachloroethane	µg/kg	330	390 U	370 U	370 U
Nitrobenzene	µg/kg	330	390 U	370 U	370 U
Isophorone	µg/kg	330	390 U	370 U	370 U
2–Nitrophenol	µg/kg	330	390 U	370 U	370 U
2,4–Dimethylphenol	µg/kg	330	390 U	370 U	370 U
bis(2–Chloroethoxy)methane	µg/kg	330	390 U	370 U	370 U
2,4–Dichlorophenol	µg/kg	330	390 U	370 U	370 U
1,2,4–Trichlorobenzene	µg/kg	330	390 U	370 U	370 U
Naphthalene	µg/kg	330	390 U	370 U	370 U
4–Chloroaniline	µg/kg	330	390 U	370 U	370 U
Hexachlorobutadiene	µg/kg	330	390 U	370 U	370 U
4–Chloro–3–methylphenol	µg/kg	330	390 U	370 U	370 U
2–Methylnaphthalene	µg/kg	330	110 J	370 U	370 U
Hexachlorocyclopentadiene	µg/kg	330	390 U	370 U	370 U
2,4,6–Trichlorophenol	µg/kg	330	390 U	370 U	370 U
2,4,5–Trichlorophenol	µg/kg	800	950 U	900 U	900 UJ(CCV)
2–Chloronaphthalene	µg/kg	330	390 U	370 U	370 U
2–Nitroaniline	µg/kg	800	950 U	900 U	900 U
Dimethyl phthalate	µg/kg	330	390 U	370 U	370 U
Acenaphthylene	µg/kg	330	390 U	370 U	370 U
2,6–Dinitrotoluene	µg/kg	330	390 U	370 U	370 U
3–Nitroaniline	µg/kg	800	950 U	900 U	900 U
Acenaphthene	µg/kg	330	390 U	370 U	370 U
2,4–Dinitrophenol	µg/kg	800	950 U	900 UJ(CCV)	900 U
4–Nitrophenol	µg/kg	800	950 U	900 U	900 U
Dibenzofuran	µg/kg	330	390 U	370 U	370 U
2,4–Dinitrotoluene	µg/kg	330	390 U	370 U	370 U
Diethyl phthalate	µg/kg	330	390 U	370 U	370 U
4–Chlorophenyl phenyl ether	µg/kg	330	390 U	370 U	370 U
Fluorene	µg/kg	330	390 U	370 U	370 U
4–Nitroaniline	µg/kg	800	950 U	900 U	900 U
4,6–Dinitro–2–methylphenol	µg/kg	800	950 U	900 U	900 U
N–Nitrosodiphenylamine (1)	µg/kg	330	390 U	370 U	370 U

Table F–4. Data Presentation Table: Soil – Site 1 – Fire Training Area 1, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB1–1–1			SB1–1–3			SB1–1–6			
Laboratory ID Number			94524			94602			94532			
Collection Date			8–13–92			8–13–92			8–13–92			
Collection Depth (ft)			0.5–2.5			6.5–8.5			19.5–21.0			
Percent Solids			82			88			92			
Associated Field QC Sample			TB–2 on 8–13–92			TB–3			TB–2 on 8–13–92			
			ER1–1			ER1–1			ER1–1			
			FB1–1			FB1–1			FB1–1			
			SD5–FB			SD5–FB			SD5–FB			
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)												
Extraction Date			9–5–92			8–25–92			8–18–92			
Analysis Date			9–10–92			9–11–92			9–4–92			
Dilution Factor			1			1			1			
Parameter	Units	CRQL										
4–Bromophenyl phenyl ether	µg/kg	330	390 U			370 U			370 U			
Hexachlorobenzene	µg/kg	330	390 U			370 U			370 U			
Pentachlorophenol	µg/kg	800	950 U			900 UJ(CCV)			900 UJ(CCV)			
Phenanthrene	µg/kg	330	45 J			370 U			370 U			
Anthracene	µg/kg	330	390 U			370 U			370 U			
Carbazole	µg/kg	330	390 U			370 U			370 U			
di–N–Butyl phthalate	µg/kg	330	390 U			370 U			370 U			
Fluoranthene	µg/kg	330	390 U			370 U			370 U			
Pyrene	µg/kg	330	390 U			370 U			370 U			
Butylbenzylphthalate	µg/kg	330	390 U			370 U			370 U			
3,3'–Dichlorobenzidine	µg/kg	330	390 U			370 U			370 U			
Benzo(a)anthracene	µg/kg	330	390 U			370 U			370 U			
Chrysene	µg/kg	330	390 U			370 U			370 U			
bis(2–Ethylhexyl)phthalate	µg/kg	330	64 J			40 J			370 U			
di–N–Octyl phthalate	µg/kg	330	390 U			370 U			370 U			
Benzo(b)fluoranthene	µg/kg	330	390 U			370 U			370 U			
Benzo(k)fluoranthene	µg/kg	330	390 U			370 U			370 U			
Benzo(a)pyrene	µg/kg	330	390 U			370 U			370 U			
Indeno(1,2,3–c,d)pyrene	µg/kg	330	390 U			370 U			370 U			
Dibenzo(a,h)anthracene	µg/kg	330	390 U			370 U			370 U			
Benzo(g,h,i)perylene	µg/kg	330	390 U			370 U			370 U			
TICs	µg/kg		4–Hydroxy–4–Methyl–2–Pentanone [a]	6400 B,J,N,A	(RT 4.70)	Unknown [d]	140 J	(RT 21.40)	4–Hydroxy–4–Methyl–2–Pentanone [a]	26000 B,J,N,A	(RT 4.87)	
			2,3,7–Trimethyl–Octane [b]	560 J,N	(RT 13.34)	Unknown [d]	120 J	(RT 22.70)	Unknown [d]	110 J	(RT 11.90)	
			4–Fluoro–1,1'–Biphenyl [c]	580 J,N	(RT 15.02)	Unknown [d]	100 J	(RT 23.95)	2–Methyl–Nonane [b]	180 J,N	(RT 13.77)	
			2,7,10–Trimethyl–Dodecane [b]	560 J,N	(RT 15.19)	Unknown [d]	130 J	(RT 25.16)	Tetradecane [b]	280 J,N	(RT 15.54)	
			2,3–Dimethyl–Naphthalene [c]	390 J,N	(RT 15.95)	Unknown [d]	150 J	(RT 25.92)	Unknown [d]	230 J	(RT 17.19)	
			Heptadecane, 2,6,10,14–Tetra [b]	970 J,N	(RT 16.64)	Unknown [d]	120 J	(RT 26.31)	Hexadecane [b]	290 J,N	(RT 18.77)	
			Naphthalene, 1,4,6–Trimethyl [c]	310 J,N	(RT 18.02)	Unknown [d]	88 J	(RT 27.41)	Unknown [d]	490 J	(RT 20.27)	
			Unknown [d]	220 J	(RT 18.10)	Dodecanamide [c]	3200 B,J,N	(RT 28.22)	Unknown [d]	250 J	(RT 21.67)	
			Unknown [d]	190 J	(RT 18.22)	Unknown [d]	120 J	(RT 28.49)	2,7,10–Trimethyl–Dodecane [b]	110 J,N	(RT 21.75)	
			Unknown [d]	240 J	(RT 18.29)	Unknown [d]	110 J	(RT 29.51)	Unknown [d]	220 J	(RT 23.02)	
			Unknown [d]	350 J	(RT 18.80)	Unknown [d]	96 J	(RT 30.49)	Unknown [d]	190 J	(RT 23.92)	
			Unknown [d]	1600 J	(RT 19.57)	Unknown [d]	110 J	(RT 31.46)	Unknown [d]	190 J	(RT 24.34)	
			Unknown [d]	220 J	(RT 19.89)	Unknown [d]	1600 J	(RT 32.32)	Unknown [d]	140 J	(RT 25.57)	
			Pentadecane, 2,6,10,14–Tetra [b]	3200 J,N	(RT 20.42)	Unknown [d]	110 J	(RT 32.41)	Unknown [d]	410 J	(RT 26.24)	
			Unknown [d]	300 J	(RT 20.79)	Unknown [d]	96 J	(RT 32.71)	Dodecanamide [c]	390 J,N	(RT 26.49)	
			Unknown [d]	150 J	(RT 20.95)	Unknown [d]	130 J	(RT 33.32)	Docosane [b]	210 J,N	(RT 26.76)	
			Unknown [d]	180 J	(RT 21.05)	Unknown [d]	110 J	(RT 34.24)	Unknown [d]	250 J	(RT 27.91)	
			Unknown [d]	1800 J	(RT 21.85)	Octacosane [b]	150 J,N	(RT 35.17)	Unknown [d]	7700 J	(RT 28.66)	
			Unknown [d]	170 J	(RT 22.29)	Unknown [d]	270 J	(RT 36.41)	Unknown [d]	170 J	(RT 29.02)	
			Heptadecane, 2,6,10,14–Tetra [b]	330 J,N	(RT 22.95)	Unknown [d]	110 J	(RT 37.04)	Unknown [d]	180 J	(RT 30.09)	
			Unknown [d]	150 J	(RT 25.27)				Unknown [d]	2000 J	(RT 33.09)	
TIC Total	µg/kg			18870 (21)			7060 (20)			39990 (21)		

Table F-4. Data Presentation Table: Soil – Site 1 – Fire Training Area 1, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number				SB1-2-1	SB1-2-3	SB1-2-8
Laboratory ID Number				94525	94603	94523
Collection Date				8-13-92	8-13-92	8-13-92
Collection Depth (ft)				0.5-2.5	4.5-6.0	14.5-16.0
Percent Solids				88	90	86
Associated Field QC Sample				TB-2 on 8-13-92	TB-3	TB-2 on 8-13-92
				ER1-1	ER1-1	ER1-1
				FB1-1	FB1-1	FB1-1
				SD5-FB	SD5-FB	SD5-FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)						
Extraction Date				8-17-92	8-27-92	8-17-92
Analysis Date				9-12-92	9-14-92	9-12-92
Dilution Factor				1	1	1
Parameter	Units	MDL				
Diesel Fuel	mg/kg	2		<2	3	29
Heavy Oil	mg/kg	2		6	3	15
PRIORITY POLLUTANT METALS						
Digestion Date(s)				9-3 and 9-9-92	8-27 and 9-13-92	9-3 and 9-9-92
Analysis Date(s)				9-8 to 9-11-92	8-29 to 9-15-92	9-8 to 9-11-92
Dilution Factor		IDL or IDL		1	1	1
AA METALS						
Antimony (SW 3050/7041)	mg/kg	2	2	0.19 J(N,W)	0.29 J(N,r)	0.19 UJ(N)
Arsenic (SW 3050/7060)	mg/kg	1.5	1.5	4.8	6.8 J(N)	6.1
Lead (SW 3050/7421)	mg/kg	0.5	0.5	6.1 S	7.2	5.4 S
Mercury (SW 3050/7471)	mg/kg	0.2	0.2	0.1 U	0.1 U	0.08 U
Selenium (SW 3050/7740)	mg/kg	0.7	0.7	R(W)	0.15 UJ(N,W)	0.08 UJ(N,W)
Thallium (SW 3050/7841)	mg/kg	0.7	0.8	0.26 UJ(N,W)	0.21 J(W)	0.11 J(N,W)
ICP METALS (SW 3050/6010)						
Beryllium	mg/kg	0.3	0.3	0.29 B	0.28 B	0.13 B
Cadmium	mg/kg	2.1	2.1	0.2 U	0.23 U	0.2 U
Chromium	mg/kg	4	4	7.4	7	4.3
Copper	mg/kg	3.9	3.9	16.1	16.2	10.4
Nickel	mg/kg	10.3	10.3	12.4	12.5	10
Silver	mg/kg	3	3	1.3 U(MB)	2 U(MB)	1.1 U(MB)
Zinc	mg/kg	3.5	3.5	42.3 J(E)	44.4 J(E)	44.6 J(E)

Table F–4. Data Presentation Table: Soil – Site 1 – Fire Training Area 1, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB1–2–1	SB1–2–3	SB1–2–8
Laboratory ID Number			94525	94603	94523
Collection Date			8–13–92	8–13–92	8–13–92
Collection Depth (ft)			0.5–2.5	4.5–6.0	14.5–16.0
Percent Solids			88	90	86
Associated Field QC Sample			TB–2 on 8–13–92	TB–3	TB–2 on 8–13–92
			ER1–1	ER1–1	ER1–1
			FB1–1	FB1–1	FB1–1
			SD5–FB	SD5–FB	SD5–FB
VOLATILE ORGANICS (SW 8240 [A])					
Analysis Date			8–18–92	8–19–92	8–18–92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Chloromethane	µg/kg	10	11 U	11 U	12 U
Bromomethane	µg/kg	10	11 U	11 U	12 U
Vinyl Chloride	µg/kg	10	11 U	11 U	12 U
Chloroethane	µg/kg	10	11 U	11 U	12 U
Methylene Chloride	µg/kg	10	11 U	11 U	12 U
Acetone	µg/kg	10	11 U	11 U	12 U
Carbon Disulfide	µg/kg	10	11 U	11 U	12 U
1,1–Dichloroethene	µg/kg	10	11 U	11 U	12 U
1,1–Dichloroethane	µg/kg	10	11 U	11 U	12 U
1,2–Dichloroethene (total)	µg/kg	10	11 U	11 U	12 U
Chloroform	µg/kg	10	11 U	11 U	12 U
1,2–Dichloroethane	µg/kg	10	11 U	11 U	12 U
2–Butanone	µg/kg	10	11 U	11 U	12 U
1,1,1–Trichloroethane	µg/kg	10	11 U	11 U	12 U
Carbon Tetrachloride	µg/kg	10	11 U	11 U	12 U
Bromodichloromethane	µg/kg	10	11 U	11 U	12 U
1,2–Dichloropropane	µg/kg	10	11 U	11 U	12 U
cis–1,3–Dichloropropene	µg/kg	10	11 U	11 U	12 U
Trichloroethene	µg/kg	10	11 U	11 U	12 U
Dibromochloromethane	µg/kg	10	11 U	11 U	12 U
1,1,2–Trichloroethane	µg/kg	10	11 U	11 U	12 U
Benzene	µg/kg	10	11 U	11 U	12 U
trans–1,3–Dichloropropene	µg/kg	10	11 U	11 U	12 U
Bromoform	µg/kg	10	11 U	11 U	12 U
4–Methyl–2–pentanone	µg/kg	10	11 U	11 U	12 U
2–Hexanone	µg/kg	10	11 U	11 U	12 U
Tetrachloroethene	µg/kg	10	11 U	11 U	12 U
1,1,2,2–Tetrachloroethane	µg/kg	10	11 U	11 U	12 U
Toluene	µg/kg	10	11 U	11 U	12 U
Chlorobenzene	µg/kg	10	11 U	11 U	12 U
Ethylbenzene	µg/kg	10	11 U	11 U	12 U
Styrene	µg/kg	10	11 U	11 U	12 U
Xylene (total)	µg/kg	10	11 U	11 U	12 U
TICs	µg/kg		0 (0)	0 (0)	0 (0)
TIC Total	µg/kg		0 (0)	0 (0)	0 (0)

Table F–4. Data Presentation Table: Soil – Site 1 – Fire Training Area 1, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB1–2–1	SB1–2–3	SB1–2–8
Laboratory ID Number			94525	94603	94523
Collection Date			8–13–92	8–13–92	8–13–92
Collection Depth (ft)			0.5–2.5	4.5–6.0	14.5–16.0
Percent Solids			88	90	86
Associated Field QC Sample			TB–2 on 8–13–92	TB–3	TB–2 on 8–13–92
			ER1–1	ER1–1	ER1–1
			FB1–1	FB1–1	FB1–1
			SD5–FB	SD5–FB	SD5–FB
SEMIVOLATILE ORGANICS (SW 8270 [B])					
Extraction Date			8–18–92	8–25–92	9–5–92
Analysis Date			9–3–92	9–11–92	9–10–92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Phenol	µg/kg	330	330 U	360 U	350 U
bis(2–Chloroethyl)ether	µg/kg	330	330 U	360 U	350 U
2–Chlorophenol	µg/kg	330	330 U	360 U	350 U
1,3–Dichlorobenzene	µg/kg	330	330 U	360 U	350 U
1,4–Dichlorobenzene	µg/kg	330	330 U	360 U	350 U
1,2–Dichlorobenzene	µg/kg	330	330 U	360 U	350 U
2–Methylphenol	µg/kg	330	330 U	360 U	350 U
2,2–oxibis–(1–Chloropropane)	µg/kg	330	330 U	360 U	350 U
4–Methylphenol	µg/kg	330	330 U	360 U	350 U
N–Nitroso–di–N–propylamine	µg/kg	330	330 U	360 U	350 U
Hexachloroethane	µg/kg	330	330 U	360 U	350 U
Nitrobenzene	µg/kg	330	330 U	360 U	350 U
Isophorone	µg/kg	330	330 U	360 U	350 U
2–Nitrophenol	µg/kg	330	330 U	360 U	350 U
2,4–Dimethylphenol	µg/kg	330	330 U	360 U	350 U
bis(2–Chloroethoxy)methane	µg/kg	330	330 U	360 U	350 U
2,4–Dichlorophenol	µg/kg	330	330 U	360 U	350 U
1,2,4–Trichlorobenzene	µg/kg	330	330 U	360 U	350 U
Naphthalene	µg/kg	330	330 U	360 U	350 U
4–Chloroaniline	µg/kg	330	330 U	360 U	350 U
Hexachlorobutadiene	µg/kg	330	330 U	360 U	350 U
4–Chloro–3–methylphenol	µg/kg	330	330 U	360 U	350 U
2–Methylnaphthalene	µg/kg	330	330 U	360 U	190
Hexachlorocyclopentadiene	µg/kg	330	330 U	360 U	350 U
2,4,6–Trichlorophenol	µg/kg	330	330 U	360 U	350 U
2,4,5–Trichlorophenol	µg/kg	800	810 UJ(CCV)	880 U	840 U
2–Chloronaphthalene	µg/kg	330	330 U	360 U	350 U
2–Nitroaniline	µg/kg	800	810 U	880 U	840 U
Dimethyl phthalate	µg/kg	330	330 U	360 U	350 U
Acenaphthylene	µg/kg	330	330 U	360 U	350 U
2,6–Dinitrotoluene	µg/kg	330	330 U	360 U	350 U
3–Nitroaniline	µg/kg	800	810 U	880 U	840 U
Acenaphthene	µg/kg	330	330 U	360 U	350 U
2,4–Dinitrophenol	µg/kg	800	810 U	880 UJ(CCV)	840 U
4–Nitrophenol	µg/kg	800	810 U	880 U	840 U
Dibenzofuran	µg/kg	330	330 U	360 U	350 U
2,4–Dinitrotoluene	µg/kg	330	330 U	360 U	350 U
Diethyl phthalate	µg/kg	330	330 U	360 U	350 U
4–Chlorophenyl phenyl ether	µg/kg	330	330 U	360 U	350 U
Fluorene	µg/kg	330	330 U	360 U	350 U
4–Nitroaniline	µg/kg	800	810 U	880 U	840 U
4,6–Dinitro–2–methylphenol	µg/kg	800	810 U	880 U	840 U
N–Nitrosodiphenylamine (1)	µg/kg	330	330 U	360 U	350 U

Table F–4. Data Presentation Table: Soil – Site 1 – Fire Training Area 1, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB1–2–1			SB1–2–3			SB1–2–8			
Laboratory ID Number			94525			94603			94523			
Collection Date			8–13–92			8–13–92			8–13–92			
Collection Depth (ft)			0.5–2.5			4.5–6.0			14.5–16.0			
Percent Solids			88			90			86			
Assodated Field QC Sample			TB–2 on 8–13–92			TB–3			TB–2 on 8–13–92			
			ER1–1			ER1–1			ER1–1			
			FB1–1			FB1–1			FB1–1			
			SD5–FB			SD5–FB			SD5–FB			
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)												
Extraction Date			8–18–92			8–25–92			9–5–92			
Analysis Date			9–3–92			9–11–92			9–10–92			
Dilution Factor			1			1			1			
Parameter	Units	CRQL										
4–Bromophenyl phenyl ether	µg/kg	330	330 U			360 U			350 U			
Hexachlorobenzene	µg/kg	330	330 U			360 U			350 U			
Pentachlorophenol	µg/kg	800	810 UJ(CCV)			880 UJ(CCV)			840 U			
Phenanthrene	µg/kg	330	330 U			360 U			93 J			
Anthracene	µg/kg	330	330 U			360 U			350 U			
Carbazole	µg/kg	330	330 U			360 U			350 U			
di–N–Butyl phthalate	µg/kg	330	330 U			360 U			350 U			
Fluoranthene	µg/kg	330	330 U			360 U			350 U			
Pyrene	µg/kg	330	330 U			360 U			350 U			
Butylbenzylphthalate	µg/kg	330	330 U			360 U			350 U			
3,3'–Dichlorobenzidine	µg/kg	330	330 U			360 U			350 U			
Benzo(a)anthracene	µg/kg	330	330 U			360 U			350 U			
Chrysene	µg/kg	330	330 U			360 U			350 U			
bis(2–Ethylhexyl)phthalate	µg/kg	330	34 J			360 U			350 U			
di–N–Octyl phthalate	µg/kg	330	330 U			360 U			350 U			
Benzo(b)fluoranthene	µg/kg	330	330 U			360 U			350 U			
Benzo(k)fluoranthene	µg/kg	330	330 U			360 U			350 U			
Benzo(a)pyrene	µg/kg	330	330 U			360 U			350 U			
Indeno(1,2,3–c,d)pyrene	µg/kg	330	330 U			360 U			350 U			
Dibenzo(a,h)anthracene	µg/kg	330	330 U			360 U			350 U			
Benzo(g,h,i)perylene	µg/kg	330	330 U			360 U			350 U			
TICs	µg/kg		4–Hydroxy–4–Methyl–2–Pentanone [a]	17000 B,J,N,A	(RT 4.82)	Unknown [d]	70 J	(RT 22.70)	4–Hydroxy–4–Methyl–2–Pentanone [a]	5800 B,J,N,A	(RT 4.67)	
			Nonanamide [c]	130 J,N	(RT 23.92)	Nonanamide [c]	210 B,J,N	(RT 23.70)	7–Methyl–Tridecane [b]	750 J,N	(RT 13.35)	
			Unknown [d]	67 J	(RT 24.32)	Unknown [d]	70 J	(RT 23.95)	2,6,11–Trimethyl–Dodecane [b]	430 J,N	(RT 15.14)	
			Unknown [d]	64 J	(RT 25.57)	Unknown [d]	67 J	(RT 25.16)	2,7,10–Trimethyl–Dodecane [b]	1100 J,N	(RT 15.22)	
			Unknown [d]	300 J	(RT 26.24)	Unknown [d]	250 J	(RT 25.94)	2,3–Dimethyl–Naphthalene [e]	570 J,N	(RT 15.99)	
			Dodecanamide [c]	250 J,N	(RT 26.49)	Unknown [d]	94 J	(RT 26.31)	Unknown [d]	850 J	(RT 16.57)	
			Unknown [d]	110 J	(RT 26.76)	Unknown [d]	67 J	(RT 27.41)	Unknown [d]	1300 J	(RT 16.67)	
			Unknown [d]	95 J	(RT 27.41)	Unknown [d]	6000 J	(RT 28.26)	Unknown [d]	300 J	(RT 16.85)	
			Unknown [d]	140 J	(RT 27.91)	Dodecanamide [c]	63 B,J,N	(RT 28.42)	Trichloroeicosyl–Silane [a]	270 J,N	(RT 17.22)	
			Unknown [d]	5300 J	(RT 28.64)	Unknown [d]	89 J	(RT 28.49)	Unknown [d]	310 J	(RT 17.30)	
			Unknown [d]	69 J	(RT 28.86)	Unknown [d]	99 J	(RT 29.51)	Unknown [d]	570 J	(RT 18.05)	
			Unknown [d]	110 J	(RT 29.02)	Unknown [d]	85 J	(RT 30.49)	Unknown [d]	570 J	(RT 18.14)	
			Unknown [d]	150 J	(RT 30.09)	Unknown [d]	120 J	(RT 31.46)	Unknown [d]	810 J	(RT 18.30)	
			Unknown [d]	120 J	(RT 31.16)	Unknown [d]	1100 J	(RT 32.31)	Unknown [d]	570 J	(RT 18.89)	
			Unknown [d]	240 J	(RT 32.22)	Unknown [d]	110 J	(RT 32.41)	5–Propyl–Tridecane [b]	2600 J,N	(RT 19.60)	
			(Z)–9–Octadecenamide [c]	1400 J,N	(RT 33.09)	Unknown [d]	110 J	(RT 33.32)	Pentadecane, 2,6,10,14–Tetra [b]	5200 J,N	(RT 20.47)	
			Unknown [d]	230 J	(RT 33.31)	Unknown [d]	100 J	(RT 34.24)	Unknown [d]	260 J	(RT 20.99)	
			Unknown [d]	180 J	(RT 34.41)	Unknown [d]	81 J	(RT 35.17)	Unknown [d]	310 J	(RT 21.07)	
			Unknown [d]	110 J	(RT 35.87)	Unknown [d]	85 J	(RT 35.49)	Unknown [d]	3300 J	(RT 21.90)	
			Unknown [d]	180 J	(RT 36.79)				Unknown [d]	340 J	(RT 22.32)	
									Heptadecane, 2,6,10,14–Tetra [b]	490 J,N	(RT 22.99)	
TIC Total	µg/kg			26245 (20)			8870 (19)			26700 (21)		

Table F–4. Data Presentation Table: Soil – Site 1 – Fire Training Area 1, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB1–3–1	SB1–3–3	SB1–3–11
Laboratory ID Number			94596	94604	94597
Collection Date			8–14–92	8–14–92	8–14–92
Collection Depth (ft)			0.5–2.5	4.5–6.5	20.5–22.0
Percent Solids			90	71	84
Associated Field QC Sample			TB–3	TB–3	TB–3
			ER1–1	ER1–1	ER1–1
			FB1–1	FB1–1	FB1–1
			SD5–FB	SD5–FB	SD5–FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)					
Extraction Date			8–27–92	8–27–92	8–27–92
Analysis Date			9–14–92	9–14–92	9–14–92
Dilution Factor			1	1	1
Parameter	Units	MDL			
Diesel Fuel	mg/kg	2	<2	<2	14 J(FD)
Heavy Oil	mg/kg	2	<2	4	11 J(FD)
PRIORITY POLLUTANT METALS					
Digestion Date(s)			8–27 and 9–13–92	8–27 and 9–13–92	8–27 and 9–13–92
Analysis Date(s)			8–29 to 9–15–92	8–29 to 9–15–92	8–29 to 9–15–92
Dilution Factor		IDL	1	1	1
AA METALS					
Antimony (SW 3050/7041)	mg/kg	2	0.24 J(N,r)	0.28 J(N,r)	0.24 J(N,r)
Arsenic (SW 3050/7060)	mg/kg	1.5	12.2 J(N)	6.4 J(N)	9.4 J(N)
Lead (SW 3050/7421)	mg/kg	0.5	15.1	23.9	12.6
Mercury (SW 3050/7471)	mg/kg	0.2	0.11 U	0.12 U	0.11 U
Selenium (SW 3050/7740)	mg/kg	1.4	0.13 UJ(N,W)	0.18 UJ(N,W)	0.12 UJ(N,W)
Thallium (SW 3050/7841)	mg/kg	0.8	0.35 B	0.29 J(W)	0.28 B
ICP METALS (SW 3050/6010)					
Beryllium	mg/kg	0.3	0.59	0.71	0.57
Cadmium	mg/kg	2.1	0.22 U	0.26 U	0.19 U
Chromium	mg/kg	4	15.4	18.4	14.6
Copper	mg/kg	3.9	19.6	22.2	26.8
Nickel	mg/kg	10.3	22	18.8	23.9
Silver	mg/kg	3	1.1 U(MB)	1.2 U(MB)	1.6 U(MB)
Zinc	mg/kg	3.5	54.4 J(E)	81.4 J(E)	85.8 J(E)

Table F–4. Data Presentation Table: Soil – Site 1 – Fire Training Area 1, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB1–3–1	SB1–3–3	SB1–3–11	
Laboratory ID Number			94596	94604	94597	
Collection Date			8–14–92	8–14–92	8–14–92	
Collection Depth (ft)			0.5–2.5	4.5–6.5	20.5–22.0	
Percent Solids			90	71	84	
Associated Field QC Sample			TB–3	TB–3	TB–3	
			ER1–1	ER1–1	ER1–1	
			FB1–1	FB1–1	FB1–1	
			SD5–FB	SD5–FB	SD5–FB	
VOLATILE ORGANICS (SW 8240 [A])						
Analysis Date			8–19–92	8–19–92	8–19–92	
Dilution Factor			1	1	1	
Parameter	Units	CRQL				
Chloromethane	µg/kg	10	11 U	14 U	12 U	
Bromomethane	µg/kg	10	11 U	14 U	12 U	
Vinyl Chloride	µg/kg	10	11 U	14 U	12 U	
Chloroethane	µg/kg	10	11 U	14 U	12 U	
Methylene Chloride	µg/kg	10	11 U	14 U	12 U	
Acetone	µg/kg	10	11 U	14 U	25 U(FB)	
Carbon Disulfide	µg/kg	10	11 U	14 U	12 U	
1,1–Dichloroethene	µg/kg	10	11 U	14 U	12 U	
1,1–Dichloroethane	µg/kg	10	11 U	14 U	12 U	
1,2–Dichloroethene (total)	µg/kg	10	11 U	14 U	12 U	
Chloroform	µg/kg	10	11 U	14 U	12 U	
1,2–Dichloroethane	µg/kg	10	11 U	14 U	12 U	
2–Butanone	µg/kg	10	11 U	14 U	12 U	
1,1,1–Trichloroethane	µg/kg	10	11 U	14 U	12 U	
Carbon Tetrachloride	µg/kg	10	11 U	14 U	12 U	
Bromodichloromethane	µg/kg	10	11 U	14 U	12 U	
1,2–Dichloropropane	µg/kg	10	11 U	14 U	12 U	
cis–1,3–Dichloropropene	µg/kg	10	11 U	14 U	12 U	
Trichloroethene	µg/kg	10	11 U	14 U	12 U	
Dibromochloromethane	µg/kg	10	11 U	14 U	12 U	
1,1,2–Trichloroethane	µg/kg	10	11 U	14 U	12 U	
Benzene	µg/kg	10	11 U	14 U	12 U	
trans–1,3–Dichloropropene	µg/kg	10	11 U	14 U	12 U	
Bromoform	µg/kg	10	11 U	14 U	12 U	
4–Methyl–2–pentanone	µg/kg	10	11 U	14 U	12 U	
2–Hexanone	µg/kg	10	11 U	14 U	12 U	
Tetrachloroethene	µg/kg	10	11 U	14 U	12 U	
1,1,2,2–Tetrachloroethane	µg/kg	10	11 U	14 U	12 U	
Toluene	µg/kg	10	11 U	14 U	11 J	
Chlorobenzene	µg/kg	10	11 U	14 U	12 U	
Ethylbenzene	µg/kg	10	11 U	14 U	12 U	
Styrene	µg/kg	10	11 U	14 U	12 U	
Xylene (total)	µg/kg	10	11 U	14 U	12 U	
TICs	µg/kg		0 (0)	0 (0)	Trichlorofluoro–Methane[a]	8 J,N (RT 4.31)
TIC Total	µg/kg		0 (0)	0 (0)		8 (1)

Table F–4. Data Presentation Table: Soil – Site 1 – Fire Training Area 1, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB1–3–1	SB1–3–3	SB1–3–11
Laboratory ID Number			94596	94604	94597
Collection Date			8–14–92	8–14–92	8–14–92
Collection Depth (ft)			0.5–2.5	4.5–6.5	20.5–22.0
Percent Solids			90	71	84
Associated Field QC Sample			TB–3	TB–3	TB–3
			ER1–1	ER1–1	ER1–1
			FB1–1	FB1–1	FB1–1
			SD5–FB	SD5–FB	SD5–FB
SEMIVOLATILE ORGANICS (SW 8270 (B))					
Extraction Date			8–25–92	8–25–92	8–25–92
Analysis Date			9–2–92	9–11–92	9–11–92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Phenol	µg/kg	330	370 U	450 U	390 U
bis(2–Chloroethyl)ether	µg/kg	330	370 U	450 U	390 U
2–Chlorophenol	µg/kg	330	370 U	450 U	390 U
1,3–Dichlorobenzene	µg/kg	330	370 U	450 U	390 U
1,4–Dichlorobenzene	µg/kg	330	370 U	450 U	390 U
1,2–Dichlorobenzene	µg/kg	330	370 U	450 U	390 U
2–Methylphenol	µg/kg	330	370 U	450 U	390 U
2,2–oxibis–(1–Chloropropane)	µg/kg	330	370 UJ(CCV)	450 U	390 U
4–Methylphenol	µg/kg	330	370 U	450 U	390 U
N–Nitroso–di–N–propylamine	µg/kg	330	370 U	450 U	390 U
Hexachloroethane	µg/kg	330	370 U	450 U	390 U
Nitrobenzene	µg/kg	330	370 U	450 U	390 U
Isophorone	µg/kg	330	370 U	450 U	390 U
2–Nitrophenol	µg/kg	330	370 U	450 U	390 U
2,4–Dimethylphenol	µg/kg	330	370 U	450 U	390 U
bis(2–Chloroethoxy)methane	µg/kg	330	370 U	450 U	390 U
2,4–Dichlorophenol	µg/kg	330	370 U	450 U	390 U
1,2,4–Trichlorobenzene	µg/kg	330	370 U	450 U	390 U
Naphthalene	µg/kg	330	370 U	450 U	390 U
4–Chloroaniline	µg/kg	330	370 U	450 U	390 U
Hexachlorobutadiene	µg/kg	330	370 U	450 U	390 U
4–Chloro–3–methylphenol	µg/kg	330	370 U	450 U	390 U
2–Methylnaphthalene	µg/kg	330	370 U	450 U	390 U
Hexachlorocyclopentadiene	µg/kg	330	370 U	450 U	390 U
2,4,6–Trichlorophenol	µg/kg	330	370 U	450 U	390 U
2,4,5–Trichlorophenol	µg/kg	800	890 U	1100 U	940 U
2–Chloronaphthalene	µg/kg	330	370 U	450 U	390 U
2–Nitroaniline	µg/kg	800	890 U	1100 U	940 U
Dimethyl phthalate	µg/kg	330	370 U	450 U	390 U
Acenaphthylene	µg/kg	330	370 U	450 U	390 U
2,6–Dinitrotoluene	µg/kg	330	370 U	450 U	390 U
3–Nitroaniline	µg/kg	800	890 U	1100 U	940 U
Acenaphthene	µg/kg	330	370 U	450 U	390 U
2,4–Dinitrophenol	µg/kg	800	890 U	1100 UJ(CCV)	940 UJ(CCV)
4–Nitrophenol	µg/kg	800	890 U	1100 U	940 U
Dibenzofuran	µg/kg	330	370 U	450 U	390 U
2,4–Dinitrotoluene	µg/kg	330	370 U	450 U	390 U
Diethyl phthalate	µg/kg	330	370 U	450 U	390 U
4–Chlorophenyl phenyl ether	µg/kg	330	370 U	450 U	390 U
Fluorene	µg/kg	330	370 U	450 U	390 U
4–Nitroaniline	µg/kg	800	890 U	1100 U	940 U
4,6–Dinitro–2–methylphenol	µg/kg	800	890 U	1100 U	940 U
N–Nitrosodiphenylamine (1)	µg/kg	330	370 U	450 U	390 U

Table F–4. Data Presentation Table: Soil – Site 1 – Fire Training Area 1, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB1–3–1	SB1–3–3	SB1–3–11
Laboratory ID Number			94596	94604	94597
Collection Date			8–14–92	8–14–92	8–14–92
Collection Depth (ft)			0.5–2.5	4.5–6.5	20.5–22.0
Percent Solids			90	71	84
Associated Field QC Sample			TB–3	TB–3	TB–3
			ER1–1	ER1–1	ER1–1
			FB1–1	FB1–1	FB1–1
			SD5–FB	SD5–FB	SD5–FB
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)					
Extraction Date			8–25–92	8–25–92	8–25–92
Analysis Date			9–2–92	9–11–92	9–11–92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
4–Bromophenyl phenyl ether	µg/kg	330	370 U	450 U	390 U
Hexachlorobenzene	µg/kg	330	370 U	450 U	390 U
Pentachlorophenol	µg/kg	800	890 U	1100 UJ(CCV)	940 UJ(CCV)
Phenanthrene	µg/kg	330	370 U	450 U	390 U
Anthracene	µg/kg	330	370 U	450 U	390 U
Carbazole	µg/kg	330	370 U	450 U	390 U
di–N–Butyl phthalate	µg/kg	330	370 U	450 U	390 U
Fluoranthene	µg/kg	330	370 U	450 U	390 U
Pyrene	µg/kg	330	370 U	450 U	390 U
Butylbenzylphthalate	µg/kg	330	370 U	450 U	390 U
3,3'–Dichlorobenzidine	µg/kg	330	370 U	450 U	390 U
Benzo(a)anthracene	µg/kg	330	370 U	450 U	390 U
Chrysene	µg/kg	330	370 U	450 U	390 U
bis(2–Ethylhexyl)phthalate	µg/kg	330	370 U	67 J	71 J
di–N–Octyl phthalate	µg/kg	330	370 U	450 U	390 U
Benzo(b)fluoranthene	µg/kg	330	370 U	450 U	390 U
Benzo(k)fluoranthene	µg/kg	330	370 U	450 U	390 U
Benzo(a)pyrene	µg/kg	330	370 U	450 U	390 U
Indeno(1,2,3–c,d)pyrene	µg/kg	330	370 U	450 U	390 U
Dibenzo(a,h)anthracene	µg/kg	330	370 U	450 U	390 U
Benzo(g,h,i)perylene	µg/kg	330	370 U	450 U	390 U
TICs	µg/kg		Unknown [d] 120 J (RT 22.50)	Unknown [d] 7500 J (RT 28.27)	Unknown [d] 200 J (RT 20.04)
			Hexadecanoic Acid [f] 170 J,N (RT 22.64)	Unknown [d] 1000 J (RT 31.66)	Unknown [d] 220 J (RT 20.12)
			Nonanamide [e] 150 B,J,N (RT 22.75)	Unknown [d] 1700 J (RT 32.34)	Octadecane [b] 180 J,N (RT 21.40)
			Hexadecanoic Acid, 1–Methyle [b] 79 J,N (RT 23.35)	Octacosane [b] 570 J,N (RT 33.36)	Unknown [d] 260 J (RT 22.72)
			Unknown [d] 280 J (RT 25.00)	Unknown [d] 520 J (RT 33.59)	Eicosane [b] 230 J,N (RT 23.97)
			Dodecanamide [e] 370 B,J,N (RT 25.22)	Unknown [d] 370 J (RT 34.01)	Unknown [d] 170 J (RT 25.17)
			Unknown [d] 5100 J (RT 27.31)	Nonacosane [b] 920 J,N (RT 35.21)	Unknown [d] 180 J (RT 25.96)
			Unknown [d] 96 J (RT 30.56)	Unknown [d] 720 J (RT 35.82)	Docosane [b] 210 J,N (RT 26.32)
			Unknown [d] 620 J (RT 31.39)	Unknown [d] 610 J (RT 36.67)	Unknown [d] 150 J (RT 27.42)
			Unknown [d] 66 J (RT 31.52)	Unknown [d] 390 J (RT 37.01)	Unknown [d] 4600 J (RT 28.29)
			Unknown [d] 80 J (RT 31.81)	Unknown [d] 700 J (RT 37.07)	Unknown [d] 250 J (RT 28.51)
			Unknown [d] 230 J (RT 34.31)	Unknown [d] 420 J (RT 37.26)	Pentacosane [b] 190 J,N (RT 29.51)
			Unknown [d] 100 J (RT 35.62)	Unknown [d] 1400 J (RT 37.41)	Hexacosane [b] 190 J,N (RT 30.51)
			Unknown [d] 180 J (RT 35.87)	Unknown [d] 2500 J (RT 37.51)	Heptacosane [b] 220 J,N (RT 31.49)
			Unknown [d] 150 J (RT 36.21)	Unknown [d] 3000 J (RT 37.77)	Unknown [d] 1500 J (RT 32.36)
			Unknown [d] 120 J (RT 38.36)	Unknown [d] 290 J (RT 37.94)	Octacosane [b] 220 J,N (RT 32.44)
				D:B–Friedo–B':A'–Neogammacer [e] 200 J,N (RT 38.01)	Nonacosane [b] 250 J,N (RT 33.36)
				Unknown [d] 390 J (RT 38.51)	Unknown [d] 230 J (RT 34.27)
				Unknown [d] 620 J (RT 38.69)	Unknown [d] 180 J (RT 35.19)
				Unknown [d] 18000 J (RT 39.37)	Unknown [d] 170 J (RT 35.52)
TIC Total	µg/kg		7911 (16)	41820 (20)	9800 (20)

Table F–4. Data Presentation Table: Soil – Site 1 – Fire Training Area 1, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB1–3–11R	SB1–3–11RRE
Laboratory ID Number			94598	94598RE
Collection Date			8–14–92	8–14–92
Collection Depth (ft)			20.5–22.0	20.5–22.0
Percent Solids			82	82
Associated Field QC Sample			TB–3	TB–3
			ER1–1	ER1–1
			FB1–1	FB1–1
			SD5–FB	SD5–FB
TOTAL PETROLEUM HYDROCARBONS (SW 3015M)				
Extraction Date			8–27–92	N/A
Analysis Date			9–14–92	N/A
Dilution Factor			1	N/A
Parameter	Units	MDL		
Diesel Fuel	mg/kg	2	43 J(FD)	NA
Heavy Oil	mg/kg	2	22 J(FD)	NA
PRIORITY POLLUTANT METALS				
Digestion Date(s)			8–27 and 9–13–92	N/A
Analysis Date(s)			8–29 to 9–15–92	N/A
Dilution Factor		IDL	1	N/A
AA METALS				
Antimony (SW 3050/7041)	mg/kg	2	R(N)	NA
Arsenic (SW 3050/7060)	mg/kg	1.5	3.7 J(N)	NA
Lead (SW 3050/7421)	mg/kg	0.5	11.2	NA
Mercury (SW 3050/7471)	mg/kg	0.2	0.08 U	NA
Selenium (SW 3050/7740)	mg/kg	1.4	0.13 UJ(N,W)	NA
Thallium (SW 3050/7841)	mg/kg	0.8	0.32 B	NA
ICP METALS (SW 3050/6010)				
Beryllium	mg/kg	0.3	0.27 B	NA
Cadmium	mg/kg	2.1	0.25 U	NA
Chromium	mg/kg	4	9	NA
Copper	mg/kg	3.9	23	NA
Nickel	mg/kg	10.3	17.7	NA
Silver	mg/kg	3	1.1 U(MB)	NA
Zinc	mg/kg	3.5	81.7 J(E)	NA

Table F–4. Data Presentation Table: Soil – Site 1 – Fire Training Area 1, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB1–3–11R	SB1–3–11RRE
Laboratory ID Number			94598	94598RE
Collection Date			8–14–92	8–14–92
Collection Depth (ft)			20.5–22.0	20.5–22.0
Percent Solids			82	82
Associated Field QC Sample			TB–3	TB–3
			ER1–1	ER1–1
			FB1–1	FB1–1
			SD5–FB	SD5–FB
VOLATILE ORGANICS (SW 8240 [A])				
Analysis Date			8–19–92	N/A
Dilution Factor			1	N/A
Parameter	Units	CRQL		
Chloromethane	µg/kg	10	12 U	NA
Bromomethane	µg/kg	10	12 U	NA
Vinyl Chloride	µg/kg	10	12 U	NA
Chloroethane	µg/kg	10	12 U	NA
Methylene Chloride	µg/kg	10	12 U	NA
Acetone	µg/kg	10	18 U(FB)	NA
Carbon Disulfide	µg/kg	10	12 U	NA
1,1–Dichloroethene	µg/kg	10	12 U	NA
1,1–Dichloroethane	µg/kg	10	12 U	NA
1,2–Dichloroethene (total)	µg/kg	10	12 U	NA
Chloroform	µg/kg	10	12 U	NA
1,2–Dichloroethane	µg/kg	10	12 U	NA
2–Butanone	µg/kg	10	12 U	NA
1,1,1–Trichloroethane	µg/kg	10	12 U	NA
Carbon Tetrachloride	µg/kg	10	12 U	NA
Bromodichloromethane	µg/kg	10	12 U	NA
1,2–Dichloropropane	µg/kg	10	12 U	NA
cis–1,3–Dichloropropene	µg/kg	10	12 U	NA
Trichloroethene	µg/kg	10	12 U	NA
Dibromochloromethane	µg/kg	10	12 U	NA
1,1,2–Trichloroethane	µg/kg	10	12 U	NA
Benzene	µg/kg	10	12 U	NA
trans–1,3–Dichloropropene	µg/kg	10	12 U	NA
Bromoform	µg/kg	10	12 U	NA
4–Methyl–2–pentanone	µg/kg	10	12 U	NA
2–Hexanone	µg/kg	10	12 U	NA
Tetrachloroethene	µg/kg	10	12 U	NA
1,1,2,2–Tetrachloroethane	µg/kg	10	12 U	NA
Toluene	µg/kg	10	5 J	NA
Chlorobenzene	µg/kg	10	12 U	NA
Ethylbenzene	µg/kg	10	12 U	NA
Styrene	µg/kg	10	12 U	NA
Xylene (total)	µg/kg	10	12 U	NA
TICs	µg/kg		0 (0)	NA
TIC Total	µg/kg		0 (0)	NA

Table F–4. Data Presentation Table: Soil – Site 1 – Fire Training Area 1, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB1–3–11R	SB1–3–11RRE
Laboratory ID Number			94598	94598RE
Collection Date			8–14–92	8–14–92
Collection Depth (ft)			20.5–22.0	20.5–22.0
Percent Solids			82	82
Associated Field QC Sample			TB–3	TB–3
			ER1–1	ER1–1
			FB1–1	FB1–1
			SD5–FB	SD5–FB
SEMIVOLATILE ORGANICS (SW 8270 [B])				
Extraction Date			8–25–92	8–25–92
Analysis Date			9–2–92	9–4–92
Dilution Factor			1	1
Parameter	Units	CRQL		
Phenol	µg/kg	330	390 U	390 UJ(CCV)
bis(2–Chloroethyl)ether	µg/kg	330	390 U	390 U
2–Chlorophenol	µg/kg	330	390 U	390 U
1,3–Dichlorobenzene	µg/kg	330	390 U	390 U
1,4–Dichlorobenzene	µg/kg	330	390 U	390 U
1,2–Dichlorobenzene	µg/kg	330	390 U	390 U
2–Methylphenol	µg/kg	330	390 U	390 U
2,2–oxibis–(1–Chloropropane)	µg/kg	330	390 UJ(CCV)	390 UJ(CCV)
4–Methylphenol	µg/kg	330	390 U	390 U
N–Nitroso–di–N–propylamine	µg/kg	330	390 U	390 U
Hexachloroethane	µg/kg	330	390 U	390 U
Nitrobenzene	µg/kg	330	390 U	390 UJ(CCV)
Isophorone	µg/kg	330	390 U	390 U
2–Nitrophenol	µg/kg	330	390 U	390 U
2,4–Dimethylphenol	µg/kg	330	390 U	390 U
bis(2–Chloroethoxy)methane	µg/kg	330	390 U	390 U
2,4–Dichlorophenol	µg/kg	330	390 U	390 U
1,2,4–Trichlorobenzene	µg/kg	330	390 U	390 U
Naphthalene	µg/kg	330	390 U	390 U
4–Chloroaniline	µg/kg	330	390 U	390 U
Hexachlorobutadiene	µg/kg	330	390 U	390 U
4–Chloro–3–methylphenol	µg/kg	330	390 U	390 U
2–Methylnaphthalene	µg/kg	330	390 U	390 U
Hexachlorocyclopentadiene	µg/kg	330	390 U	390 U
2,4,6–Trichlorophenol	µg/kg	330	390 U	390 U
2,4,5–Trichlorophenol	µg/kg	800	950 U	950 U
2–Chloronaphthalene	µg/kg	330	390 U	390 U
2–Nitroaniline	µg/kg	800	950 U	950 U
Dimethyl phthalate	µg/kg	330	390 U	390 U
Acenaphthylene	µg/kg	330	390 U	390 U
2,6–Dinitrotoluene	µg/kg	330	390 U	390 U
3–Nitroaniline	µg/kg	800	950 U	950 U
Acenaphthene	µg/kg	330	390 U	390 U
2,4–Dinitrophenol	µg/kg	800	950 U	950 U
4–Nitrophenol	µg/kg	800	950 U	950 U
Dibenzofuran	µg/kg	330	390 U	390 U
2,4–Dinitrotoluene	µg/kg	330	390 U	390 U
Diethyl phthalate	µg/kg	330	390 U	390 U
4–Chlorophenyl phenyl ether	µg/kg	330	390 U	390 U
Fluorene	µg/kg	330	390 U	390 U
4–Nitroaniline	µg/kg	800	950 U	950 U
4,6–Dinitro–2–methylphenol	µg/kg	800	950 U	950 U
N–Nitrosodiphenylamine (1)	µg/kg	330	390 U	390 U

Table F–4. Data Presentation Table: Soil – Site 1 – Fire Training Area 1, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB1–3–11R			SB1–3–11RRE			
Laboratory ID Number			94598			94598RE			
Collection Date			8–14–92			8–14–92			
Collection Depth (ft)			20.5–22.0			20.5–22.0			
Percent Solids			82			82			
Associated Field QC Sample			TB–3			TB–3			
			ER1–1			ER1–1			
			FB1–1			FB1–1			
			SD5–FB			SD5–FB			
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)									
Extraction Date			8–25–92			8–25–92			
Analysis Date			9–2–92			9–4–92			
Dilution Factor			1			1			
Parameter	Units	CRQL							
4–Bromophenyl phenyl ether	µg/kg	330	390 U			390 U			
Hexachlorobenzene	µg/kg	330	390 U			390 U			
Pentachlorophenol	µg/kg	800	950 U			950 U			
Phenanthrene	µg/kg	330	390 U			390 U			
Anthracene	µg/kg	330	390 U			390 U			
Carbazole	µg/kg	330	390 U			390 U			
di–N–Butyl phthalate	µg/kg	330	390 U			390 U			
Fluoranthene	µg/kg	330	390 U			390 U			
Pyrene	µg/kg	330	390 UJ(IS)			390 U			
Butylbenzylphthalate	µg/kg	330	390 UJ(IS)			390 U			
3,3'–Dichlorobenzidine	µg/kg	330	390 UJ(IS)			390 U			
Benzo(a)anthracene	µg/kg	330	390 UJ(IS)			390 U			
Chrysene	µg/kg	330	390 UJ(IS)			390 U			
bis(2–Ethylhexyl)phthalate	µg/kg	330	390 UJ(IS)			390 U			
di–N–Octyl phthalate	µg/kg	330	390 UJ(IS)			390 UJ(IS)			
Benzo(b)fluoranthene	µg/kg	330	390 UJ(IS)			390 UJ(IS)			
Benzo(k)fluoranthene	µg/kg	330	390 UJ(IS)			390 UJ(IS)			
Benzo(a)pyrene	µg/kg	330	390 UJ(IS)			390 UJ(IS)			
Indeno(1,2,3–c,d)pyrene	µg/kg	330	390 UJ(IS)			390 UJ(IS)			
Dibenzo(a,h)anthracene	µg/kg	330	390 UJ(IS)			390 UJ(IS)			
Benzo(g,h,i)perylene	µg/kg	330	390 UJ(IS)			390 UJ(IS)			
TICs	µg/kg		Tetradecane [b]	440 J,N	(RT 14.50)	Tetradecane [b]	410 J,N	(RT 14.87)	
			2,7,10–Trimethyl–Dodecane [b]	670 J,N	(RT 16.10)	2,7,10–Trimethyl–Dodecane [b]	620 J,N	(RT 16.49)	
			Hexadecane [b]	820 J,N	(RT 17.64)	Hexadecane [b]	760 J,N	(RT 18.02)	
			Unknown [d]	780 J	(RT 18.35)	Unknown [d]	590 J	(RT 18.74)	
			Heptadecane [b]	740 J,N	(RT 19.10)	Heptadecane [b]	770 J,N	(RT 19.47)	
			Hexadecane, 2,6,10–Trimethyl [b]	760 J,N	(RT 19.17)	Hexadecane, 2,6,10–Trimethyl [b]	720 J,N	(RT 19.55)	
			Octadecane [b]	560 J,N	(RT 20.49)	Octadecane [b]	520 J,N	(RT 20.85)	
			Hexadecane, 2,6,10,14–Tetram [b]	500 J,N	(RT 20.59)	Hexadecane, 2,6,10,14–Tetram [b]	450 J,N	(RT 20.97)	
			Unknown [d]	880 J	(RT 21.80)	Unknown [d]	620 J	(RT 22.17)	
			Eicosane [b]	660 J,N	(RT 23.05)	Eicosane [b]	570 J,N	(RT 23.42)	
			Heptadecane, 2,6,10,15–Tetra [b]	490 J,N	(RT 24.25)	Heptadecane, 2,6,10,15–Tetra [b]	420 J,N	(RT 24.62)	
			Dodecanamide [c]	200 B,J,N	(RT 25.26)	Docosane [b]	390 J,N	(RT 25.77)	
			Docosane [b]	380 J,N	(RT 26.52)	Unknown [d]	410 J	(RT 26.87)	
			Unknown [d]	3400 J	(RT 27.37)	Unknown [d]	3500 J	(RT 27.71)	
			Unknown [d]	290 J	(RT 27.61)	Unknown [d]	300 J	(RT 27.96)	
			Pentacosane [b]	280 J,N	(RT 28.62)	Pentacosane [b]	340 J,N	(RT 28.97)	
			Hexacosane [b]	280 J,N	(RT 29.64)	Hexacosane [b]	320 J,N	(RT 29.99)	
			Heptacosane [b]	270 J,N	(RT 30.61)	Unknown [d]	310 J	(RT 30.96)	
			Unknown [d]	950 J	(RT 31.47)	Unknown [d]	1100 J	(RT 31.81)	
			Octacosane [b]	250 J,N	(RT 31.56)	Octacosane [b]	270 J,N	(RT 31.91)	
TIC Total	µg/kg			13600 (20)			13390 (20)		

Table F–4. Data Presentation Table: Soil – Site 1 – Fire Training Area 1, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

Validation note: All descriptive data qualifiers applied to the reported values by the laboratory are reported in parentheses.
Each data point has been assessed to determine whether the value is considered usable (i.e., no qualifier), usable but estimated (i.e., "J"), or not usable (i.e., "R"). All usability qualifiers are followed by the applicable laboratory or field QC qualifier, presented in parentheses and defined below. Usability qualifiers were not applied to values qualified by the laboratory, but were not considered to have been adversely impacted by the applicable laboratory QC result (e.g., duplicated and matrix spike analysis).

A – samples were analyzed for VOCs using SW 8240, laboratory analyses followed methods outlined in the March 1990 CLP SOW for organic analyses
B – samples were analyzed for SVOCs using SW 3550/8270, laboratory analysis followed method details outlined in the March 1990 CLP SOW for organic analyses
CRQL – Contract Required Quantitation Limit
IDL – Instrument Detection Limit
MDL – Method Detection Limit
NA – not analyzed
N/A – not applicable
RT – retention time in minutes
TICs–tentatively identified compounds, total concentration is listed and the total number of tentatively identified compounds is inside the parenthases

Data Validation Qualifiers

J – associated numerical value is the approximate concentration
R – rejected value
U – compound/element was included in analysis, but was not detected
UJ – reported quantitation limit is approximate and may or may not represent the actual quantitation necessary to accurately and precisely measure the analyte

Explanatory Data Validation Qualifiers

CCV – continuing calibration verification
FB – compound/element was also detected in the associated field blank
IS – internal standard outside control limits
MB – compound/element was also detected in the associated laboratory method blank
r – correlation coefficient for the calibration curve is less than 0.995

EPA–defined CLP SOW Laboratory Qualifiers

A(TICs) – suspects ALDOL–condensation product
B(metals) – the reported value is estimated because it is greater than the Instrument Detection Limit (IDL), but less than the Contract Required Detection Limit(CRDL)
B(organics) – compound was also detected in the associated laboratory method blank
E(metals) – the reported value is estimated due to the presence of interference
N – spiked sample recovery outside of control limits
N(TICs) – presumptive evidence of a compound
S – the reported value was determined by the Method of Standard Additions (MSA)
W – post–digestion spike for Graphite Furnace Atomic Absorption (GFAA) analysis is out of control limits (85–115%), while sample absorbance is less than 50% of the spike absorbance

SAIC TIC Evaluation Categories

[a] – laboratory and extraction artifacts
[b] – petroleum or petroleum degradation products
[c] – other
[d] – unknown
[e] – polycyclic aromatic hydrocarbons
[f] – naturally occuring organic compounds

Table F–5. Data Presentation Table: Groundwater – Site 1 – Fire Training Area 1
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

SAIC ID Number				MW1–1–1	MW1–1–2
Laboratory ID Number				97310	9568, 9584
Collection Date				9–30–92	5–21–93
Associated Field QC Sample				TB–14	TB52193
				ERBG–2	EB2–2, EB3–2
				FBBA–1	N/A
				FBCE–1	FB2–2, FB3–2
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)					
Extraction Date				10–6–92	5–26–93
Analysis Date				10–21–92	5–25 and 6–17–93
Dilution Factor				1	1
Parameter	Units	MDL or MDL			
Gasoline	mg/L	N/A	0.05	NA	<0.25
Diesel Fuel	mg/L	0.1	0.05	<0.2	<0.13
Heavy Oil	mg/L	0.1	0.1	<0.2	<0.25
TOTAL PRIORITY POLLUTANT METALS					
Digestion Date(s)				10–19 and 10–20–92	6–11 and 6–16–93
Analysis Date(s)				10–20 to 11–6–92	6–11 to 6–25–93
Dilution Factor		IDL or IDL		1	1
AA METALS					
Antimony (SW 3020/7041)	µg/L	1.2	0.6	R(N)	1.4 J(N)
Arsenic (SW 3020/7060)	µg/L	0.7	0.6	2.6 U(MB)	R(N)
Lead (SW 3020/7421)	µg/L	0.5	0.5	1.6 U(MB)	31.8
Mercury (SW 7470)	µg/L	0.1	0.1	0.1 U	0.1 U
Selenium (SW 7740)	µg/L	1.4	0.9	R(N)	R(N)
Thallium (SW 3020/7841)	µg/L	1.4	1.4	1.4 UJ(N)	1.4 U
ICP METALS (SW 3005/6010)					
Beryllium	µg/L	0.3	0.3	0.3 U	1.6 B
Cadmium	µg/L	2.1	3.7	2.1 U	3.7 U
Chromium	µg/L	2.9	2.8	4.9 B	61.2
Copper	µg/L	3.4	2.7	9.5 U(FB)	90.1
Nickel	µg/L	12.9	19.8	12.9 U	110
Silver	µg/L	3.8	2.9	3.8 U	2.9 UJ(N)
Zinc	µg/L	2.9	1.6	24.5 U(FB)	490 J(E)
DISSOLVED PRIORITY POLLUTANT METALS					
Digestion Date(s)				N/A	6–8 and 6–16–93
Analysis Date(s)				N/A	6–16 to 6–22–93
Dilution Factor		IDL		N/A	1
AA METALS					
Antimony (SW 3020/7041)	µg/L	0.6		NA	0.9 U
Arsenic (SW 3020/7060)	µg/L	0.6		NA	0.6 U
Lead (SW 3020/7421)	µg/L	0.5		NA	1.5 UJ(EB,W)
Mercury (SW 7470)	µg/L	0.1		NA	0.1 U
Selenium (SW 7740)	µg/L	0.9		NA	1.6 U(MB)
Thallium (SW 3020/7841)	µg/L	1.4		NA	1.4 U
ICP METALS (SW 3005/6010)					
Beryllium	µg/L	0.3		NA	0.3 U
Cadmium	µg/L	3.7		NA	3.7 U
Chromium	µg/L	2.8		NA	2.8 U
Copper	µg/L	2.7		NA	2.7 U
Nickel	µg/L	19.8		NA	19.8 U
Silver	µg/L	2.9		NA	2.9 UJ(N)
Zinc	µg/L	1.6		NA	10.8 U(MB)

Table F–5. Data Presentation Table: Groundwater – Site 1 – Fire Training Area 1
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MW1–1–1	MW1–1–2
Laboratory ID Number			97310	9568, 9584
Collection Date			9–30–92	5–21–93
Associated Field QC Sample			TB–14	TB52193
			ERBG–2	EB2–2, EB3–2
			FBBA–1	N/A
			FBCE–1	FB2–2, FB3–2
VOLATILE ORGANICS (A)				
Analysis Date			10–6–92	5–25–93
Dilution Factor			1	1
Parameter	Units	CRQL		
Chloromethane	µg/L	0.3	0.3 U	0.3 U
Bromomethane	µg/L	0.4	0.4 U	0.4 U
Vinyl Chloride	µg/L	0.5	0.5 U	0.5 U
Chloroethane	µg/L	0.2	0.2 U	0.2 U
Methylene Chloride	µg/L	0.4	0.4 U	0.4 U
Acetone	µg/L	1	1 U	1 U
Carbon Disulfide	µg/L	0.5	0.5 U	0.5 U
1,1–Dichloroethene	µg/L	0.5	0.5 U	0.5 U
1,1–Dichloroethane	µg/L	0.4	0.4 U	0.4 U
1,2–Dichloroethene (total)	µg/L	0.5	0.5 U	0.5 U
Chloroform	µg/L	0.4	0.4 U	0.4 U
1,2–Dichloroethane	µg/L	0.4	0.4 U	0.4 U
2–Butanone	µg/L	1	1 U	1 U
1,1,1–Trichloroethane	µg/L	0.4	0.4 U	0.4 U
Carbon Tetrachloride	µg/L	0.4	0.4 U	0.4 U
Bromodichloromethane	µg/L	0.4	0.4 U	0.4 U
1,2–Dichloropropane	µg/L	0.3	0.3 U	0.3 U
cis–1,3–Dichloropropene	µg/L	0.8	0.8 U	0.8 U
Trichloroethene	µg/L	0.5	0.5 U	0.5 U
Dibromochloromethane	µg/L	0.5	0.5 U	0.5 U
1,1,2–Trichloroethane	µg/L	0.8	0.8 U	0.8 U
Benzene	µg/L	0.5	0.5 U	0.5 U
trans–1,3–Dichloropropene	µg/L	0.8	0.8 U	0.8 U
Bromoform	µg/L	0.9	0.9 U	0.9 U
4–Methyl–2–pentanone	µg/L	0.6	0.6 U	0.6 U
2–Hexanone	µg/L	2	2 U	2 U
Tetrachloroethene	µg/L	0.4	0.4 U	0.4 U
1,1,2,2–Tetrachloroethane	µg/L	0.7	0.7 U	0.7 U
Toluene	µg/L	0.4	0.4 U	0.4 U
Chlorobenzene	µg/L	0.4	0.4 U	0.4 U
Ethylbenzene	µg/L	0.7	0.7 U	0.7 U
Styrene	µg/L	0.2	0.2 U	0.2 U
Xylene (total)	µg/L	0.7	0.7 U	0.7 U
TICs	µg/L		0 (0)	0 (0)
TIC Total	µg/L		0 (0)	0 (0)

Table F-5. Data Presentation Table: Groundwater – Site 1 – Fire Training Area 1
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MW1-1-1	MW1-1-2
Laboratory ID Number			97310	9568, 9584
Collection Date			9-30-92	5-21-93
Associated Field QC Sample			TB-14	TB52193
			ERBG-2	EB2-2, EB3-2
			FBBA-1	N/A
			FBCE-1	FB2-2, FB3-2
SEMIVOLATILE ORGANIC (SW 8270 [B])				
Extraction Date			10-5-92	5-26-93
Analysis Date			10-28-92	6-1-93
Dilution Factor			1	1
Parameter	Units	CRQL		
Phenol	µg/L	10	11 U	10 U
bis(2-Chloroethyl)ether	µg/L	10	11 U	10 U
2-Chlorophenol	µg/L	10	11 U	10 U
1,3-Dichlorobenzene	µg/L	10	11 U	10 U
1,4-Dichlorobenzene	µg/L	10	11 U	10 U
1,2-Dichlorobenzene	µg/L	10	11 U	10 U
2-Methylphenol	µg/L	10	11 U	10 U
2,2-oxibis-(1-Chloropropane)	µg/L	10	11 U	10 U
4-Methylphenol	µg/L	10	11 U	10 U
N-Nitroso-di-N-propylamine	µg/L	10	11 U	10 U
Hexachloroethane	µg/L	10	11 U	10 UJ(CCV)
Nitrobenzene	µg/L	10	11 U	10 U
Isophorone	µg/L	10	11 U	10 U
2-Nitrophenol	µg/L	10	11 U	10 U
2,4-Dimethylphenol	µg/L	10	11 U	10 U
bis(2-Chloroethoxy)methane	µg/L	10	11 U	10 U
2,4-Dichlorophenol	µg/L	10	11 U	10 U
1,2,4-Trichlorobenzene	µg/L	10	11 U	10 U
Naphthalene	µg/L	10	11 U	10 U
4-Chloroaniline	µg/L	10	11 U	10 U
Hexachlorobutadiene	µg/L	10	11 U	10 UJ(CCV)
4-Chloro-3-methylphenol	µg/L	10	11 U	10 U
2-Methylnaphthalene	µg/L	10	11 U	10 U
Hexachlorocyclopentadiene	µg/L	10	11 U	10 U
2,4,6-Trichlorophenol	µg/L	10	11 U	10 U
2,4,5-Trichlorophenol	µg/L	25	28 U	25 U
2-Chloronaphthalene	µg/L	10	11 U	10 U
2-Nitroaniline	µg/L	25	28 U	25 U
Dimethyl phthalate	µg/L	10	11 U	10 U
Acenaphthylene	µg/L	10	11 U	10 U
2,6-Dinitrotoluene	µg/L	10	11 U	10 U
3-Nitroaniline	µg/L	25	28 U	25 UJ(CCV)
Acenaphthene	µg/L	10	11 U	10 U
2,4-Dinitrophenol	µg/L	25	28 U	25 UJ(CCV)
4-Nitrophenol	µg/L	25	28 UJ(CCV)	25 U
Dibenzofuran	µg/L	10	11 U	10 U
2,4-Dinitrotoluene	µg/L	10	11 U	10 U
Diethyl phthalate	µg/L	10	11 U	10 U
4-Chlorophenyl phenyl ether	µg/L	10	11 U	10 U
Fluorene	µg/L	10	11 U	10 U
4-Nitroaniline	µg/L	25	28 U	25 U
4,6-Dinitro-2-methylphenol	µg/L	25	28 U	25 UJ(CCV)
N-Nitrosodiphenylamine (1)	µg/L	10	11 U	10 U

Table F–5. Data Presentation Table: Groundwater – Site 1 – Fire Training Area 1
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MW1–1–1		MW1–1–2
Laboratory ID Number			97310		9568, 9584
Collection Date			9–30–92		5–21–93
Associated Field QC Sample			TB–14		TB52193
			ERBG–2		EB2–2, EB3–2
			FBBA–1		N/A
			FBCE–1		FB2–2, FB3–2
SEMIVOLATILE ORGANIC (SW 8270 [B])					
Extraction Date			10–5–92		5–26–93
Analysis Date			10–28–92		6–1–93
Dilution Factor			1		1
Parameter	Units	CRQL			
4–Bromophenyl phenyl ether	µg/L	10	11 U		10 U
Hexachlorobenzene	µg/L	10	11 U		10 UJ(CCV)
Pentachlorophenol	µg/L	25	28 U		25 UJ(CCV)
Phenanthrene	µg/L	10	11 U		10 U
Anthracene	µg/L	10	11 U		10 U
Carbazole	µg/L	10	11 U		10 UJ(CCV)
di–N–Butyl phthalate	µg/L	10	11 U		10 U
Fluoranthene	µg/L	10	11 U		10 U
Pyrene	µg/L	10	11 U		10 U
Butylbenzylphthalate	µg/L	10	11 U		10 U
3,3'–Dichlorobenzidine	µg/L	10	11 U		10 U
Benzo(a)anthracene	µg/L	10	11 U		10 U
Chrysene	µg/L	10	11 U		10 U
bis(2–Ethylhexyl)phthalate	µg/L	10	11 U		10 U
di–N–Octyl phthalate	µg/L	10	11 U		10 U
Benzo(b)fluoranthene	µg/L	10	11 U		10 U
Benzo(k)fluoranthene	µg/L	10	11 U		10 U
Benzo(a)pyrene	µg/L	10	11 U		10 U
Indeno(1,2,3–c,d)pyrene	µg/L	10	11 U		10 U
Dibenzo(a,h)anthracene	µg/L	10	11 U		10 U
Benzo(g,h,i)perylene	µg/L	10	11 U		10 U
TICs	µg/L		Unknown [d]	4 J,N (RT 25.71)	0 (0)
TIC Total	µg/L			4 (1)	0 (0)

Table F–5. Data Presentation Table: Groundwater – Site 1 – Fire Training Area 1 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

Validation note: All descriptive data qualifiers applied to the reported values by the laboratory are reported in parentheses. Each data point has been assessed to determine whether the value is considered usable (i.e., no qualifier), usable but estimated (i.e., "J"), or not usable (i.e., "R"). All usability qualifiers are followed by the applicable laboratory or field QC qualifier, presented in parentheses and defined below. Usability qualifiers were not applied to values qualified by the laboratory, but were not considered to have been adversely impacted by the applicable laboratory QC result (e.g., duplicated and matrix spike analysis).

A – groundwater samples were analyzed for volatile halogenated compounds and volatile aromatic compounds by E 524.2 for samples collected in 1992 or SW 8240 (25 ml purge for low level volatiles) for samples collected in 1993; these methods have been modified to incorporate CLP–type QC requirements

B – SVOCs in groundwater and field QC blanks were analyzed using EPA method 3510/8270

CRQL – Contract Required Quantitation Limit

IDL – Instrument Detection Limit

MDL – Method Detection Limit

NA – not analyzed

N/A – not applicable

RT – retention time in minutes

TICs–tentatively identified compounds, total concentration is listed and the total number of tentatively identified compounds is inside the parenthases

Data Validation Qualifiers

J – associated numerical value is the approximate concentration

R – rejected value

U – compound/element was included in analysis, but was not detected

UJ – reported quantitation limit is approximate and may or may not represent the actual quantitation necessary to accurately and precisely measure the analyte

Explanatory Data Validation Qualifiers

CCV – continuing calibration verification

EB – compound/element was also detected in the associated equipment blank

FB – compound/element was also detected in the associated field blank

MB – compound/element was also detected in the associated laboratory method blank

EPA–defined CLP SOW Laboratory Qualifiers

B(metals) – the reported value is estimated because it is greater than the Instrument Detection Limit (IDL), but less than the Contract Required Detection Limit (CRDL)

E(metals) – the reported value is estimated due to the presence of interference

N – spiked sample recovery outside of control limits

N(TICs) – presumptive evidence of a compound

W – post–digestion spike for Graphite Furnace Atomic Absorption (GFAA) analysis is out of control limits (85–115%), while sample absorbance is less than 50% of the spike absorbance

SAIC TIC Evaluation Categories

[d] – unknown

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

SAIC ID Number			SB2–1–1	SB2–1–4	SB2–1–4RE
Laboratory ID Number			94799	94800	94800RE
Collection Date			8–15–92	8–15–92	8–15–92
Collection Depth (ft)			2.0–3.5	8.0–9.5	8.0–9.5
Percent Solids			90	88	88
Associated Field QC Sample			TB–5	TB–5	TB–5
			EB2–1	EB2–1	EB2–1
			FB2–1	FB2–1	FB2–1
			SD5–FB	SD5–FB	SD5–FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)					
Extraction Date			8–29–92	8–29–92	N/A
Analysis Date			9–17–92	9–17–92	N/A
Dilution Factor			1	1	N/A
Parameter	Units	MDL			
Gasoline	mg/kg	N/A	NA	NA	NA
Diesel Fuel	mg/kg	2	<2	4	NA
Heavy Oil	mg/kg	2	13	25	NA
PRIORITY POLLUTANT METALS					
Digestion Date(s)			9–3 and 9–13–92	9–3 and 9–13–92	N/A
Analysis Date(s)			9–8 to 9–25–92	9–8 to 9–25–92	N/A
Dilution Factor		IDL	1	1	N/A
AA METALS					
Antimony (SW 3050/7041)	mg/kg	2	0.2 UJ(N,W)	0.2 UJ(N)	NA
Arsenic (SW 3050/7060)	mg/kg	1.5	8.5 J(*)	7.2 J(*)	NA
Lead (SW 3050/7421)	mg/kg	0.5	31.8 *	8.5 *	NA
Mercury (SW 3050/7471)	mg/kg	0.2	0.09 U	0.09 U	NA
Selenium (SW 3050/7740)	mg/kg	1.4	0.26 UJ(MB,N)	0.15 UJ(N,W)	NA
Thallium (SW 3050/7841)	mg/kg	0.8	0.25 J(N,W)	0.26 J(N)	NA
ICP METALS (SW 3050/6010)					
Beryllium	mg/kg	0.3	0.32 B	0.27 B	NA
Cadmium	mg/kg	2.1	1.2	0.21 U	NA
Chromium	mg/kg	4	13.2 J(N)	7.5 J(N)	NA
Copper	mg/kg	3.9	13.9	14.7	NA
Nickel	mg/kg	10.3	8.2	15.8	NA
Silver	mg/kg	3	1.5	1.5	NA
Zinc	mg/kg	3.5	38.3 J(E)	45.9 J(E)	NA

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2–1–1	SB2–1–4	SB2–1–4RE
Laboratory ID Number			94799	94800	94800RE
Collection Date			8–15–92	8–15–92	8–15–92
Collection Depth (ft)			2.0–3.5	8.0–9.5	8.0–9.5
Percent Solids			90	88	88
Associated Field QC Sample			TB–5	TB–5	TB–5
			EB2–1	EB2–1	EB2–1
			FB2–1	FB2–1	FB2–1
			SD5–FB	SD5–FB	SD5–FB
VOLATILE ORGANICS (SW 8240 [A])					
Analysis Date			8–24–92	8–24–92	8–24–92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Chloromethane	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
Bromomethane	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
Vinyl Chloride	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
Chloroethane	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
Methylene Chloride	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
Acetone	µg/kg	10	82	5 J(SR)	21 J(SR)
Carbon Disulfide	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
1,1–Dichloroethene	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
1,1–Dichloroethane	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
1,2–Dichloroethene (total)	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
Chloroform	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
1,2–Dichloroethane	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
2–Butanone	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
1,1,1–Trichloroethane	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
Carbon Tetrachloride	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
Bromodichloromethane	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
1,2–Dichloropropane	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
cis–1,3–Dichloropropene	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
Trichloroethene	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
Dibromochloromethane	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
1,1,2–Trichloroethane	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
Benzene	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
trans–1,3–Dichloropropene	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
Bromoform	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
4–Methyl–2–pentanone	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
2–Hexanone	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
Tetrachloroethene	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
1,1,2,2–Tetrachloroethane	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
Toluene	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
Chlorobenzene	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
Ethylbenzene	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
Styrene	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
Xylene (total)	µg/kg	10	11 U	11 UJ(SR)	11 UJ(SR)
TICs	µg/kg		0 (0)	0 (0)	0 (0)
TIC Total	µg/kg		0 (0)	0 (0)	0 (0)

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2–1–1	SB2–1–4	SB2–1–4RE
Laboratory ID Number			94799	94800	94800RE
Collection Date			8–15–92	8–15–92	8–15–92
Collection Depth (ft)			2.0–3.5	8.0–9.5	8.0–9.5
Percent Solids			90	88	88
Associated Field QC Sample			TB–5	TB–5	TB–5
			EB2–1	EB2–1	EB2–1
			FB2–1	FB2–1	FB2–1
			SD5–FB	SD5–FB	SD5–FB
SEMIVOLATILE ORGANICS (SW 8270 (B))					
Extraction Date			8–21–92	8–21–92	N/A
Analysis Date			9–4–92	9–4–92	N/A
Dilution Factor			1	1	N/A
Parameter	Units	CRQL			
Phenol	µg/kg	330	340 U	330 U	NA
bis(2–Chloroethyl)ether	µg/kg	330	340 U	330 U	NA
2–Chlorophenol	µg/kg	330	340 U	330 U	NA
1,3–Dichlorobenzene	µg/kg	330	340 U	330 U	NA
1,4–Dichlorobenzene	µg/kg	330	340 U	330 U	NA
1,2–Dichlorobenzene	µg/kg	330	340 U	330 U	NA
2–Methylphenol	µg/kg	330	340 U	330 U	NA
2,2–oxibis–(1–Chloropropane)	µg/kg	330	340 U	330 U	NA
4–Methylphenol	µg/kg	330	340 U	330 U	NA
N–Nitroso–di–N–propylamine	µg/kg	330	340 U	330 U	NA
Hexachloroethane	µg/kg	330	340 U	330 U	NA
Nitrobenzene	µg/kg	330	340 U	330 U	NA
Isophorone	µg/kg	330	340 U	330 U	NA
2–Nitrophenol	µg/kg	330	340 U	330 U	NA
2,4–Dimethylphenol	µg/kg	330	340 U	330 U	NA
bis(2–Chloroethoxy)methane	µg/kg	330	340 U	330 U	NA
2,4–Dichlorophenol	µg/kg	330	340 U	330 U	NA
1,2,4–Trichlorobenzene	µg/kg	330	340 U	330 U	NA
Naphthalene	µg/kg	330	340 U	330 U	NA
4–Chloroaniline	µg/kg	330	340 U	330 U	NA
Hexachlorobutadiene	µg/kg	330	340 U	330 U	NA
4–Chloro–3–methylphenol	µg/kg	330	340 U	330 U	NA
2–Methylnaphthalene	µg/kg	330	340 U	330 U	NA
Hexachlorocyclopentadiene	µg/kg	330	340 U	330 U.	NA
2,4,6–Trichlorophenol	µg/kg	330	340 U	330 U	NA
2,4,5–Trichlorophenol	µg/kg	800	820 UJ(CCV)	800 UJ(CCV)	NA
2–Chloronaphthalene	µg/kg	330	340 U	330 U	NA
2–Nitroaniline	µg/kg	800	820 U	800 U	NA
Dimethyl phthalate	µg/kg	330	340 U	330 U	NA
Acenaphthylene	µg/kg	330	340 U	330 U	NA
2,6–Dinitrotoluene	µg/kg	330	340 UJ(CCV)	330 UJ(CCV)	NA
3–Nitroaniline	µg/kg	800	820 U	800 U	NA
Acenaphthene	µg/kg	330	340 U	330 U	NA
2,4–Dinitrophenol	µg/kg	800	820 U	800 U	NA
4–Nitrophenol	µg/kg	800	820 U	800 U	NA
Dibenzofuran	µg/kg	330	340 U	330 U	NA
2,4–Dinitrotoluene	µg/kg	330	340 U	330 U	NA
Diethyl phthalate	µg/kg	330	340 U	330 U	NA
4–Chlorophenyl phenyl ether	µg/kg	330	340 U	330 U	NA
Fluorene	µg/kg	330	340 U	330 U	NA
4–Nitroaniline	µg/kg	800	820 U	800 U	NA
4,6–Dinitro–2–methylphenol	µg/kg	800	820 U	800 U	NA
N–Nitrosodiphenylamine (1)	µg/kg	330	340 U	330 U	NA

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2–1–1				SB2–1–4			SB2–1–4RE		
Laboratory ID Number			94799				94800			94800RE		
Collection Date			8–15–92				8–15–92			8–15–92		
Collection Depth (ft)			2.0–3.5				8.0–9.5			8.0–9.5		
Percent Solids			90				88			88		
Associated Field QC Sample			TB–5				TB–5			TB–5		
			EB2–1				EB2–1			EB2–1		
			FB2–1				FB2–1			FB2–1		
			SD5–FB				SD5–FB			SD5–FB		
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)												
Extraction Date			8–21–92				8–21–92			N/A		
Analysis Date			9–4–92				9–4–92			N/A		
Dilution Factor			1				1			N/A		
Parameter	Units	CRQL										
4–Bromophenyl phenyl ether	µg/kg	330	340 U				330 U			NA		
Hexachlorobenzene	µg/kg	330	340 U				330 U			NA		
Pentachlorophenol	µg/kg	800	820 U				800 U			NA		
Phenanthrene	µg/kg	330	340 U				330 U			NA		
Anthracene	µg/kg	330	340 U				330 U			NA		
Carbazole	µg/kg	330	340 U				330 U			NA		
di–N–Butyl phthalate	µg/kg	330	340 U				330 U			NA		
Fluoranthene	µg/kg	330	47 J				330 U			NA		
Pyrene	µg/kg	330	51 J				34 J			NA		
Butylbenzylphthalate	µg/kg	330	340 U				330 U			NA		
3,3'–Dichlorobenzidine	µg/kg	330	340 U				330 U			NA		
Benzo(a)anthracene	µg/kg	330	340 U				330 U			NA		
Chrysene	µg/kg	330	340 U				330 U			NA		
bis(2–Ethylhexyl)phthalate	µg/kg	330	93 J				41 J			NA		
di–N–Octyl phthalate	µg/kg	330	340 UJ(CCV)				330 UJ(CCV)			NA		
Benzo(b)fluoranthene	µg/kg	330	340 U				330 U			NA		
Benzo(k)fluoranthene	µg/kg	330	340 U				330 U			NA		
Benzo(a)pyrene	µg/kg	330	340 U				330 U			NA		
Indeno(1,2,3–c,d)pyrene	µg/kg	330	340 U				330 U			NA		
Dibenzo(a,h)anthracene	µg/kg	330	340 U				330 U			NA		
Benzo(g,h,i)perylene	µg/kg	330	340 U				330 U			NA		
TICs	µg/kg		4–Hydroxy–4–Methyl–2–Pentanone[a]	9900 B,J,N,A	(RT 4.65)		4–Hydroxy–4–Methyl–2–Pentanone[a]	4600 B,J,N,A	(RT 4.58)	NA		
			Unknown[d]	94 J	(RT 13.60)		2–Butanone, 4–Chloro–4,4–Dif[c]	46 J,N	(RT 5.88)			
			Unknown[d]	95 J	(RT 20.15)		Unknown[d]	110 J	(RT 20.15)			
			Unknown[d]	150 J	(RT 21.57)		Unknown[d]	87 J	(RT 26.64)			
			Unknown[d]	130 J	(RT 22.92)		Unknown[d]	120 J	(RT 27.79)			
			9–Hexadecenoic Acid[f]	240 J,N	(RT 23.59)		Unknown[d]	81 J	(RT 28.91)			
			Hexadecanoic Acid[f]	150 J,N	(RT 23.75)		Unknown[d]	100 J	(RT 29.99)			
			Iron, Tricarbonyl[N–(Phenyl–[b]	140 J,N	(RT 24.22)		Unknown[d]	82 J	(RT 31.06)			
			Unknown[d]	140 J	(RT 25.47)		Unknown[d]	130 J	(RT 32.11)			
			2–Butyl–1–Octanol[b]	170 J,N	(RT 25.92)		Unknown[d]	100 J	(RT 33.19)			
			Docosane[b]	200 J,N	(RT 26.64)		Unknown[d]	100 J	(RT 33.26)			
			Unknown[d]	200 J	(RT 27.09)		Unknown[d]	120 J	(RT 34.31)			
			Unknown[d]	270 J	(RT 27.81)							
			Unknown[d]	140 J	(RT 28.21)							
			Unknown[d]	180 J	(RT 28.92)							
			Unknown[d]	130 J	(RT 29.27)							
			Unknown[d]	270 J	(RT 29.99)							
			Unknown[d]	190 J	(RT 31.06)							
			Unknown[d]	380 J	(RT 32.12)							
			Unknown[d]	430 J	(RT 33.21)							
			Pentatriacontane[b]	460 J,N	(RT 34.32)							
TIC Total	µg/kg			14059 (21)				5676 (12)		NA		

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2–1–14	SB2–2–1	SB2–2–1R
Laboratory ID Number			94673	94666	94667
Collection Date			8–15–92	8–16–92	8–16–92
Collection Depth (ft)			28.0–30.0	1.5–3.5	1.5–3.5
Percent Solids			92	90	90
Associated Field QC Sample			TB–4	TB–4	TB–4
			EB2–1	EB2–1	EB2–1
			FB2–1	FB2–1	FB2–1
			SD5–FB	SD5–FB	SD5–FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)					
Extraction Date			8–27–92	8–27–92	8–27–92
Analysis Date			9–14–92	9–14–92	9–14–92
Dilution Factor			1	1	1
Parameter	Units	MDL			
Gasoline	mg/kg	N/A	NA	NA	NA
Diesel Fuel	mg/kg	2	48	135 J(FD)	830 J(FD)
Heavy Oil	mg/kg	2	15	<2	<2
PRIORITY POLLUTANT METALS					
Digestion Date(s)			8–27 and 9–13–92	8–27 and 9–13–92	8–27 and 9–13–92
Analysis Date(s)			8–29 to 9–15–92	8–29 to 9–15–92	8–29 to 9–15–92
Dilution Factor		IDL	1	1	1
AA METALS					
Antimony (SW 3050/7041)	mg/kg	2	0.24 J(N,W,r)	0.28 J(N,r)	R(N)
Arsenic (SW 3050/7060)	mg/kg	1.5	4.3 J(N)	6.8 J(N)	8.4 J(N)
Lead (SW 3050/7421)	mg/kg	0.5	6.6	7.6	7.5
Mercury (SW 3050/7471)	mg/kg	0.2	0.09 U	0.09 U	0.1 U
Selenium (SW 3050/7740)	mg/kg	1.4	0.14 UJ(N,W)	0.12 UJ(N,W)	0.13 UJ(N,W)
Thallium (SW 3050/7841)	mg/kg	0.8	0.17 B	0.17 J(W)	0.16 J(W)
ICP METALS (SW 3050/6010)					
Beryllium	mg/kg	0.3	0.32 B	0.28 B	0.34 B
Cadmium	mg/kg	2.1	0.21 U	0.19 U	0.21 U
Chromium	mg/kg	4	8.1	7	9.1
Copper	mg/kg	3.9	23.7	12.5	19.5
Nickel	mg/kg	10.3	18.7	14.4	20.5
Silver	mg/kg	3	1.8 U(MB)	2 U(MB)	2.1 U(MB)
Zinc	mg/kg	3.5	47.1 J(E)	42.2 J(E)	52.3 J(E)

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2–1–14		SB2–2–1			SB2–2–1R	
Laboratory ID Number			94673		94666			94667	
Collection Date			8–15–92		8–16–92			8–16–92	
Collection Depth (ft)			28.0–30.0		1.5–3.5			1.5–3.5	
Percent Solids			92		90			90	
Associated Field QC Sample			TB–4		TB–4			TB–4	
			EB2–1		EB2–1			EB2–1	
			FB2–1		FB2–1			FB2–1	
			SD5–FB		SD5–FB			SD5–FB	
VOLATILE ORGANICS (SW 8240 [A])									
Analysis Date			8–21–92		8–25–92			8–21–92	
Dilution Factor			1		125			1	
Parameter	Units	CRQL							
Chloromethane	µg/kg	10	11 U		1300 U			11 U	
Bromomethane	µg/kg	10	11 U		1300 U			11 U	
Vinyl Chloride	µg/kg	10	11 U		1300 U			11 U	
Chloroethane	µg/kg	10	11 U		1300 U			11 U	
Methylene Chloride	µg/kg	10	11 U		1300 U			11 U	
Acetone	µg/kg	10	53		1300 U			36	
Carbon Disulfide	µg/kg	10	11 U		1300 U			11 U	
1,1–Dichloroethene	µg/kg	10	11 U		1300 U			11 U	
1,1–Dichloroethane	µg/kg	10	11 U		1300 U			11 U	
1,2–Dichloroethene (total)	µg/kg	10	11 U		1300 U			11 U	
Chloroform	µg/kg	10	11 U		1300 U			11 U	
1,2–Dichloroethane	µg/kg	10	11 U		1300 U			11 U	
2–Butanone	µg/kg	10	11 U		1300 U(MB)			11 U	
1,1,1–Trichloroethane	µg/kg	10	11 U		1300 U			11 U	
Carbon Tetrachloride	µg/kg	10	11 U		1300 U			11 U	
Bromodichloromethane	µg/kg	10	11 U		1300 U			11 U	
1,2–Dichloropropane	µg/kg	10	11 U		1300 U			11 U	
cis–1,3–Dichloropropene	µg/kg	10	11 U		1300 U			11 U	
Trichloroethene	µg/kg	10	11 U		1300 U			11 U	
Dibromochloromethane	µg/kg	10	11 U		1300 U			11 U	
1,1,2–Trichloroethane	µg/kg	10	11 U		1300 U			11 U	
Benzene	µg/kg	10	11 U		1300 U			2 J	
trans–1,3–Dichloropropene	µg/kg	10	11 U		1300 U			11 U	
Bromoform	µg/kg	10	11 U		1300 U			11 U	
4–Methyl–2–pentanone	µg/kg	10	11 UJ(IS)		1300 U			11 U	
2–Hexanone	µg/kg	10	11 UJ(IS)		1300 U			11 U	
Tetrachloroethene	µg/kg	10	11 UJ(IS)		1300 U			11 U	
1,1,2,2–Tetrachloroethane	µg/kg	10	11 UJ(IS)		1300 U			11 U	
Toluene	µg/kg	10	11 UJ(IS)		1300 U			11 U	
Chlorobenzene	µg/kg	10	11 UJ(IS)		1300 U			11 U	
Ethylbenzene	µg/kg	10	120 J(IS)		1300 U			120	
Styrene	µg/kg	10	11 UJ(IS)		1300 U			11 U	
Xylene (total)	µg/kg	10	390 J(IS)		600 JX			390 X	
TICs	µg/kg		0 (0)		Hexamethylcyclotrisiloxane [a]	18 B,J,N	(RT 18.64)	3–Methyl–Hexane [b]	69 J,N (RT 11.19)
					3,5–Dimethyl–Heptane [b]	29 J,N	(RT 19)	Methyl–Cyclohexane [b]	240 J,N (RT 14.17)
					2,6–Dimethyl–Octane [b]	26 J,N	(RT 23.5)	2–Methyl–Heptane [b]	300 J,N (RT 15.72)
					4–(1–Methylethyl)–Heptane [b]	18 J,N	(RT 23.9)	3–Methyl–Heptane [b]	300 J,N (RT 16.17)
					2,5–Dimethyl–Octane [b]	27 J,N	(RT 24.78)	3,5–Dimethyl–Heptane [b]	71 J,N (RT 19.22)
					Benzene, Trimethyl– Isomer [b]	19 J,N	(RT 26.01)	Ethyl–Cyclohexane [b]	110 J,N (RT 19.93)
					Decane [b]	28 J,N	(RT 26.41)	2,3,4–Trimethyl–Hexane [b]	120 J,N (RT 20.63)
					Benzene, Trimethyl– Isomer [b]	36 J,N	(RT 26.99)	3–Methyl–Octane [b]	96 J,N (RT 21.04)
					4–Methyl–Decane [b]	22 J,N	(RT 27.14)	Propyl–Benzene [b]	110 J,N (RT 26.88)
					Undecane [b]	42 J,N	(RT 29.6)	1–Ethyl–2–Methyl–Benzene [b]	140 J,N (RT 27.32)
					2,6–Dimethyl–1,6–Octadiene [c]	31 J,N	(RT 31.29)		
TIC Total	µg/kg		0 (0)			296 (11)			1556 (10)

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2-1-14	SB2-2-1	SB2-2-1R
Laboratory ID Number			94673	94666	94667
Collection Date			8-15-92	8-16-92	8-16-92
Collection Depth (ft)			28.0-30.0	1.5-3.5	1.5-3.5
Percent Solids			92	90	90
Associated Field QC Sample			TB-4	TB-4	TB-4
			EB2-1	EB2-1	EB2-1
			FB2-1	FB2-1	FB2-1
			SD5-FB	SD5-FB	SD5-FB
SEMIVOLATILE ORGANICS (SW 8270 [B])					
Extraction Date			8-25-92	8-25-92	8-25-92
Analysis Date			9-11-92	9-11-92	9-4-92
Dilution Factor			1	1	4
Parameter	Units	CRQL			
Phenol	µg/kg	330	360 U	370 U	1400 UJ(CCV,SR)
bis(2-Chloroethyl)ether	µg/kg	330	360 U	370 U	1400 U
2-Chlorophenol	µg/kg	330	360 U	370 U	1400 UJ(SR)
1,3-Dichlorobenzene	µg/kg	330	360 U	370 U	1400 U
1,4-Dichlorobenzene	µg/kg	330	360 U	370 U	1400 U
1,2-Dichlorobenzene	µg/kg	330	360 U	370 U	1400 U
2-Methylphenol	µg/kg	330	360 U	370 U	1400 UJ(SR)
2,2-oxibis-(1-Chloropropane)	µg/kg	330	360 U	370 U	1400 UJ(CCV)
4-Methylphenol	µg/kg	330	360 U	370 U	1400 UJ(SR)
N-Nitroso-di-N-propylamine	µg/kg	330	360 U	370 U	1400 U
Hexachloroethane	µg/kg	330	360 U	370 U	1400 U
Nitrobenzene	µg/kg	330	360 U	370 U	1400 UJ(CCV)
Isophorone	µg/kg	330	360 U	370 U	1400 U
2-Nitrophenol	µg/kg	330	360 U	370 U	1400 UJ(SR)
2,4-Dimethylphenol	µg/kg	330	360 U	370 U	1400 UJ(SR)
bis(2-Chloroethoxy)methane	µg/kg	330	360 U	370 U	1400 U
2,4-Dichlorophenol	µg/kg	330	360 U	370 U	1400 UJ(SR)
1,2,4-Trichlorobenzene	µg/kg	330	360 U	370 U	1400 U
Naphthalene	µg/kg	330	360 U	290 J	540 J
4-Chloroaniline	µg/kg	330	360 U	370 U	1400 U
Hexachlorobutadiene	µg/kg	330	360 U	370 U	1400 U
4-Chloro-3-methylphenol	µg/kg	330	360 U	370 U	1400 UJ(SR)
2-Methylnaphthalene	µg/kg	330	360 U	770	1600
Hexachlorocyclopentadiene	µg/kg	330	360 U	370 U	1400 UJ(IS)
2,4,6-Trichlorophenol	µg/kg	330	360 U	370 U	1400 UJ(SR,IS)
2,4,5-Trichlorophenol	µg/kg	800	860 U	890 U	3500 UJ(SR,IS)
2-Chloronaphthalene	µg/kg	330	360 U	370 U	1400 UJ(IS)
2-Nitroaniline	µg/kg	800	860 U	890 U	3500 UJ(IS)
Dimethyl phthalate	µg/kg	330	360 U	370 U	1400 UJ(IS)
Acenaphthylene	µg/kg	330	360 U	370 U	1400 UJ(IS)
2,6-Dinitrotoluene	µg/kg	330	360 U	370 U	1400 UJ(IS)
3-Nitroaniline	µg/kg	800	860 U	890 U	3500 UJ(IS)
Acenaphthene	µg/kg	330	360 U	370 U	1400 UJ(IS)
2,4-Dinitrophenol	µg/kg	800	860 UJ(CCV)	890 UJ(CCV)	3500 UJ(SR,IS)
4-Nitrophenol	µg/kg	800	860 U	890 U	3500 UJ(SR,IS)
Dibenzofuran	µg/kg	330	360 U	370 U	1400 UJ(IS)
2,4-Dinitrotoluene	µg/kg	330	360 U	370 U	1400 UJ(IS)
Diethyl phthalate	µg/kg	330	360 U	370 U	1400 UJ(IS)
4-Chlorophenyl phenyl ether	µg/kg	330	360 U	370 U	1400 UJ(IS)
Fluorene	µg/kg	330	360 U	370 U	1400 UJ(IS)
4-Nitroaniline	µg/kg	800	860 U	890 U	3500 U
4,6-Dinitro-2-methylphenol	µg/kg	800	860 U	890 U	3500 U
N-Nitrosodiphenylamine (1)	µg/kg	330	360 U	370 U	1400 U

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2–1–14			SB2–2–1			SB2–2–1R			
Laboratory ID Number			94673			94666			94667			
Collection Date			8–15–92			8–16–92			8–16–92			
Collection Depth (ft)			28.0–30.0			1.5–3.5			1.5–3.5			
Percent Solids			92			90			90			
Associated Field QC Sample			TB–4			TB–4			TB–4			
			EB2–1			EB2–1			EB2–1			
			FB2–1			FB2–1			FB2–1			
			SD5–FB			SD5–FB			SD5–FB			
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)												
Extraction Date			8–25–92			8–25–92			8–25–92			
Analysis Date			9–11–92			9–11–92			9–4–92			
Dilution Factor			1			1			4			
Parameter	Units	CRQL										
4–Bromophenyl phenyl ether	µg/kg	330	360 U			370 U			1400 U			
Hexachlorobenzene	µg/kg	330	360 U			370 U			1400 U			
Pentachlorophenol	µg/kg	800	860 UJ(CCV)			890 UJ(CCV)			3500 UJ(SR)			
Phenanthrene	µg/kg	330	360 U			370 U			270 J			
Anthracene	µg/kg	330	360 U			370 U			1400 U			
Carbazole	µg/kg	330	360 U			370 U			1400 U			
di–N–Butyl phthalate	µg/kg	330	360 U			370 U			1400 U			
Fluoranthene	µg/kg	330	360 U			370 U			240 J			
Pyrene	µg/kg	330	360 U			370 U			250 J			
Butylbenzylphthalate	µg/kg	330	360 U			370 U			1400 U			
3,3'–Dichlorobenzidine	µg/kg	330	360 U			370 U			1400 U			
Benzo(a)anthracene	µg/kg	330	360 U			370 U			1400 U			
Chrysene	µg/kg	330	360 U			370 U			1400 U			
bis(2–Ethylhexyl)phthalate	µg/kg	330	360 U			370 U			1400 U			
di–N–Octyl phthalate	µg/kg	330	360 U			370 U			1400 U			
Benzo(b)fluoranthene	µg/kg	330	360 U			370 U			1400 U			
Benzo(k)fluoranthene	µg/kg	330	360 U			370 U			1400 U			
Benzo(a)pyrene	µg/kg	330	360 U			370 U			1400 U			
Indeno(1,2,3–c,d)pyrene	µg/kg	330	360 U			370 U			1400 U			
Dibenzo(a,h)anthracene	µg/kg	330	360 U			370 U			1400 U			
Benzo(g,h,i)perylene	µg/kg	330	360 U			370 U			1400 U			
TICs	µg/kg		3,8–Dimethyl–Undecane[b]	350 J,N	(RT 13.75)	1–Ethyl–3–Methyl–Benzene[b]	2000 J,N	(RT 6.57)	Pentane, 2,2,3,3–Tetramethyl[b]	2700 J,N	(RT 6.33)	
			Tetradecane[b]	440 J,N	(RT 15.47)	5–Ethyl–2–Methyl–Heptane[b]	2300 J,N	(RT 8.13)	5–Ethyl–2–Methyl–Heptane[b]	4800 J,N	(RT 7.72)	
			Unknown[d]	270 J	(RT 16.47)	Benzene, 4–Ethyl–1,2–Dimethy[t]	1300 J,N	(RT 8.94)	2,4,6–Trimethyl–Octane[b]	4800 J,N	(RT 9.39)	
			2,7,10–Trimethyl–Dodecane[b]	490 J,N	(RT 17.09)	2,4,6–Trimethyl–Octane[b]	3400 J,N	(RT 9.90)	Unknown[d]	2000 J	(RT 11.07)	
			Hexadecane[b]	560 J,N	(RT 18.62)	Benzene, 1,2,4,5–Tetramethyl[b]	3100 J,N	(RT 10.27)	Dodecane[b]	8600 J,N	(RT 11.40)	
			Unknown[d]	630 J	(RT 20.05)	Benzene, 1,2,3,5–Tetramethyl[b]	2000 J,N	(RT 10.92)	2,6–Dimethyl–Undecane[b]	5900 J,N	(RT 11.65)	
			Unknown[d]	590 J	(RT 20.12)	Unknown[d]	2000 J	(RT 11.04)	Unknown[d]	1400 J	(RT 12.49)	
			Octadecane[b]	410 J,N	(RT 21.42)	3,7–Dimethyl–Nonane[b]	750 J,N	(RT 11.24)	2,10–Dimethyl–Undecane[b]	2000 J,N	(RT 12.57)	
			Unknown[d]	360 J	(RT 21.54)	Unknown[d]	1700 J	(RT 11.64)	2,6,7–Trimethyl–Decane[b]	8600 J,N	(RT 12.75)	
			Unknown[d]	500 J	(RT 22.72)	Dodecane[b]	5900 J,N	(RT 11.97)	3,8–Dimethyl–Undecane[b]	19000 J,N	(RT 13.27)	
			Nonanamide[e]	220 B,J,N	(RT 23.72)	2,6–Dimethyl–Undecane[b]	7000 J,N	(RT 12.22)	1,4–Methanonaphthalene, 1,4–[e]	2300 J,N	(RT 13.39)	
			Unknown[d]	360 J	(RT 23.97)	7–Methyl–Tridecane[b]	2200 J,N	(RT 13.32)	2,6,6–Trimethyl–Decane[b]	4300 J,N	(RT 13.54)	
			Unknown[d]	230 J	(RT 25.17)	Unknown[d]	2600 J	(RT 13.84)	3–Ethyl–Undecane[b]	3900 J,N	(RT 14.32)	
			Unknown[d]	260 J	(RT 25.96)	2–Methyl–Tridecane[b]	760 J,N	(RT 14.89)	Unknown[d]	7500 J	(RT 14.54)	
			Docosane[b]	270 J,N	(RT 26.32)	Unknown[d]	1400 J	(RT 15.12)	2,3,5–Trimethyl–Decane[b]	25000 J,N	(RT 14.97)	
			Unknown[d]	250 J	(RT 27.44)	Unknown[d]	4000 J	(RT 15.54)	2–Methyl–Tetradecane[b]	7200 J,N	(RT 15.94)	
			Unknown[d]	380 J	(RT 28.11)	Unknown[d]	1300 J	(RT 16.50)	2,7,10–Trimethyl–Dodecane[b]	11000 J,N	(RT 16.54)	
			Unknown[d]	5400 J	(RT 28.27)	2,7,10–Trimethyl–Dodecane[b]	1400 J,N	(RT 17.10)	Hexadecane[b]	4200 J,N	(RT 18.04)	
			Unknown[d]	160 J	(RT 28.49)	Dodecanamide[e]	3800 B,J,N	(RT 28.22)	Unknown[d]	2000 J	(RT 19.47)	
			Unknown[d]	1600 J	(RT 32.34)	Unknown[d]	2000 J	(RT 32.31)	Ci60 D10–Phenanthrene[e]	2100 J	(RT 20.55)	
TIC Total	µg/kg			13730 (20)			50910 (20)			129300 (20)		

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2-2-1RRE	SB2-2-2	SB2-2-2RE
Laboratory ID Number			94667RE	94668	94668RE
Collection Date			8-16-92	8-16-92	8-16-92
Collection Depth (ft)			1.5-3.5	3.5-5.0	3.5-5.0
Percent Solids			90	86	86
Associated Field QC Sample			TB-4	TB-4	TB-4
			EB2-1	EB2-1	EB2-1
			FB2-1	FB2-1	FB2-1
			SD5-FB	SD5-FB	SD5-FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)					
Extraction Date			N/A	8-27-92	N/A
Analysis Date			N/A	9-14-92	N/A
Dilution Factor			N/A	1	N/A
Parameter	Units	MDL			
Gasoline	mg/kg	N/A	NA	NA	NA
Diesel Fuel	mg/kg	2	NA	640	NA
Heavy Oil	mg/kg	2	NA	<2	NA
PRIORITY POLLUTANT METALS					
Digestion Date(s)			N/A	8-27 and 9-13-92	N/A
Analysis Date(s)			N/A	8-29 to 9-15-92	N/A
Dilution Factor		IDL	N/A	1	N/A
AA METALS					
Antimony (SW 3050/7041)	mg/kg	2	NA	R(N)	NA
Arsenic (SW 3050/7060)	mg/kg	1.5	NA	8.8 J(N)	NA
Lead (SW 3050/7421)	mg/kg	0.5	NA	9.7	NA
Mercury (SW 3050/7471)	mg/kg	0.2	NA	0.08 U	NA
Selenium (SW 3050/7740)	mg/kg	1.4	NA	0.13 UJ(N,W)	NA
Thallium (SW 3050/7841)	mg/kg	0.8	NA	0.08 J(W)	NA
ICP METALS (SW 3050/6010)					
Beryllium	mg/kg	0.3	NA	0.21 B	NA
Cadmium	mg/kg	2.1	NA	0.23 U	NA
Chromium	mg/kg	4	NA	5.2	NA
Copper	mg/kg	3.9	NA	9.7	NA
Nickel	mg/kg	10.3	NA	8.8	NA
Silver	mg/kg	3	NA	2.3 U(MB)	NA
Zinc	mg/kg	3.5	NA	38 J(E)	NA

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2–2–1RRE	SB2–2–2	SB2–2–2RE
Laboratory ID Number			94667RE	94668	94668RE
Collection Date			8–16–92	8–16–92	8–16–92
Collection Depth (ft)			1.5–3.5	3.5–5.0	3.5–5.0
Percent Solids			90	86	86
Associated Field QC Sample			TB–4	TB–4	TB–4
			EB2–1	EB2–1	EB2–1
			FB2–1	FB2–1	FB2–1
			SD5–FB	SD5–FB	SD5–FB
VOLATILE ORGANICS (SW 8240 [A])					
Analysis Date			N/A	8–25–92	N/A
Dilution Factor			N/A	125	N/A
Parameter	Units	CRQL			
Chloromethane	µg/kg	10	NA	1400 UJ(SR)	NA
Bromomethane	µg/kg	10	NA	1400 UJ(SR)	NA
Vinyl Chloride	µg/kg	10	NA	1400 UJ(SR)	NA
Chloroethane	µg/kg	10	NA	1400 UJ(SR)	NA
Methylene Chloride	µg/kg	10	NA	1400 UJ(SR)	NA
Acetone	µg/kg	10	NA	1400 UJ(SR)	NA
Carbon Disulfide	µg/kg	10	NA	1400 UJ(SR)	NA
1,1–Dichloroethene	µg/kg	10	NA	1400 UJ(SR)	NA
1,1–Dichloroethane	µg/kg	10	NA	1400 UJ(SR)	NA
1,2–Dichloroethene (total)	µg/kg	10	NA	1400 UJ(SR)	NA
Chloroform	µg/kg	10	NA	1400 UJ(SR)	NA
1,2–Dichloroethane	µg/kg	10	NA	1400 UJ(SR)	NA
2–Butanone	µg/kg	10	NA	1400 UJ(SR)	NA
1,1,1–Trichloroethane	µg/kg	10	NA	1400 UJ(SR)	NA
Carbon Tetrachloride	µg/kg	10	NA	1400 UJ(SR)	NA
Bromodichloromethane	µg/kg	10	NA	1400 UJ(SR)	NA
1,2–Dichloropropane	µg/kg	10	NA	1400 UJ(SR)	NA
cis–1,3–Dichloropropene	µg/kg	10	NA	1400 UJ(SR)	NA
Trichloroethene	µg/kg	10	NA	1400 UJ(SR)	NA
Dibromochloromethane	µg/kg	10	NA	1400 UJ(SR)	NA
1,1,2–Trichloroethane	µg/kg	10	NA	1400 UJ(SR)	NA
Benzene	µg/kg	10	NA	1400 UJ(SR)	NA
trans–1,3–Dichloropropene	µg/kg	10	NA	1400 UJ(SR)	NA
Bromoform	µg/kg	10	NA	1400 UJ(SR)	NA
4–Methyl–2–pentanone	µg/kg	10	NA	1400 UJ(SR)	NA
2–Hexanone	µg/kg	10	NA	1400 UJ(SR)	NA
Tetrachloroethene	µg/kg	10	NA	1400 UJ(SR)	NA
1,1,2,2–Tetrachloroethane	µg/kg	10	NA	1400 UJ(SR)	NA
Toluene	µg/kg	10	NA	1400 UJ(SR)	NA
Chlorobenzene	µg/kg	10	NA	1400 UJ(SR)	NA
Ethylbenzene	µg/kg	10	NA	1400 UJ(SR)	NA
Styrene	µg/kg	10	NA	1400 UJ(SR)	NA
Xylene (total)	µg/kg	10	NA	1400 J(SR)	NA
TICs	µg/kg		NA	3,5–Dimethyl–Heptane [b] 92 J,N (RT 18.98)	NA
				3–Methyl–Nonane [b] 98 J,N (RT 23.52)	
				4–Propyl–Heptane [b] 66 J,N (RT 23.9)	
				4–Propyl–Heptane [b] 95 J,N (RT 24.78)	
				Benzene, Trimethyl– Isomer [b] 81 J,N (RT 26)	
				Decane [b] 110 J,N (RT 26.4)	
				Benzene, Trimethyl– Isomer [b] 130 J,N (RT 26.99)	
				4–Methyl–Decane [b] 77 J,N (RT 27.14)	
				Undecane [b] 130 J,N (RT 29.61)	
				2–Methyldecalin(Probably Tra [c] 70 J,N (RT 30.55)	
				Cyclohexanemethanol [a] 110 J,N (RT 31.29)	
TIC Total	µg/kg		NA	1059 (11)	NA

Table F--6. Data Presentation Table: Soil -- Site 2 -- Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2-2-1RRE	SB2-2-2	SB2-2-2RE
Laboratory ID Number			94667RE	94668	94668RE
Collection Date			8-16-92	8-16-92	8-16-92
Collection Depth (ft)			1.5-3.5	3.5-5.0	3.5-5.0
Percent Solids			90	86	86
Associated Field QC Sample			TB-4	TB-4	TB-4
			EB2-1	EB2-1	EB2-1
			FB2-1	FB2-1	FB2-1
			SD5-FB	SD5-FB	SD5-FB
SEMIVOLATILE ORGANICS (SW 8270 [B])					
Extraction Date			8-25-92	8-25-92	8-25-92
Analysis Date			9-5-92	9-11-92	9-12-92
Dilution Factor			4	6	6
Parameter	Units	CRQL			
Phenol	µg/kg	330	1400 UJ(CCV)	2200 U	2200 U
bis(2-Chloroethyl)ether	µg/kg	330	1400 U	2200 U	2200 U
2-Chlorophenol	µg/kg	330	1400 U	2200 U	2200 U
1,3-Dichlorobenzene	µg/kg	330	1400 U	2200 U	2200 U
1,4-Dichlorobenzene	µg/kg	330	1400 U	2200 U	2200 U
1,2-Dichlorobenzene	µg/kg	330	1400 U	2200 U	2200 U
2-Methylphenol	µg/kg	330	1400 U	2200 U	2200 U
2,2-oxibis-(1-Chloropropane)	µg/kg	330	1400 UJ(CCV)	2200 U	2200 U
4-Methylphenol	µg/kg	330	1400 U	2200 U	2200 U
N-Nitroso-di-N-propylamine	µg/kg	330	1400 U	2200 U	2200 U
Hexachloroethane	µg/kg	330	1400 U	2200 U	2200 U
Nitrobenzene	µg/kg	330	1400 UJ(CCV)	2200 U	2200 U
Isophorone	µg/kg	330	1400 U	660 J	2200 U
2-Nitrophenol	µg/kg	330	1400 U	2200 U	2200 U
2,4-Dimethylphenol	µg/kg	330	1400 U	2200 U	2200 U
bis(2-Chloroethoxy)methane	µg/kg	330	1400 U	2200 U	2200 U
2,4-Dichlorophenol	µg/kg	330	1400 U	2200 U	2200 U
1,2,4-Trichlorobenzene	µg/kg	330	1400 U	2200 U	2200 U
Naphthalene	µg/kg	330	530 J	850 J	820 J
4-Chloroaniline	µg/kg	330	1400 U	2200 U	2200 U
Hexachlorobutadiene	µg/kg	330	1400 U	2200 U	2200 U
4-Chloro-3-methylphenol	µg/kg	330	1400 U	2200 U	2200 U
2-Methylnaphthalene	µg/kg	330	1600	3200	2200 U
Hexachlorocyclopentadiene	µg/kg	330	1400 UJ(IS)	2200 UJ(IS)	2200 UJ(IS)
2,4,6-Trichlorophenol	µg/kg	330	1400 UJ(IS)	2200 UJ(IS)	2200 UJ(IS)
2,4,5-Trichlorophenol	µg/kg	800	3500 UJ(IS)	5400 UJ(IS)	5400 UJ(IS)
2-Chloronaphthalene	µg/kg	330	1400 UJ(IS)	2200 UJ(IS)	2200 UJ(IS)
2-Nitroaniline	µg/kg	800	3500 UJ(IS)	5400 UJ(IS)	5400 UJ(IS)
Dimethyl phthalate	µg/kg	330	1400 UJ(IS)	2200 UJ(IS)	2200 UJ(IS)
Acenaphthylene	µg/kg	330	1400 UJ(IS)	2200 UJ(IS)	2200 UJ(IS)
2,6-Dinitrotoluene	µg/kg	330	1400 UJ(IS)	2200 UJ(IS)	2200 UJ(IS)
3-Nitroaniline	µg/kg	800	3500 UJ(IS)	5400 UJ(IS)	5400 UJ(IS)
Acenaphthene	µg/kg	330	1400 UJ(IS)	2200 UJ(IS)	2200 UJ(IS)
2,4-Dinitrophenol	µg/kg	800	3500 UJ(IS)	5400 UJ(CCV,IS)	5400 UJ(CCV,IS)
4-Nitrophenol	µg/kg	800	3500 UJ(IS)	5400 UJ(IS)	5400 UJ(IS)
Dibenzofuran	µg/kg	330	1400 UJ(IS)	2200 UJ(IS)	2200 UJ(IS)
2,4-Dinitrotoluene	µg/kg	330	1400 UJ(IS)	2200 UJ(IS)	2200 UJ(IS)
Diethyl phthalate	µg/kg	330	1400 UJ(IS)	2200 UJ(IS)	2200 UJ(IS)
4-Chlorophenyl phenyl ether	µg/kg	330	1400 UJ(IS)	2200 UJ(IS)	2200 UJ(IS)
Fluorene	µg/kg	330	1400 UJ(IS)	2200 UJ(IS)	2200 UJ(IS)
4-Nitroaniline	µg/kg	800	3500 UJ(IS)	5400 UJ(IS)	5400 UJ(IS)
4,6-Dinitro-2-methylphenol	µg/kg	800	3500 U	5400 U	5400 U
N-Nitrosodiphenylamine (1)	µg/kg	330	1400 U	2200 U	2200 U

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2–2–1RRE		SB2–2–2		SB2–2–2RE	
Laboratory ID Number			94667RE		94668		94668RE	
Collection Date			8–16–92		8–16–92		8–16–92	
Collection Depth (ft)			1.5–3.5		3.5–5.0		3.5–5.0	
Percent Solids			90		86		86	
Associated Field QC Sample			TB–4		TB–4		TB–4	
			EB2–1		EB2–1		EB2–1	
			FB2–1		FB2–1		FB2–1	
			SD5–FB		SD5–FB		SD5–FB	
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)								
Extraction Date			8–25–92		8–25–92		8–25–92	
Analysis Date			9–5–92		9–11–92		9–12–92	
Dilution Factor			4		6		6	
Parameter	Units	CRQL						
4–Bromophenyl phenyl ether	µg/kg	330	1400 U		2200 U		2200 U	
Hexachlorobenzene	µg/kg	330	1400 U		2200 U		2200 U	
Pentachlorophenol	µg/kg	800	3500 U		5400 UJ(CCV)		5400 UJ(CCV)	
Phenanthrene	µg/kg	330	260 J		2200 U		2200 U	
Anthracene	µg/kg	330	1400 U		2200 U		2200 U	
Carbazole	µg/kg	330	1400 U		2200 U		2200 U	
di–N–Butyl phthalate	µg/kg	330	1400 U		2200 U		2200 U	
Fluoranthene	µg/kg	330	250 J		2200 U		2200 U	
Pyrene	µg/kg	330	270 J		2200 U		2200 U	
Butylbenzylphthalate	µg/kg	330	1400 U		2200 U		2200 UJ(CCV)	
3,3'–Dichlorobenzidine	µg/kg	330	1400 U		2200 U		2200 U	
Benzo(a)anthracene	µg/kg	330	1400 U		2200 U		2200 U	
Chrysene	µg/kg	330	1400 U		2200 U		2200 U	
bis(2–Ethylhexyl)phthalate	µg/kg	330	1400 U		2200 U		2200 U	
di–N–Octyl phthalate	µg/kg	330	1400 U		2200 U		2200 U	
Benzo(b)fluoranthene	µg/kg	330	1400 U		2200 U		2200 U	
Benzo(k)fluoranthene	µg/kg	330	1400 U		2200 U		2200 U	
Benzo(a)pyrene	µg/kg	330	1400 U		2200 U		2200 U	
Indeno(1,2,3–c,d)pyrene	µg/kg	330	1400 U		2200 U		2200 U	
Dibenzo(a,h)anthracene	µg/kg	330	1400 U		2200 U		2200 U	
Benzo(g,h,i)perylene	µg/kg	330	1400 U		2200 U		2200 U	
TICs	µg/kg		Pentane, 2,2,3,3–Tetramethyl[b]	3800 J,N (RT 6.33)	2,6–Dimethyl–Nonane[b]	5300 J,N (RT 8.15)	2,6–Dimethyl–Nonane[b]	14000 J,N (RT 7.92)
			5–Ethyl–2–Methyl–Heptane[b]	2800 J,N (RT 7.72)	2,4,6–Trimethyl–Octane[b]	6000 J,N (RT 9.92)	2–Methyl–Nonane[b]	7000 J,N (RT 9.72)
			2–Methyl–Nonane[b]	3900 J,N (RT 9.39)	Benzene, 4–Ethyl–1,2–Dimethy[b]	4200 J,N (RT 10.29)	(1,1–Dimethylethyl)Benzene[b]	4900 J,N (RT 10.07)
			Unknown[d]	1900 J (RT 11.07)	Unknown[d]	3200 J (RT 11.65)	Dodecane[b]	12000 J,N (RT 11.80)
			Dodecane[b]	8200 J,N (RT 11.40)	Dodecane[b]	12000 J,N (RT 12.00)	2,6–Dimethyl–Undecane[b]	10000 J,N (RT 12.05)
			2,6–Dimethyl–Undecane[b]	5700 J,N (RT 11.65)	2,6–Dimethyl–Undecane[b]	9000 J,N (RT 12.25)	Unknown[d]	2800 J (RT 12.10)
			Unknown[d]	2600 J (RT 12.40)	Unknown[d]	2700 J (RT 12.32)	Unknown[d]	6300 J (RT 12.44)
			2,10–Dimethyl–Undecane[b]	2000 J,N (RT 12.55)	Unknown[d]	5100 J (RT 12.65)	Unknown[d]	4500 J (RT 12.75)
			2,6,7–Trimethyl–Decane[b]	8300 J,N (RT 12.74)	Unknown[d]	4400 J (RT 12.97)	Unknown[d]	2800 J (RT 12.89)
			3,8–Dimethyl–Undecane[b]	17000 J,N (RT 13.27)	Unknown[d]	2400 J (RT 13.09)	Unknown[d]	2000 J (RT 12.97)
			1–Methyl–Naphthalene[c]	2400 J,N (RT 13.39)	2–Methyl–Dodecane[b]	2100 J,N (RT 13.19)	2,6,7–Trimethyl–Decane[b]	14000 J,N (RT 13.15)
			2,6,6–Trimethyl–Decane[b]	4200 J,N (RT 13.52)	2,6,7–Trimethyl–Decane[b]	13000 J,N (RT 13.35)	Cyclopentanone, 2–Methyl–4–([c]	2300 J,N (RT 13.39)
			2–Methyl–Tridecane[b]	3700 J,N (RT 14.30)	Cyclopentanone, 2–Methyl–4–([c]	2100 J,N (RT 13.60)	1–Methyl–Naphthalene[c]	2500 J,N (RT 13.45)
			2,7,10–Trimethyl–Dodecane[b]	7100 J,N (RT 14.54)	3,8–Dimethyl–Undecane[b]	23000 J,N (RT 13.87)	5,7–Dimethyl–Undecane[b]	24000 J,N (RT 13.67)
			5,7–Dimethyl–Undecane[b]	23000 J,N (RT 14.97)	Unknown[d]	2900 J (RT 13.97)	2,6,6–Trimethyl–Decane[b]	5900 J,N (RT 13.94)
			Unknown[d]	10000 J (RT 15.92)	2,6,6–Trimethyl–Decane[b]	5300 J,N (RT 14.14)	Unknown[d]	10000 J (RT 14.94)
			Unknown[d]	11000 J (RT 16.54)	2,7,10–Trimethyl–Dodecane[b]	10000 J,N (RT 15.15)	Tetradecane[b]	28000 J,N (RT 15.37)
			Hexadecane[b]	4200 J,N (RT 18.02)	6–Ethyl–2–Methyl–Decane[b]	31000 J,N (RT 15.59)	Unknown[d]	10000 J (RT 16.32)
			Heptadecane[b]	3300 J,N (RT 19.47)	Hexadecane[b]	14000 J,N (RT 16.54)	2,7,10–Trimethyl–Dodecane[b]	9100 J,N (RT 16.94)
			Unknown[d]	6400 J (RT 27.64)	5–Propyl–Tridecane[b]	12000 J,N (RT 17.14)	Hexadecane[b]	2900 J,N (RT 18.40)
TIC Total	µg/kg		131500 (20)		169700 (20)		175000 (20)	

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2–2–17	SB2–2–17RE	SB2–3–1
Laboratory ID Number			94669	94669RE	94670
Collection Date			8–16–92	8–16–92	8–17–92
Collection Depth (ft)			33.0–35.0	33.0–35.0	1.5–3.5
Percent Solids			86	86	78
Associated Field QC Sample			TB–4	TB–4	TB–4
			EB2–1	EB2–1	EB2–1
			FB2–1	FB2–1	FB2–1
			SD5–FB	SD5–FB	SD5–FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)					
Extraction Date			8–27–92	N/A	8–27–92
Analysis Date			9–14–92	N/A	9–14–92
Dilution Factor			1	N/A	1
Parameter	Units	MDL			
Gasoline	mg/kg	N/A	NA	NA	NA
Diesel Fuel	mg/kg	2	91	NA	750
Heavy Oil	mg/kg	2	<2	NA	<2
PRIORITY POLLUTANT METALS					
Digestion Date(s)			8–27 and 9–13–92	N/A	8–27 and 9–13–92
Analysis Date(s)			8–29 to 9–15–92	N/A	8–29 to 9–15–92
Dilution Factor		IDL	1	N/A	1
AA METALS					
Antimony (SW 3050/7041)	mg/kg	2	0.39 J(N,r)	NA	R(N)
Arsenic (SW 3050/7060)	mg/kg	1.5	9 J(N)	NA	8.8 J(N)
Lead (SW 3050/7421)	mg/kg	0.5	10.7	NA	7.8
Mercury (SW 3050/7471)	mg/kg	0.2	0.1 U	NA	0.08 U
Selenium (SW 3050/7740)	mg/kg	1.4	0.22 UJ(MB,N,W)	NA	0.15 UJ(N,W)
Thallium (SW 3050/7841)	mg/kg	0.8	0.27 J(W)	NA	0.13 J(W)
ICP METALS (SW 3050/6010)					
Beryllium	mg/kg	0.3	0.38 B	NA	0.28 B
Cadmium	mg/kg	2.1	0.19 U(MB)	NA	0.21 U
Chromium	mg/kg	4	8.1	NA	7.2
Copper	mg/kg	3.9	25.8	NA	13.1
Nickel	mg/kg	10.3	20.6	NA	14.2
Silver	mg/kg	3	2.2 U(MB)	NA	2 U(MB)
Zinc	mg/kg	3.5	65.4 J(E)	NA	43.3 J(E)

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2–2–17	SB2–2–17RE	SB2–3–1	
Laboratory ID Number			94669	94669RE	94670	
Collection Date			8–16–92	8–16–92	8–17–92	
Collection Depth (ft)			33.0–35.0	33.0–35.0	1.5–3.5	
Percent Solids			86	86	78	
Associated Field QC Sample			TB–4	TB–4	TB–4	
			EB2–1	EB2–1	EB2–1	
			FB2–1	FB2–1	FB2–1	
			SD5–FB	SD5–FB	SD5–FB	
VOLATILE ORGANICS (SW 8240 [A])						
Analysis Date			8–24–92	N/A	8–26–92	
Dilution Factor			1	N/A	5	
Parameter	Units	CRQL				
Chloromethane	µg/kg	10	12 U	NA	64 U	
Bromomethane	µg/kg	10	12 U	NA	64 U	
Vinyl Chloride	µg/kg	10	12 U	NA	64 U	
Chloroethane	µg/kg	10	12 U	NA	64 U	
Methylene Chloride	µg/kg	10	12 U	NA	64 U	
Acetone	µg/kg	10	12 U	NA	90	
Carbon Disulfide	µg/kg	10	12 U	NA	64 U	
1,1–Dichloroethene	µg/kg	10	12 U	NA	64 U	
1,1–Dichloroethane	µg/kg	10	12 U	NA	64 U	
1,2–Dichloroethene (total)	µg/kg	10	12 U	NA	64 U	
Chloroform	µg/kg	10	12 U	NA	64 U	
1,2–Dichloroethane	µg/kg	10	12 U	NA	64 U	
2–Butanone	µg/kg	10	12 U	NA	64 U	
1,1,1–Trichloroethane	µg/kg	10	12 U	NA	64 U	
Carbon Tetrachloride	µg/kg	10	12 U	NA	64 U	
Bromodichloromethane	µg/kg	10	12 U	NA	64 U	
1,2–Dichloropropane	µg/kg	10	12 U	NA	64 U	
cis–1,3–Dichloropropene	µg/kg	10	12 U	NA	64 U	
Trichloroethene	µg/kg	10	12 U	NA	64 U	
Dibromochloromethane	µg/kg	10	12 U	NA	64 U	
1,1,2–Trichloroethane	µg/kg	10	12 U	NA	64 U	
Benzene	µg/kg	10	12 U	NA	8 J	
trans–1,3–Dichloropropene	µg/kg	10	12 U	NA	64 U	
Bromoform	µg/kg	10	12 U	NA	64 U	
4–Methyl–2–pentanone	µg/kg	10	12 U	NA	64 U	
2–Hexanone	µg/kg	10	12 U	NA	64 U	
Tetrachloroethene	µg/kg	10	12 U	NA	64 U	
1,1,2,2–Tetrachloroethane	µg/kg	10	12 U	NA	64 U	
Toluene	µg/kg	10	12 U	NA	64 U	
Chlorobenzene	µg/kg	10	12 U	NA	64 U	
Ethylbenzene	µg/kg	10	12 U	NA	170	
Styrene	µg/kg	10	12 U	NA	64 U	
Xylene (total)	µg/kg	10	12 U	NA	450 X	
TICs	µg/kg		0 (0)	NA	Hexane [a]	32 J,N (RT 7.83)
					Methyl–Cyclopentane [b]	32 J,N (RT 9.54)
					Heptane [b]	90 J,N (RT 11.28)
					Methyl–Cyclohexane [b]	130 J,N (RT 14.28)
					2–Methyl–Heptane [b]	160 J,N (RT 15.81)
					3–Methyl–Heptane [b]	170 J,N (RT 16.26)
					Cyclopentane, 1–Ethyl–3–Meth [b]	45 J,N (RT 19.98)
					4–Methyl–Octane [b]	64 J,N (RT 20.72)
					3–Methyl–Octane [b]	45 J,N (RT 21.12)
					Propyl–Benzene [b]	120 J,N (RT 26.99)
					1–Ethyl–2–Methyl–Benzene [b]	120 J,N (RT 27.38)
TIC Total	µg/kg		0 (0)	NA		1008 (11)

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2–2–17	SB2–2–17RE	SB2–3–1
Laboratory ID Number			94669	94669RE	94670
Collection Date			8–16–92	8–16–92	8–17–92
Collection Depth (ft)			33.0–35.0	33.0–35.0	1.5–3.5
Percent Solids			86	86	78
Associated Field QC Sample			TB–4	TB–4	TB–4
			EB2–1	EB2–1	EB2–1
			FB2–1	FB2–1	FB2–1
			SD5–FB	SD5–FB	SD5–FB
SEMIVOLATILE ORGANICS (SW 8270 [B])					
Extraction Date			8–25–92	8–25–92	8–25–92
Analysis Date			9–11–92	9–12–92	9–11–92
Dilution Factor			1	1	6
Parameter	Units	CRQL			
Phenol	µg/kg	330	380 U	380 U	2500 U
bis(2–Chloroethyl)ether	µg/kg	330	380 U	380 U	2500 U
2–Chlorophenol	µg/kg	330	380 U	380 U	2500 U
1,3–Dichlorobenzene	µg/kg	330	380 U	380 U	2500 U
1,4–Dichlorobenzene	µg/kg	330	380 U	380 U	2500 U
1,2–Dichlorobenzene	µg/kg	330	380 U	380 U	2500 U
2–Methylphenol	µg/kg	330	380 U	380 U	2500 U
2,2–oxibis–(1–Chloropropane)	µg/kg	330	380 U	380 U	2500 U
4–Methylphenol	µg/kg	330	380 U	380 U	2500 U
N–Nitroso–di–N–propylamine	µg/kg	330	380 U	380 U	2500 U
Hexachloroethane	µg/kg	330	380 U	380 U	2500 U
Nitrobenzene	µg/kg	330	380 U	380 U	2500 U
Isophorone	µg/kg	330	380 U	380 U	830 J
2–Nitrophenol	µg/kg	330	380 U	380 U	2500 U
2,4–Dimethylphenol	µg/kg	330	380 U	380 U	2500 U
bis(2–Chloroethoxy)methane	µg/kg	330	380 U	380 U	2500 U
2,4–Dichlorophenol	µg/kg	330	380 U	380 U	2500 U
1,2,4–Trichlorobenzene	µg/kg	330	380 U	380 U	2500 U
Naphthalene	µg/kg	330	380 U	380 U	2500 U
4–Chloroaniline	µg/kg	330	380 U	380 U	2500 U
Hexachlorobutadiene	µg/kg	330	380 U	380 U	2500 U
4–Chloro–3–methylphenol	µg/kg	330	380 U	380 U	2500 U
2–Methylnaphthalene	µg/kg	330	380 U	380 U	2500 U
Hexachlorocyclopentadiene	µg/kg	330	380 U	380 U	2500 UJ(IS)
2,4,6–Trichlorophenol	µg/kg	330	380 U	380 U	2500 UJ(IS)
2,4,5–Trichlorophenol	µg/kg	800	910 U	910 U	6100 UJ(IS)
2–Chloronaphthalene	µg/kg	330	380 U	380 U	2500 UJ(IS)
2–Nitroaniline	µg/kg	800	910 U	910 U	6100 UJ(IS)
Dimethyl phthalate	µg/kg	330	380 U	380 U	2500 UJ(IS)
Acenaphthylene	µg/kg	330	380 U	380 U	2500 UJ(IS)
2,6–Dinitrotoluene	µg/kg	330	380 U	380 U	2500 UJ(IS)
3–Nitroaniline	µg/kg	800	910 U	910 U	6100 UJ(IS)
Acenaphthene	µg/kg	330	380 U	380 U	2500 UJ(IS)
2,4–Dinitrophenol	µg/kg	800	910 UJ(CCV)	910 UJ(CCV)	6100 UJ(CCV,IS)
4–Nitrophenol	µg/kg	800	910 U	910 U	6100 UJ(IS)
Dibenzofuran	µg/kg	330	380 U	380 U	2500 UJ(IS)
2,4–Dinitrotoluene	µg/kg	330	380 U	380 U	2500 UJ(IS)
Diethyl phthalate	µg/kg	330	380 U	380 U	2500 UJ(IS)
4–Chlorophenyl phenyl ether	µg/kg	330	380 U	380 U	2500 UJ(IS)
Fluorene	µg/kg	330	380 U	380 U	2500 UJ(IS)
4–Nitroaniline	µg/kg	800	910 U	910 U	6100 UJ(IS)
4,6–Dinitro–2–methylphenol	µg/kg	800	910 UJ(IS)	910 UJ(IS)	6100 UJ(IS)
N–Nitrosodiphenylamine (1)	µg/kg	330	380 UJ(IS)	380 UJ(IS)	2500 UJ(IS)

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2–2–17	SB2–2–17RE	SB2–3–1
Laboratory ID Number			94669	94669RE	94670
Collection Date			8–16–92	8–16–92	8–17–92
Collection Depth (ft)			33.0–35.0	33.0–35.0	1.5–3.5
Percent Solids			86	86	78
Associated Field QC Sample			TB–4	TB–4	TB–4
			EB2–1	EB2–1	EB2–1
			FB2–1	FB2–1	FB2–1
			SD5–FB	SD5–FB	SD5–FB
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)					
Extraction Date			8–25–92	8–25–92	8–25–92
Analysis Date			9–11–92	9–12–92	9–11–92
Dilution Factor			1	1	6
Parameter	Units	CRQL			
4–Bromophenyl phenyl ether	µg/kg	330	380 UJ(IS)	380 UJ(IS)	2500 UJ(IS)
Hexachlorobenzene	µg/kg	330	380 UJ(IS)	380 UJ(IS)	2500 UJ(IS)
Pentachlorophenol	µg/kg	800	910 UJ(CCV,IS)	910 UJ(CCV,IS)	6100 UJ(CCV,IS)
Phenanthrene	µg/kg	330	380 UJ(IS)	380 UJ(IS)	2500 UJ(IS)
Anthracene	µg/kg	330	380 UJ(IS)	380 UJ(IS)	2500 UJ(IS)
Carbazole	µg/kg	330	380 UJ(IS)	380 UJ(IS)	2500 UJ(IS)
di–N–Butyl phthalate	µg/kg	330	380 UJ(IS)	380 UJ(IS)	2500 UJ(IS)
Fluoranthene	µg/kg	330	380 UJ(IS)	380 UJ(IS)	2500 UJ(IS)
Pyrene	µg/kg	330	380 UJ(IS)	380 UJ(IS)	2500 U
Butylbenzylphthalate	µg/kg	330	380 UJ(IS)	380 UJ(CCV,IS)	2500 U
3,3'–Dichlorobenzidine	µg/kg	330	380 UJ(IS)	380 UJ(IS)	2500 U
Benzo(a)anthracene	µg/kg	330	380 UJ(IS)	380 UJ(IS)	2500 U
Chrysene	µg/kg	330	380 UJ(IS)	380 UJ(IS)	2500 U
bis(2–Ethylhexyl)phthalate	µg/kg	330	380 UJ(IS)	380 UJ(IS)	2500 U
di–N–Octyl phthalate	µg/kg	330	380 UJ(IS)	380 UJ(IS)	2500 U
Benzo(b)fluoranthene	µg/kg	330	380 UJ(IS)	380 UJ(IS)	2500 U
Benzo(k)fluoranthene	µg/kg	330	380 UJ(IS)	380 UJ(IS)	2500 U
Benzo(a)pyrene	µg/kg	330	380 UJ(IS)	380 UJ(IS)	2500 U
Indeno(1,2,3–c,d)pyrene	µg/kg	330	380 UJ(IS)	380 UJ(IS)	2500 U
Dibenzo(a,h)anthracene	µg/kg	330	380 UJ(IS)	380 UJ(IS)	2500 U
Benzo(g,h,i)perylene	µg/kg	330	380 UJ(IS)	380 UJ(IS)	2500 U
TICs	µg/kg		2,6,7–Trimethyl–Decane[b] 670 J,N (RT 13.27)	2,6,7–Trimethyl–Decane[b] 590 J,N (RT 13.05)	5–Ethyl–2–Methyl–Heptane[b] 6900 J,N (RT 8.13)
			3,8–Dimethyl–Undecane[b] 1200 J,N (RT 13.77)	3,8–Dimethyl–Undecane[b] 1100 J,N (RT 13.57)	2,4,6–Trimethyl–Octane[b] 4900 J,N (RT 9.92)
			Tetradecane[b] 1400 J,N (RT 15.52)	2,3,5–Trimethyl–Decane[b] 1300 J,N (RT 15.29)	Bicyclo[4.1.0]Heptan–3–One,[b] 4100 J,N (RT 10.32)
			Unknown[d] 870 J (RT 16.50)	Unknown[d] 750 J (RT 16.29)	Dodecane[b] 11000 J,N (RT 12.00)
			2,7,10–Trimethyl–Dodecane[b] 1900 J,N (RT 17.14)	2,7,10–Trimethyl–Dodecane[b] 1600 J,N (RT 16.90)	2,6–Dimethyl–Undecane[b] 18000 J,N (RT 12.25)
			Hexadecane[b] 1800 J,N (RT 18.65)	Hexadecane[b] 1600 J,N (RT 18.42)	Unknown[d] 6700 J (RT 13.00)
			Unknown[d] 1200 J (RT 19.35)	5–Propyl–Tridecane[b] 1000 J,N (RT 19.12)	Unknown[d] 3000 J (RT 13.10)
			Heptadecane[b] 1200 J,N (RT 20.09)	Heptadecane[b] 1100 J,N (RT 19.87)	2,6,7–Trimethyl–Decane[b] 24000 J,N (RT 13.39)
			2,6–Dimethyl–Heptadecane[b] 1500 J,N (RT 20.19)	Hexadecane, 2,6,10–Trimethyl[b] 1300 J,N (RT 19.95)	Unknown[d] 2200 J (RT 13.62)
			Octadecane[b] 890 J,N (RT 21.47)	Octadecane[b] 820 J,N (RT 21.24)	Unknown[d] 17000 J (RT 13.87)
			Hexadecane, 2,6,10,14–Tetram[b] 880 J,N (RT 21.57)	Hexadecane, 2,6,10,14–Tetram[b] 780 J,N (RT 21.34)	Unknown[d] 3100 J (RT 14.00)
			Unknown[d] 1100 J (RT 22.77)	Unknown[d] 1200 J (RT 22.54)	Unknown[d] 4700 J (RT 14.10)
			Eicosane[b] 930 J,N (RT 24.02)	Unknown[d] 810 J (RT 23.79)	2,6,6–Trimethyl–Decane[b] 2600 J,N (RT 14.17)
			Heptadecane, 2,6,10,15–Tetra[b] 1100 J,N (RT 25.22)	Unknown[d] 510 J (RT 24.97)	2,7,10–Trimethyl–Dodecane[b] 12000 J,N (RT 15.19)
			Docosane[b] 770 J,N (RT 26.37)	Docosane[b] 460 J,N (RT 26.12)	2,10–Dimethyl–Undecane[b] 15000 J,N (RT 15.59)
			Unknown[d] 580 J (RT 27.47)	Unknown[d] 520 J (RT 27.22)	Unknown[d] 15000 J (RT 16.59)
			Unknown[d] 3700 J (RT 28.36)	Unknown[d] 3400 J (RT 28.07)	Unknown[d] 12000 J (RT 17.17)
			Unknown[d] 390 J (RT 28.56)	7–Hexyl–Eicosane[b] 440 J,N (RT 28.29)	5–Propyl–Tridecane[b] 6500 J,N (RT 19.34)
			Pentacosane[b] 390 J,N (RT 29.57)	Pentacosane[b] 360 J,N (RT 29.31)	Hexadecane, 2,6,10–Trimethyl[b] 4900 J,N (RT 20.15)
			Unknown[d] 590 J (RT 32.41)	Unknown[d] 1200 J (RT 32.14)	Unknown[d] 6600 J (RT 28.22)
TIC Total	µg/kg		23060 (20)	20840 (20)	180200 (20)

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2–3–RE	SB2–3–4	SB2–3–4DL
Laboratory ID Number			94670RE	94671	94671DL
Collection Date			8–17–92	8–17–92	8–17–92
Collection Depth (ft)			1.5–3.5	7.5–9.5	7.5–9.5
Percent Solids			78	87	87
Associated Field QC Sample			TB–4	TB–4	TB–4
			EB2–1	EB2–1	EB2–1
			FB2–1	FB2–1	FB2–1
			SD5–FB	SD5–FB	SD5–FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)					
Extraction Date			N/A	8–27–92	N/A
Analysis Date			N/A	9–14–92	N/A
Dilution Factor			N/A	1	N/A
Parameter	Units	MDL			
Gasoline	mg/kg	N/A	NA	NA	NA
Diesel Fuel	mg/kg	2	NA	37	NA
Heavy Oil	mg/kg	2	NA	<2	NA
PRIORITY POLLUTANT METALS					
Digestion Date(s)			N/A	8–27 and 9–13–92	N/A
Analysis Date(s)			N/A	8–29 to 9–15–92	N/A
Dilution Factor		IDL	N/A	1	N/A
AA METALS					
Antimony (SW 3050/7041)	mg/kg	2	NA	R(N)	NA
Arsenic (SW 3050/7060)	mg/kg	1.5	NA	6.2 J(N)	NA
Lead (SW 3050/7421)	mg/kg	0.5	NA	7.4	NA
Mercury (SW 3050/7471)	mg/kg	0.2	NA	0.09 U	NA
Selenium (SW 3050/7740)	mg/kg	1.4	NA	0.15 UJ(N,W)	NA
Thallium (SW 3050/7841)	mg/kg	0.8	NA	0.18 J(W)	NA
ICP METALS (SW 3050/6010)					
Beryllium	mg/kg	0.3	NA	0.17 B	NA
Cadmium	mg/kg	2.1	NA	0.19 U	NA
Chromium	mg/kg	4	NA	6.8	NA
Copper	mg/kg	3.9	NA	13.6	NA
Nickel	mg/kg	10.3	NA	12.9	NA
Silver	mg/kg	3	NA	2.1 U(MB)	NA
Zinc	mg/kg	3.5	NA	51.5 J(E)	NA

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2–3–IRE	SB2–3–4	SB2–3–4DL
Laboratory ID Number			94670RE	94671	94671DL
Collection Date			8–17–92	8–17–92	8–17–92
Collection Depth (ft)			1.5–3.5	7.5–9.5	7.5–9.5
Percent Solids			78	87	87
Associated Field QC Sample			TB–4	TB–4	TB–4
			EB2–1	EB2–1	EB2–1
			FB2–1	FB2–1	FB2–1
			SD5–FB	SD5–FB	SD5–FB
VOLATILE ORGANICS (SW 8240 [A])					
Analysis Date			N/A	8–21–92	8–24–92
Dilution Factor			N/A	1	2
Parameter	Units	CRQL			
Chloromethane	µg/kg	10	NA	11 UJ(IS)	23 UJ(IS)
Bromomethane	µg/kg	10	NA	11 UJ(IS)	23 UJ(IS)
Vinyl Chloride	µg/kg	10	NA	11 UJ(IS)	23 UJ(IS)
Chloroethane	µg/kg	10	NA	11 U	23 U
Methylene Chloride	µg/kg	10	NA	41 UJ(FB,IS)	15 UJ(FB,IS)
Acetone	µg/kg	10	NA	54 J(IS)	42 J(IS)
Carbon Disulfide	µg/kg	10	NA	11 UJ(IS)	23 UJ(IS)
1,1–Dichloroethene	µg/kg	10	NA	11 UJ(IS)	23 UJ(IS)
1,1–Dichloroethane	µg/kg	10	NA	11 UJ(IS)	23 UJ(IS)
1,2–Dichloroethene (total)	µg/kg	10	NA	11 UJ(IS)	23 UJ(IS)
Chloroform	µg/kg	10	NA	11 UJ(IS)	23 UJ(IS)
1,2–Dichloroethane	µg/kg	10	NA	11 UJ(IS)	23 UJ(IS)
2–Butanone	µg/kg	10	NA	14 J(IS)	23 UJ(IS)
1,1,1–Trichloroethane	µg/kg	10	NA	11 U	23 U
Carbon Tetrachloride	µg/kg	10	NA	11 U	23 U
Bromodichloromethane	µg/kg	10	NA	11 U	23 U
1,2–Dichloropropane	µg/kg	10	NA	11 U	23 U
cis–1,3–Dichloropropene	µg/kg	10	NA	11 U	23 U
Trichloroethene	µg/kg	10	NA	11 U	23 U
Dibromochloromethane	µg/kg	10	NA	11 U	23 U
1,1,2–Trichloroethane	µg/kg	10	NA	11 U	23 U
Benzene	µg/kg	10	NA	19	8 DJ
trans–1,3–Dichloropropene	µg/kg	10	NA	11 U	23 U
Bromoform	µg/kg	10	NA	11 U	23 U
4–Methyl–2–pentanone	µg/kg	10	NA	11 U	23 U
2–Hexanone	µg/kg	10	NA	11 U	23 U
Tetrachloroethene	µg/kg	10	NA	11 U	23 U
1,1,2,2–Tetrachloroethane	µg/kg	10	NA	11 U	23 U
Toluene	µg/kg	10	NA	11 U	23 U
Chlorobenzene	µg/kg	10	NA	11 U	23 U
Ethylbenzene	µg/kg	10	NA	280 E	140 D
Styrene	µg/kg	10	NA	11 U	23 U
Xylene (total)	µg/kg	10	NA	300 X	160 DX
TICs	µg/kg		NA	Methyl–Cyclohexane[b] 70 J,N (RT 14.12)	Methyl–Cyclohexane[b] 21 J,N (RT 14.22)
				2–Methyl–Heptane[b] 56 J,N (RT 15.63)	2–Methyl–Heptane[b] 18 J,N (RT 15.74)
				3–Methyl–Heptane[b] 67 J,N (RT 16.08)	3–Methyl–Heptane[b] 30 J,N (RT 16.2)
				Ethyl–Cyclohexane[b] 41 J,N (RT 19.83)	2,5–Dimethyl–Heptane[b] 11 J,N (RT 19.26)
				2,3–Dimethyl–Heptane[b] 32 J,N (RT 20.54)	Cyclopentane, 1–Ethyl–3–Meth[b] 18 J,N (RT 19.96)
				2–Pyrazoline–1–Carboxamide,[c] 28 J,N (RT 24.53)	4–Methyl–Octane[b] 16 J,N (RT 20.65)
				(1–Methylethyl)–Benzene[b] 100 J,N (RT 25.47)	3–Methyl–Octane[b] 11 J,N (RT 21.05)
				Propyl–Benzene[b] 62 J,N (RT 26.79)	(1–Methylethyl)–Benzene[b] 16 J,N (RT 25.56)
				1–Ethyl–2–Methyl–Benzene[b] 59 J,N (RT 27.19)	Propyl–Benzene[b] 41 J,N (RT 26.91)
				1,3,5–Trimethyl–Benzene[b] 48 J,N (RT 27.37)	1–Ethyl–2–Methyl–Benzene[b] 37 J,N (RT 27.31)
TIC Total	µg/kg		NA	563 (10)	219 (10)

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2–3–1RE	SB2–3–4	SB2–3–4DL
Laboratory ID Number			94670RE	94671	94671DL
Collection Date			8–17–92	8–17–92	8–17–92
Collection Depth (ft)			1.5–3.5	7.5–9.5	7.5–9.5
Percent Solids			78	87	87
Associated Field QC Sample			TB–4	TB–4	TB–4
			EB2–1	EB2–1	EB2–1
			FB2–1	FB2–1	FB2–1
			SD5–FB	SD5–FB	SD5–FB
SEMIVOLATILE ORGANICS (SW 8270 [B])					
Extraction Date			8–25–92	8–25–92	N/A
Analysis Date			9–12–92	9–4–92	N/A
Dilution Factor			6	1	N/A
Parameter	Units	CRQL			
Phenol	µg/kg	330	2500 U	370 UJ(CCV)	NA
bis(2–Chloroethyl)ether	µg/kg	330	2500 U	370 U	NA
2–Chlorophenol	µg/kg	330	2500 U	370 U	NA
1,3–Dichlorobenzene	µg/kg	330	2500 U	370 U	NA
1,4–Dichlorobenzene	µg/kg	330	2500 U	370 U	NA
1,2–Dichlorobenzene	µg/kg	330	2500 U	370 U	NA
2–Methylphenol	µg/kg	330	2500 U	370 U	NA
2,2–oxibis–(1–Chloropropane)	µg/kg	330	2500 U	370 UJ(CCV)	NA
4–Methylphenol	µg/kg	330	2500 U	370 U	NA
N–Nitroso–di–N–propylamine	µg/kg	330	2500 U	370 U	NA
Hexachloroethane	µg/kg	330	2500 U	370 U	NA
Nitrobenzene	µg/kg	330	2500 U	370 UJ(CCV)	NA
Isophorone	µg/kg	330	2500 U	370 U	NA
2–Nitrophenol	µg/kg	330	2500 U	370 U	NA
2,4–Dimethylphenol	µg/kg	330	2500 U	370 U	NA
bis(2–Chloroethoxy)methane	µg/kg	330	2500 U	370 U	NA
2,4–Dichlorophenol	µg/kg	330	2500 U	370 U	NA
1,2,4–Trichlorobenzene	µg/kg	330	2500 U	370 U	NA
Naphthalene	µg/kg	330	2500 U	370 U	NA
4–Chloroaniline	µg/kg	330	2500 U	370 U	NA
Hexachlorobutadiene	µg/kg	330	2500 U	370 U	NA
4–Chloro–3–methylphenol	µg/kg	330	2500 U	370 U	NA
2–Methylnaphthalene	µg/kg	330	2500 U	370 U	NA
Hexachlorocyclopentadiene	µg/kg	330	2500 UJ(IS)	370 U	NA
2,4,6–Trichlorophenol	µg/kg	330	2500 UJ(IS)	370 U	NA
2,4,5–Trichlorophenol	µg/kg	800	6100 UJ(IS)	900 U	NA
2–Chloronaphthalene	µg/kg	330	2500 UJ(IS)	370 U	NA
2–Nitroaniline	µg/kg	800	6100 UJ(IS)	900 U	NA
Dimethyl phthalate	µg/kg	330	2500 UJ(IS)	370 U	NA
Acenaphthylene	µg/kg	330	2500 UJ(IS)	370 U	NA
2,6–Dinitrotoluene	µg/kg	330	2500 UJ(IS)	370 U	NA
3–Nitroaniline	µg/kg	800	6100 UJ(IS)	900 U	NA
Acenaphthene	µg/kg	330	2500 UJ(IS)	370 U	NA
2,4–Dinitrophenol	µg/kg	800	6100 UJ(CCV,IS)	900 U	NA
4–Nitrophenol	µg/kg	800	6100 UJ(IS)	900 U	NA
Dibenzofuran	µg/kg	330	2500 UJ(IS)	370 U	NA
2,4–Dinitrotoluene	µg/kg	330	2500 UJ(IS)	370 U	NA
Diethyl phthalate	µg/kg	330	2500 UJ(IS)	370 U	NA
4–Chlorophenyl phenyl ether	µg/kg	330	2500 UJ(IS)	370 U	NA
Fluorene	µg/kg	330	2500 UJ(IS)	370 U	NA
4–Nitroaniline	µg/kg	800	6100 UJ(IS)	900 U	NA
4,6–Dinitro–2–methylphenol	µg/kg	800	6100 UJ(IS)	900 U	NA
N–Nitrosodiphenylamine (1)	µg/kg	330	2500 UJ(IS)	370 U	NA

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2–3–IRE			SB2–3–4			SB2–3–4DL		
Laboratory ID Number			94670RE			94671			94671DL		
Collection Date			8–17–92			8–17–92			8–17–92		
Collection Depth (ft)			1.5–3.5			7.5–9.5			7.5–9.5		
Percent Solids			78			87			87		
Associated Field QC Sample			TB–4			TB–4			TB–4		
			EB2–1			EB2–1			EB2–1		
			FB2–1			FB2–1			FB2–1		
			SD5–FB			SD5–FB			SD5–FB		
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)											
Extraction Date			8–25–92			8–25–92			N/A		
Analysis Date			9–12–92			9–4–92			N/A		
Dilution Factor			6			1			N/A		
Parameter	Units	CRQL									
4–Bromophenyl phenyl ether	µg/kg	330	2500 UJ(IS)			370 U			NA		
Hexachlorobenzene	µg/kg	330	2500 UJ(IS)			370 U			NA		
Pentachlorophenol	µg/kg	800	6100 UJ(CCV,IS)			900 U			NA		
Phenanthrene	µg/kg	330	2500 UJ(IS)			370 U			NA		
Anthracene	µg/kg	330	2500 UJ(IS)			370 U			NA		
Carbazole	µg/kg	330	2500 UJ(IS)			370 U			NA		
di–N–Butyl phthalate	µg/kg	330	2500 UJ(IS)			370 U			NA		
Fluoranthene	µg/kg	330	2500 UJ(IS)			370 U			NA		
Pyrene	µg/kg	330	2500 U			370 U			NA		
Butylbenzylphthalate	µg/kg	330	2500 UJ(CCV)			370 U			NA		
3,3'–Dichlorobenzidine	µg/kg	330	2500 U			370 U			NA		
Benzo(a)anthracene	µg/kg	330	2500 U			370 U			NA		
Chrysene	µg/kg	330	2500 U			370 U			NA		
bis(2–Ethylhexyl)phthalate	µg/kg	330	2500 U			370 U			NA		
di–N–Octyl phthalate	µg/kg	330	2500 U			370 U			NA		
Benzo(b)fluoranthene	µg/kg	330	2500 U			370 U			NA		
Benzo(k)fluoranthene	µg/kg	330	2500 U			370 U			NA		
Benzo(a)pyrene	µg/kg	330	2500 U			370 U			NA		
Indeno(1,2,3–c,d)pyrene	µg/kg	330	2500 U			370 U			NA		
Dibenzo(a,h)anthracene	µg/kg	330	2500 U			370 U			NA		
Benzo(g,h,i)perylene	µg/kg	330	2500 U			370 U			NA		
TICs	µg/kg		2,6–Dimethyl–Nonane[b]	9900 J,N	(RT 7.92)	4–Hydroxy–4–Methyl–2–Pentanone[a]	23000 J,N,A	(RT 4.23)	NA		
			2–Methyl–Nonane[b]	4800 J,N	(RT 9.72)	Benzaldehyde[c]	260 J,N	(RT 6.35)			
			Unknown[d]	4000 J	(RT 10.09)	Decane[b]	150 J,N	(RT 7.22)			
			Dodecane[b]	9300 J,N	(RT 11.80)	5–Ethyl–2–Methyl–Heptane[b]	250 J,N	(RT 7.72)			
			2,6–Dimethyl–Undecane[b]	16000 J,N	(RT 12.07)	2–Methyl–Nonane[b]	230 J,N	(RT 9.37)			
			Unknown[d]	6800 J	(RT 12.79)	Dodecane[b]	370 J,N	(RT 11.34)			
			Unknown[d]	2800 J	(RT 12.89)	2,6,7–Trimethyl–Decane[b]	380 J,N	(RT 11.60)			
			2,6,7–Trimethyl–Decane[b]	20000 J,N	(RT 13.17)	7–Methyl–Tridecane[b]	380 J,N	(RT 12.67)			
			Cyclopentanone, 2–Methyl–4–([c]	2100 J,N	(RT 13.42)	3,8–Dimethyl–Undecane[b]	500 J,N	(RT 13.17)			
			5,7–Dimethyl–Undecane[b]	15000 J,N	(RT 13.67)	2,7,10–Trimethyl–Dodecane[b]	290 J,N	(RT 14.49)			
			Unknown[d]	3900 J	(RT 13.89)	2,6,11–Trimethyl–Dodecane[b]	690 J,N	(RT 14.89)			
			6–Methyl–Tridecane[b]	2300 J,N	(RT 13.95)	Unknown[d]	230 J	(RT 15.89)			
			2,7,10–Trimethyl–Dodecane[b]	9900 J,N	(RT 14.99)	Unknown[d]	200 J	(RT 16.49)			
			Unknown[d]	12000 J	(RT 15.39)	Hexadecane[b]	130 J,N	(RT 18.02)			
			Unknown[d]	12000 J	(RT 16.37)	Unknown[d]	120 J	(RT 19.54)			
			Unknown[d]	9400 J	(RT 16.95)	Nonanamide[c]	190 B,J,N	(RT 23.17)			
			Hexadecane[b]	3600 J,N	(RT 18.42)	Dodecanamide[c]	300 B,J,N	(RT 25.41)			
			Unknown[d]	6300 J	(RT 19.12)	Unknown[d]	450 J	(RT 25.62)			
			Pentadecane, 2,6,10,14–Tetra[b]	7000 J,N	(RT 19.94)	Unknown[d]	6400 J	(RT 27.74)			
			Unknown[d]	5900 J	(RT 27.97)	Unknown[d]	78 J	(RT 27.91)			
						Unknown[d]	1700 J	(RT 31.81)			
TIC Total	µg/kg			163000 (20)			36298 (21)		NA		

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number				SB2–3–16	SB2–4–1	SB2–4–2
Laboratory ID Number				94672	9541	9542
Collection Date				8–17–92	5–19–93	5–19–93
Collection Depth (ft)				31.5–33.5	7.0–9.0	23.0–25.0
Percent Solids				87	90	91
Associated Field QC Sample				TB–4	TB52093	TB52093
				EB2–1	EB2–2, EB3–2	EB2–2, EB3–2
				FB2–1	N/A	N/A
				SD5–FB	FB2–2, FB3–2	FB2–2, FB3–2
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)						
Extraction Date				8–27–92	5–25 and 5–29–93	5–25 and 5–29–93
Analysis Date				9–14–92	6–5 and 6–18–93	6–5 and 6–18–93
Dilution Factor				1	1	1
Parameter	Units	MDL or MDL				
Gasoline	mg/kg	N/A	0.05	NA	<0.05	<0.05
Diesel Fuel	mg/kg	2	2	35	16	23
Heavy Oil	mg/kg	2	3	10	7	23
PRIORITY POLLUTANT METALS						
Digestion Date(s)				8–27 and 9–13–92	6–11 and 6–17–93	6–11 and 6–17–93
Analysis Date(s)				8–29 to 9–15–92	6–11 to 6–28–93	6–11 to 6–28–93
Dilution Factor		IDL or IDL		1	1	1
AA METALS						
Antimony (SW 3050/7041)	mg/kg	2	0.6	0.2 J(N,r)	0.1 UJ(N,W)	0.1 UJ(N)
Arsenic (SW 3050/7060)	mg/kg	1.5	0.6	5.5 J(N)	5.9 J(N)	5.6 J(N)
Lead (SW 3050/7421)	mg/kg	0.5	0.5	4.6	7.1 J(N)	8.7 J(N)
Mercury (SW 3050/7471)	mg/kg	0.2	0.1	0.1 U	0.04 U	0.05 U
Selenium (SW 3050/7740)	mg/kg	1.4	0.9	0.15 UJ(N,W)	0.15 UJ(W)	0.26 B
Thallium (SW 3050/7841)	mg/kg	0.8	1.4	0.17 B	0.24 U	0.23 UJ(W)
ICP METALS (SW 3050/6010)						
Beryllium	mg/kg	0.3	0.3	0.15 B	0.29 U(MB)	0.35 U(MB)
Cadmium	mg/kg	2.1	3.7	0.21 U	0.57 U	0.55 U
Chromium	mg/kg	4	2.8	3.8	8.5	10
Copper	mg/kg	3.9	2.7	15.4	14.4	16.4
Nickel	mg/kg	10.3	19.8	9.9	13.7	16.4
Silver	mg/kg	3	2.9	1.8 U(MB)	0.45 U	0.43 U
Zinc	mg/kg	3.5	1.6	36 J(E)	36.9 J(E)	37 J(E)

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2–3–16	SB2–4–1			SB2–4–2
Laboratory ID Number			94672	9541			9542
Collection Date			8–17–92	5–19–93			5–19–93
Collection Depth (ft)			31.5–33.5	7.0–9.0			23.0–25.0
Percent Solids			87	90			91
Associated Field QC Sample			TB–4	TB52093			TB52093
			EB2–1	EB2–2, EB3–2			EB2–2, EB3–2
			FB2–1	N/A			N/A
			SD5–FB	FB2–2, FB3–2			FB2–2, FB3–2
VOLATILE ORGANICS (SW 8240 [A])							
Analysis Date			8–21–92	5–25–93			5–26–93
Dilution Factor			1	1			1
Parameter	Units	CRQL					
Chloromethane	µg/kg	10	11 U	11 U			11 UJ(CCV)
Bromomethane	µg/kg	10	11 U	11 U			11 U
Vinyl Chloride	µg/kg	10	11 U	11 U			11 U
Chloroethane	µg/kg	10	11 U	11 U			11 U
Methylene Chloride	µg/kg	10	11 U	11 U			11 U
Acetone	µg/kg	10	20	55 U(EB)			11 U
Carbon Disulfide	µg/kg	10	11 U	11 U			11 U
1,1–Dichloroethene	µg/kg	10	11 U	11 U			11 U
1,1–Dichloroethane	µg/kg	10	11 U	11 U			11 U
1,2–Dichloroethene (total)	µg/kg	10	11 U	11 U			11 U
Chloroform	µg/kg	10	11 U	11 U			11 U
1,2–Dichloroethane	µg/kg	10	11 U	11 U			11 U
2–Butanone	µg/kg	10	11 U	19			11 U
1,1,1–Trichloroethane	µg/kg	10	11 U	11 U			11 U
Carbon Tetrachloride	µg/kg	10	11 U	11 U			11 U
Bromodichloromethane	µg/kg	10	11 U	11 U			11 U
1,2–Dichloropropane	µg/kg	10	11 U	11 U			11 U
cis–1,3–Dichloropropene	µg/kg	10	11 U	11 U			11 U
Trichloroethene	µg/kg	10	11 U	11 U			11 U
Dibromochloromethane	µg/kg	10	11 U	11 U			11 U
1,1,2–Trichloroethane	µg/kg	10	11 U	11 U			11 U
Benzene	µg/kg	10	11 U	42			11 U
trans–1,3–Dichloropropene	µg/kg	10	11 U	11 U			11 U
Bromoform	µg/kg	10	11 U	11 U			11 U
4–Methyl–2–pentanone	µg/kg	10	11 U	50			11 U
2–Hexanone	µg/kg	10	11 U	11 U			11 U
Tetrachloroethene	µg/kg	10	11 U	11 U			11 U
1,1,2,2–Tetrachloroethane	µg/kg	10	11 U	11 U			11 U
Toluene	µg/kg	10	11 U	11 U			11 U
Chlorobenzene	µg/kg	10	11 U	11 U			11 U
Ethylbenzene	µg/kg	10	11 U	11 U			11 U
Styrene	µg/kg	10	11 U	11 U			11 U
Xylene (total)	µg/kg	10	11 U	11 U			11 U
TICs	µg/kg		0 (0)	Butanal[c]	13 J,N	(RT 10.31)	0 (0)
				Butyl Ester Formic Acid[c]	14 J,N	(RT 16.47)	
				2–Ethyl–Butanal[c]	6 J,N	(RT 21.63)	
				Unknown Keytone[d]	7 J,N	(RT 22.62)	
TIC Total	µg/kg		0 (0)		40 (4)		0 (0)

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2–3–16	SB2–4–1	SB2–4–2
Laboratory ID Number			94672	9541	9542
Collection Date			8–17–92	5–19–93	5–19–93
Collection Depth (ft)			31.5–33.5	7.0–9.0	23.0–25.0
Percent Solids			87	90	91
Associated Field QC Sample			TB–4	TB52093	TB52093
			EB2–1	EB2–2, EB3–2	EB2–2, EB3–2
			FB2–1	N/A	N/A
			SD5–FB	FB2–2, FB3–2	FB2–2, FB3–2
SEMIVOLATILE ORGANICS (SW 8270 [B])					
Extraction Date			8–25–92	5–27–93	5–27–93
Analysis Date			9–11–92	6–8–93	6–4–93
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Phenol	µg/kg	330	380 U	360 U	350 U
bis(2–Chloroethyl)ether	µg/kg	330	380 U	360 U	350 U
2–Chlorophenol	µg/kg	330	380 U	360 U	350 U
1,3–Dichlorobenzene	µg/kg	330	380 U	360 U	350 U
1,4–Dichlorobenzene	µg/kg	330	380 U	360 U	350 U
1,2–Dichlorobenzene	µg/kg	330	380 U	360 U	350 U
2–Methylphenol	µg/kg	330	380 U	360 U	350 U
2,2–oxibis–(1–Chloropropane)	µg/kg	330	380 U	360 UJ(CCV)	350 UJ(CCV)
4–Methylphenol	µg/kg	330	380 U	360 U	350 U
N–Nitroso–di–N–propylamine	µg/kg	330	380 U	360 U	350 U
Hexachloroethane	µg/kg	330	380 U	360 U	350 U
Nitrobenzene	µg/kg	330	380 U	360 U	350 U
Isophorone	µg/kg	330	380 U	360 U	350 U
2–Nitrophenol	µg/kg	330	380 U	360 U	350 U
2,4–Dimethylphenol	µg/kg	330	380 U	360 U	350 U
bis(2–Chloroethoxy)methane	µg/kg	330	380 U	360 U	350 U
2,4–Dichlorophenol	µg/kg	330	380 U	360 U	350 U
1,2,4–Trichlorobenzene	µg/kg	330	380 U	360 U	350 U
Naphthalene	µg/kg	330	380 U	360 U	350 U
4–Chloroaniline	µg/kg	330	380 U	360 U	350 U
Hexachlorobutadiene	µg/kg	330	380 U	360 U	350 U
4–Chloro–3–methylphenol	µg/kg	330	380 U	360 U	350 U
2–Methylnaphthalene	µg/kg	330	380 U	360 UJ(CCV)	350 UJ(CCV)
Hexachlorocyclopentadiene	µg/kg	330	380 U	360 U	350 U
2,4,6–Trichlorophenol	µg/kg	330	380 U	870 U	850 U
2,4,5–Trichlorophenol	µg/kg	800	910 U	360 U	350 U
2–Chloronaphthalene	µg/kg	330	380 U	870 U	850 U
2–Nitroaniline	µg/kg	800	910 U	360 U	350 U
Dimethyl phthalate	µg/kg	330	380 U	360 U	350 U
Acenaphthylene	µg/kg	330	380 U	360 UJ(CCV)	350 UJ(CCV)
2,6–Dinitrotoluene	µg/kg	330	380 U	870 U	850 U
3–Nitroaniline	µg/kg	800	910 U	360 U	350 U
Acenaphthene	µg/kg	330	380 U	870 U	850 U
2,4–Dinitrophenol	µg/kg	800	910 UJ(CCV)	870 U	850 U
4–Nitrophenol	µg/kg	800	910 U	360 U	350 U
Dibenzofuran	µg/kg	330	380 U	360 U	350 U
2,4–Dinitrotoluene	µg/kg	330	380 U	360 U	350 U
Diethyl phthalate	µg/kg	330	380 U	360 U	350 U
4–Chlorophenyl phenyl ether	µg/kg	330	380 U	360 U	350 U
Fluorene	µg/kg	330	380 U	360 U	350 U
4–Nitroaniline	µg/kg	800	910 U	870 U	850 U
4,6–Dinitro–2–methylphenol	µg/kg	800	910 U	870 U	850 U
N–Nitrosodiphenylamine (1)	µg/kg	330	380 U	360 U	350 U

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2–3–16			SB2–4–1			SB2–4–2			
Laboratory ID Number			94672			9541			9542			
Collection Date			8–17–92			5–19–93			5–19–93			
Collection Depth (ft)			31.5–33.5			7.0–9.0			23.0–25.0			
Percent Solids			87			90			91			
Associated Field QC Sample			TB–4			TB52093			TB52093			
			EB2–1			EB2–2, EB3–2			EB2–2, EB3–2			
			FB2–1			N/A			N/A			
			SD5–FB			FB2–2, FB3–2			FB2–2, FB3–2			
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)												
Extraction Date			8–25–92			5–27–93			5–27–93			
Analysis Date			9–11–92			6–8–93			6–4–93			
Dilution Factor			1			1			1			
Parameter	Units	CRQL										
4–Bromophenyl phenyl ether	µg/kg	330	380 U			360 U			350 U			
Hexachlorobenzene	µg/kg	330	380 U			360 U			350 U			
Pentachlorophenol	µg/kg	800	910 UJ(CCV)			130 J			850 U			
Phenanthrene	µg/kg	330	380 U			360 U			350 U			
Anthracene	µg/kg	330	380 U			360 U			350 U			
Carbazole	µg/kg	330	380 U			360 UJ(CCV)			350 UJ(CCV)			
di–N–Butyl phthalate	µg/kg	330	380 U			360 U			350 U			
Fluoranthene	µg/kg	330	380 U			360 U			350 U			
Pyrene	µg/kg	330	380 U			360 U			350 U			
Butylbenzylphthalate	µg/kg	330	380 U			360 U			350 U			
3,3'–Dichlorobenzidine	µg/kg	330	380 U			360 UJ(CCV)			350 UJ(CCV)			
Benzo(a)anthracene	µg/kg	330	380 U			360 U			350 U			
Chrysene	µg/kg	330	380 U			360 U			350 U			
bis(2–Ethylhexyl)phthalate	µg/kg	330	40 J			360 U(MB)			350 U(MB)			
di–N–Octyl phthalate	µg/kg	330	380 U			360 U			350 U			
Benzo(b)fluoranthene	µg/kg	330	380 U			360 U			350 U			
Benzo(k)fluoranthene	µg/kg	330	380 U			360 U			350 U			
Benzo(a)pyrene	µg/kg	330	380 U			360 U			350 U			
Indeno(1,2,3–c,d)pyrene	µg/kg	330	380 U			360 U			350 U			
Dibenzo(a,h)anthracene	µg/kg	330	380 U			360 U			350 U			
Benzo(g,h,i)perylene	µg/kg	330	380 U			360 U			350 U			
TICs	µg/kg		2,6,7–Trimethyl–Decane[b]	530 J,N	(RT 13.75)	4–Hydroxy–4–Methyl–2–Pentanone[e]	20000 B,J,N,A	(RT 3.60)	4–Hydroxy–4–Methyl–2–Pentanone[e]	16000 B,J,N,A	(RT 3.77)	
			2,6,11–Trimethyl–Dodecane[b]	610 J,N	(RT 15.47)	Unknown[d]	9700 J	(RT 12.35)	4,7–Dimethyl–Undecane[b]	540 J,N	(RT 12.27)	
			Unknown[d]	380 J	(RT 16.47)	Unknown[d]	5600 J	(RT 12.69)	2,7,10–Trimethyl–Dodecane[b]	350 J,N	(RT 13.57)	
			2,7,10–Trimethyl–Dodecane[b]	740 J,N	(RT 17.09)	Unknown[d]	1200 J	(RT 12.87)	Unknown[d]	780 J	(RT 14.00)	
			Hexadecane[b]	820 J,N	(RT 18.62)	Unknown[d]	2400 J	(RT 13.04)	Unknown[d]	530 J	(RT 14.99)	
			Unknown[d]	470 J	(RT 19.32)	.Alpha.–Benzeneacetic Acid[c]	270 J,N	(RT 13.30)	Unknown[d]	1100 J	(RT 15.65)	
			Unknown[d]	720 J	(RT 20.05)	Unknown[d]	230 J	(RT 13.64)	Hexadecane[b]	1200 J,N	(RT 17.20)	
			2,6–Dimethyl–Heptadecane[b]	740 J,N	(RT 20.14)	Dodecanoic Acid[b]	1200 J,N	(RT 16.60)	5–Propyl–Tridecane[b]	730 J,N	(RT 17.89)	
			Octadecane[b]	490 J,N	(RT 21.42)	Unknown[d]	440 J	(RT 18.32)	Unknown[d]	1400 J	(RT 18.67)	
			Unknown[d]	460 J	(RT 21.54)	Unknown[d]	200 J	(RT 19.70)	2,6–Dimethyl–Heptadecane[b]	830 J,N	(RT 18.70)	
			Unknown[d]	600 J	(RT 22.72)	Unknown[d]	170 J	(RT 19.80)	Heptadecane, 2,6,10,14–Tetra[b]	820 J,N	(RT 20.05)	
			Eicosane[b]	530 J,N	(RT 23.97)	Unknown[d]	280 J	(RT 21.04)	Unknown[d]	640 J	(RT 20.14)	
			Unknown[d]	340 J	(RT 25.17)	Unknown[d]	230 J	(RT 22.30)	Unknown[d]	780 J	(RT 21.40)	
			Docosane[b]	320 J,N	(RT 26.32)	Unknown[d]	380 J	(RT 23.52)	Unknown[d]	660 J	(RT 22.67)	
			Unknown[d]	320 J	(RT 27.44)	Unknown[d]	280 J	(RT 24.69)	Unknown[d]	820 J	(RT 23.89)	
			Unknown[d]	490 J	(RT 28.12)	Unknown[d]	270 J	(RT 25.81)	Unknown[d]	650 J	(RT 25.07)	
			Unknown[d]	6300 J	(RT 28.31)	Unknown[d]	290 J	(RT 26.89)	Octacosane[b]	710 J,N	(RT 26.19)	
			Unknown[d]	330 J	(RT 28.51)	Unknown[d]	260 J	(RT 27.94)	Unknown[d]	710 J	(RT 27.27)	
			Pentacosane[b]	240 J,N	(RT 29.52)	Unknown[d]	260 J	(RT 28.96)	Unknown[d]	500 J	(RT 28.32)	
			Unknown[d]	1900 J	(RT 32.34)	Unknown[d]	300 J	(RT 29.94)	Unknown[d]	390 J	(RT 29.34)	
						Unknown[d]	260 J	(RT 30.91)	Unknown[d]	490 J	(RT 30.32)	
TIC Total	µg/kg			17330 (20)			44220 (21)			30630 (21)		

Table F-6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2-5-1	SB2-5-2	SB2-6-1
Laboratory ID Number			9543	9544	9545
Collection Date			5-19-93	5-19-93	5-20-93
Collection Depth (ft)			8.0-10.0	25.0-27.0	16.5-17.5
Percent Solids			90	91	91
Associated Field QC Sample			TB52093	TB52093	TB52093
			EB2-2, EB3-2	EB2-2, EB3-2	EB2-2, EB3-2
			N/A	N/A	N/A
			FB2-2, FB3-2	FB2-2, FB3-2	FB2-2, FB3-2
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)					
Extraction Date			5-25 and 5-29-93	5-25 and 5-29-93	5-25 and 5-29-93
Analysis Date			6-7 and 6-18-93	6-7 and 6-18-93	6-7 and 6-18-93
Dilution Factor			1	1	1
Parameter	Units	MDL			
Gasoline	mg/kg	0.05	6.8	<0.05	<0.05
Diesel Fuel	mg/kg	2	4	28	31 J(FD)
Heavy Oil	mg/kg	3	9	25	35 J(FD)
PRIORITY POLLUTANT METALS					
Digestion Date(s)			6-11 and 6-17-93	6-11 and 6-17-93	6-11 and 6-17-93
Analysis Date(s)			6-11 to 6-25-93	6-11 to 6-28-93	6-11 to 6-25-93
Dilution Factor		IDL	1	1	1
AA METALS					
Antimony (SW 3050/7041)	mg/kg	0.6	0.12 UJ(N,W)	0.1 UJ(N,W)	0.09 UJ(N,W)
Arsenic (SW 3050/7060)	mg/kg	0.6	10.6 J(N)	5.1 J(N)	3.4 J(N)
Lead (SW 3050/7421)	mg/kg	0.5	12.9 J(N)	7.7 J(N)	7.3 J(N)
Mercury (SW 3050/7471)	mg/kg	0.1	0.05 U	0.04 U	0.05 U
Selenium (SW 3050/7740)	mg/kg	0.9	0.17 U	0.15 B	0.14 UJ(W)
Thallium (SW 3050/7841)	mg/kg	1.4	0.27 UJ(W)	0.23 U	0.22 U
ICP METALS (SW 3050/6010)					
Beryllium	mg/kg	0.3	0.38 U(MB)	0.28 U(MB)	0.3 U(MB)
Cadmium	mg/kg	3.7	0.62 U	0.6 U	0.64 U
Chromium	mg/kg	2.8	10.5	9.6	9.1
Copper	mg/kg	2.7	16.7	14	14.2
Nickel	mg/kg	19.8	20.8	13.1	12.3
Silver	mg/kg	2.9	0.49 U	0.47 U	0.5 U
Zinc	mg/kg	1.6	61.5 J(E)	32 J(E)	35.9 J(E)

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2-5-1			SB2-5-2			SB2-6-1		
Laboratory ID Number			9543			9544			9545		
Collection Date			5-19-93			5-19-93			5-20-93		
Collection Depth (ft)			8.0-10.0			25.0-27.0			16.5-17.5		
Percent Solids			90			91			91		
Associated Field QC Sample			TB52093			TB52093			TB52093		
			EB2-2, EB3-2			EB2-2, EB3-2			EB2-2, EB3-2		
			N/A			N/A			N/A		
			FB2-2, FB3-2			FB2-2, FB3-2			FB2-2, FB3-2		
VOLATILE ORGANICS (SW 8240 [A])											
Analysis Date			5-25-93			5-26-93			5-26-93		
Dilution Factor			1			1			1		
Parameter	Units	CRQL									
Chloromethane	µg/kg	10	11 U			11 UJ(CCV)			11 UJ(CCV)		
Bromomethane	µg/kg	10	11 U			11 U			11 U		
Vinyl Chloride	µg/kg	10	11 U			11 U			11 U		
Chloroethane	µg/kg	10	11 U			11 U			11 U		
Methylene Chloride	µg/kg	10	11 U			11 U			11 U		
Acetone	µg/kg	10	11 U			11 U			120 U(EB)		
Carbon Disulfide	µg/kg	10	11 U			11 U			2 J		
1,1-Dichloroethene	µg/kg	10	11 U			11 U			11 U		
1,1-Dichloroethane	µg/kg	10	11 U			11 U			11 U		
1,2-Dichloroethene (total)	µg/kg	10	11 U			11 U			11 U		
Chloroform	µg/kg	10	11 U			11 U			11 U		
1,2-Dichloroethane	µg/kg	10	11 U			11 U			11 U		
2-Butanone	µg/kg	10	11 U			11 U			32		
1,1,1-Trichloroethane	µg/kg	10	11 U			11 U			11 U		
Carbon Tetrachloride	µg/kg	10	11 U			11 U			11 U		
Bromodichloromethane	µg/kg	10	11 U			11 U			11 U		
1,2-Dichloropropane	µg/kg	10	11 U			11 U			11 U		
cis-1,3-Dichloropropene	µg/kg	10	11 U			11 U			11 U		
Trichloroethene	µg/kg	10	11 U			11 U			11 U		
Dibromochloromethane	µg/kg	10	11 U			11 U			11 U		
1,1,2-Trichloroethane	µg/kg	10	11 U			11 U			11 U		
Benzene	µg/kg	10	11 U			11 U			11 U		
trans-1,3-Dichloropropene	µg/kg	10	11 U			11 U			11 U		
Bromoform	µg/kg	10	11 U			11 U			11 U		
4-Methyl-2-pentanone	µg/kg	10	11 U			11 U			9 J		
2-Hexanone	µg/kg	10	11 U			11 U			11 U		
Tetrachloroethene	µg/kg	10	11 U			11 U			11 U		
1,1,2,2-Tetrachloroethane	µg/kg	10	11 U			11 U			11 U		
Toluene	µg/kg	10	11 U			11 U			11 U		
Chlorobenzene	µg/kg	10	11 U			11 U			11 U		
Ethylbenzene	µg/kg	10	11 U			11 U			11 U		
Styrene	µg/kg	10	11 U			11 U			11 U		
Xylene (total)	µg/kg	10	11 U			11 U			11 U		
TICs	µg/kg		Unknown Cycloalkane[b]	7 J,N	(RT 20.73)	0 (0)			Unknown[d]	10 J,N	(RT 6.77)
									Unknown Alkane[d]	9 J,N	(RT 8.55)
									Unknown Ketone[d]	20 J,N	(RT 13.39)
TIC Total	µg/kg			7 (1)		0 (0)				39 (3)	

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2–5–1	SB2–5–2	SB2–6–1
Laboratory ID Number			9543	9544	9545
Collection Date			5–19–93	5–19–93	5–20–93
Collection Depth (ft)			8.0–10.0	25.0–27.0	16.5–17.5
Percent Solids			90	91	91
Associated Field QC Sample			TB52093	TB52093	TB52093
			EB2–2, EB3–2	EB2–2, EB3–2	EB2–2, EB3–2
			N/A	N/A	N/A
			FB2–2, FB3–2	FB2–2, FB3–2	FB2–2, FB3–2
SEMIVOLATILE ORGANICS (SW 8270 (B))					
Extraction Date			5–27–93	5–27–93	6–2–93
Analysis Date			6–5–93	6–5–93	6–8–93
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Phenol	µg/kg	330	360 U	360 U	360 U
bis(2–Chloroethyl)ether	µg/kg	330	360 U	360 U	360 U
2–Chlorophenol	µg/kg	330	360 U	360 U	360 U
1,3–Dichlorobenzene	µg/kg	330	360 U	360 U	360 U
1,4–Dichlorobenzene	µg/kg	330	360 U	360 U	360 U
1,2–Dichlorobenzene	µg/kg	330	360 U	360 U	360 U
2–Methylphenol	µg/kg	330	360 U	360 U	360 U
2,2–oxibis–(1–Chloropropane)	µg/kg	330	360 UJ(CCV)	360 UJ(CCV)	360 U
4–Methylphenol	µg/kg	330	360 U	360 U	360 U
N–Nitroso–di–N–propylamine	µg/kg	330	360 U	360 U	360 U
Hexachloroethane	µg/kg	330	360 U	360 U	360 U
Nitrobenzene	µg/kg	330	360 U	360 U	360 U
Isophorone	µg/kg	330	360 U	360 U	360 U
2–Nitrophenol	µg/kg	330	360 U	360 U	360 U
2,4–Dimethylphenol	µg/kg	330	360 U	360 U	360 U
bis(2–Chloroethoxy)methane	µg/kg	330	360 U	360 U	360 U
2,4–Dichlorophenol	µg/kg	330	360 U	360 U	360 U
1,2,4–Trichlorobenzene	µg/kg	330	360 U	360 U	360 U
Naphthalene	µg/kg	330	360 U	360 U	360 U
4–Chloroaniline	µg/kg	330	360 U	360 U	360 U
Hexachlorobutadiene	µg/kg	330	360 U	360 U	360 U
4–Chloro–3–methylphenol	µg/kg	330	360 U	360 U	360 U
2–Methylnaphthalene	µg/kg	330	360 U	360 U	360 U
Hexachlorocyclopentadiene	µg/kg	330	360 UJ(CCV)	360 UJ(CCV)	360 UJ(CCV)
2,4,6–Trichlorophenol	µg/kg	330	360 U	360 U	360 U
2,4,5–Trichlorophenol	µg/kg	800	870 U	860 U	880 U
2–Chloronaphthalene	µg/kg	330	360 U	360 U	360 U
2–Nitroaniline	µg/kg	800	870 U	860 U	880 U
Dimethyl phthalate	µg/kg	330	360 U	360 U	360 U
Acenaphthylene	µg/kg	330	360 U	360 U	360 U
2,6–Dinitrotoluene	µg/kg	330	360 UJ(CCV)	360 UJ(CCV)	360 U
3–Nitroaniline	µg/kg	800	870 U	860 U	880 UJ(CCV)
Acenaphthene	µg/kg	330	360 U	360 U	360 U
2,4–Dinitrophenol	µg/kg	800	870 U	860 U	880 UJ(CCV)
4–Nitrophenol	µg/kg	800	870 U	860 U	880 U
Dibenzofuran	µg/kg	330	360 U	360 U	360 U
2,4–Dinitrotoluene	µg/kg	330	360 U	360 U	360 U
Diethyl phthalate	µg/kg	330	360 U	360 U	360 U
4–Chlorophenyl phenyl ether	µg/kg	330	360 U	360 U	360 U
Fluorene	µg/kg	330	360 U	360 U	360 U
4–Nitroaniline	µg/kg	800	870 U	860 U	880 U
4,6–Dinitro–2–methylphenol	µg/kg	800	870 U	860 U	880 U
N–Nitrosodiphenylamine (1)	µg/kg	330	360 U	360 U	360 U

Table F-6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2-5-1			SB2-5-2			SB2-6-1			
Laboratory ID Number			9543			9544			9545			
Collection Date			5-19-93			5-19-93			5-20-93			
Collection Depth (ft)			8.0-10.0			25.0-27.0			16.5-17.5			
Percent Solids			90			91			91			
Associated Field QC Sample			TB52093			TB52093			TB52093			
			EB2-2, EB3-2			EB2-2, EB3-2			EB2-2, EB3-2			
			N/A			N/A			N/A			
			FB2-2, FB3-2			FB2-2, FB3-2			FB2-2, FB3-2			
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)												
Extraction Date			5-27-93			5-27-93			6-2-93			
Analysis Date			6-5-93			6-5-93			6-8-93			
Dilution Factor			1			1			1			
Parameter	Units	CRQL										
4-Bromophenyl phenyl ether	µg/kg	330	360 U			360 U			360 U			
Hexachlorobenzene	µg/kg	330	360 U			360 U			360 U			
Pentachlorophenol	µg/kg	800	870 U			860 U			880 U			
Phenanthrene	µg/kg	330	360 U			360 U			360 U			
Anthracene	µg/kg	330	360 U			360 U			360 U			
Carbazole	µg/kg	330	360 UJ(CCV)			360 UJ(CCV)			360 UJ(CCV)			
di-N-Butyl phthalate	µg/kg	330	360 U			360 U			360 U			
Fluoranthene	µg/kg	330	360 U			360 U			360 U			
Pyrene	µg/kg	330	360 U			360 U			360 U			
Butylbenzylphthalate	µg/kg	330	360 U			360 U			360 U			
3,3'-Dichlorobenzidine	µg/kg	330	360 UJ(CCV)			360 UJ(CCV)			360 U			
Benzo(a)anthracene	µg/kg	330	360 U			360 U			360 U			
Chrysene	µg/kg	330	360 U			360 U			360 U			
bis(2-Ethylhexyl)phthalate	µg/kg	330	360 U(MB)			360 U(MB)			430 U(MB)			
di-N-Octyl phthalate	µg/kg	330	360 U			360 U			360 U			
Benzo(b)fluoranthene	µg/kg	330	360 U			360 U			360 U			
Benzo(k)fluoranthene	µg/kg	330	360 U			360 U			360 U			
Benzo(a)pyrene	µg/kg	330	360 U			360 U			360 U			
Indeno(1,2,3-c,d)pyrene	µg/kg	330	360 U			360 U			360 U			
Dibenzo(a,h)anthracene	µg/kg	330	360 U			360 U			360 U			
Benzo(g,h,i)perylene	µg/kg	330	360 U			360 U			360 U			
TICs	µg/kg		4-Hydroxy-4-Methyl-2-Pentanone [a]	17000 B,J,N,A	(RT 3.80)	4-Hydroxy-4-Methyl-2-Pentanone [a]	16000 B,J,N,A	(RT 3.82)	4-Hydroxy-4-Methyl-2-Pentanone [a]	15000 B,J,N,A	(RT 3.55)	
			Unknown [d]	70 J	(RT 4.00)	2,4,6-Trimethyl-Octane [b]	240 J,N	(RT 10.45)	Unknown [d]	630 J	(RT 9.32)	
			4-Penten-2-Ol [c]	120 J,N	(RT 4.15)	4,7-Dimethyl-Undecane [b]	480 J,N	(RT 12.29)	3,6-Dimethyl-Decane [b]	150 J,N	(RT 13.69)	
			2,3-Dimethyl-Octane [b]	120 J,N	(RT 5.32)	Unknown [d]	220 J	(RT 13.59)	Unknown [d]	220 J	(RT 15.32)	
			Dodecanamide, N,N-Bis(2-Hydr [c]	530 J,N	(RT 16.80)	3,8-Dimethyl-Undecane [b]	790 J,N	(RT 14.02)	2,6,11-Trimethyl-Dodecane [b]	260 J,N	(RT 16.87)	
			2,6,11-Trimethyl-Dodecane [b]	130 J,N	(RT 17.20)	4,6-Dimethyl-Dodecane [b]	550 J,N	(RT 15.00)	Unknown [d]	230 J	(RT 17.54)	
			Unknown [d]	130 J	(RT 17.87)	Unknown [d]	950 J	(RT 15.65)	Unknown [d]	430 J	(RT 18.32)	
			Unknown [d]	410 J	(RT 18.67)	Hexadecane [b]	890 J,N	(RT 17.22)	Unknown [d]	360 J	(RT 18.35)	
			Unknown [d]	160 J	(RT 20.05)	5-Propyl-Tridecane [b]	610 J,N	(RT 17.89)	Unknown [d]	310 J	(RT 19.72)	
			Unknown [d]	170 J	(RT 20.14)	Unknown [d]	2300 J	(RT 18.69)	Unknown [d]	240 J	(RT 19.80)	
			Unknown [d]	200 J	(RT 21.40)	Unknown [d]	860 J	(RT 20.09)	Unknown [d]	300 J	(RT 21.05)	
			Unknown [d]	190 J	(RT 22.67)	Unknown [d]	660 J	(RT 20.15)	Heptadecane, 2,6,10,14-Tetra [b]	260 J,N	(RT 22.30)	
			Unknown [d]	180 J	(RT 23.89)	Unknown [d]	870 J	(RT 21.42)	Unknown [d]	330 J	(RT 23.52)	
			Unknown [d]	220 J	(RT 25.07)	Unknown [d]	670 J	(RT 22.69)	Unknown [d]	300 J	(RT 24.70)	
			Unknown [d]	250 J	(RT 26.19)	Unknown [d]	620 J	(RT 23.90)	Unknown [d]	300 J	(RT 25.82)	
			Unknown [d]	220 J	(RT 27.27)	Unknown [d]	670 J	(RT 25.09)	Hexanedioic Acid, Mono(2-Eth [b]	2000 J,N	(RT 26.77)	
			Unknown [d]	250 J	(RT 28.32)	Unknown [d]	560 J	(RT 26.22)	Unknown [d]	250 J	(RT 26.91)	
			Unknown [d]	200 J	(RT 29.34)	Unknown [d]	500 J	(RT 27.31)	Unknown [d]	250 J	(RT 27.94)	
			Unknown [d]	230 J	(RT 30.34)	Unknown [d]	430 J	(RT 28.36)	Unknown [d]	230 J	(RT 28.96)	
			Unknown [d]	200 J	(RT 31.32)	Unknown [d]	370 J	(RT 29.37)	Unknown [d]	270 J	(RT 29.94)	
			Unknown [d]	170 J	(RT 32.27)	Unknown [d]	530 J	(RT 30.36)	Unknown [d]	280 J	(RT 30.92)	
TIC Total	µg/kg			21150 (21)			29770 (21)			22600 (21)		

Table F-6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2-6-IR	SB2-6-IRRE
Laboratory ID Number			9546	9546RE
Collection Date			5-20-93	5-20-93
Collection Depth (ft)			16.5-17.5	16.5-17.5
Percent Solids			91	91
Associated Field QC Sample			TB52093	TB52093
			EB2-2, EB3-2	EB2-2, EB3-2
			N/A	N/A
			FB2-2, FB3-2	FB2-2, FB3-2
TOTAL PETROLEUM HYDROCARBONS (SW 801SM)				
Extraction Date			5-25 and 5-29-93	N/A
Analysis Date			6-7 and 6-18-93	N/A
Dilution Factor			1	N/A
Parameter	Units	MDL		
Gasoline	mgk g	0.05	<0.05	NA
Diesel Fuel	mgk g	2	62 J(FD)	NA
Heavy Oil	mg/kg	3	63 J(FD)	NA
PRIORITY POLLUTANT METALS				
Digestion Date(s)			6-11 and 6-17-93	N/A
Analysis Date(s)			6-11 to 6-25-93	N/A
Dilution Factor		IDL	1	N/A
AA METALS				
Antimony (SW 3050/7041)	mgk g	0.6	0.09 UJ(N,W)	NA
Arsenic (SW 3050/7060)	mgk g	0.6	3 J(N)	NA
Lead (SW 3050/7421)	mg/kg	0.5	6.3 J(N)	NA
Mercury (SW 3050/7471)	mgk g	0.1	0.04 U	NA
Selenium (SW 3050/7740)	mgk g	0.9	0.14 U	NA
Thallium (SW 3050/7841)	mgk g	1.4	0.27 J(W)	NA
ICP METALS (SW 3050/6010)				
Beryllium	mgk g	0.3	0.33 U(MB)	NA
Cadmium	mg/kg	3.7	0.59 U	NA
Chromium	mgk g	2.8	8.7	NA
Copper	mgk g	2.7	12.6	NA
Nickel	mgk g	19.8	15.4	NA
Silver	mgk g	2.9	0.47 U	NA
Zinc	mgk g	1.6	37.5 J(E)	NA

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2–6–1R			SB2–6–1RRE		
Laboratory ID Number			9546			9546RE		
Collection Date			5–20–93			5–20–93		
Collection Depth (ft)			16.5–17.5			16.5–17.5		
Percent Solids			91			91		
Associated Field QC Sample			TB52093			TB52093		
			EB2–2, EB3–2			EB2–2, EB3–2		
			N/A			N/A		
			FB2–2, FB3–2			FB2–2, FB3–2		
VOLATILE ORGANICS (SW 8240 [A])								
Analysis Date			5–26–93			5–26–93		
Dilution Factor			1			1		
Parameter	Units	CRQL						
Chloromethane	µg/kg	10	11 U			11 UJ(CCV)		
Bromomethane	µg/kg	10	11 U			11 U		
Vinyl Chloride	µg/kg	10	11 U			11 U		
Chloroethane	µg/kg	10	11 U			11 U		
Methylene Chloride	µg/kg	10	11 U			11 U		
Acetone	µg/kg	10	95 U(EB)			120 U(EB)		
Carbon Disulfide	µg/kg	10	11 U			2 J		
1,1–Dichloroethene	µg/kg	10	11 U			11 U		
1,1–Dichloroethane	µg/kg	10	11 U			11 U		
1,2–Dichloroethene (total)	µg/kg	10	11 U			11 U		
Chloroform	µg/kg	10	11 U			11 U		
1,2–Dichloroethane	µg/kg	10	11 U			11 U		
2–Butanone	µg/kg	10	26			36		
1,1,1–Trichloroethane	µg/kg	10	11 U			11 U		
Carbon Tetrachloride	µg/kg	10	11 U			11 U		
Bromodichloromethane	µg/kg	10	11 U			11 U		
1,2–Dichloropropane	µg/kg	10	11 U			11 U		
cis–1,3–Dichloropropene	µg/kg	10	11 U			11 U		
Trichloroethene	µg/kg	10	11 U			11 U		
Dibromochloromethane	µg/kg	10	11 U			11 U		
1,1,2–Trichloroethane	µg/kg	10	11 U			11 U		
Benzene	µg/kg	10	11 U			11 U		
trans–1,3–Dichloropropene	µg/kg	10	11 U			11 U		
Bromoform	µg/kg	10	11 U			11 U		
4–Methyl–2–pentanone	µg/kg	10	17 J(IS)			26 J(IS)		
2–Hexanone	µg/kg	10	11 UJ(IS)			11 UJ(IS)		
Tetrachloroethene	µg/kg	10	11 UJ(IS)			11 UJ(IS)		
1,1,2,2–Tetrachloroethane	µg/kg	10	11 UJ(IS)			11 UJ(IS)		
Toluene	µg/kg	10	11 UJ(IS)			11 UJ(IS)		
Chlorobenzene	µg/kg	10	11 UJ(IS)			11 UJ(IS)		
Ethylbenzene	µg/kg	10	11 UJ(IS)			11 UJ(IS)		
Styrene	µg/kg	10	11 UJ(IS)			11 UJ(IS)		
Xylene (total)	µg/kg	10	11 UJ(IS)			11 UJ(IS)		
TICs	µg/kg		Unknown Ketone [d]	16 J,N	(RT 13.50)	Unknown [d]	9 J,N	(RT 6.79)
			3–Methyl–2–Pentanone [b]	9 J,N	(RT 18.19)	2–Methyl–Propanal [b]	8 J,N	(RT 8.61)
						Unknown Ketone [d]	21 J,N	(RT 13.44)
						Unknown Ketone [d]	10 J,N	(RT 18.09)
TIC Total	µg/kg			25 (2)			48 (4)	

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2–6–1R	SB2–6–1RRE
Laboratory ID Number			9546	9546RE
Collection Date			5–20–93	5–20–93
Collection Depth (ft)			16.5–17.5	16.5–17.5
Percent Solids			91	91
Associated Field QC Sample			TB52093	TB52093
			EB2–2, EB3–2	EB2–2, EB3–2
			N/A	N/A
			FB2–2, FB3–2	FB2–2, FB3–2
SEMIVOLATILE ORGANICS (SW 8270 [B])				
Extraction Date			6–5–93	N/A
Analysis Date			6–8–93	N/A
Dilution Factor			1	N/A
Parameter	Units	CRQL		
Phenol	µg/kg	330	360 UJ(EHT)	NA
bis(2–Chloroethyl)ether	µg/kg	330	360 UJ(EHT)	NA
2–Chlorophenol	µg/kg	330	360 UJ(EHT)	NA
1,3–Dichlorobenzene	µg/kg	330	360 UJ(EHT)	NA
1,4–Dichlorobenzene	µg/kg	330	360 UJ(EHT)	NA
1,2–Dichlorobenzene	µg/kg	330	360 UJ(EHT)	NA
2–Methylphenol	µg/kg	330	360 UJ(EHT)	NA
2,2–oxibis–(1–Chloropropane)	µg/kg	330	360 UJ(EHT)	NA
4–Methylphenol	µg/kg	330	360 UJ(EHT)	NA
N–Nitroso–di–N–propylamine	µg/kg	330	360 UJ(EHT)	NA
Hexachloroethane	µg/kg	330	360 UJ(EHT)	NA
Nitrobenzene	µg/kg	330	360 UJ(EHT)	NA
Isophorone	µg/kg	330	360 UJ(EHT)	NA
2–Nitrophenol	µg/kg	330	360 UJ(EHT)	NA
2,4–Dimethylphenol	µg/kg	330	360 UJ(EHT)	NA
bis(2–Chloroethoxy)methane	µg/kg	330	360 UJ(EHT)	NA
2,4–Dichlorophenol	µg/kg	330	360 UJ(EHT)	NA
1,2,4–Trichlorobenzene	µg/kg	330	360 UJ(EHT)	NA
Naphthalene	µg/kg	330	360 UJ(EHT)	NA
4–Chloroaniline	µg/kg	330	360 UJ(EHT)	NA
Hexachlorobutadiene	µg/kg	330	360 UJ(EHT)	NA
4–Chloro–3–methylphenol	µg/kg	330	360 UJ(EHT)	NA
2–Methylnaphthalene	µg/kg	330	360 UJ(EHT)	NA
Hexachlorocyclopentadiene	µg/kg	330	360 UJ(EHT, CCV)	NA
2,4,6–Trichlorophenol	µg/kg	330	360 UJ(EHT)	NA
2,4,5–Trichlorophenol	µg/kg	800	870 UJ(EHT)	NA
2–Chloronaphthalene	µg/kg	330	360 UJ(EHT)	NA
2–Nitroaniline	µg/kg	800	870 UJ(EHT)	NA
Dimethyl phthalate	µg/kg	330	360 UJ(EHT)	NA
Acenaphthylene	µg/kg	330	360 UJ(EHT)	NA
2,6–Dinitrotoluene	µg/kg	330	360 UJ(EHT)	NA
3–Nitroaniline	µg/kg	800	870 UJ(EHT, CCV)	NA
Acenaphthene	µg/kg	330	360 UJ(EHT)	NA
2,4–Dinitrophenol	µg/kg	800	870 UJ(EHT, CCV)	NA
4–Nitrophenol	µg/kg	800	870 UJ(EHT)	NA
Dibenzofuran	µg/kg	330	360 UJ(EHT)	NA
2,4–Dinitrotoluene	µg/kg	330	360 UJ(EHT)	NA
Diethyl phthalate	µg/kg	330	360 UJ(EHT)	NA
4–Chlorophenyl phenyl ether	µg/kg	330	360 UJ(EHT)	NA
Fluorene	µg/kg	330	360 UJ(EHT)	NA
4–Nitroaniline	µg/kg	800	870 UJ(EHT)	NA
4,6–Dinitro–2–methylphenol	µg/kg	800	870 UJ(EHT)	NA
N–Nitrosodiphenylamine (1)	µg/kg	330	360 UJ(EHT)	NA

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB2–6–IR			SB2–6–IRRE
Laboratory ID Number			9546			9546RE
Collection Date			5–20–93			5–20–93
Collection Depth (ft)			16.5–17.5			16.5–17.5
Percent Solids			91			91
Associated Field QC Sample			TB52093			TB52093
			EB2–2, EB3–2			EB2–2, EB3–2
			N/A			N/A
			FB2–2, FB3–2			FB2–2, FB3–2
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)						
Extraction Date			6–5–93			N/A
Analysis Date			6–8–93			N/A
Dilution Factor			1			N/A
Parameter	Units	CRQL				
4–Bromophenyl phenyl ether	µg/kg	330	360 UJ(EHT)			NA
Hexachlorobenzene	µg/kg	330	360 UJ(EHT)			NA
Pentachlorophenol	µg/kg	800	870 UJ(EHT)			NA
Phenanthrene	µg/kg	330	360 UJ(EHT)			NA
Anthracene	µg/kg	330	360 UJ(EHT)			NA
Carbazole	µg/kg	330	360 UJ(EHT, CCV)			NA
di–N–Butyl phthalate	µg/kg	330	360 UJ(EHT)			NA
Fluoranthene	µg/kg	330	360 UJ(EHT)			NA
Pyrene	µg/kg	330	360 UJ(EHT)			NA
Butylbenzylphthalate	µg/kg	330	360 UJ(EHT)			NA
3,3'–Dichlorobenzidine	µg/kg	330	360 UJ(EHT)			NA
Benzo(a)anthracene	µg/kg	330	360 UJ(EHT)			NA
Chrysene	µg/kg	330	360 UJ(EHT)			NA
bis(2–Ethylhexyl)phthalate	µg/kg	330	360 UJ(EHT)			NA
di–N–Octyl phthalate	µg/kg	330	360 UJ(EHT)			NA
Benzo(b)fluoranthene	µg/kg	330	360 UJ(EHT)			NA
Benzo(k)fluoranthene	µg/kg	330	360 UJ(EHT)			NA
Benzo(a)pyrene	µg/kg	330	360 UJ(EHT)			NA
Indeno(1,2,3–c,d)pyrene	µg/kg	330	360 UJ(EHT)			NA
Dibenzo(a,h)anthracene	µg/kg	330	360 UJ(EHT)			NA
Benzo(g,h,i)perylene	µg/kg	330	360 UJ(EHT)			NA
TICs	µg/kg		Unknown [d]	350 J	(RT 13.69)	NA
			2,3,7–Trimethyl–Decane [b]	510 J,N	(RT 14.67)	
			Unknown [d]	1200 J	(RT 14.92)	
			2,6,11–Trimethyl–Dodecane [b]	1000 J,N	(RT 16.87)	
			5–Propyl–Tridecane [b]	430 J,N	(RT 17.55)	
			Unknown [d]	930 J	(RT 18.34)	
			2,6–Dimethyl–Heptadecane [b]	500 J,N	(RT 18.39)	
			Unknown [d]	610 J	(RT 19.74)	
			Unknown [d]	440 J	(RT 19.80)	
			Unknown [d]	620 J	(RT 21.05)	
			Unknown [d]	520 J	(RT 22.32)	
			Unknown [d]	770 J	(RT 23.54)	
			Unknown [d]	580 J	(RT 24.70)	
			Unknown [d]	660 J	(RT 25.82)	
			Unknown [d]	510 J	(RT 26.91)	
			Unknown [d]	490 J	(RT 27.96)	
			Octacosane [b]	350 J,N	(RT 28.96)	
			Unknown [d]	460 J	(RT 29.96)	
			Unknown [d]	290 J	(RT 30.92)	
			Unknown [d]	290 J	(RT 31.87)	
TIC Total	µg/kg			11510 (20)		NA

Table F–6. Data Presentation Table: Soil – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

Validation note: All descriptive data qualifiers applied to the reported values by the laboratory are reported in parentheses.
Each data point has been assessed to determine whether the value is considered usable (i.e., no qualifier), usable but estimated (i.e., "J"), or not usable (i.e., "R"). All usability qualifiers are followed by the applicable laboratory or field QC qualifier, presented in parentheses and defined below. Usability qualifiers were not applied to values qualified by the laboratory, but were not considered to have been adversely impacted by the applicable laboratory QC result (e.g., duplicated and matrix spike analysis).
A – samples were analyzed for VOCs using SW 8240, laboratory analyses followed methods outlined in the March 1990 CLP SOW for organic analyses
B – samples were analyzed for SVOCs using SW 3550/8270, laboratory analysis followed method details outlined in the March 1990 CLP SOW for organic analyses
CRQL – Contract Required Quantitation Limit
IDL – Instrument Detection Limit
MDL – Method Detection Limit
NA – not analyzed
N/A – not applicable
RT – retention time in minutes
TICs – tentatively identified compounds, total concentration is listed and the total number of tentatively identified compounds is inside the parenthases
Data Validation Qualifiers
J – associated numerical value is the approximate concentration
R – rejected value
U – compound/element was included in analysis, but was not detected
UJ – reported quantitation limit is approximate and may or may not represent the actual quantitation necessary to accurately and precisely measure the analyte
Explanatory Data Validation Qualifiers
CCV – continuing calibration verification
D – the identified compound was analyzed at a secondary dilution factor after exceeding the calibration range of the instrument on the first analysis
EB – compound/element was also detected in the associated equipment blank
EHT – extraction holding time outside control limits
FB – compound/element was also detected in the associated field blank
IS – internal standard outside control limits
MB – compound/element was also detected in the associated laboratory method blank
r – correlation coefficient for the calibration curve is less than 0.995
SR – surrogate recovery outside control limits
EPA–defined CLP SOW Laboratory Qualifiers
A(TICs) – suspects ALDOL–condensation product
B(metals) – the reported value is estimated because it is greater than the Instrument Detection Limit (IDL), but less than the Contract Required Detection Limit (CRDL)
B(organics) – compound was also detected in the associated laboratory method blank
E(metals) – the reported value is estimated due to the presence of interference
E(organics) – concentration exceeds the calibration range of the instrument; the sample must be diluted and reanalyzed
N – spiked sample recovery outside of control limits
N(TICs) – presumptive evidence of a compound
W – post–digestion spike for Graphite Furnace Atomic Absorption (GFAA) analysis is out of control limits (85–115%), while sample absorbance is less than 50% of the spike absorbance
X – compound is present, but does not meet CLP criteria
* – duplicate sample analysis outside of control limits
SAIC TIC Evaluation Categories
[a] – laboratory and extraction artifacts
[b] – petroleum or petroleum degradation products
[c] – other
[d] – unknown
[e] – polycyclic aromatic hydrocarbons
[f] – naturally occuring organic compounds
SAIC TIC Evaluation Categories
[a] – laboratory and extraction artifacts
[b] – petroleum or petroleum degradation products
[c] – other
[d] – unknown
[e] – polycyclic aromatic hydrocarbons
[f] – naturally occuring organic compounds

Table F–7. Data Presentation Table: Sediment – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

SAIC ID Number			SD2–1	SD2–1RE	SD2–1R
Laboratory ID Number			95268	95268RE	95269
Collection Date			8–26–92	8–26–92	8–26–92
Collection Depth (ft)			0.0–0.5	0.0–0.5	0.0–0.5
Percent Solids			68	68	68
Associated Field QC Sample			TB–10	TB–10	TB–10
			ERBG–1	ERBG–1	ERBG–1
			FBBG–1	FBBG–1	FBBG–1
			SD5–FB	SD5–FB	SD5–FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)					
Extraction Date			9–11–92	N/A	9–11–92
Analysis Date			9–19–92	N/A	9–19–92
Dilution Factor			100	N/A	1
Parameter	Units	MDL			
Gasoline	mg/kg	N/A	NA	NA	NA
Diesel Fuel	mg/kg	2	180 J(FD, EHT)	NA	<3 UJ(EHT)
Heavy Oil	mg/kg	2	640 J(FD, EHT)	NA	5 J(FD, EHT)
PRIORITY POLLUTANT METALS					
Digestion Date(s)			9–17, 9–21 and 9–22–92	N/A	9–17, 9–21 and 9–22–92
Analysis Date(s)			9–20 to 10–8–92	N/A	9–20 to 10–8–92
Dilution Factor		IDL	1	N/A	1
AA METALS					
Antimony (SW 3050/7041)	mg/kg	2	0.94 J(N)	NA	R(N)
Arsenic (SW 3050/7060)	mg/kg	1.5	5.4 J(N,*)	NA	8.6 J(N,*)
Lead (SW 3050/7421)	mg/kg	0.9	154 *	NA	106 *
Mercury (SW 3050/7471)	mg/kg	0.2	0.22	NA	0.09 U
Selenium (SW 3050/7740)	mg/kg	1.4	R(N)	NA	R(N)
Thallium (SW 3050/7841)	mg/kg	1.9	0.22 J(W)	NA	0.19 B
ICP METALS (SW 3050/6010)					
Beryllium	mg/kg	0.3	0.39 B	NA	0.25 B
Cadmium	mg/kg	2.1	3.3	NA	0.2 U
Chromium	mg/kg	4	41.9 J(N,FD)	NA	6.7 J(N,FD)
Copper	mg/kg	3.9	27.7 J(FD)	NA	11.7 J(FD)
Nickel	mg/kg	10.3	19	NA	11.5
Silver	mg/kg	3	2.1 U(MB)	NA	1.2 U(MB)
Zinc	mg/kg	3.5	284 J(N,E,FD)	NA	44.5 J(N,E,FD)

Table F–7. Data Presentation Table: Sediment – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD2–1			SD2–1RE	SD2–1R	
Laboratory ID Number			95268			95268RE	95269	
Collection Date			8–26–92			8–26–92	8–26–92	
Collection Depth (ft)			0.0–0.5			0.0–0.5	0.0–0.5	
Percent Solids			68			68	68	
Associated Field QC Sample			TB–10			TB–10	TB–10	
			ERBG–1			ERBG–1	ERBG–1	
			FBBG–1			FBBG–1	FBBG–1	
			SD5–FB			SD5–FB	SD5–FB	
VOLATILE ORGANICS (SW 8240 (A))								
Analysis Date			9–2–92			9–3–92	9–2–92	
Dilution Factor			1			2	1	
Parameter	Units	CRQL						
Chloromethane	µg/kg	10	15 U			29 U	12 U	
Bromomethane	µg/kg	10	15 U			29 U	12 U	
Vinyl Chloride	µg/kg	10	15 U			29 U	12 U	
Chloroethane	µg/kg	10	15 U			29 U	12 U	
Methylene Chloride	µg/kg	10	15 U			29 U	12 U	
Acetone	µg/kg	10	280			200	12 U	
Carbon Disulfide	µg/kg	10	2 J			29 U	12 U	
1,1–Dichloroethene	µg/kg	10	15 U			29 U	12 U	
1,1–Dichloroethane	µg/kg	10	15 U			29 U	12 U	
1,2–Dichloroethene (total)	µg/kg	10	15 U			29 U	12 U	
Chloroform	µg/kg	10	15 U			29 U	12 U	
1,2–Dichloroethane	µg/kg	10	15 U			29 U	12 U	
2–Butanone	µg/kg	10	59			46	12 U	
1,1,1–Trichloroethane	µg/kg	10	15 U			29 U	12 U	
Carbon Tetrachloride	µg/kg	10	15 U			29 U	12 U	
Bromodichloromethane	µg/kg	10	15 U			29 U	12 U	
1,2–Dichloropropane	µg/kg	10	15 U			29 U	12 U	
cis–1,3–Dichloropropene	µg/kg	10	15 U			29 U	12 U	
Trichloroethene	µg/kg	10	15 U			29 U	12 U	
Dibromochloromethane	µg/kg	10	15 U			29 U	12 U	
1,1,2–Trichloroethane	µg/kg	10	15 U			29 U	12 U	
Benzene	µg/kg	10	15 U			29 U	12 U	
trans–1,3–Dichloropropene	µg/kg	10	15 U			29 U	12 U	
Bromoform	µg/kg	10	15 U			29 U	12 U	
4–Methyl–2–pentanone	µg/kg	10	15 UJ(IS)			29 U	12 U	
2–Hexanone	µg/kg	10	15 UJ(IS)			29 U	12 U	
Tetrachloroethene	µg/kg	10	15 UJ(IS)			29 U	12 U	
1,1,2,2–Tetrachloroethane	µg/kg	10	15 UJ(IS)			29 U	12 U	
Toluene	µg/kg	10	15 UJ(IS)			29 U	12 U	
Chlorobenzene	µg/kg	10	15 UJ(IS)			29 U	12 U	
Ethylbenzene	µg/kg	10	15 UJ(IS)			29 U	12 U	
Styrene	µg/kg	10	15 UJ(IS)			29 U	12 U	
Xylene (total)	µg/kg	10	15 UJ(IS)			29 U	12 U	
TICs	µg/kg		Pentane[b]	9 J,N	(RT 13.01)	0 (0)	0 (0)	
			Hexanal[c]	19 J,N	(RT 20.22)			
			2,4,4–Trimethyl–1–Pentene[b]	21 J,N	(RT 22.23)			
TIC Total	µg/kg			49 (3)		0 (0)	0 (0)	

Table F–7. Data Presentation Table: Sediment – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD2–1	SD2–1RE	SD2–1R
Laboratory ID Number			95268	95268RE	95269
Collection Date			8–26–92	8–26–92	8–26–92
Collection Depth (ft)			0.0–0.5	0.0–0.5	0.0–0.5
Percent Solids			68	68	68
Associated Field QC Sample			TB–10	TB–10	TB–10
			ERBG–1	ERBG–1	ERBG–1
			FBBG–1	FBBG–1	FBBG–1
			SD5–FB	SD5–FB	SD5–FB
SEMIVOLATILE ORGANICS (SW 8270 [B])					
Extraction Date			9–2–92	N/A	9–2–92
Analysis Date			9–21–92	N/A	9–19–92
Dilution Factor			20	N/A	1
Parameter	Units	CRQL			
Phenol	µg/kg	330	9400 UJ(SR)	NA	370 U
bis(2–Chloroethyl)ether	µg/kg	330	9400 UJ(SR)	NA	370 U
2–Chlorophenol	µg/kg	330	9400 UJ(SR)	NA	370 U
1,3–Dichlorobenzene	µg/kg	330	9400 UJ(SR)	NA	370 U
1,4–Dichlorobenzene	µg/kg	330	9400 UJ(SR)	NA	370 U
1,2–Dichlorobenzene	µg/kg	330	9400 UJ(SR)	NA	370 U
2–Methylphenol	µg/kg	330	9400 UJ(SR)	NA	370 U
2,2–oxibis–(1–Chloropropane)	µg/kg	330	9400 UJ(SR)	NA	370 U
4–Methylphenol	µg/kg	330	9400 UJ(SR)	NA	370 U
N–Nitroso–di–N–propylamine	µg/kg	330	9400 UJ(SR)	NA	370 U
Hexachloroethane	µg/kg	330	9400 UJ(SR)	NA	370 U
Nitrobenzene	µg/kg	330	9400 UJ(SR)	NA	370 U
Isophorone	µg/kg	330	9400 UJ(SR)	NA	370 U
2–Nitrophenol	µg/kg	330	9400 UJ(SR)	NA	370 U
2,4–Dimethylphenol	µg/kg	330	9400 UJ(SR)	NA	370 U
bis(2–Chloroethoxy)methane	µg/kg	330	9400 UJ(SR)	NA	370 U
2,4–Dichlorophenol	µg/kg	330	9400 UJ(SR)	NA	370 U
1,2,4–Trichlorobenzene	µg/kg	330	9400 UJ(SR)	NA	370 U
Naphthalene	µg/kg	330	9400 UJ(SR)	NA	370 U
4–Chloroaniline	µg/kg	330	9400 UJ(SR)	NA	370 U
Hexachlorobutadiene	µg/kg	330	9400 UJ(SR)	NA	370 U
4–Chloro–3–methylphenol	µg/kg	330	9400 UJ(SR)	NA	370 U
2–Methylnaphthalene	µg/kg	330	9400 UJ(SR)	NA	370 U
Hexachlorocyclopentadiene	µg/kg	330	9400 UJ(SR)	NA	370 U
2,4,6–Trichlorophenol	µg/kg	330	9400 UJ(SR)	NA	370 U
2,4,5–Trichlorophenol	µg/kg	800	23000 UJ(SR)	NA	900 U
2–Chloronaphthalene	µg/kg	330	9400 UJ(SR)	NA	370 U
2–Nitroaniline	µg/kg	800	23000 UJ(SR)	NA	900 U
Dimethyl phthalate	µg/kg	330	9400 UJ(SR)	NA	370 U
Acenaphthylene	µg/kg	330	9400 UJ(SR)	NA	370 U
2,6–Dinitrotoluene	µg/kg	330	9400 UJ(SR)	NA	370 U
3–Nitroaniline	µg/kg	800	23000 UJ(SR)	NA	900 U
Acenaphthene	µg/kg	330	9400 UJ(SR)	NA	370 U
2,4–Dinitrophenol	µg/kg	800	23000 UJ(SR)	NA	900 U
4–Nitrophenol	µg/kg	800	23000 UJ(CCV,SR)	NA	900 UJ(CCV)
Dibenzofuran	µg/kg	330	9400 UJ(SR)	NA	370 U
2,4–Dinitrotoluene	µg/kg	330	9400 UJ(SR)	NA	370 U
Diethyl phthalate	µg/kg	330	9400 UJ(SR)	NA	370 U
4–Chlorophenyl phenyl ether	µg/kg	330	9400 UJ(SR)	NA	370 U
Fluorene	µg/kg	330	9400 UJ(SR)	NA	370 U
4–Nitroaniline	µg/kg	800	23000 UJ(SR)	NA	900 U
4,6–Dinitro–2–methylphenol	µg/kg	800	23000 UJ(SR)	NA	900 U
N–Nitrosodiphenylamine (1)	µg/kg	330	9400 UJ(SR)	NA	370 U

Table F–7. Data Presentation Table: Sediment – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD2–1			SD2–1RE		SD2–1R		
Laboratory ID Number			95268			95268RE		95269		
Collection Date			8–26–92			8–26–92		8–26–92		
Collection Depth (ft)			0.0–0.5			0.0–0.5		0.0–0.5		
Percent Solids			68			68		68		
Associated Field QC Sample			TB–10			TB–10		TB–10		
			ERBG–1			ERBG–1		ERBG–1		
			FBBG–1			FBBG–1		FBBG–1		
			SD5–FB			SD5–FB		SD5–FB		
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)										
Extraction Date			9–2–92			N/A		9–2–92		
Analysis Date			9–21–92			N/A		9–19–92		
Dilution Factor			20			N/A		1		
Parameter	Units	CRQL								
4–Bromophenyl phenyl ether	µg/kg	330	9400 UJ(SR)			NA		370 U		
Hexachlorobenzene	µg/kg	330	9400 UJ(SR)			NA		370 U		
Pentachlorophenol	µg/kg	800	23000 UJ(SR)			NA		900 U		
Phenanthrene	µg/kg	330	22000 J(SR)			NA		360 J		
Anthracene	µg/kg	330	990 J(SR)			NA		370 U		
Carbazole	µg/kg	330	5300 J(SR)			NA		70 J		
di–N–Butyl phthalate	µg/kg	330	9400 UJ(SR)			NA		370 U		
Fluoranthene	µg/kg	330	36000 J(SR,FD)			NA		600 J(FD)		
Pyrene	µg/kg	330	29000 J(SR,FD)			NA		540 J(FD)		
Butylbenzylphthalate	µg/kg	330	9400 UJ(SR)			NA		370 U		
3,3'–Dichlorobenzidine	µg/kg	330	9400 UJ(SR)			NA		370 U		
Benzo(a)anthracene	µg/kg	330	9100 J(SR)			NA		200 J		
Chrysene	µg/kg	330	22000 J(SR)			NA		370 J		
bis(2–Ethylhexyl)phthalate	µg/kg	330	3600 J(SR)			NA		83 J		
di–N–Octyl phthalate	µg/kg	330	9400 UJ(SR)			NA		370 U		
Benzo(b)fluoranthene	µg/kg	330	25000 J(SR)			NA		350 J		
Benzo(k)fluoranthene	µg/kg	330	14000 J(SR)			NA		280 J		
Benzo(a)pyrene	µg/kg	330	15000 J(SR)			NA		180 J		
Indeno(1,2,3–c,d)pyrene	µg/kg	330	14000 J(SR)			NA		250 J		
Dibenzo(a,h)anthracene	µg/kg	330	9400 UJ(SR)			NA		370 U		
Benzo(g,h,i)perylene	µg/kg	330	10000 J(SR)			NA		220 J		
TICs	µg/kg		Phenol, 4–(1,1,3,3–Tetrameth[b]	23000 J,N	(RT 18.12)	NA		Unknown[d]	520 J	(RT 14.85)
			Unknown[d]	8500 J	(RT 21.57)			Phenol, 4–(1,1,3,3–Tetrameth[b]	1700 J,N	(RT 18.25)
			9,10–Anthracenedione[e]	11000 J,N	(RT 22.95)			Unknown[d]	860 J	(RT 21.70)
			Unknown[d]	15000 J	(RT 24.70)			Hexadecanoic Acid[b]	750 J,N	(RT 23.12)
			Unknown[d]	9400 J	(RT 27.69)			Unknown[d]	200 J	(RT 25.19)
			Unknown[d]	3700 J	(RT 27.82)			Octadecanoic Acid[b]	470 J,N	(RT 25.44)
			7–Hexyl–Eicosane[b]	9600 J,N	(RT 28.82)			Unknown[d]	120 J	(RT 26.84)
			Benz(A)Anthracene–7,12–Dione[e]	8100 J,N	(RT 29.82)			Unknown[d]	290 J	(RT 27.79)
			Unknown[d]	9300 J	(RT 30.79)			Pentacosane[b]	270 J,N	(RT 28.92)
			Unknown[d]	6800 J	(RT 31.39)			Unknown[d]	220 J	(RT 29.91)
			Unknown[d]	5700 J	(RT 31.74)			Unknown[d]	300 J	(RT 30.89)
			Unknown[d]	4200 J	(RT 32.01)			Unknown[d]	350 J	(RT 31.47)
			Benzo[J]Fluoranthene[e]	16000 J,N	(RT 32.21)			Octacosane[b]	190 J,N	(RT 31.82)
			Nonacosane[b]	8400 J,N	(RT 32.67)			Unknown[d]	180 J	(RT 32.11)
			Unknown[d]	9600 J	(RT 32.74)			Benzo[J]Fluoranthene[e]	190 J,N	(RT 32.27)
			Unknown[d]	6300 J	(RT 33.57)			Nonacosane[b]	390 J,N	(RT 32.74)
			Unknown[d]	12000 J	(RT 34.51)			Unknown[d]	240 J	(RT 33.66)
			Unknown[d]	10000 J	(RT 34.72)			Unknown[d]	880 J	(RT 34.57)
			Unknown[d]	5400 J	(RT 36.36)			Unknown[d]	330 J	(RT 34.82)
			(3S,24S)–Stigmast–5–En–3–Ol[e]	6600 J,N	(RT 36.52)			Unknown[d]	440 J	(RT 36.46)
TIC Total	µg/kg			188600 (20)		NA			8890 (20)	

Table F–7. Data Presentation Table: Sediment – Site 2 – Fire Training Area 2, 178 [1b] Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number				SD2–2	SD2–3	SD2–4
Laboratory ID Number				95270	9551	9552
Collection Date				8–26–92	5–21–93	5–21–93
Collection Depth (ft)				0.0–0.5	0.0–0.5	0.0–0.5
Percent Solids				56	87	88
Associated Field QC Sample				TB–10	TB52093	TB52093
				ERBG–1	EB2–2,EB3–2	EB2–2,EB3–2
				FBBG–1	N/A	N/A
				SD5–FB	FB2–2, FB3–2	FB2–2, FB3–2
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)						
Extraction Date				9–22–92	5–25 and 5–29–93	5–25 and 5–29–93
Analysis Date				9–28–92	6–8 and 6–18–93	6–8 and 6–18–93
Dilution Factor				1	10	1
Parameter	Units	MDL	or MDL			
Gasoline	mgk g	N/A	0.05	NA	<0.05	<0.06
Diesel Fuel	mgk g	2	2	<3 UJ(EHT)	<19	3
Heavy Oil	mg/kg	2	3	43 J(EHT)	63	10
PRIORITY POLLUTANT METALS						
Digestion Date(s)				9–17, 9–21 and 9–22–92	6–11 and 6–17–93	6–11 and 6–17–93
Analysis Date(s)				9–20 to 10–8–92	6–11 to 6–28–93	6–11 to 6–25–93
Dilution Factor		IDL	or IDL	1	1	1
AA METALS						
Antimony (SW 3050/7041)	mgk g	2	0.6	0.43 J(N)	0.64 J(N,W)	0.1 UJ(MB,N,W)
Arsenic (SW 3050/7060)	mgk g	1.5	0.6	10.6 J(N,*)	21.5 J(N)	9.7 J(N)
Lead (SW 3050/7421)	mg/kg	0.9	0.5	13.6 *	19.3 J(N)	12.4 J(N)
Mercury (SW 3050/7471)	mgk g	0.2	0.1	0.12 U	0.05 U	0.05 U
Selenium (SW 3050/7740)	mgk g	1.4	0.9	R(N)	0.15 UJ(W)	0.16 UJ(W)
Thallium (SW 3050/7841)	mgk g	1.9	1.4	0.22 B	0.29 J(W)	0.24 J(W)
ICP METALS (SW 3050/6010)						
Beryllium	mgk g	0.3	0.3	0.3 B	0.27 U(MB)	0.52 B
Cadmium	mg/kg	2.1	3.7	0.38 B	0.59 B	0.62 U
Chromium	mgk g	4	2.8	6.8 J(N)	8.1	13.4
Copper	mgk g	3.9	2.7	13.4	9.9	21
Nickel	mgk g	10.3	19.8	10.7	10.2	24.5
Silver	mgk g	3	2.9	1.1 U(MB)	0.46 U	0.49 U
Zinc	mgk g	3.5	1.6	56.2 J(N,E)	34.2 J(E)	53 J(E)

Table F–7. Data Presentation Table: Sediment – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD2–2	SD2–3	SD2–4
Laboratory ID Number			95270	9551	9552
Collection Date			8–26–92	5–21–93	5–21–93
Collection Depth (ft)			0.0–0.5	0.0–0.5	0.0–0.5
Percent Solids			56	87	88
Associated Field QC Sample			TB–10	TB52093	TB52093
			ERBG–1	EB2–2, EB3–2	EB2–2, EB3–2
			FBBG–1	N/A	N/A
			SD5–FB	FB2–2, FB3–2	FB2–2, FB3–2
VOLATILE ORGANICS (SW 8240 [A])					
Analysis Date			9–2–92	5–27–93	5–27–93
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Chloromethane	µg/kg	10	18 U	11 U	11 U
Bromomethane	µg/kg	10	18 U	11 U	11 U
Vinyl Chloride	µg/kg	10	18 U	11 U	11 U
Chloroethane	µg/kg	10	18 U	11 U	11 U
Methylene Chloride	µg/kg	10	18 U	11 U	11 U
Acetone	µg/kg	10	26	11 U	11 U
Carbon Disulfide	µg/kg	10	18 U	11 U	11 U
1,1–Dichloroethene	µg/kg	10	18 U	11 U	11 U
1,1–Dichloroethane	µg/kg	10	18 U	11 U	11 U
1,2–Dichloroethene (total)	µg/kg	10	18 U	11 U	11 U
Chloroform	µg/kg	10	18 U	11 U	11 U
1,2–Dichloroethane	µg/kg	10	18 U	11 U	11 U
2–Butanone	µg/kg	10	9 J	11 U	11 U
1,1,1–Trichloroethane	µg/kg	10	18 U	11 U	11 U
Carbon Tetrachloride	µg/kg	10	18 U	11 U	11 U
Bromodichloromethane	µg/kg	10	18 U	11 U	11 U
1,2–Dichloropropane	µg/kg	10	18 U	11 U	11 U
cis–1,3–Dichloropropene	µg/kg	10	18 U	11 U	11 U
Trichloroethene	µg/kg	10	18 U	11 U	11 U
Dibromochloromethane	µg/kg	10	18 U	11 U	11 U
1,1,2–Trichloroethane	µg/kg	10	18 U	11 U	11 U
Benzene	µg/kg	10	18 U	11 U	11 U
trans–1,3–Dichloropropene	µg/kg	10	18 U	11 U	11 U
Bromoform	µg/kg	10	18 U	11 U	11 U
4–Methyl–2–pentanone	µg/kg	10	18 U	11 U	11 U
2–Hexanone	µg/kg	10	18 U	11 U	11 U
Tetrachloroethene	µg/kg	10	18 U	11 U	11 U
1,1,2,2–Tetrachloroethane	µg/kg	10	18 U	11 U	11 U
Toluene	µg/kg	10	18 U	11 U	11 U
Chlorobenzene	µg/kg	10	18 U	11 U	11 U
Ethylbenzene	µg/kg	10	18 U	11 U	11 U
Styrene	µg/kg	10	18 U	11 U	11 U
Xylene (total)	µg/kg	10	18 U	11 U	11 U
TICs	µg/kg		0 (0)	0 (0)	0 (0)
TIC Total	µg/kg		0 (0)	0 (0)	0 (0)

Table F-7. Data Presentation Table: Sediment -- Site 2 -- Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD2-2	SD2-3	SD2-4
Laboratory ID Number			95270	9551	9552
Collection Date			8-26-92	5-21-93	5-21-93
Collection Depth (ft)			0.0-0.5	0.0-0.5	0.0-0.5
Percent Solids			56	87	88
Associated Field QC Sample			TB-10	TB52093	TB52093
			ERBG-1	EB2-2, EB3-2	EB2-2, EB3-2
			FBBG-1	N/A	N/A
			SD5-FB	FB2-2, FB3-2	FB2-2, FB3-2
SEMIVOLATILE ORGANICS (SW 8270 [B])					
Extraction Date			9-2-92	5-27-93	5-27-93
Analysis Date			9-19-92	6-4-93	6-4-93
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Phenol	µg/kg	330	530 U	370 U	370 U
bis(2-Chloroethyl)ether	µg/kg	330	530 U	370 U	370 U
2-Chlorophenol	µg/kg	330	530 U	370 U	370 U
1,3-Dichlorobenzene	µg/kg	330	530 U	370 U	370 U
1,4-Dichlorobenzene	µg/kg	330	530 U	370 U	370 U
1,2-Dichlorobenzene	µg/kg	330	530 U	370 U	370 U
2-Methylphenol	µg/kg	330	530 U	370 U	370 U
2,2-oxibis-(1-Chloropropane)	µg/kg	330	530 U	370 UJ(CCV)	370 UJ(CCV)
4-Methylphenol	µg/kg	330	530 U	370 U	370 U
N-Nitroso-di-N-propylamine	µg/kg	330	530 U	370 U	370 U
Hexachloroethane	µg/kg	330	530 U	370 U	370 U
Nitrobenzene	µg/kg	330	530 U	370 U	370 U
Isophorone	µg/kg	330	530 U	370 U	370 U
2-Nitrophenol	µg/kg	330	530 U	370 U	370 U
2,4-Dimethylphenol	µg/kg	330	530 U	370 U	370 U
bis(2-Chloroethoxy)methane	µg/kg	330	530 U	370 U	370 U
2,4-Dichlorophenol	µg/kg	330	530 U	370 U	370 U
1,2,4-Trichlorobenzene	µg/kg	330	530 U	370 U	370 U
Naphthalene	µg/kg	330	530 U	370 U	370 U
4-Chloroaniline	µg/kg	330	530 U	370 U	370 U
Hexachlorobutadiene	µg/kg	330	530 U	370 U	370 U
4-Chloro-3-methylphenol	µg/kg	330	530 U	370 U	370 U
2-Methylnaphthalene	µg/kg	330	530 U	370 U	370 U
Hexachlorocyclopentadiene	µg/kg	330	530 U	370 UJ(CCV)	370 UJ(CCV)
2,4,6-Trichlorophenol	µg/kg	330	530 U	370 U	370 U
2,4,5-Trichlorophenol	µg/kg	800	1300 U	900 U	910 U
2-Chloronaphthalene	µg/kg	330	530 U	370 U	370 U
2-Nitroaniline	µg/kg	800	1300 U	900 U	910 U
Dimethyl phthalate	µg/kg	330	530 U	370 U	370 U
Acenaphthylene	µg/kg	330	530 U	370 U	370 U
2,6-Dinitrotoluene	µg/kg	330	530 U	370 UJ(CCV)	370 UJ(CCV)
3-Nitroaniline	µg/kg	800	1300 U	900 U	910 U
Acenaphthene	µg/kg	330	530 U	370 U	370 U
2,4-Dinitrophenol	µg/kg	800	1300 U	900 U	910 U
4-Nitrophenol	µg/kg	800	1300 UJ(CCV)	900 U	910 U
Dibenzofuran	µg/kg	330	530 U	370 U	370 U
2,4-Dinitrotoluene	µg/kg	330	530 U	370 U	370 U
Diethyl phthalate	µg/kg	330	530 U	370 U	370 U
4-Chlorophenyl phenyl ether	µg/kg	330	530 U	370 U	370 U
Fluorene	µg/kg	330	530 U	370 U	370 U
4-Nitroaniline	µg/kg	800	1300 U	900 U	910 U
4,6-Dinitro-2-methylphenol	µg/kg	800	1300 U	900 U	910 U
N-Nitrosodiphenylamine (1)	µg/kg	330	530 U	370 U	370 U

Table F–7. Data Presentation Table: Sediment – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD2–2	SD2–3	SD2–4
Laboratory ID Number			95270	9551	9552
Collection Date			8–26–92	5–21–93	5–21–93
Collection Depth (ft)			0.0–0.5	0.0–0.5	0.0–0.5
Percent Solids			56	87	88
Associated Field QC Sample			TB–10	TB52093	TB52093
			ERBG–1	EB2–2, EB3–2	EB2–2, EB3–2
			FBBG–1	N/A	N/A
			SD5–FB	FB2–2, FB3–2	FB2–2, FB3–2
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)					
Extraction Date			9–2–92	5–27–93	5–27–93
Analysis Date			9–19–92	6–4–93	6–4–93
Dilution Factor			1	1	1
Parameter	Units	CRQL			
4–Bromophenyl phenyl ether	µg/kg	330	530 U	370 U	370 U
Hexachlorobenzene	µg/kg	330	530 U	370 U	370 U
Pentachlorophenol	µg/kg	800	1300 U	900 U	910 U
Phenanthrene	µg/kg	330	360 J	370 J	370 U
Anthracene	µg/kg	330	530 U	370 U	370 U
Carbazole	µg/kg	330	530 U	170 J(CCV)	370 UJ(CCV)
di–N–Butyl phthalate	µg/kg	330	530 U	370 U	370 U
Fluoranthene	µg/kg	330	850	920	53 J
Pyrene	µg/kg	330	850	820	49 J
Butylbenzylphthalate	µg/kg	330	530 U	370 U	370 U
3,3'–Dichlorobenzidine	µg/kg	330	530 U	370 UJ(CCV)	370 UJ(CCV)
Benzo(a)anthracene	µg/kg	330	330 J	330 J	370 U
Chrysene	µg/kg	330	640	580	370 U
bis(2–Ethylhexyl)phthalate	µg/kg	330	140 J	370 U(MB)	370 U(MB)
di–N–Octyl phthalate	µg/kg	330	530 U	370 U	370 U
Benzo(b)fluoranthene	µg/kg	330	620	1000	65 J
Benzo(k)fluoranthene	µg/kg	330	290 J	380	370 U
Benzo(a)pyrene	µg/kg	330	310 J	410	370 U
Indeno(1,2,3–c,d)pyrene	µg/kg	330	330 J	480	370 U
Dibenzo(a,h)anthracene	µg/kg	330	530 U	370 U	370 U
Benzo(g,h,i)perylene	µg/kg	330	300 J	350 J	370 U
TICs	µg/kg		7–Hexadecenoic Acid, Methyl [b] 1300 J,N (RT 22.25)	4–Hydroxy–4–Methyl–2–Pentanone [a] 18000 B,J,N,A (RT 3.80)	4–Hydroxy–4–Methyl–2–Pentanone [a] 11000 B,J,N,A (RT 3.77)
			9–Hexadecenoic Acid, Methyl [b] 640 J,N (RT 22.37)	Unknown [d] 480 J (RT 18.65)	Unknown [d] 180 J (RT 10.45)
			9–Octadecenoic Acid, 12–(Ace [b] 680 J,N (RT 22.52)	5–Propyl–Tridecane [b] 330 J,N (RT 19.25)	Unknown [d] 61 J (RT 12.25)
			Unknown [d] 1500 J (RT 23.00)	Unknown [d] 75 J (RT 20.04)	Unknown [d] 130 J (RT 13.54)
			Unknown [d] 1200 J (RT 23.09)	Unknown [d] 170 J (RT 21.37)	Unknown [d] 300 J (RT 18.65)
			Hexadecanoic Acid [b] 1700 J,N (RT 23.27)	Hexadecanoic Acid [f] 140 J,N (RT 22.24)	Unknown [d] 78 J (RT 21.37)
			Octadecanoic Acid [b] 600 J,N (RT 25.49)	9,10–Phenanthrenedione [a] 160 J,N (RT 22.37)	Unknown [d] 77 J (RT 22.65)
			Unknown [d] 3800 J (RT 28.96)	Unknown [d] 120 J (RT 22.65)	Unknown [d] 150 J (RT 23.54)
			Unknown [d] 1800 J (RT 30.09)	Unknown [d] 130 J (RT 23.87)	Unknown [d] 150 J (RT 23.87)
			Octacosane [b] 550 J,N (RT 30.91)	Unknown [d] 90 J (RT 25.06)	Unknown [d] 130 J (RT 25.06)
			Unknown [d] 2300 J (RT 30.99)	Unknown [d] 130 J (RT 26.17)	Unknown [d] 180 J (RT 26.17)
			Unknown [d] 900 J (RT 32.01)	Unknown [d] 170 J (RT 27.27)	Unknown [d] 190 J (RT 27.27)
			Unknown [d] 560 J (RT 32.14)	Unknown [d] 88 J (RT 28.31)	Unknown [d] 230 J (RT 28.31)
			Nonacosane [b] 920 J,N (RT 32.79)	Unknown [d] 120 J (RT 29.34)	Unknown [d] 230 J (RT 29.32)
			Unknown [d] 3000 J (RT 32.91)	Unknown [d] 540 J (RT 30.32)	Unknown [d] 370 J (RT 30.32)
			Unknown [d] 2100 J (RT 34.64)	Unknown [d] 380 J (RT 30.89)	Octacosane [b] 250 J,N (RT 31.29)
			Unknown [d] 1400 J (RT 34.89)	Octacosane [b] 220 J,N (RT 31.31)	Unknown [d] 100 J (RT 31.39)
			Unknown [d] 2800 J (RT 35.89)	Unknown [d] 230 J (RT 31.39)	Unknown [d] 300 J (RT 32.26)
			(3ß,22E)–Stigmasta–5,22–Dien–3–Ol [a] 1300 J,N (RT 36.22)	Benzo[E]Pyrene [c] 440 J,N (RT 31.81)	Unknown [d] 160 J (RT 33.21)
			(3ß,24S)–Stigmast–5–En–3–Ol [a] 3300 J,N (RT 36.79)	Unknown [d] 370 J (RT 32.26)	Unknown [d] 200 J (RT 34.17)
				Unknown [d] 490 J (RT 34.19)	Unknown [d] 84 J (RT 34.42)
TIC Total	µg/kg		32350 (20)	22873 (21)	14550 (21)

Table F-7. Data Presentation Table: Sediment – Site 2 – Fire Training Area 2
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD2-5	SD2-6
Laboratory ID Number			9553	9554
Collection Date			5-21-93	5-21-93
Collection Depth (ft)			0.0-0.5	0.0-0.5
Percent Solids			78	88
Associated Field QC Sample			TB52093	TB52093
			EB2-2, EB3-2	EB2-2, EB3-2
			N/A	N/A
			FB2-2, FB3-2	FB2-2, FB3-2
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)				
Extraction Date			5-25 and 5-29-93	5-25 and 5-29-93
Analysis Date			6-8 and 6-18-93	6-8 and 6-18-93
Dilution Factor			10	10
Parameter	Units	MDL		
Gasoline	mg/kg	0.05	<0.06	<0.05
Diesel Fuel	mg/kg	2	<21	<18
Heavy Oil	mg/kg	3	85	70
PRIORITY POLLUTANT METALS				
Digestion Date(s)			6-11 and 6-17-93	6-11 and 6-17-93
Analysis Date(s)			6-11 to 6-25-93	6-11 to 6-25-93
Dilution Factor		IDL	1	1
AA METALS				
Antimony (SW 3050/7041)	mg/kg	0.6	0.11 UJ(N,W)	0.10 UJ(N,W)
Arsenic (SW 3050/7060)	mg/kg	0.6	6.3 J(N)	3.6 J(N)
Lead (SW 3050/7421)	mg/kg	0.5	14.6 J(N)	12.5 J(N)
Mercury (SW 3050/7471)	mg/kg	0.1	0.06 U	0.05 U
Selenium (SW 3050/7740)	mg/kg	0.9	0.16 UJ(W)	0.15 U
Thallium (SW 3050/7841)	mg/kg	1.4	0.25 U	0.23 UJ(W)
ICP METALS (SW 3050/6010)				
Beryllium	mg/kg	0.3	0.72 B	0.23 U(MB)
Cadmium	mg/kg	3.7	1.2	0.59 U
Chromium	mg/kg	2.8	19.1	6.8
Copper	mg/kg	2.7	19.9	7.3
Nickel	mg/kg	19.8	18.2	6.3
Silver	mg/kg	2.9	0.48 U	0.46 U
Zinc	mg/kg	1.6	59 J(E)	22.6 J(E)

Table F-7. Data Presentation Table: Sediment – Site 2 – Fire Training Area 2
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD2-5	SD2-6
Laboratory ID Number			9553	9554
Collection Date			5-21-93	5-21-93
Collection Depth (ft)			0.0-0.5	0.0-0.5
Percent Solids			78	88
Associated Field QC Sample			TB52093	TB52093
			EB2-2, EB3-2	EB2-2, EB3-2
			N/A	N/A
			FB2-2, FB3-2	FB2-2, FB3-2
VOLATILE ORGANICS (SW 8240 [A])				
Analysis Date			5-27-93	5-27-93
Dilution Factor			1	1
Parameter	Units	CRQL		
Chloromethane	µg/kg	10	13 U	11 U
Bromomethane	µg/kg	10	13 U	11 U
Vinyl Chloride	µg/kg	10	13 U	11 U
Chloroethane	µg/kg	10	13 U	11 U
Methylene Chloride	µg/kg	10	13 U	11 U
Acetone	µg/kg	10	13 U	11 U
Carbon Disulfide	µg/kg	10	13 U	11 U
1,1-Dichloroethene	µg/kg	10	13 U	11 U
1,1-Dichloroethane	µg/kg	10	13 U	11 U
1,2-Dichloroethene (total)	µg/kg	10	13 U	11 U
Chloroform	µg/kg	10	13 U	11 U
1,2-Dichloroethane	µg/kg	10	13 U	11 U
2-Butanone	µg/kg	10	13 U	11 U
1,1,1-Trichloroethane	µg/kg	10	13 U	11 U
Carbon Tetrachloride	µg/kg	10	13 U	11 U
Bromodichloromethane	µg/kg	10	13 U	11 U
1,2-Dichloropropane	µg/kg	10	13 U	11 U
cis-1,3-Dichloropropene	µg/kg	10	13 U	11 U
Trichloroethene	µg/kg	10	13 U	11 U
Dibromochloromethane	µg/kg	10	13 U	11 U
1,1,2-Trichloroethane	µg/kg	10	13 U	11 U
Benzene	µg/kg	10	13 U	11 U
trans-1,3-Dichloropropene	µg/kg	10	13 U	11 U
Bromoform	µg/kg	10	13 U	11 U
4-Methyl-2-pentanone	µg/kg	10	13 U	11 U
2-Hexanone	µg/kg	10	13 U	11 U
Tetrachloroethene	µg/kg	10	13 U	11 U
1,1,2,2-Tetrachloroethane	µg/kg	10	13 U	11 U
Toluene	µg/kg	10	13 U	11 U
Chlorobenzene	µg/kg	10	13 U	11 U
Ethylbenzene	µg/kg	10	13 U	11 U
Styrene	µg/kg	10	13 U	11 U
Xylene (total)	µg/kg	10	13 U	11 U
TICs	µg/kg		0 (0)	0 (0)
TIC Total	µg/kg		0 (0)	0 (0)

Table F–7. Data Presentation Table: Sediment – Site 2 – Fire Training Area 2
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD2–5	SD2–6
Laboratory ID Number			9553	9554
Collection Date			5–21–93	5–21–93
Collection Depth (ft)			0.0–0.5	0.0–0.5
Percent Solids			78	88
Associated Field QC Sample			TB52093	TB52093
			EB2–2, EB3–2	EB2–2, EB3–2
			N/A	N/A
			FB2–2, FB3–2	FB2–2, FB3–2
SEMIVOLATILE ORGANICS (SW 8270 [B])				
Extraction Date			5–27–93	5–27–93
Analysis Date			6–4–93	6–4–93
Dilution Factor			1	1
Parameter	Units	CRQL		
Phenol	µg/kg	330	420 U	370 U
bis(2–Chloroethyl)ether	µg/kg	330	420 U	370 U
2–Chlorophenol	µg/kg	330	420 U	370 U
1,3–Dichlorobenzene	µg/kg	330	420 U	370 U
1,4–Dichlorobenzene	µg/kg	330	420 U	370 U
1,2–Dichlorobenzene	µg/kg	330	420 U	370 U
2–Methylphenol	µg/kg	330	420 U	370 U
2,2–oxibis–(1–Chloropropane)	µg/kg	330	420 UJ(CCV)	370 UJ(CCV)
4–Methylphenol	µg/kg	330	420 U	370 U
N–Nitroso–di–N–propylamine	µg/kg	330	420 U	370 U
Hexachloroethane	µg/kg	330	420 U	370 U
Nitrobenzene	µg/kg	330	420 U	370 U
Isophorone	µg/kg	330	420 U	370 U
2–Nitrophenol	µg/kg	330	420 U	370 U
2,4–Dimethylphenol	µg/kg	330	420 U	370 U
bis(2–Chloroethoxy)methane	µg/kg	330	420 U	370 U
2,4–Dichlorophenol	µg/kg	330	420 U	370 U
1,2,4–Trichlorobenzene	µg/kg	330	420 U	370 U
Naphthalene	µg/kg	330	420 U	370 U
4–Chloroaniline	µg/kg	330	420 U	370 U
Hexachlorobutadiene	µg/kg	330	420 U	370 U
4–Chloro–3–methylphenol	µg/kg	330	420 U	370 U
2–Methylnaphthalene	µg/kg	330	420 U	370 U
Hexachlorocyclopentadiene	µg/kg	330	420 UJ(CCV)	370 UJ(CCV)
2,4,6–Trichlorophenol	µg/kg	330	420 U	370 U
2,4,5–Trichlorophenol	µg/kg	800	1000 U	890 U
2–Chloronaphthalene	µg/kg	330	420 U	370 U
2–Nitroaniline	µg/kg	800	1000 U	890 U
Dimethyl phthalate	µg/kg	330	420 U	370 U
Acenaphthylene	µg/kg	330	420 U	370 U
2,6–Dinitrotoluene	µg/kg	330	420 UJ(CCV)	370 UJ(CCV)
3–Nitroaniline	µg/kg	800	1000 U	890 U
Acenaphthene	µg/kg	330	420 U	370 U
2,4–Dinitrophenol	µg/kg	800	1000 U	890 U
4–Nitrophenol	µg/kg	800	1000 U	890 U
Dibenzofuran	µg/kg	330	420 U	370 U
2,4–Dinitrotoluene	µg/kg	330	420 U	370 U
Diethyl phthalate	µg/kg	330	420 U	370 U
4–Chlorophenyl phenyl ether	µg/kg	330	420 U	370 U
Fluorene	µg/kg	330	420 U	370 U
4–Nitroaniline	µg/kg	800	1000 U	890 U
4,6–Dinitro–2–methylphenol	µg/kg	800	1000 U	890 U
N–Nitrosodiphenylamine (1)	µg/kg	330	420 U	370 U

Table F–7. Data Presentation Table: Sediment – Site 2 – Fire Training Area 2
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD2–5			SD2–6		
Laboratory ID Number			9553			9554		
Collection Date			5–21–93			5–21–93		
Collection Depth (ft)			0.0–0.5			0.0–0.5		
Percent Solids			78			88		
Associated Field QC Sample			TB52093			TB52093		
			EB2–2, EB3–2			EB2–2, EB3–2		
			N/A			N/A		
			FB2–2, FB3–2			FB2–2, FB3–2		
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)								
Extraction Date			5–27–93			5–27–93		
Analysis Date			6–4–93			6–4–93		
Dilution Factor			1			1		
Parameter	Units	CRQL						
4–Bromophenyl phenyl ether	µg/kg	330	420 U			370 U		
Hexachlorobenzene	µg/kg	330	420 U			370 U		
Pentachlorophenol	µg/kg	800	1000 U			890 U		
Phenanthrene	µg/kg	330	420 U			54 J		
Anthracene	µg/kg	330	420 U			370 U		
Carbazole	µg/kg	330	420 UJ(CCV)			370 UJ(CCV)		
di–N–Butyl phthalate	µg/kg	330	420 U			370 U		
Fluoranthene	µg/kg	330	68 J			120 J		
Pyrene	µg/kg	330	59 J			120 J		
Butylbenzylphthalate	µg/kg	330	420 U			370 U		
3,3'–Dichlorobenzidine	µg/kg	330	420 UJ(CCV)			370 UJ(CCV)		
Benzo(a)anthracene	µg/kg	330	420 U			370 U		
Chrysene	µg/kg	330	420 U			83 J		
bis(2–Ethylhexyl)phthalate	µg/kg	330	420 U			370 U(MB)		
di–N–Octyl phthalate	µg/kg	330	420 U			370 U		
Benzo(b)fluoranthene	µg/kg	330	58 J			150 J		
Benzo(k)fluoranthene	µg/kg	330	420 U			370 U		
Benzo(a)pyrene	µg/kg	330	420 U			45 J		
Indeno(1,2,3–c,d)pyrene	µg/kg	330	420 U			370 U		
Dibenzo(a,h)anthracene	µg/kg	330	420 U			370 U		
Benzo(g,h,i)perylene	µg/kg	330	420 U			370 U		
TICs	µg/kg		4–Hydroxy–4–Methyl–2–Pentanone [a]	17000 B,J,N,A	(RT 3.77)	Unknown [d]	170 J	(RT 12.25)
			4–Penten–2–Ol [c]	84 J,N	(RT 4.13)	2,4,6–Trimethyl–Decane [b]	170 J,N	(RT 15.64)
			Unknown [d]	310 J	(RT 12.25)	Unknown [d]	210 J	(RT 17.19)
			Unknown [d]	160 J	(RT 14.00)	Unknown [d]	610 J	(RT 18.67)
			4,6–Dimethyl–Undecane [b]	170 J,N	(RT 15.62)	Unknown [d]	200 J	(RT 20.05)
			Unknown [d]	220 J	(RT 18.65)	Unknown [d]	250 J	(RT 21.39)
			Unknown [d]	420 J	(RT 22.14)	Hexadecanoic Acid [b]	390 J,N	(RT 22.30)
			Hexadecanoic Acid [b]	610 J,N	(RT 22.30)	Unknown [d]	150 J	(RT 22.67)
			Unknown [d]	210 J	(RT 28.32)	Unknown [d]	220 J	(RT 23.89)
			Unknown [d]	450 J	(RT 30.34)	Unknown [d]	270 J	(RT 28.32)
			Unknown [d]	380 J	(RT 31.41)	Octacosane [b]	490 J,N	(RT 30.32)
			Unknown [d]	1100 J	(RT 32.27)	Unknown [d]	790 J	(RT 32.27)
			Unknown [d]	730 J	(RT 32.34)	Unknown [d]	1400 J	(RT 34.22)
			Unknown [d]	2700 J	(RT 34.24)	Unknown [d]	960 J	(RT 35.34)
			Unknown [d]	1200 J	(RT 35.32)	Unknown [d]	1100 J	(RT 35.59)
			Unknown [d]	810 J	(RT 35.57)	D–Friedoolean–14–En–3–One [e]	1100 J,N	(RT 35.99)
			(3S,24S)–Stigmast–5–En–3–Ol [a]	2300 J,N	(RT 36.19)	Unknown [d]	1500 J	(RT 36.21)
			Unknown [d]	510 J	(RT 36.54)	Unknown [d]	810 J	(RT 36.56)
			Unknown [d]	680 J	(RT 36.62)	Unknown [d]	720 J	(RT 36.66)
			Unknown [d]	970 J	(RT 36.89)	Unknown [d]	780 J	(RT 37.01)
			Unknown [d]	700 J	(RT 37.39)			
TIC Total	µg/kg			31714 (21)			12290 (20)	

Table F–7. Data Presentation Table: Sediment – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

Validation note: All descriptive data qualifiers applied to the reported values by the laboratory are reported in parentheses.
Each data point has been assessed to determine whether the value is considered usable (i.e., no qualifier), usable but estimated (i.e., "J"), or not usable (i.e., "R"). All usability qualifiers are followed by the applicable laboratory or field QC qualifier, presented in parentheses and defined below. Usability qualifiers were not applied to values qualified by the laboratory, but were not considered to have been adversely impacted by the applicable laboratory QC result (e.g., duplicated and matrix spike analysis).
A – samples were analyzed for VOCs using SW 8240, laboratory analyses followed methods outlined in the March 1990 CLP SOW for organic analyses
B – samples were analyzed for SVOCs using SW 3550/8270, laboratory analysis followed method details outlined in the March 1990 CLP SOW for organic analyses
CRQL – Contract Required Quantitation Limit
IDL – Instrument Detection Limit
MDL – Method Detection Limit
NA – not analyzed
N/A – not applicable
RT – retention time in minutes
TICs – tentatively identified compounds, total concentration is listed and the total number of tentatively identified compounds is inside the parenthases
Data Validation Qualifiers
J – associated numerical value is the approximate concentration
R – rejected value
U – compound/element was included in analysis, but was not detected
UJ – reported quantitation limit is approximate and may or may not represent the actual quantitation necessary to accurately and precisely measure the analyte
Explanatory Data Validation Qualifiers
CCV – continuing calibration verification
FD – field duplicate relative percent differences (RPDs) outside control limits
IS – internal standard outside control limits
MB – compound/element was also detected in the associated laboratory method blank
SR – surrogate recovery outside control limits
EPA–defined CLP SOW Laboratory Qualifiers
A(TICs) – suspects ALDOL–condensation product
B(metals) – the reported value is estimated because it is greater than the Instrument Detection Limit (IDL), but less than the Contract Required Detection Limit (CRDL)
B(organics) – compound was also detected in the associated laboratory method blank
E(metals) – the reported value is estimated due to the presence of interference
N – spiked sample recovery outside of control limits
N(TICs) – presumptive evidence of a compound
W – post–digestion spike for Graphite Furnace Atomic Absorption (GFAA) analysis is out of control limits (85–115%), while sample absorbance is less than 50% of the spike absorbance
* – duplicate sample analysis outside of control limits
SAIC TIC Evaluation Categories
[a] – laboratory and extraction artifacts
[b] – petroleum or petroleum degradation products
[c] – other
[d] – unknown
[e] – polycyclic aromatic hydrocarbons
[f] – naturally occuring organic compounds

Table F-8. Data Presentation Table: Groundwater – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

SAIC ID Number				MW2-1-1	MW2-1-2	MW2-2-1
Laboratory ID Number				97396	9569, 9585	9570, 9586
Collection Date				10-1-92	5-21-93	5-21-93
Associated Field QC Sample				TB-15	TB52193	TB52193
				ERBG-2	EB2-2, EB3-2	EB2-2, EB3-2
				FBBA-1	N/A	N/A
				FBCE-1	FB2-2, FB3-2	FB2-2, FB3-2
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)						
Extraction Date				10-6-92	5-26-93	5-26-93
Analysis Date				10-21-92	5-25 and 6-17-93	5-25 and 6-17-93
Dilution Factor				1	1	1
Parameter	Units	MDL or MDL				
Gasoline	mg/L	N/A	0.05	NA	<0.25	<0.25
Diesel Fuel	mg/L	0.1	0.05	0.3	0.42	0.50
Heavy Oil	mg/L	0.1	0.1	<0.2	<0.25	<0.25
TOTAL PRIORITY POLLUTANT METALS						
Digestion Date(s)				10-19 and 10-20-92	6-11 and 6-16-93	6-11 and 6-16-93
Analysis Date(s)				10-20 to 11-6-92	6-11 to 6-25-93	6-11 to 6-25-93
Dilution Factor		IDL or IDL		1	1	1
AA METALS						
Antimony (SW 3020/7041)	µg/L	1.2	0.6	1.9 J(N)	3 J(N,W)	0.6 UJ(N)
Arsenic (SW 3020/7060)	µg/L	0.7	0.6	78	11.6 J(N)	3.4 J(N)
Lead (SW 3020/7421)	µg/L	0.5	0.5	197 J(*)	54.1 S	121
Mercury (SW 7470)	µg/L	0.1	0.1	0.1 U	0.1 U	0.36
Selenium (SW 7740)	µg/L	1.4	0.9	R(N)	R(N)	R(N)
Thallium (SW 3020/7841)	µg/L	1.4	1.4	14 UJ(N,W)	1.4 UJ(W)	1.4 U
ICP METALS (SW 3005/6010)						
Beryllium	µg/L	0.3	0.3	4.2 B	1.6 B	10.3
Cadmium	µg/L	2.1	3.7	2.1 U	3.7 U	3.7 U
Chromium	µg/L	2.9	2.8	251	99.9	348
Copper	µg/L	3.4	2.7	259	90.3	584
Nickel	µg/L	12.9	19.8	238	82.4	562
Silver	µg/L	3.8	2.9	19.5	2.9 UJ(N)	4 J(N)
Zinc	µg/L	2.9	1.6	1130 U(FB)	536 J(E)	1460 J(E)
DISSOLVED PRIORITY POLLUTANT METALS						
Digestion Date(s)				N/A	6-8 and 6-16-93	6-8 and 6-16-93
Analysis Date(s)				N/A	6-16 to 6-22-93	6-16 to 6-22-93
Dilution Factor		IDL		N/A	1	1
AA METALS						
Antimony (SW 3020/7041)	µg/L	0.6		NA	0.9 U	1.5 B
Arsenic (SW 3020/7060)	µg/L	0.6		NA	1.5 B	2.1 J(W)
Lead (SW 3020/7421)	µg/L	0.5		NA	0.5 U	0.5 UJ(W)
Mercury (SW 7470)	µg/L	0.1		NA	0.1 U	0.1 U
Selenium (SW 7740)	µg/L	0.9		NA	1.4 UJ(MB,W)	1.1 U(MB)
Thallium (SW 3020/7841)	µg/L	1.4		NA	1.4 UJ(W)	1.4 UJ(W)
ICP METALS (SW 3005/6010)						
Beryllium	µg/L	0.3		NA	0.3 U	0.3 U
Cadmium	µg/L	3.7		NA	3.7 U	3.7 U
Chromium	µg/L	2.8		NA	2.8 U	2.8 U
Copper	µg/L	2.7		NA	2.7 U	2.7 U
Nickel	µg/L	19.8		NA	19.8 U	19.8 U
Silver	µg/L	2.9		NA	2.9 UJ(N)	2.9 UJ(N)
Zinc	µg/L	1.6		NA	54.1	18.5 U(MB)

Table F–8. Data Presentation Table: Groundwater – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MW2–1–1	MW2–1–2	MW2–2–1
Laboratory ID Number			97396	9569, 9585	9570, 9586
Collection Date			10–1–92	5–21–93	5–21–93
Associated Field QC Sample			TB–15	TB52193	TB52193
			ERBG–2	EB2–2, EB3–2	EB2–2, EB3–2
			FBBA–1	N/A	N/A
			FBCE–1	FB2–2, FB3–2	FB2–2, FB3–2
VOLATILE ORGANICS (A)					
Analysis Date			10–7–92	5–24–93	5–24–93
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Chloromethane	µg/L	0.3	0.3 U	0.3 U	0.3 U
Bromomethane	µg/L	0.4	0.4 U	0.4 U	0.4 U
Vinyl Chloride	µg/L	0.5	0.5 U	0.5 U	0.5 U
Chloroethane	µg/L	0.2	0.2 U	0.2 U	0.2 U
Methylene Chloride	µg/L	0.4	0.4 U(EB)	0.4 U	0.4 U
Acetone	µg/L	1	1 U	1 U	1 U
Carbon Disulfide	µg/L	0.5	0.5 U	0.5 U	0.5 U
1,1–Dichloroethene	µg/L	0.5	0.5 U	0.5 U	0.5 U
1,1–Dichloroethane	µg/L	0.4	0.4 U	0.4 U	0.4 U
1,2–Dichloroethene (total)	µg/L	0.5	0.5 U	0.5 U	0.5 U
Chloroform	µg/L	0.4	0.4 U(EB)	0.4 U	0.4 U
1,2–Dichloroethane	µg/L	0.4	0.4 U	0.4 U	0.4 U
2–Butanone	µg/L	1	1 U	1 U	1 U
1,1,1–Trichloroethane	µg/L	0.4	0.4 U	0.4 U	0.4 U
Carbon Tetrachloride	µg/L	0.4	0.4 U	0.4 U	0.4 U
Bromodichloromethane	µg/L	0.4	0.4 U	0.4 U	0.4 U
1,2–Dichloropropane	µg/L	0.3	0.3 U	0.3 U	0.3 U
cis–1,3–Dichloropropene	µg/L	0.8	0.8 U	0.8 U	0.8 U
Trichloroethene	µg/L	0.5	0.5 U	0.5 U	0.5 U
Dibromochloromethane	µg/L	0.5	0.5 U	0.5 U	0.5 U
1,1,2–Trichloroethane	µg/L	0.8	0.8 U	0.8 U	0.8 U
Benzene	µg/L	0.5	0.5 U	0.5 U	0.5 U
trans–1,3–Dichloropropene	µg/L	0.8	0.8 U	0.8 U	0.8 U
Bromoform	µg/L	0.9	0.9 U	0.9 U	0.9 U
4–Methyl–2–pentanone	µg/L	0.6	0.6 U	0.6 U	0.6 U
2–Hexanone	µg/L	2	2 U	2 U	2 U
Tetrachloroethene	µg/L	0.4	0.4 U	0.2 J	0.4 U
1,1,2,2–Tetrachloroethane	µg/L	0.7	0.7 U	0.7 U	0.7 U
Toluene	µg/L	0.4	0.4 U	0.4 U	0.4 U
Chlorobenzene	µg/L	0.4	0.4 U	0.4 U	0.4 U
Ethylbenzene	µg/L	0.7	0.7 U	0.7 U	0.7 U
Styrene	µg/L	0.2	0.2 U	0.2 U	0.2 U
Xylene (total)	µg/L	0.7	0.7 U	0.7 U	0.7 U
TICs	µg/L		0 (0)	0 (0)	0 (0)
TIC Total	µg/L		0 (0)	0 (0)	0 (0)

Table F–8. Data Presentation Table: Groundwater – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MW2–1–1	MW2–1–2	MW2–2–1
Laboratory ID Number			97396	9569, 9585	9570, 9586
Collection Date			10–1–92	5–21–93	5–21–93
Associated Field QC Sample			TB–15	TB52193	TB52193
			ERBG–2	EB2–2, EB3–2	EB2–2, EB3–2
			FBBA–1	N/A	N/A
			FBCE–1	FB2–2, FB3–2	FB2–2, FB3–2
SEMIVOLATILE ORGANIC (SW 8270 [B])					
Extraction Date			10–5–92	5–26–93	5–26–93
Analysis Date			10–28–92	6–1–93	6–1–93
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Phenol	µg/L	10	11 U	10 U	10 U
bis(2–Chloroethyl)ether	µg/L	10	11 U	10 U	10 U
2–Chlorophenol	µg/L	10	11 U	10 U	10 U
1,3–Dichlorobenzene	µg/L	10	11 U	10 U	10 U
1,4–Dichlorobenzene	µg/L	10	11 U	10 U	10 U
1,2–Dichlorobenzene	µg/L	10	11 U	10 U	10 U
2–Methylphenol	µg/L	10	11 U	10 U	10 U
2,2–oxibis–(1–Chloropropane)	µg/L	10	11 U	10 U	10 U
4–Methylphenol	µg/L	10	11 U	10 U	10 U
N–Nitroso–di–N–propylamine	µg/L	10	11 U	10 U	10 U
Hexachloroethane	µg/L	10	11 U	10 UJ(CCV)	10 UJ(CCV)
Nitrobenzene	µg/L	10	11 U	10 U	10 U
Isophorone	µg/L	10	11 U	10 U	10 U
2–Nitrophenol	µg/L	10	11 U	10 U	10 U
2,4–Dimethylphenol	µg/L	10	11 U	10 U	10 U
bis(2–Chloroethoxy)methane	µg/L	10	11 U	10 U	10 U
2,4–Dichlorophenol	µg/L	10	11 U	10 U	10 U
1,2,4–Trichlorobenzene	µg/L	10	11 U	10 U	10 U
Naphthalene	µg/L	10	11 U	10 U	10 U
4–Chloroaniline	µg/L	10	11 U	10 U	10 U
Hexachlorobutadiene	µg/L	10	11 U	10 UJ(CCV)	10 UJ(CCV)
4–Chloro–3–methylphenol	µg/L	10	11 U	10 U	10 U
2–Methylnaphthalene	µg/L	10	11 U	10 U	10 U
Hexachlorocyclopentadiene	µg/L	10	11 U	10 U	10 U
2,4,6–Trichlorophenol	µg/L	10	11 U	10 U	10 U
2,4,5–Trichlorophenol	µg/L	25	27 U	25 U	26 U
2–Chloronaphthalene	µg/L	10	11 U	10 U	10 U
2–Nitroaniline	µg/L	25	27 U	25 U	26 U
Dimethyl phthalate	µg/L	10	11 U	10 U	10 U
Acenaphthylene	µg/L	10	11 U	10 U	10 U
2,6–Dinitrotoluene	µg/L	10	11 U	10 U	10 U
3–Nitroaniline	µg/L	25	27 U	25 UJ(CCV)	26 UJ(CCV)
Acenaphthene	µg/L	10	11 U	10 U	10 U
2,4–Dinitrophenol	µg/L	25	27 U	25 UJ(CCV)	26 UJ(CCV)
4–Nitrophenol	µg/L	25	27 UJ(CCV)	25 U	26 U
Dibenzofuran	µg/L	10	11 U	10 U	10 U
2,4–Dinitrotoluene	µg/L	10	11 U	10 U	10 U
Diethyl phthalate	µg/L	10	11 U	10 U	10 U
4–Chlorophenyl phenyl ether	µg/L	10	11 U	10 U	10 U
Fluorene	µg/L	10	11 U	10 U	10 U
4–Nitroaniline	µg/L	25	27 U	25 U	26 U
4,6–Dinitro–2–methylphenol	µg/L	25	27 U	25 UJ(CCV)	26 UJ(CCV)
N–Nitrosodiphenylamine (1)	µg/L	10	11 U	10 U	10 U

Table F–8. Data Presentation Table: Groundwater – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MW2–1–1	MW2–1–2	MW2–2–1
Laboratory ID Number			97396	9569, 9585	9570, 9586
Collection Date			10–1–92	5–21–93	5–21–93
Associated Field QC Sample			TB–15	TB52193	TB52193
			ERBG–2	EB2–2, EB3–2	EB2–2, EB3–2
			FBBA–1	N/A	N/A
			FBCE–1	FB2–2, FB3–2	FB2–2, FB3–2
SEMIVOLATILE ORGANIC (SW 8270 [B]) (Continued)					
Extraction Date			10–5–92	5–26–93	5–26–93
Analysis Date			10–28–92	6–1–93	6–1–93
Dilution Factor			1	1	1
Parameter	Units	CRQL			
4–Bromophenyl phenyl ether	µg/L	10	11 U	10 U	10 U
Hexachlorobenzene	µg/L	10	11 U	10 UJ(CCV)	10 UJ(CCV)
Pentachlorophenol	µg/L	25	27 U	25 UJ(CCV)	26 UJ(CCV)
Phenanthrene	µg/L	10	11 U	10 U	10 U
Anthracene	µg/L	10	11 U	10 U	10 U
Carbazole	µg/L	10	11 U	10 UJ(CCV)	10 UJ(CCV)
di–N–Butyl phthalate	µg/L	10	11 U	10 U	10 U
Fluoranthene	µg/L	10	11 U	10 U	10 U
Pyrene	µg/L	10	11 U	10 U	10 U
Butylbenzylphthalate	µg/L	10	11 U	10 U	10 U
3,3'–Dichlorobenzidine	µg/L	10	11 UJ(CCV)	10 U	10 U
Benzo(a)anthracene	µg/L	10	11 U	10 U	10 U
Chrysene	µg/L	10	11 U	10 U	10 U
bis(2–Ethylhexyl)phthalate	µg/L	10	11 U	10 U	10 U
di–N–Octyl phthalate	µg/L	10	11 U	10 U	10 U
Benzo(b)fluoranthene	µg/L	10	11 U	10 U	10 U
Benzo(k)fluoranthene	µg/L	10	11 U	10 U	10 U
Benzo(a)pyrene	µg/L	10	11 U	10 U	10 U
Indeno(1,2,3–c,d)pyrene	µg/L	10	11 U	10 U	10 U
Dibenzo(a,h)anthracene	µg/L	10	11 U	10 U	10 U
Benzo(g,h,i)perylene	µg/L	10	11 U	10 U	10 U
TICs	µg/L		Unknown [d] 3 J (RT 10.7)	4–Hydroxy–4–Methyl–2–Pentanone [a] 64 J,N,A (RT 3.90)	2–(2–Butoxyethoxy)–Ethanol [c] 38 J,N (RT 10.57)
			Unknown [d] 8 J (RT 11.34)	Unknown [d] 13 J (RT 5.00)	6–Amino–Hexanoic Acid [c] 140 J,N (RT 12.25)
			Unknown [d] 3 J (RT 11.82)	2–(2–Butoxyethoxy)–Ethanol [c] 4600 J,N (RT 11.29)	Unknown [d] 8 J (RT 14.00)
			Benzothiazole [c] 11 J,N (RT 12.92)	Unknown [d] 3500 J (RT 15.45)	Unknown [d] 3 J (RT 26.01)
			Unknown [d] 6 J (RT 16.15)	Unknown [d] 2 J (RT 23.85)	
			Unknown [d] 4 J (RT 17.27)	Butane, 1,1'–[Oxybis(2,1–Eth [c] 12 J,N (RT 24.05)	
			Unknown [d] 2 J (RT 25.82)	Unknown [d] 10 J (RT 25.96)	
			Unknown [d] 2 J (RT 32.82)	Unknown [d] 13 J (RT 26.06)	
			Unknown [d] 2 J (RT 33.87)	Unknown [d] 15 J (RT 26.14)	
			Unknown [d] 2 J (RT 33.99)	Unknown [d] 14 J (RT 26.21)	
TIC Total	µg/L		43 (10)	8243 (10)	189 (4)

Table F–8. Data Presentation Table: Groundwater – Site 2 – Fire Training Area 2
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			P–5–1
Laboratory ID Number			9569, 9585
Collection Date			5–21–93
Associated Field QC Sample			TB52193
			EB2–2, EB3–2
			N/A
			FB2–2, FB3–2
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)			
Extraction Date			5–26–93
Analysis Date			5–26 and 6–17–93
Dilution Factor			1
Parameter	Units	MDL	
Gasoline	mg/L	0.05	<0.25
Diesel Fuel	mg/L	0.05	<0.13
Heavy Oil	mg/L	0.1	<0.25
TOTAL PRIORITY POLLUTANT METALS			
Digestion Date(s)			6–11 and 6–16–93
Analysis Date(s)			6–11 to 6–25–93
Dilution Factor		IDL	1
AA METALS			
Antimony (SW 3020/7041)	µg/L	0.6	1.2 J(N,W)
Arsenic (SW 3020/7060)	µg/L	0.6	R(N)
Lead (SW 3020/7421)	µg/L	0.5	104
Mercury (SW 7470)	µg/L	0.1	0.16 B
Selenium (SW 7740)	µg/L	0.9	R(N)
Thallium (SW 3020/7841)	µg/L	1.4	1.7 UJ(W)
ICP METALS (SW 3005/6010)			
Beryllium	µg/L	0.3	4.2 B
Cadmium	µg/L	3.7	3.7 U
Chromium	µg/L	2.8	150
Copper	µg/L	2.7	210
Nickel	µg/L	19.8	247
Silver	µg/L	2.9	3.1 J(N)
Zinc	µg/L	1.6	763 J(E)
DISSOLVED PRIORITY POLLUTANT METALS			
Digestion Date(s)			6–8 and 6–16–93
Analysis Date(s)			6–16 to 6–22–93
Dilution Factor		IDL	1
AA METALS			
Antimony (SW 3020/7041)	µg/L	0.6	1.4 B
Arsenic (SW 3020/7060)	µg/L	0.6	0.6 UJ(W)
Lead (SW 3020/7421)	µg/L	0.5	0.5 U
Mercury (SW 7470)	µg/L	0.1	0.1 U
Selenium (SW 7740)	µg/L	0.9	1.1 U(MB)
Thallium (SW 3020/7841)	µg/L	1.4	1.4 U
ICP METALS (SW 3005/6010)			
Beryllium	µg/L	0.3	0.3 U
Cadmium	µg/L	3.7	3.7 U
Chromium	µg/L	2.8	2.8 U
Copper	µg/L	2.7	2.7 U
Nickel	µg/L	19.8	19.8 U
Silver	µg/L	2.9	2.9 UJ(N)
Zinc	µg/L	1.6	17.6 U(MB)

Table F–8. Data Presentation Table: Groundwater – Site 2 – Fire Training Area 2
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			P–5–1
Laboratory ID Number			9577, 9593
Collection Date			5–21–93
Associated Field QC Sample			TB52193
			EB2–2, EB3–2
			N/A
			FB2–2, FB3–2
VOLATILE ORGANICS (A)			
Analysis Date			5–25–93
Dilution Factor			1
Parameter	Units	CRQL	
Chloromethane	µg/L	0.3	0.3 U
Bromomethane	µg/L	0.4	0.4 U
Vinyl Chloride	µg/L	0.5	0.5 U
Chloroethane	µg/L	0.2	0.2 U
Methylene Chloride	µg/L	0.4	0.4 U
Acetone	µg/L	1	1 U
Carbon Disulfide	µg/L	0.5	0.5 U
1,1–Dichloroethene	µg/L	0.5	0.5 U
1,1–Dichloroethane	µg/L	0.4	0.4 U
1,2–Dichloroethene (total)	µg/L	0.5	0.5 U
Chloroform	µg/L	0.4	0.4 U
1,2–Dichloroethane	µg/L	0.4	0.4 U
2–Butanone	µg/L	1	1 U
1,1,1–Trichloroethane	µg/L	0.4	0.4 U
Carbon Tetrachloride	µg/L	0.4	0.4 U
Bromodichloromethane	µg/L	0.4	0.4 U
1,2–Dichloropropane	µg/L	0.3	0.3 U
cis–1,3–Dichloropropene	µg/L	0.8	0.8 U
Trichloroethene	µg/L	0.5	0.5 U
Dibromochloromethane	µg/L	0.5	0.5 U
1,1,2–Trichloroethane	µg/L	0.8	0.8 U
Benzene	µg/L	0.5	0.5 U
trans–1,3–Dichloropropene	µg/L	0.8	0.8 U
Bromoform	µg/L	0.9	0.9 U
4–Methyl–2–pentanone	µg/L	0.6	0.6 U
2–Hexanone	µg/L	2	2 U
Tetrachloroethene	µg/L	0.4	0.4 U
1,1,2,2–Tetrachloroethane	µg/L	0.7	0.7 U
Toluene	µg/L	0.4	0.4 U
Chlorobenzene	µg/L	0.4	0.4 U
Ethylbenzene	µg/L	0.7	0.7 U
Styrene	µg/L	0.2	0.2 U
Xylene (total)	µg/L	0.7	0.7 U
TICs	µg/L		0 (0)
TIC Total	µg/L		0 (0)

Table F–8. Data Presentation Table: Groundwater – Site 2 – Fire Training Area 2
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			P–5–1
Laboratory ID Number			9577, 9593
Collection Date			5–21–93
Associated Field QC Sample			TB52193
			EB2–2, EB3–2
			N/A
			FB2–2, FB3–2
SEMIVOLATILE ORGANIC (SW 8270 [B])			
Extraction Date			5–26–93
Analysis Date			6–2–93
Dilution Factor			1
Parameter	Units	CRQL	
Phenol	µg/L	10	10 U
bis(2–Chloroethyl)ether	µg/L	10	10 U
2–Chlorophenol	µg/L	10	10 U
1,3–Dichlorobenzene	µg/L	10	10 U
1,4–Dichlorobenzene	µg/L	10	10 U
1,2–Dichlorobenzene	µg/L	10	10 U
2–Methylphenol	µg/L	10	10 U
2,2–oxibis–(1–Chloropropane)	µg/L	10	10 UJ(CCV)
4–Methylphenol	µg/L	10	10 U
N–Nitroso–di–N–propylamine	µg/L	10	10 UJ(CCV)
Hexachloroethane	µg/L	10	10 UJ(CCV)
Nitrobenzene	µg/L	10	10 U
Isophorone	µg/L	10	10 U
2–Nitrophenol	µg/L	10	10 U
2,4–Dimethylphenol	µg/L	10	10 U
bis(2–Chloroethoxy)methane	µg/L	10	10 U
2,4–Dichlorophenol	µg/L	10	10 U
1,2,4–Trichlorobenzene	µg/L	10	10 U
Naphthalene	µg/L	10	10 U
4–Chloroaniline	µg/L	10	10 U
Hexachlorobutadiene	µg/L	10	10 UJ(CCV)
4–Chloro–3–methylphenol	µg/L	10	10 U
2–Methylnaphthalene	µg/L	10	10 U
Hexachlorocyclopentadiene	µg/L	10	10 UJ(CCV)
2,4,6–Trichlorophenol	µg/L	10	10 U
2,4,5–Trichlorophenol	µg/L	25	25 U
2–Chloronaphthalene	µg/L	10	10 U
2–Nitroaniline	µg/L	25	25 U
Dimethyl phthalate	µg/L	10	10 U
Acenaphthylene	µg/L	10	10 U
2,6–Dinitrotoluene	µg/L	10	10 U
3–Nitroaniline	µg/L	25	25 U
Acenaphthene	µg/L	10	10 U
2,4–Dinitrophenol	µg/L	25	25 UJ(CCV)
4–Nitrophenol	µg/L	25	25 U
Dibenzofuran	µg/L	10	10 U
2,4–Dinitrotoluene	µg/L	10	10 U
Diethyl phthalate	µg/L	10	10 U
4–Chlorophenyl phenyl ether	µg/L	10	10 U
Fluorene	µg/L	10	10 U
4–Nitroaniline	µg/L	25	25 U
4,6–Dinitro–2–methylphenol	µg/L	25	25 U
N–Nitrosodiphenylamine (1)	µg/L	10	10 U

Table F–8. Data Presentation Table: Groundwater – Site 2 – Fire Training Area 2
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			P–5–1	
Laboratory ID Number			9577, 9593	
Collection Date			5–21–93	
Associated Field QC Sample			TB52193	
			EB2–2, EB3–2	
			N/A	
			FB2–2, FB3–2	
SEMIVOLATILE ORGANIC (SW 8270 [B]) (Continued)				
Extraction Date			5–26–93	
Analysis Date			6–2–93	
Dilution Factor			1	
Parameter	Units	CRQL		
4–Bromophenyl phenyl ether	µg/L	10	10 U	
Hexachlorobenzene	µg/L	10	10 U	
Pentachlorophenol	µg/L	25	25 UJ(CCV)	
Phenanthrene	µg/L	10	10 U	
Anthracene	µg/L	10	10 U	
Carbazole	µg/L	10	10 U	
di–N–Butyl phthalate	µg/L	10	10 U	
Fluoranthene	µg/L	10	10 U	
Pyrene	µg/L	10	10 U	
Butylbenzylphthalate	µg/L	10	10 U	
3,3'–Dichlorobenzidine	µg/L	10	10 U	
Benzo(a)anthracene	µg/L	10	10 U	
Chrysene	µg/L	10	10 U	
bis(2–Ethylhexyl)phthalate	µg/L	10	10 U	
di–N–Octyl phthalate	µg/L	10	10 U	
Benzo(b)fluoranthene	µg/L	10	10 U	
Benzo(k)fluoranthene	µg/L	10	10 U	
Benzo(a)pyrene	µg/L	10	10 U	
Indeno(1,2,3–c,d)pyrene	µg/L	10	10 U	
Dibenzo(a,h)anthracene	µg/L	10	10 U	
Benzo(g,h,i)perylene	µg/L	10	10 U	
TICs	µg/L		Cyclohexane, 1–Ethyl–1,3–Dim [b]	2 J,N (RT 5.25)
			Unknown [d]	5 J (RT 5.37)
			6–Amino–Hexanoic Acid [e]	36 J,N (RT 11.84)
TIC Total	µg/L			43 (3)

Table F–8. Data Presentation Table: Groundwater – Site 2 – Fire Training Area 2, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

Validation note: All descriptive data qualifiers applied to the reported values by the laboratory are reported in parentheses.
Each data point has been assessed to determine whether the value is considered usable (i.e., no qualifier), usable but estimated (i.e., "J"), or not usable (i.e., "R"). All usability qualifiers are followed by the applicable laboratory or field QC qualifier, presented in parentheses and defined below. Usability qualifiers were not applied to values qualified by the laboratory, but were not considered to have been adversely impacted by the applicable laboratory QC result (e.g., duplicated and matrix spike analysis).

A – groundwater samples were analyzed for volatile halogenated compounds and volatile aromatic compounds by E 524.2 for samples collected in 1992 or SW 8240 (25 ml purge for low level volatiles) for samples collected in 1993; these methods have been modified to incorporate CLP–type QC requirements
B – SVOCs in groundwater and field QC blanks were analyzed using EPA method 3510/8270
CRQL – Contract Required Quantitation Limit
IDL – Instrument Detection Limit
MDL – Method Detection Limit
NA – not analyzed
N/A – not applicable
RT – retention time in minutes
TICs–tentatively identified compounds, total concentration is listed and the total number of tentatively identified compounds is inside the parenthases

Data Validation Qualifiers

J – associated numerical value is the approximate concentration
R – rejected value
U – compound/element was included in analysis, but was not detected
UJ – reported quantitation limit is approximate and may or may not represent the actual quantitation necessary to accurately and precisely measure the analyte

Explanatory Data Validation Qualifiers

CCV – continuing calibration verification
EB – compound/element was also detected in the associated equipment blank
FB – compound/element was also detected in the associated field blank
MB – compound/element was also detected in the associated laboratory method blank

EPA–defined CLP SOW Laboratory Qualifiers

A(TICs) – suspects ALDOL–condensation product
B(metals) – the reported value is estimated because it is greater than the Instrument Detection Limit (IDL), but less than the Contract Required Detection Limit (CRDL)
E(metals) – the reported value is estimated due to the presence of interference
N – spiked sample recovery outside of control limits
N(TICs) – presumptive evidence of a compound
S – the reported value was determined by the Method of Standard Additions (MSA)
W – post–digestion spike for Graphite Furnace Atomic Absorption (GFAA) analysis is out of control limits (85–115%), while sample absorbance is less than 50% of the spike absorbance
* – duplicate sample analysis outside of control limits

SAIC TIC Evaluation Categories

[a] – laboratory and extraction artifacts
[b] – petroleum or petroleum degradation products
[c] – other
[d] – unknown

Table F-9. Data Presentation Table: Soil – Site 3 – Former Leach Field, 178 th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

SAIC ID Number			SB3-1-1	SB3-1-8	SB3-2-1
Laboratory ID Number			94911	94972	94973
Collection Date			8-19-92	8-20-92	8-20-92
Collection Depth (ft)			0.5-2.0	14.5-16.0	0.5-2.5
Percent Solids			93	78	90
Associated Field QC Sample			TB-6	TB-7	TB-7
			EB3-1	EB3-1	EB3-1
			FB3-1	FB3-1	FB3-1
			SD5-FB	SD5-FB	SD5-FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)					
Extraction Date			8-30-92	8-30-92	8-30-92
Analysis Date			9-14-92	9-14-92	9-14-92
Dilution Factor			1	1	1
Parameter	Units	MDL			
Gasoline	mg/kg	N/A	NA	NA	NA
Diesel Fuel	mg/kg	2	<2	29	3
Heavy Oil	mg/kg	2	53	<2	<2
PRIORITY POLLUTANT METALS					
Digestion Date(s)			9-14 and 9-16-92	9-14 and 9-16-92	9-14 and 9-16-92
Analysis Date(s)			9-16 to 10-5-92	9-16 to 10-5-92	9-16 to 10-5-92
Dilution Factor		IDL	1	1	1
AA METALS					
Antimony (SW3050/7041)	mg/kg	1.3	R(N)	R(N)	R(N)
Arsenic (SW 3050/7060)	mg/kg	1.5	11 J(N)	4.3 J(N)	6.1 J(N)
Lead (SW 3050/7421)	mg/kg	0.5	44.5	6.3 S	8.1
Mercury (SW 3050/7471)	mg/kg	0.2	0.09 U	0.08 U	0.1 U
Selenium (SW 3050/7740)	mg/kg	1.4	0.15 UJ(N,W)	0.14 UJ(N,W)	0.11 UJ(N,W)
Thallium (SW 3050/7841)	mg/kg	0.7	0.29 U(MB)	0.1 UJ(MB,W)	0.14 UJ(MB,W)
ICP METALS (SW 3050/6010)					
Beryllium	mg/kg	0.3	0.47 B	0.29 B	0.43 B
Cadmium	mg/kg	2.1	0.22 U	0.9 U	0.84 U
Chromium	mg/kg	4	27.3	7.2	9.5
Copper	mg/kg	3.9	23.7	11.5	59.2
Nickel	mg/kg	10.3	24.3	12.2 B	20.7
Silver	mg/kg	3	2.1 U(MB)	3.2 U(MB)	3 U(MB)
Zinc	mg/kg	3.5	106 J(E)	41.8 J(E)	312 J(E)

Table F–9. Data Presentation Table: Soil – Site 3 – Former Leach Field, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB3–1–1	SB3–1–8	SB3–2–1		
Laboratory ID Number			94911	94972	94973		
Collection Date			8–19–92	8–20–92	8–20–92		
Collection Depth (ft)			0.5–2.0	14.5–16.0	0.5–2.5		
Percent Solids			93	78	90		
Associated Field QC Sample			TB–6	TB–7	TB–7		
			EB3–1	EB3–1	EB3–1		
			FB3–1	FB3–1	FB3–1		
			SD5–FB	SD5–FB	SD5–FB		
VOLATILE ORGANICS (SW 8240 [A])							
Analysis Date			8–27–92	8–27–92	8–27–92		
Dilution Factor			1	1	1		
Parameter	Units	CRQL					
Chloromethane	µg/kg	10	11 U	13 U	11 U		
Bromomethane	µg/kg	10	11 U	13 U	11 U		
Vinyl Chloride	µg/kg	10	11 U	13 U	11 U		
Chloroethane	µg/kg	10	11 U	13 U	11 U		
Methylene Chloride	µg/kg	10	11 U	13 U	11 U		
Acetone	µg/kg	10	11 U	14	11 U		
Carbon Disulfide	µg/kg	10	11 U	13 U	11 U		
1,1–Dichloroethene	µg/kg	10	11 U	13 U	11 U		
1,1–Dichloroethane	µg/kg	10	11 U	13 U	11 U		
1,2–Dichloroethene (total)	µg/kg	10	11 U	13 U	11 U		
Chloroform	µg/kg	10	11 U	13 U	11 U		
1,2–Dichloroethane	µg/kg	10	11 U	13 U	11 U		
2–Butanone	µg/kg	10	11 U	13 U	11 U		
1,1,1–Trichloroethane	µg/kg	10	11 U	13 U	11 U		
Carbon Tetrachloride	µg/kg	10	11 U	13 U	11 U		
Bromodichloromethane	µg/kg	10	11 U	13 U	11 U		
1,2–Dichloropropane	µg/kg	10	11 U	13 U	11 U		
cis–1,3–Dichloropropene	µg/kg	10	11 U	13 U	11 U		
Trichloroethene	µg/kg	10	11 U	13 U	11 U		
Dibromochloromethane	µg/kg	10	11 U	13 U	11 U		
1,1,2–Trichloroethane	µg/kg	10	11 U	13 U	11 U		
Benzene	µg/kg	10	11 U	13 U	11 U		
trans–1,3–Dichloropropene	µg/kg	10	11 U	13 U	11 U		
Bromoform	µg/kg	10	11 U	13 U	11 U		
4–Methyl–2–pentanone	µg/kg	10	11 U	13 U	11 U		
2–Hexanone	µg/kg	10	11 U	13 U	11 U		
Tetrachloroethene	µg/kg	10	11 U	13 U	11 U		
1,1,2,2–Tetrachloroethane	µg/kg	10	11 U	13 U	11 U		
Toluene	µg/kg	10	11 U	13 U	11 U		
Chlorobenzene	µg/kg	10	11 U	13 U	11 U		
Ethylbenzene	µg/kg	10	11 U	13 U	11 U		
Styrene	µg/kg	10	11 U	13 U	11 U		
Xylene (total)	µg/kg	10	11 U	13 U	11 U		
TICs	µg/kg		0 (0)	0 (0)	Octamethylcyclotetrasiloxane [a]	9 J,N	(RT 25,66)
TIC Total	µg/kg		0 (0)	0 (0)		9 (1)	

Table F–9. Data Presentation Table: Soil – Site 3 – Former Leach Field, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB3–1–1	SB3–1–8	SB3–2–1
Laboratory ID Number			94911	94972	94973
Collection Date			8–19–92	8–20–92	8–20–92
Collection Depth (ft)			0.5–2.0	14.5–16.0	0.5–2.5
Percent Solids			93	78	90
Associated Field QC Sample			TB–6	TB–7	TB–7
			EB3–1	EB3–1	EB3–1
			FB3–1	FB3–1	FB3–1
			SD5–FB	SD5–FB	SD5–FB
SEMIVOLATILE ORGANICS (SW 8270 (B))					
Extraction Date			9–1–92	9–1–92	9–1–92
Analysis Date			9–16–92	9–16–92	9–16–92
Dilution Factor			2	1	1
Parameter	Units	CRQL			
Phenol	µg/kg	330	670 U	390 U	330 U
bis(2–Chloroethyl)ether	µg/kg	330	670 U	390 U	330 U
2–Chlorophenol	µg/kg	330	670 U	390 U	330 U
1,3–Dichlorobenzene	µg/kg	330	670 U	390 U	330 U
1,4–Dichlorobenzene	µg/kg	330	670 U	390 U	330 U
1,2–Dichlorobenzene	µg/kg	330	670 U	390 U	330 U
2–Methylphenol	µg/kg	330	670 U	390 U	330 U
2,2–oxibis–(1–Chloropropane)	µg/kg	330	670 UJ(CCV)	390 UJ(CCV)	330 UJ(CCV)
4–Methylphenol	µg/kg	330	670 U	390 U	330 U
N–Nitroso–di–N–propylamine	µg/kg	330	670 U	390 U	330 U
Hexachloroethane	µg/kg	330	670 U	390 U	330 U
Nitrobenzene	µg/kg	330	670 U	390 U	330 U
Isophorone	µg/kg	330	670 U	390 U	330 U
2–Nitrophenol	µg/kg	330	670 U	390 U	330 U
2,4–Dimethylphenol	µg/kg	330	670 U	390 U	330 U
bis(2–Chloroethoxy)methane	µg/kg	330	670 U	390 U	330 U
2,4–Dichlorophenol	µg/kg	330	670 U	390 U	330 U
1,2,4–Trichlorobenzene	µg/kg	330	670 U	390 U	330 U
Naphthalene	µg/kg	330	670 U	390 U	330 U
4–Chloroaniline	µg/kg	330	670 U	390 U	330 U
Hexachlorobutadiene	µg/kg	330	670 UJ(CCV)	390 UJ(CCV)	330 U
4–Chloro–3–methylphenol	µg/kg	330	670 U	390 U	330 U
2–Methylnaphthalene	µg/kg	330	670 U	390 U	330 U
Hexachlorocyclopentadiene	µg/kg	330	670 U	390 U	330 U
2,4,6–Trichlorophenol	µg/kg	330	670 U	390 U	330 U
2,4,5–Trichlorophenol	µg/kg	800	1600 U	940 U	790 U
2–Chloronaphthalene	µg/kg	330	670 U	390 U	330 U
2–Nitroaniline	µg/kg	800	1600 UJ(CCV)	940 UJ(CCV)	790 UJ(CCV)
Dimethyl phthalate	µg/kg	330	670 U	390 U	330 U
Acenaphthylene	µg/kg	330	670 U	390 U	330 U
2,6–Dinitrotoluene	µg/kg	330	670 UJ(CCV)	390 UJ(CCV)	330 U
3–Nitroaniline	µg/kg	800	1600 U	940 U	790 U
Acenaphthene	µg/kg	330	670 U	390 U	35 J
2,4–Dinitrophenol	µg/kg	800	1600 U	940 U	790 U
4–Nitrophenol	µg/kg	800	1600 UJ(CCV)	940 UJ(CCV)	790 UJ(CCV)
Dibenzofuran	µg/kg	330	670 U	390 U	330 U
2,4–Dinitrotoluene	µg/kg	330	670 U	390 U	330 U
Diethyl phthalate	µg/kg	330	670 U	390 U	330 UJ(CCV)
4–Chlorophenyl phenyl ether	µg/kg	330	670 U	390 U	330 U
Fluorene	µg/kg	330	670 U	390 U	51 J
4–Nitroaniline	µg/kg	800	1600 U	940 U	790 U
4,6–Dinitro–2–methylphenol	µg/kg	800	1600 U	940 U	790 U
N–Nitrosodiphenylamine (1)	µg/kg	330	670 U	390 U	330 U

Table F–9. Data Presentation Table: Soil – Site 3 – Former Leach Field, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB3–1–1	SB3–1–8	SB3–2–1
Laboratory ID Number			94911	94972	94973
Collection Date			8–19–92	8–20–92	8–20–92
Collection Depth (ft)			0.5–2.0	14.5–16.0	0.5–2.5
Percent Solids			93	78	90
Associated Field QC Sample			TB–6	TB–7	TB–7
			EB3–1	EB3–1	EB3–1
			FB3–1	FB3–1	FB3–1
			SD5–FB	SD5–FB	SD5–FB
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)					
Extraction Date			9–1–92	9–1–92	9–1–92
Analysis Date			9–16–92	9–16–92	9–16–92
Dilution Factor			2	1	1
Parameter	Units	CRQL			
4–Bromophenyl phenyl ether	µg/kg	330	670 U	390 U	330 U
Hexachlorobenzene	µg/kg	330	670 U	390 U	330 U
Pentachlorophenol	µg/kg	800	1600 U	940 U	790 U
Phenanthrene	µg/kg	330	170 J	390 U	1100
Anthracene	µg/kg	330	670 U	390 U	130 J
Carbazole	µg/kg	330	670 U	390 U	75 J
di–N–Butyl phthalate	µg/kg	330	670 U	390 U	330 UJ(CCV)
Fluoranthene	µg/kg	330	480 J	390 U	3100 E
Pyrene	µg/kg	330	530 J	390 U	3400 E
Butylbenzylphthalate	µg/kg	330	670 U	390 U	330 U
3,3'–Dichlorobenzidine	µg/kg	330	670 U	390 U	330 U
Benzo(a)anthracene	µg/kg	330	220 J	390 U	1000
Chrysene	µg/kg	330	270 J	390 U	1200
bis(2–Ethylhexyl)phthalate	µg/kg	330	670 U	390 U	330 U
di–N–Octyl phthalate	µg/kg	330	670 UJ(CCV)	390 UJ(CCV)	330 U
Benzo(b)fluoranthene	µg/kg	330	330 J	390 U	1600
Benzo(k)fluoranthene	µg/kg	330	170 J	390 U	570
Benzo(a)pyrene	µg/kg	330	230 J	390 U	980
Indeno(1,2,3–c,d)pyrene	µg/kg	330	230 J	390 U	880
Dibenzo(a,h)anthracene	µg/kg	330	670 U	390 U	330 U
Benzo(g,h,i)perylene	µg/kg	330	210 J	390 U	700
TICs	µg/kg		4–Hydroxy–4–Methyl–2–Pentanone [a] 22000 B,J,N,A (RT 5.37)	4–Hydroxy–4–Methyl–2–Pentanone [a] 14000 B,J,N,A (RT 5.23)	4–Hydroxy–4–Methyl–2–Pentanone [a] 20000 B,J,N,A (RT 5.30)
			Unknown [d] 80 J (RT 27.31)	Unknown [d] 130 J (RT 14.30)	Unknown [d] 150 J (RT 20.85)
			Octadecanoic Acid, 2–Methylp [b] 160 J,N (RT 29.59)	Unknown [d] 180 J (RT 16.09)	Unknown [d] 67 J (RT 23.64)
			Unknown [d] 170 J (RT 29.76)	4,6–Dimethyl–Dodecane [b] 150 J,N (RT 17.09)	2–Methyl–Anthracene [e] 170 J,N (RT 23.84)
			Octacosane [b] 190 J,N (RT 30.82)	Unknown [d] 250 J (RT 17.75)	Unknown [d] 260 J (RT 24.05)
			Unknown [d] 160 J (RT 31.89)	Hexadecane [b] 290 J,N (RT 19.35)	Unknown [d] 240 J (RT 24.75)
			Unknown [d] 410 J (RT 32.92)	Unknown [d] 150 J (RT 20.05)	Unknown [d] 66 J (RT 24.95)
			1,2–Benzenedicarboxylic Acid [b] 290 J,N (RT 33.09)	5–Propyl–Tridecane [b] 550 J,N (RT 20.85)	Unknown [d] 110 J (RT 26.21)
			Unknown [d] 140 J (RT 33.96)	Unknown [d] 320 J (RT 20.90)	Benzo[B]Naphtho[2,3–D]Furan [e] 83 J,N (RT 27.09)
			Unknown [d] 340 J (RT 34.09)	Unknown [d] 350 J (RT 22.29)	11H–Benzo[A]Fluorene [e] 250 J,N (RT 27.76)
			Benzo[J]Fluoranthene [e] 270 J,N (RT 34.57)	Unknown [d] 300 J (RT 22.37)	11H–Benzo[B]Fluorene [e] 110 J,N (RT 27.97)
			Unknown [d] 650 J (RT 35.02)	Unknown [d] 340 J (RT 23.64)	Unknown [d] 72 J (RT 28.06)
			Unknown [d] 840 J (RT 37.24)	Unknown [d] 310 J (RT 24.95)	Unknown [d] 120 J (RT 28.54)
			Unknown [d] 410 J (RT 38.59)	Unknown [d] 300 J (RT 26.21)	7H–Benz[De]Anthracen–7–One [e] 92 J,N (RT 29.34)
				Unknown [d] 350 J (RT 28.54)	Unknown [d] 130 J (RT 29.66)
				Pentacosane [b] 330 J,N (RT 29.64)	Unknown [d] 140 J (RT 29.79)
				Unknown [d] 400 J (RT 30.72)	Unknown [d] 61 J (RT 30.72)
				Octacosane [b] 270 J,N (RT 31.77)	Unknown [d] 150 J (RT 31.77)
				Unknown [d] 700 J (RT 32.82)	Unknown [d] 120 J (RT 32.82)
				Unknown [d] 410 J (RT 33.86)	Benzo[J]Fluoranthene [e] 160 J,N (RT 34.47)
				Unknown [d] 380 J (RT 34.91)	Unknown [d] 88 J (RT 34.91)
TIC Total	µg/kg		26110 (14)	20460 (21)	22639 (21)

Table F–9. Data Presentation Table: Soil – Site 3 – Former Leach Field, 178 th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB3–2–1DL	SB3–2–4	SB3–2–7
Laboratory ID Number			94973DL	94974	94975
Collection Date			8–20–92	8–20–92	8–20–92
Collection Depth (ft)			0.5–2.5	6.5–8.0	12.5–14.0
Percent Solids			90	87	90
Associated Field QC Sample			TB–7	TB–7	TB–7
			EB3–1	EB3–1	EB3–1
			FB3–1	FB3–1	FB3–1
			SD5–FB	SD5–FB	SD5–FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)					
Extraction Date			N/A	8–30–92	8–30–92
Analysis Date			N/A	9–14–92	9–14–92
Dilution Factor			N/A	100	1
Parameter	Units	MDL			
Gasoline	mg/kg	N/A	NA	NA	NA
Diesel Fuel	mg/kg	2	NA	220	21
Heavy Oil	mg/kg	2	NA	230	<2
PRIORITY POLLUTANT METALS					
Digestion Date(s)			N/A	9–14 and 9–16–92	9–14 and 9–16–92
Analysis Date(s)			N/A	9–16 to 10–5–92	9–16 to 10–5–92
Dilution Factor		IDL	N/A	1	1
AA METALS					
Antimony (SW3050/7041)	mg/kg	1.3	NA	R(N)	R(N)
Arsenic (SW3050/7060)	mg/kg	1.5	NA	13.4 J(N)	2.4 J(N)
Lead (SW3050/7421)	mg/kg	0.5	NA	25.8	6.8 S
Mercury (SW3050/7471)	mg/kg	0.2	NA	0.12	0.1 U
Selenium (SW3050/7740)	mg/kg	1.4	NA	0.13 UJ(N,W)	0.17 UJ(MB,N,W)
Thallium (SW3050/7841)	mg/kg	0.7	NA	0.14 UJ(MB,W)	0.11 UJ(MB,W)
ICP METALS (SW 3050/6010)					
Beryllium	mg/kg	0.3	NA	0.38 B	0.29 B
Cadmium	mg/kg	2.1	NA	0.68	0.9 U
Chromium	mg/kg	4	NA	19.6	7.9
Copper	mg/kg	3.9	NA	19.9	12.7
Nickel	mg/kg	10.3	NA	14.9	14.6 B
Silver	mg/kg	3	NA	16.4	3.2 B
Zinc	mg/kg	3.5	NA	78.6 J(E)	40.9 J(E)

Table F–9. Data Presentation Table: Soil – Site 3 – Former Leach Field, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB3–2–1DL		SB3–2–4			SB3–2–7		
Laboratory ID Number			94973DL		94974			94975		
Collection Date			8–20–92		8–20–92			8–20–92		
Collection Depth (ft)			0.5–2.5		6.5–8.0			12.5–14.0		
Percent Solids			90		87			90		
Associated Field QC Sample			TB–7		TB–7			TB–7		
			EB3–1		EB3–1			EB3–1		
			FB3–1		FB3–1			FB3–1		
			SD5–FB		SD5–FB			SD5–FB		
VOLATILE ORGANICS (SW 8240 [A])										
Analysis Date			N/A		8–26–92			8–27–92		
Dilution Factor			N/A		5			1		
Parameter	Units	CRQL								
Chloromethane	µg/kg	10	NA		57 U			11 U		
Bromomethane	µg/kg	10	NA		57 U			11 U		
Vinyl Chloride	µg/kg	10	NA		57 U			11 U		
Chloroethane	µg/kg	10	NA		57 U			11 U		
Methylene Chloride	µg/kg	10	NA		57 U			11 U		
Acetone	µg/kg	10	NA		57 U			20		
Carbon Disulfide	µg/kg	10	NA		57 U			11 U		
1,1–Dichloroethene	µg/kg	10	NA		57 U			11 U		
1,1–Dichloroethane	µg/kg	10	NA		57 U			11 U		
1,2–Dichloroethene (total)	µg/kg	10	NA		57 U			11 U		
Chloroform	µg/kg	10	NA		57 U			11 U		
1,2–Dichloroethane	µg/kg	10	NA		57 U			11 U		
2–Butanone	µg/kg	10	NA		57 U			11 U		
1,1,1–Trichloroethane	µg/kg	10	NA		57 U			11 U		
Carbon Tetrachloride	µg/kg	10	NA		57 U			11 U		
Bromodichloromethane	µg/kg	10	NA		57 U			11 U		
1,2–Dichloropropane	µg/kg	10	NA		57 U			11 U		
cis–1,3–Dichloropropene	µg/kg	10	NA		57 U			11 U		
Trichloroethene	µg/kg	10	NA		57 U			11 U		
Dibromochloromethane	µg/kg	10	NA		57 U			11 U		
1,1,2–Trichloroethane	µg/kg	10	NA		57 U			11 U		
Benzene	µg/kg	10	NA		57 U			11 U		
trans–1,3–Dichloropropene	µg/kg	10	NA		57 U			11 U		
Bromoform	µg/kg	10	NA		57 U			11 U		
4–Methyl–2–pentanone	µg/kg	10	NA		57 U			11 U		
2–Hexanone	µg/kg	10	NA		57 U			11 U		
Tetrachloroethene	µg/kg	10	NA		57 U			11 U		
1,1,2,2–Tetrachloroethane	µg/kg	10	NA		57 U			11 U		
Toluene	µg/kg	10	NA		57 U			11 U		
Chlorobenzene	µg/kg	10	NA		57 U			11 U		
Ethylbenzene	µg/kg	10	NA		57 U			11 U		
Styrene	µg/kg	10	NA		57 U			11 U		
Xylene (total)	µg/kg	10	NA		80 X			11 U		
TICs	µg/kg		NA	Cyclopentane, 1,1,3,4–Tetram [b]	130 J,N	(RT 19.97)		Cyclohexane, 1–Ethyl–2–Methy [b]	8 J,N	(RT 23.32)
				Cyclohexane, 1,2,4–Trimethyl [b]	92 J,N	(RT 20.67)		2,5–Dimethyl–1,6–Octadiene [b]	12 J,N	(RT 24.25)
				3–Methyl–Octane [b]	69 J,N	(RT 21.13)		1,1,2,3–Tetramethylcyclohexa [b]	13 J,N	(RT 25.67)
				Cyclohexane, 1–Ethyl–2–Methy [b]	180 J,N	(RT 23.59)		1,1–Dimethyl–Cyclohexane [b]	13 J,N	(RT 26.68)
				2,6–Dimethyl–Octane [b]	100 J,N	(RT 23.97)				
				7–Methyl–3–Octyne [b]	92 J,N	(RT 24.53)				
				4–Methyl–Nonane [b]	140 J,N	(RT 25.3)				
				3,5,5–Trimethyl–1–Hexene [b]	240 J,N	(RT 25.95)				
				Cyclopentane, (2–Methylbutyl [b]	80 J,N	(RT 26.71)				
				1,1–Dimethyl–Cyclohexane [b]	330 J,N	(RT 26.92)				
				1–Ethyl–2–Methyl–Benzene [b]	57 J,N	(RT 27.39)				
TIC Total	µg/kg		NA		1510 (11)				46 (4)	

Table F–9. Data Presentation Table: Soil – Site 3 – Former Leach Field, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB3–2–1DL	SB3–2–4	SB3–2–7
Laboratory ID Number			94973DL	94974	94975
Collection Date			8–20–92	8–20–92	8–20–92
Collection Depth (ft)			0.5–2.5	6.5–8.0	12.5–14.0
Percent Solids			90	87	90
Associated Field QC Sample			TB–7	TB–7	TB–7
			EB3–1	EB3–1	EB3–1
			FB3–1	FB3–1	FB3–1
			SD5–FB	SD5–FB	SD5–FB
SEMIVOLATILE ORGANICS (SW 8270 [B])					
Extraction Date			9–1–92	9–1–92	9–1–92
Analysis Date			9–17–92	9–15–92	9–15–92
Dilution Factor			3	1	1
Parameter	Units	CRQL			
Phenol	µg/kg	330	980 U	360 U	340 U
bis(2–Chloroethyl)ether	µg/kg	330	980 U	360 U	340 U
2–Chlorophenol	µg/kg	330	980 U	360 U	340 U
1,3–Dichlorobenzene	µg/kg	330	980 U	360 U	340 U
1,4–Dichlorobenzene	µg/kg	330	980 U	360 U	340 U
1,2–Dichlorobenzene	µg/kg	330	980 U	360 U	340 U
2–Methylphenol	µg/kg	330	980 U	360 U	340 U
2,2–oxibis–(1–Chloropropane)	µg/kg	330	980 UJ(CCV)	360 UJ(CCV)	340 UJ(CCV)
4–Methylphenol	µg/kg	330	980 U	360 U	340 U
N–Nitroso–di–N–propylamine	µg/kg	330	980 U	360 U	340 U
Hexachloroethane	µg/kg	330	980 U	360 U	340 U
Nitrobenzene	µg/kg	330	980 U	360 U	340 U
Isophorone	µg/kg	330	980 U	360 U	340 U
2–Nitrophenol	µg/kg	330	980 U	360 U	340 U
2,4–Dimethylphenol	µg/kg	330	980 U	360 U	340 U
bis(2–Chloroethoxy)methane	µg/kg	330	980 U	360 U	340 U
2,4–Dichlorophenol	µg/kg	330	980 U	360 U	340 U
1,2,4–Trichlorobenzene	µg/kg	330	980 U	360 U	340 U
Naphthalene	µg/kg	330	980 U	360 U	340 U
4–Chloroaniline	µg/kg	330	980 U	360 U	340 U
Hexachlorobutadiene	µg/kg	330	980 U	360 UJ(CCV)	340 UJ(CCV)
4–Chloro–3–methylphenol	µg/kg	330	980 U	360 U	340 U
2–Methylnaphthalene	µg/kg	330	980 U	170 J	340 U
Hexachlorocyclopentadiene	µg/kg	330	980 U	360 U	340 U
2,4,6–Trichlorophenol	µg/kg	330	980 U	360 U	340 U
2,4,5–Trichlorophenol	µg/kg	800	2400 U	880 U	820 U
2–Chloronaphthalene	µg/kg	330	980 U	360 U	340 U
2–Nitroaniline	µg/kg	800	2400 UJ(CCV)	880 UJ(CCV)	820 UJ(CCV)
Dimethyl phthalate	µg/kg	330	980 U	360 U	340 U
Acenaphthylene	µg/kg	330	980 U	360 U	340 U
2,6–Dinitrotoluene	µg/kg	330	980 U	360 UJ(CCV)	340 UJ(CCV)
3–Nitroaniline	µg/kg	800	2400 U	880 U	820 U
Acenaphthene	µg/kg	330	980 U	360 U	340 U
2,4–Dinitrophenol	µg/kg	800	2400 U	880 U	820 U
4–Nitrophenol	µg/kg	800	2400 UJ(CCV)	880 UJ(CCV)	820 UJ(CCV)
Dibenzofuran	µg/kg	330	980 U	360 U	340 U
2,4–Dinitrotoluene	µg/kg	330	980 U	360 U	340 U
Diethyl phthalate	µg/kg	330	980 UJ(CCV)	360 U	340 U
4–Chlorophenyl phenyl ether	µg/kg	330	980 U	360 U	340 U
Fluorene	µg/kg	330	980 U	56 J	340 U
4–Nitroaniline	µg/kg	800	2400 U	880 U	820 U
4,6–Dinitro–2–methylphenol	µg/kg	800	2400 U	880 U	820 U
N–Nitrosodiphenylamine (1)	µg/kg	330	980 U	360 U	340 U

Table F–9. Data Presentation Table: Soil – Site 3 – Former Leach Field, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB3–2–1DL			SB3–2–4			SB3–2–7			
Laboratory ID Number			94973DL			94974			94975			
Collection Date			8–20–92			8–20–92			8–20–92			
Collection Depth (ft)			0.5–2.5			6.5–8.0			12.5–14.0			
Percent Solids			90			87			90			
Associated Field QC Sample			TB–7			TB–7			TB–7			
			EB3–1			EB3–1			EB3–1			
			FB3–1			FB3–1			FB3–1			
			SD5–FB			SD5–FB			SD5–FB			
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)												
Extraction Date			9–1–92			9–1–92			9–1–92			
Analysis Date			9–17–92			9–15–92			9–15–92			
Dilution Factor			3			1			1			
Parameter	Units	CRQL										
4–Bromophenyl phenyl ether	µg/kg	330	980 U			360 U			340 U			
Hexachlorobenzene	µg/kg	330	980 U			360 U			340 U			
Pentachlorophenol	µg/kg	800	2400 U			880 U			820 U			
Phenanthrene	µg/kg	330	560 DJ			190 J			340 U			
Anthracene	µg/kg	330	980 U			360 U			340 U			
Carbazole	µg/kg	330	980 U			360 U			340 U			
di–N–Butyl phthalate	µg/kg	330	980 UJ(CCV)			360 U			340 U			
Fluoranthene	µg/kg	330	1500 D			320 J			340 U			
Pyrene	µg/kg	330	1700 D			340 J			340 U			
Butylbenzylphthalate	µg/kg	330	980 U			360 U			340 U			
3,3'–Dichlorobenzidine	µg/kg	330	980 U			360 U			340 U			
Benzo(a)anthracene	µg/kg	330	620 DJ			110 J			340 U			
Chrysene	µg/kg	330	750 DJ			130 J			340 U			
bis(2–Ethylhexyl)phthalate	µg/kg	330	980 U			140 J			340 U			
di–N–Octyl phthalate	µg/kg	330	980 U			360 UJ(CCV)			340 UJ(CCV)			
Benzo(b)fluoranthene	µg/kg	330	920 DJ			120 J			340 U			
Benzo(k)fluoranthene	µg/kg	330	380 DJ			37 J			340 U			
Benzo(a)pyrene	µg/kg	330	630 DJ			79 J			340 U			
Indeno(1,2,3–c,d)pyrene	µg/kg	330	550 DJ			78 J			340 U			
Dibenzo(a,h)anthracene	µg/kg	330	980 U			360 U			340 U			
Benzo(g,h,i)perylene	µg/kg	330	460 DJ			73 J			340 U			
TICs	µg/kg		4–Hydroxy–4–Methyl–2–Pentanone [a]	14000 B,J,N,A	(RT 5.08)	4–Hydroxy–4–Methyl–2–Pentanone [a]	5700 B,J,N,A	(RT 5.37)	4–Hydroxy–4–Methyl–2–Pentanone [a]	14000 B,J,N,A	(RT 5.40)	
			Unknown [d]	280 J	(RT 32.71)	Unknown [d]	640 J	(RT 7.03)	2,6,7–Trimethyl–Decane [b]	73 J,N	(RT 12.75)	
			Benzo[E]Pyrene [a]	200 J,N	(RT 33.86)	Pentane, 2,2,3,3–Tetramethyl [b]	850 J,N	(RT 7.62)	Unknown [d]	150 J	(RT 14.40)	
			Benzo[J]Fluoranthene [a]	540 J,N	(RT 34.34)	5–Ethyl–2–Methyl–Heptane [b]	1800 J,N	(RT 8.95)	Unknown [d]	71 J	(RT 15.75)	
			Unknown [d]	300 J	(RT 34.79)	Unknown [d]	1100 J	(RT 9.19)	Unknown [d]	250 J	(RT 16.19)	
						Unknown [d]	810 J	(RT 9.75)	2,3,7–Trimethyl–Decane [b]	190 J,N	(RT 17.19)	
						Unknown [d]	1900 J	(RT 10.92)	Unknown [d]	290 J	(RT 17.85)	
						6–Ethyl–2–Methyl–Octane [b]	880 J,N	(RT 11.12)	Hexadecane [b]	310 J,N	(RT 19.45)	
						3–Ethyl–2–Methyl–Heptane [b]	1600 J,N	(RT 11.65)	Unknown [d]	120 J	(RT 20.15)	
						2,6–Dimethyl–Undecane [b]	1600 J,N	(RT 12.82)	Unknown [d]	430 J	(RT 20.95)	
						2,3,7–Trimethyl–Octane [b]	2800 J,N	(RT 13.94)	2,7,10–Trimethyl–Dodecane [b]	240 J,N	(RT 21.00)	
						2,6,10–Trimethyl–Dodecane [b]	2800 J,N	(RT 15.82)	Unknown [d]	240 J	(RT 22.39)	
						1,3–Dimethyl–Naphthalene [c]	1700 J,N	(RT 16.65)	5–Propyl–Tridecane [b]	210 J,N	(RT 22.47)	
						Heptadecane, 2,6,10,14–Tetra [b]	2900 J,N	(RT 17.27)	Unknown [d]	230 J	(RT 23.75)	
						Unknown [d]	1900 J	(RT 19.50)	Iron, Tricarbonyl[N–(Phenyl– [c]	200 J,N	(RT 25.06)	
						Phenol, 4–(1,1,3,3–Tetrameth [b]	4300 J,N	(RT 19.57)	Unknown [d]	240 J	(RT 26.31)	
						Unknown [d]	860 J	(RT 20.19)	Unknown [d]	230 J	(RT 28.64)	
						Unknown [d]	1100 J	(RT 21.00)	Unknown [d]	210 J	(RT 29.76)	
						Unknown [d]	1500 J	(RT 21.05)	Pentacosane [b]	220 J,N	(RT 30.82)	
						Unknown [d]	840 J	(RT 21.14)	Octacosane [b]	160 J,N	(RT 31.89)	
						Unknown [d]	570 J	(RT 21.20)	Unknown [d]	300 J	(RT 32.92)	
TIC Total	µg/kg			15320 (5)			38150 (21)			18364 (21)		

Table F–9. Data Presentation Table: Soil – Site 3 – Former Leach Field, 178 th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number				SB3–3–1	SB3–3–8	SB3–4–1
Laboratory ID Number				94976	94977	9547
Collection Date				8–20–92	8–20–92	5–19–93
Collection Depth (ft)				0.5–2.5	14.5–16.5	7.5–9.0
Percent Solids				93	85	78
Associated Field QC Sample				TB–7	TB–7	TB52093
				EB3–1	EB3–1	EB2–2, EB3–2
				FB3–1	FB3–1	N/A
				SD5–FB	SD5–FB	FB2–2, FB3–2
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)						
Extraction Date				8–30–92	8–30–92	5–25 and 5–29–93
Analysis Date				9–14–92	9–14–92	6–8 and 6–18–93
Dilution Factor				1	1	10
Parameter	Units	MDL	or MDL			
Gasoline	mg/kg	N/A	0.05	NA	NA	3 10
Diesel Fuel	mg/kg	2	2	<2	5	530
Heavy Oil	mg/kg	2	3	<2	3	390
PRIORITY POLLUTANT METALS						
Digestion Date(s)				9–14 and 9–16–92	9–14 and 9–16–92	6–11 and 6–17–93
Analysis Date(s)				9–16 to 10–5–92	9–16 to 10–5–92	6–11 to 6–25–93
Dilution Factor		IDL	or IDL	1	1	1
AA METALS						
Antimony (SW3050/7041)	mg/kg	1.3	0.6	R(N)	R(N)	0.16 J(N,W)
Arsenic (SW3050/7060)	mg/kg	1.5	0.6	8.7 J(N)	3.2 J(N)	3.6 J(N)
Lead (SW3050/7421)	mg/kg	0.5	0.5	33.5	5.6 S	47.4 J(N)
Mercury (SW3050/7471)	mg/kg	0.2	0.1	0.09 U	0.11 U	0.05 B
Selenium (SW3050/7740)	mg/kg	1.4	0.9	0.14 UJ(N,W)	0.15 UJ(N)	0.18 B
Thallium (SW3050/7841)	mg/kg	0.7	1.4	0.19 UJ(MB,W)	0.08 UJ(W)	0.22 U
ICP METALS (SW 3050/6010)						
Beryllium	mg/kg	0.3	0.3	0.36 B	0.23 B	0.23 U(MB)
Cadmium	mg/kg	2.1	3.7	0.28 B	1 U	0.61 U
Chromium	mg/kg	4	2.8	17	4.9 B	35.5
Copper	mg/kg	3.9	2.7	22.4	8.2 B	16.1
Nickel	mg/kg	10.3	19.8	20.2	5.1 U	14.7
Silver	mg/kg	3	2.9	2.2 U(MB)	3.6 B	2.7
Zinc	mg/kg	3.5	1.6	86.7 J(E)	35.4 J(E)	88.4 J(E)

Table F–9. Data Presentation Table: Soil – Site 3 – Former Leach Field, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB3–3–1	SB3–3–8	SB3–4–1
Laboratory ID Number			94976	94977	9547
Collection Date			8–20–92	8–20–92	5–19–93
Collection Depth (ft)			0.5–2.5	14.5–16.5	7.5–9.0
Percent Solids			93	85	78
Associated Field QC Sample			TB–7	TB–7	TB52093
			EB3–1	EB3–1	EB2–2, EB3–2
			FB3–1	FB3–1	N/A
			SD5–FB	SD5–FB	FB2–2, FB3–2
VOLATILE ORGANICS (SW 8240 [A])					
Analysis Date			8–27–92	8–27–92	5–26–93
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Chloromethane	µg/kg	10	11 U	12 U	13 U
Bromomethane	µg/kg	10	11 U	12 U	13 U
Vinyl Chloride	µg/kg	10	11 U	12 U	13 U
Chloroethane	µg/kg	10	11 U	12 U	13 U
Methylene Chloride	µg/kg	10	11 U	12 U	13 U
Acetone	µg/kg	10	11 U	12 U	13 U
Carbon Disulfide	µg/kg	10	11 U	12 U	13 U
1,1–Dichloroethene	µg/kg	10	11 U	12 U	13 U
1,1–Dichloroethane	µg/kg	10	11 U	12 U	13 U
1,2–Dichloroethene (total)	µg/kg	10	11 U	12 U	13 U
Chloroform	µg/kg	10	11 U	12 U	13 U
1,2–Dichloroethane	µg/kg	10	11 U	12 U	13 U
2–Butanone	µg/kg	10	11 U	12 U	13 U
1,1,1–Trichloroethane	µg/kg	10	11 U	12 U	13 U
Carbon Tetrachloride	µg/kg	10	11 U	12 U	13 U
Bromodichloromethane	µg/kg	10	11 U	12 U	13 U
1,2–Dichloropropane	µg/kg	10	11 U	12 U	13 U
cis–1,3–Dichloropropene	µg/kg	10	11 U	12 U	13 U
Trichloroethene	µg/kg	10	11 U	12 U	13 U
Dibromochloromethane	µg/kg	10	11 U	12 U	13 U
1,1,2–Trichloroethane	µg/kg	10	11 U	12 U	13 U
Benzene	µg/kg	10	11 U	12 U	13 U
trans–1,3–Dichloropropene	µg/kg	10	11 U	12 U	13 U
Bromoform	µg/kg	10	11 U	12 U	13 U
4–Methyl–2–pentanone	µg/kg	10	11 U	12 U	13 U
2–Hexanone	µg/kg	10	11 U	12 U	13 U
Tetrachloroethene	µg/kg	10	11 U	12 U	13 U
1,1,2,2–Tetrachloroethane	µg/kg	10	11 U	12 U	13 U
Toluene	µg/kg	10	11 U	12 U	13 U
Chlorobenzene	µg/kg	10	11 U	12 U	13 U
Ethylbenzene	µg/kg	10	11 U	12 U	10 J
Styrene	µg/kg	10	11 U	12 U	13 U
Xylene (total)	µg/kg	10	11 U	12 U	3 JX
TICs	µg/kg		0 (0)	0 (0)	Cyclohexane, 1–Ethyl–2–Methy[b] 320 J,N (RT 24.32)
					2,6–Dimethyl–Octane[b] 330 J,N (RT 24.71)
					Unknown[d] 210 J,N (RT 25.22)
					5,6–Dimethyl–Undecane[b] 190 J,N (RT 25.77)
					4,5–Dimethyl–Octane[b] 440 J,N (RT 26.00)
					3,3,5–Trimethyl–1–Hexene[b] 550 J,N (RT 26.66)
					1,1–Dimethyl–Cyclohexane[b] 720 J,N (RT 27.61)
					3–Methyl–Dodecane[b] 190 J,N (RT 28.22)
					4–Methyl–Heptane[b] 530 J,N (RT 28.57)
					Cyclohexane, 1–Ethyl–4–Methy[b] 670 J,N (RT 31.81)
					Nonacosanol[b] 540 J,N (RT 32.44)
					6–Methylundecane[b] 290 J,N (RT 33.87)
TIC Total	µg/kg		0 (0)	0 (0)	4980 (12)

Table F–9. Data Presentation Table: Soil – Site 3 – Former Leach Field, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB3-3-1	SB3-3-8	SB3-4-1
Laboratory ID Number			94976	94977	9547
Collection Date			8-20-92	8-20-92	5-19-93
Collection Depth (ft)			0.5-2.5	14.5-16.5	7.5-9.0
Percent Solids			93	85	78
Associated Field QC Sample			TB-7	TB-7	TB52093
			EB3-1	EB3-1	EB2-2, EB3-2
			FB3-1	FB3-1	N/A
			SD5-FB	SD5-FB	FB2-2, FB3-2
SEMIVOLATILE ORGANICS (SW 8270 (B))					
Extraction Date			9-1-92	9-1-92	6-2-93
Analysis Date			9-16-92	9-16-92	6-8-93
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Phenol	µg/kg	330	350 U	370 U	410 U
bis(2-Chloroethyl)ether	µg/kg	330	350 U	370 U	410 U
2-Chlorophenol	µg/kg	330	350 U	370 U	410 U
1,3-Dichlorobenzene	µg/kg	330	350 U	370 U	410 U
1,4-Dichlorobenzene	µg/kg	330	350 U	370 U	410 U
1,2-Dichlorobenzene	µg/kg	330	350 U	370 U	410 U
2-Methylphenol	µg/kg	330	350 U	370 U	410 U
2,2-oxibis-(1-Chloropropane)	µg/kg	330	350 UJ(CCV)	370 UJ(CCV)	410 U
4-Methylphenol	µg/kg	330	350 U	370 U	410 U
N-Nitroso-di-N-propylamine	µg/kg	330	350 U	370 U	410 U
Hexachloroethane	µg/kg	330	350 U	370 U	410 U
Nitrobenzene	µg/kg	330	350 U	370 U	410 U
Isophorone	µg/kg	330	350 U	370 U	410 U
2-Nitrophenol	µg/kg	330	350 U	370 U	410 U
2,4-Dimethylphenol	µg/kg	330	350 U	370 U	410 U
bis(2-Chloroethoxy)methane	µg/kg	330	350 U	370 U	410 U
2,4-Dichlorophenol	µg/kg	330	350 U	370 U	410 U
1,2,4-Trichlorobenzene	µg/kg	330	350 U	370 U	410 U
Naphthalene	µg/kg	330	350 U	370 U	410 U
4-Chloroaniline	µg/kg	330	350 U	370 U	410 U
Hexachlorobutadiene	µg/kg	330	350 U	370 UJ(CCV)	410 U
4-Chloro-3-methylphenol	µg/kg	330	350 U	370 U	410 U
2-Methylnaphthalene	µg/kg	330	350 U	370 U	210 J
Hexachlorocyclopentadiene	µg/kg	330	350 U	370 U	410 UJ(CCV)
2,4,6-Trichlorophenol	µg/kg	330	350 U	370 U	410 U
2,4,5-Trichlorophenol	µg/kg	800	840 U	890 U	980 U
2-Chloronaphthalene	µg/kg	330	350 U	370 U	410 U
2-Nitroaniline	µg/kg	800	840 U	890 UJ(CCV)	980 U
Dimethyl phthalate	µg/kg	330	350 U	370 U	410 U
Acenaphthylene	µg/kg	330	350 U	370 U	410 U
2,6-Dinitrotoluene	µg/kg	330	350 U	370 UJ(CCV)	410 U
3-Nitroaniline	µg/kg	800	840 U	890 U	980 UJ(CCV)
Acenaphthene	µg/kg	330	350 U	370 U	410 U
2,4-Dinitrophenol	µg/kg	800	840 UJ(CCV)	890 U	980 UJ(CCV)
4-Nitrophenol	µg/kg	800	840 UJ(CCV)	890 UJ(CCV)	980 U
Dibenzofuran	µg/kg	330	350 U	370 U	410 U
2,4-Dinitrotoluene	µg/kg	330	350 U	370 U	410 U
Diethyl phthalate	µg/kg	330	350 U	370 U	410 U
4-Chlorophenyl phenyl ether	µg/kg	330	350 U	370 U	410 U
Fluorene	µg/kg	330	45 J	370 U	410 U
4-Nitroaniline	µg/kg	800	840 U	890 U	980 U
4,6-Dinitro-2-methylphenol	µg/kg	800	840 U	890 U	980 U
N-Nitrosodiphenylamine (1)	µg/kg	330	350 U	370 U	410 U

Table F–9. Data Presentation Table: Soil – Site 3 – Former Leach Field, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB3–3–1			SB3–3–8			SB3–4–1			
Laboratory ID Number			94976			94977			9547			
Collection Date			8–20–92			8–20–92			5–19–93			
Collection Depth (ft)			0.5–2.5			14.5–16.5			7.5–9.0			
Percent Solids			93			85			78			
Associated Field QC Sample			TB–7			TB–7			TB52093			
			EB3–1			EB3–1			EB2–2, EB3–2			
			FB3–1			FB3–1			N/A			
			SD5–FB			SD5–FB			FB2–2, FB3–2			
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)												
Extraction Date			9–1–92			9–1–92			6–2–93			
Analysis Date			9–16–92			9–16–92			6–8–93			
Dilution Factor			1			1			1			
Parameter	Units	CRQL										
4–Bromophenyl phenyl ether	µg/kg	330	350 U			370 U			410 U			
Hexachlorobenzene	µg/kg	330	350 U			370 U			410 U			
Pentachlorophenol	µg/kg	800	840 U			890 U			980 U			
Phenanthrene	µg/kg	330	780			370 U			430			
Anthracene	µg/kg	330	130 J			370 U			410 U			
Carbazole	µg/kg	330	58 J			370 U			410 UJ(CCV)			
di–N–Butyl phthalate	µg/kg	330	350 UJ(CCV)			370 U			410 U			
Fluoranthene	µg/kg	330	2100			370 U			780			
Pyrene	µg/kg	330	2400			370 U			380 J			
Butylbenzylphthalate	µg/kg	330	350 U			370 U			410 U			
3,3'–Dichlorobenzidine	µg/kg	330	350 UJ(CCV)			370 U			410 U			
Benzo(a)anthracene	µg/kg	330	800			370 U			200 J			
Chrysene	µg/kg	330	900			370 U			94 J			
bis(2–Ethylhexyl)phthalate	µg/kg	330	70 J			370 U			850 U(MB)			
di–N–Octyl phthalate	µg/kg	330	350 U			370 UJ(CCV)			44 J			
Benzo(b)fluoranthene	µg/kg	330	1100			370 U			240 J			
Benzo(k)fluoranthene	µg/kg	330	370			370 U			190 J			
Benzo(a)pyrene	µg/kg	330	750			370 U			170 J			
Indeno(1,2,3–c,d)pyrene	µg/kg	330	720			370 U			150 J			
Dibenzo(a,h)anthracene	µg/kg	330	350 U			370 U			410 U			
Benzo(g,h,i)perylene	µg/kg	330	550			370 U			410 U			
TICs	µg/kg		4–Hydroxy–4–Methyl–2–Pentanone [a]	17000 B,J,N,A	(RT 5.28)	4–Hydroxy–4–Methyl–2–Pentanone [a]	13000 B,J,N,A	(RT 5.40)	3–Ethyl–5–Methyl–Heptane [b]	3800 J,N	(RT 5.02)	
			Unknown [d]	160 J	(RT 20.85)	Unknown [d]	120 J	(RT 20.95)	3–Ethyl–2–Methyl–Heptane [b]	4700 J,N	(RT 5.12)	
			Unknown [d]	66 J	(RT 23.64)	2,6–Dimethyl–Heptadecane [b]	90 J,N	(RT 20.99)	3,5,5–Trimethyl–1–Hexene [b]	5200 J,N	(RT 5.55)	
			1–Methyl–Anthracene [e]	75 J,N	(RT 23.75)	Unknown [d]	82 J	(RT 22.37)	Cyclopentanone, 2–Methyl–4–([b]	6100 J,N	(RT 6.00)	
			2–Methyl–Anthracene [e]	84 J,N	(RT 23.84)	Unknown [d]	96 J	(RT 23.74)	5–Ethyl–2–Methyl–Heptane [b]	10000 J,N	(RT 6.85)	
			Unknown [d]	190 J	(RT 24.05)	Unknown [d]	85 J	(RT 25.04)	Unknown [d]	5900 J	(RT 7.48)	
			Hexadecanoic Acid [f]	120 J,N	(RT 24.44)	Unknown [d]	82 J	(RT 26.29)	Unknown [d]	4200 J	(RT 8.37)	
			Unknown [d]	130 J	(RT 24.75)	Unknown [d]	140 J	(RT 28.64)	Unknown [d]	5400 J	(RT 8.64)	
			Unknown [d]	75 J	(RT 24.95)	Unknown [d]	120 J	(RT 29.76)	Unknown [d]	3000 J	(RT 8.70)	
			Unknown [d]	130 J	(RT 26.21)	Unknown [d]	110 J	(RT 30.82)	Unknown [d]	6600 J	(RT 8.90)	
			11H–Benzo[A]Fluorene [e]	240 J,N	(RT 27.76)	Octacosane [b]	100 J,N	(RT 31.87)	Unknown [d]	4300 J	(RT 9.04)	
			11H–Benzo[B]Fluorene [e]	110 J,N	(RT 27.97)	Unknown [d]	210 J	(RT 32.92)	Unknown [d]	4500 J	(RT 9.40)	
			4–Methyl–Pyrene [e]	100 J,N	(RT 28.06)	Unknown [d]	150 J	(RT 33.96)	3,4–Dimethyl–Decane [b]	4900 J,N	(RT 10.50)	
			Unknown [d]	120 J	(RT 28.54)	Unknown [d]	150 J	(RT 34.99)	7–Methyl–Tridecane [b]	5400 J,N	(RT 11.57)	
			Unknown [d]	120 J	(RT 29.66)				2,7,10–Trimethyl–Dodecane [b]	11000 J,N	(RT 18.49)	
			Unknown [d]	110 J	(RT 29.81)				Unknown [d]	13000 J	(RT 18.65)	
			Unknown [d]	61 J	(RT 30.72)				Phenol, 4–(1,1,3,3–Tetrameth [b]	5800 J,N	(RT 19.17)	
			Unknown [d]	140 J	(RT 31.79)				Nonyl–Phenol [b]	4000 J,N	(RT 19.25)	
			Unknown [d]	120 J	(RT 32.82)				Unknown [d]	9800 J	(RT 33.72)	
			Benzo[J]Fluoranthene [e]	160 J,N	(RT 34.49)				Unknown [d]	7900 J	(RT 34.09)	
			Unknown [d]	200 J	(RT 34.92)							
TIC Total	µg/kg			19511 (21)			14535 (14)			125500 (20)		

Table F-9. Data Presentation Table: Soil – Site 3 – Former Leach Field, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB3-4-2	SB3-5-1	SB3-5-2
Laboratory ID Number			9548	9549	9550
Collection Date			5-19-93	5-19-93	5-19-93
Collection Depth (ft)			12.0-14.0	6.0-8.0	13.0-15.0
Percent Solids			90	87	81
Associated Field QC Sample			TB52093	TB52093	TB52093
			EB2-2, EB3-2	EB2-2, EB3-2	EB2-2, EB3-2
			N/A	N/A	N/A
			FB2-2, FB3-2	FB2-2, FB3-2	FB2-2, FB3-2
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)					
Extraction Date			5-25 and 5-29-93	5-25 and 5-29-93	5-25 and 5-29-93
Analysis Date			6-8 and 6-18-93	6-8 and 6-18-93	6-8 and 6-18-93
Dilution Factor			1	10	1
Parameter	Units	MDL			
Gasoline	mg/kg	0.05	<0.05	84	8.7
Diesel Fuel	mg/kg	2	19	670	86
Heavy Oil	mg/kg	3	18	440	77
PRIORITY POLLUTANT METALS					
Digestion Date(s)			6-11 and 6-17-93	6-11 and 6-17-93	6-11 and 6-17-93
Analysis Date(s)			6-11 to 6-28-93	6-11 to 6-25-93	6-11 to 6-28-93
Dilution Factor		IDL	1	1	1
AA METALS					
Antimony (SW 3050/7041)	mg/kg	0.6	0.10 UJ(N,W)	0.1 UJ(N,W)	0.09 UJ(N,W)
Arsenic (SW 3050/7060)	mg/kg	0.6	5.7 J(N)	3.2 J(N)	5.6 J(N)
Lead (SW 3050/7421)	mg/kg	0.5	7.5 J(N)	11.7 J(N)	7.5 J(N)
Mercury (SW 3050/7471)	mg/kg	0.1	0.05 U	0.05 U	0.05 U
Selenium (SW 3050/7740)	mg/kg	0.9	0.16 U	0.15 U	0.14 UJ(W)
Thallium (SW 3050/7841)	mg/kg	1.4	0.33 J(W)	0.24 U	0.22 UJ(W)
ICP METALS (SW 3050/6010)					
Beryllium	mg/kg	0.3	0.31 U(MB)	0.16 U(MB)	0.27 U(MB)
Cadmium	mg/kg	3.7	0.65 U	0.6 U	0.58 U
Chromium	mg/kg	2.8	8.2	35.1	8
Copper	mg/kg	2.7	12.2	13.5	13.4
Nickel	mg/kg	19.8	16.3	7.1	15.9
Silver	mg/kg	2.9	0.51 U	6.7	0.46 U
Zinc	mg/kg	1.6	32.4 J(E)	45.6 J(E)	52 J(E)

Table F–9. Data Presentation Table: Soil – Site 3 – Former Leach Field, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB3–4–2			SB3–5–1			SB3–5–2				
Laboratory ID Number			9548			9549			9550				
Collection Date			5–19–93			5–19–93			5–19–93				
Collection Depth (ft)			12.0–14.0			6.0–8.0			13.0–15.0				
Percent Solids			90			87			81				
Associated Field QC Sample			TB52093			TB52093			TB52093				
			EB2–2, EB3–2			EB2–2, EB3–2			EB2–2, EB3–2				
			N/A			N/A			N/A				
			FB2–2, FB3–2			FB2–2, FB3–2			FB2–2, FB3–2				
VOLATILE ORGANICS (SW 8240 [A])													
Analysis Date			5–27–93			5–27–93			5–27–93				
Dilution Factor			1			1			1				
Parameter	Units	CRQL											
Chloromethane	µg/kg	10	11 U			11 U			12 U				
Bromomethane	µg/kg	10	11 U			11 U			12 U				
Vinyl Chloride	µg/kg	10	11 U			11 U			12 U				
Chloroethane	µg/kg	10	11 U			11 U			12 U				
Methylene Chloride	µg/kg	10	11 U			11 U			12 U				
Acetone	µg/kg	10	11 U			52 U(EB)			12 U				
Carbon Disulfide	µg/kg	10	11 U			2 J			12 U				
1,1–Dichloroethene	µg/kg	10	11 U			11 U			12 U				
1,1–Dichloroethane	µg/kg	10	11 U			11 U			12 U				
1,2–Dichloroethene (total)	µg/kg	10	11 U			11 U			12 U				
Chloroform	µg/kg	10	11 U			11 U			12 U				
1,2–Dichloroethane	µg/kg	10	11 U			11 U			12 U				
2–Butanone	µg/kg	10	11 U			11 U			12 U				
1,1,1–Trichloroethane	µg/kg	10	11 U			11 U			12 U				
Carbon Tetrachloride	µg/kg	10	11 U			11 U			12 U				
Bromodichloromethane	µg/kg	10	11 U			11 U			12 U				
1,2–Dichloropropane	µg/kg	10	11 U			11 U			12 U				
cis–1,3–Dichloropropene	µg/kg	10	11 U			11 U			12 U				
Trichloroethene	µg/kg	10	11 U			11 U			12 U				
Dibromochloromethane	µg/kg	10	11 U			11 U			12 U				
1,1,2–Trichloroethane	µg/kg	10	11 U			11 U			12 U				
Benzene	µg/kg	10	11 U			11 U			12 U				
trans–1,3–Dichloropropene	µg/kg	10	11 U			11 U			12 U				
Bromoform	µg/kg	10	11 U			11 U			12 U				
4–Methyl–2–pentanone	µg/kg	10	11 U			11 U			12 U				
2–Hexanone	µg/kg	10	11 U			11 U			12 U				
Tetrachloroethene	µg/kg	10	11 U			11 U			12 U				
1,1,2,2–Tetrachloroethane	µg/kg	10	11 U			11 U			12 U				
Toluene	µg/kg	10	11 U			3 J			12 U				
Chlorobenzene	µg/kg	10	11 U			11 U			12 U				
Ethylbenzene	µg/kg	10	11 U			2 J			12 U				
Styrene	µg/kg	10	11 U			11 U			12 U				
Xylene (total)	µg/kg	10	11 U			18 X			12 U				
TICs	µg/kg		Hexane [a]	8	J,N (RT 8.55)	Cyclohexane, 1,1,3–Trimethyl [b]	82	J,N (RT 20.73)	1,1,2,3–Tetramethylcyclohexane [b]	6	J,N (RT 26.47)		
						4–Methyl–Octane [b]	78	J,N (RT 21.41)	Cyclopentane, 2–Isopropyl–1, [b]	7	J,N (RT 27.40)		
						3–Methyl–Octane [b]	56	J,N (RT 21.84)	1–Heptacosanol [b]	16	J,N (RT 31.64)		
						Cyclohexane, 1–Ethyl–2–Methy [b]	170	J,N (RT 24.27)					
						3,6–Dimethyl–Octane [b]	160	J,N (RT 24.65)					
						Propyl–Cyclohexane [b]	150	J,N (RT 25.41)					
						2,5,6–Trimethyl–Decane [b]	140	J,N (RT 25.72)					
						2,5–Dimethyl–Octane [b]	210	J,N (RT 25.95)					
						3,3,5–Trimethyl–1–Hexene [b]	370	J,N (RT 26.60)					
						Cyclohexane, 1,1,4,4–Tetrame [b]	92	J,N (RT 27.31)					
						Cyclopentane, 1–Methyl–3–(2– [b]	440	J,N (RT 27.55)					
						4–Methyl–Decane [b]	690	J,N (RT 28.51)					
TIC Total	µg/kg			8 (1)			2638 (12)			29 (3)			

Table F–9. Data Presentation Table: Soil – Site 3 – Former Leach Field, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB3–4–2	SB3–5–1	SB3–5–2
Laboratory ID Number			9548	9549	9550
Collection Date			5–19–93	5–19–93	5–19–93
Collection Depth (ft)			12.0–14.0	6.0–8.0	13.0–15.0
Percent Solids			90	87	81
Associated Field QC Sample			TB52093	TB52093	TB52093
			EB2–2, EB3–2	EB2–2, EB3–2	EB2–2, EB3–2
			N/A	N/A	N/A
			FB2–2, FB3–2	FB2–2, FB3–2	FB2–2, FB3–2
SEMIVOLATILE ORGANICS (SW 8270 (B))					
Extraction Date			6–5–93	5–27–93	5–27–93
Analysis Date			6–8–93	6–4–93	6–4–93
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Phenol	µg/kg	330	370 UJ(EHT)	370 U	400 U
bis(2–Chloroethyl)ether	µg/kg	330	370 UJ(EHT)	370 U	400 U
2–Chlorophenol	µg/kg	330	370 UJ(EHT)	370 U	400 U
1,3–Dichlorobenzene	µg/kg	330	370 UJ(EHT)	370 U	400 U
1,4–Dichlorobenzene	µg/kg	330	370 UJ(EHT)	370 U	400 U
1,2–Dichlorobenzene	µg/kg	330	370 UJ(EHT)	370 U	400 U
2–Methylphenol	µg/kg	330	370 UJ(EHT)	370 U	400 U
2,2–oxibis–(1–Chloropropane)	µg/kg	330	370 UJ(EHT)	370 UJ(CCV)	400 UJ(CCV)
4–Methylphenol	µg/kg	330	370 UJ(EHT)	370 U	400 U
N–Nitroso–di–N–propylamine	µg/kg	330	370 UJ(EHT)	370 U	400 U
Hexachloroethane	µg/kg	330	370 UJ(EHT)	370 U	400 U
Nitrobenzene	µg/kg	330	370 UJ(EHT)	370 U	400 U
Isophorone	µg/kg	330	370 UJ(EHT)	370 U	400 U
2–Nitrophenol	µg/kg	330	370 UJ(EHT)	370 U	400 U
2,4–Dimethylphenol	µg/kg	330	370 UJ(EHT)	370 U	400 U
bis(2–Chloroethoxy)methane	µg/kg	330	370 UJ(EHT)	370 U	400 U
2,4–Dichlorophenol	µg/kg	330	370 UJ(EHT)	370 U	400 U
1,2,4–Trichlorobenzene	µg/kg	330	370 UJ(EHT)	370 U	400 U
Naphthalene	µg/kg	330	370 UJ(EHT)	370 U	400 U
4–Chloroaniline	µg/kg	330	370 UJ(EHT)	370 U	400 U
Hexachlorobutadiene	µg/kg	330	370 UJ(EHT)	370 U	400 U
4–Chloro–3–methylphenol	µg/kg	330	370 UJ(EHT)	370 U	400 U
2–Methylnaphthalene	µg/kg	330	370 UJ(EHT)	69 J	400 U
Hexachlorocyclopentadiene	µg/kg	330	370 UJ(EHT, CCV)	370 UJ(CCV)	400 UJ(CCV)
2,4,6–Trichlorophenol	µg/kg	330	370 UJ(EHT)	370 U	400 U
2,4,5–Trichlorophenol	µg/kg	800	890 UJ(EHT)	900 U	980 U
2–Chloronaphthalene	µg/kg	330	370 UJ(EHT)	370 U	400 U
2–Nitroaniline	µg/kg	800	890 UJ(EHT)	900 U	980 U
Dimethyl phthalate	µg/kg	330	370 UJ(EHT)	370 U	400 U
Acenaphthylene	µg/kg	330	370 UJ(EHT)	370 U	400 U
2,6–Dinitrotoluene	µg/kg	330	370 UJ(EHT)	370 UJ(CCV)	400 UJ(CCV)
3–Nitroaniline	µg/kg	800	890 UJ(EHT, CCV)	900 U	980 U
Acenaphthene	µg/kg	330	370 UJ(EHT)	370 U	400 U
2,4–Dinitrophenol	µg/kg	800	890 UJ(EHT, CCV)	900 U	980 U
4–Nitrophenol	µg/kg	800	890 UJ(EHT)	900 U	980 U
Dibenzofuran	µg/kg	330	370 UJ(EHT)	370 U	400 U
2,4–Dinitrotoluene	µg/kg	330	370 UJ(EHT)	370 U	400 U
Diethyl phthalate	µg/kg	330	370 UJ(EHT)	370 U	400 U
4–Chlorophenyl phenyl ether	µg/kg	330	370 UJ(EHT)	370 U	400 U
Fluorene	µg/kg	330	370 UJ(EHT)	96 J	400 U
4–Nitroaniline	µg/kg	800	890 UJ(EHT)	900 U	980 U
4,6–Dinitro–2–methylphenol	µg/kg	800	890 UJ(EHT)	900 U	980 U
N–Nitrosodiphenylamine (1)	µg/kg	330	370 UJ(EHT)	370 U	400 U

Table F–9. Data Presentation Table: Soil – Site 3 – Former Leach Field, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB3–4–2	SB3–5–1	SB3–5–2
Laboratory ID Number			9548	9549	9550
Collection Date			5–19–93	5–19–93	5–19–93
Collection Depth (ft)			12.0–14.0	6.0–8.0	13.0–15.0
Percent Solids			90	87	81
Associated Field QC Sample			TB52093	TB52093	TB52093
			EB2–2, EB3–2	EB2–2, EB3–2	EB2–2, EB3–2
			N/A	N/A	N/A
			FB2–2, FB3–2	FB2–2, FB3–2	FB2–2, FB3–2
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)					
Extraction Date			6–5–93	05/27/93	5–27–93
Analysis Date			6–8–93	06/04/93	6–4–93
Dilution Factor			1	1.0	1
Parameter	Units	CRQL			
4–Bromophenyl phenyl ether	µg/kg	330	370 UJ(EHT)	370 U	400 U
Hexachlorobenzene	µg/kg	330	370 UJ(EHT)	370 U	400 U
Pentachlorophenol	µg/kg	800	890 UJ(EHT)	900 U	980 U
Phenanthrene	µg/kg	330	370 UJ(EHT)	220 J	400 U
Anthracene	µg/kg	330	370 UJ(EHT)	370 U	400 U
Carbazole	µg/kg	330	370 UJ(EHT, CCV)	370 UJ(CCV)	400 UJ(CCV)
di–N–Butyl phthalate	µg/kg	330	370 UJ(EHT)	370 U	400 U
Fluoranthene	µg/kg	330	370 UJ(EHT)	380	400 U
Pyrene	µg/kg	330	370 UJ(EHT)	370 U	400 U
Butylbenzylphthalate	µg/kg	330	370 UJ(EHT)	370 U	400 U
3,3'–Dichlorobenzidine	µg/kg	330	370 UJ(EHT)	370 UJ(CCV)	400 UJ(CCV)
Benzo(a)anthracene	µg/kg	330	370 UJ(EHT)	370 U	400 U
Chrysene	µg/kg	330	370 UJ(EHT)	370 U	400 U
bis(2–Ethylhexyl)phthalate	µg/kg	330	370 UJ(EHT)	530 U(MB)	400 U(MB)
di–N–Octyl phthalate	µg/kg	330	370 UJ(EHT)	370 U	400 U
Benzo(b)fluoranthene	µg/kg	330	370 UJ(EHT)	370 U	400 U
Benzo(k)fluoranthene	µg/kg	330	370 UJ(EHT)	370 U	400 U
Benzo(a)pyrene	µg/kg	330	370 UJ(EHT)	370 U	400 U
Indeno(1,2,3–c,d)pyrene	µg/kg	330	370 UJ(EHT)	370 U	400 U
Dibenzo(a,h)anthracene	µg/kg	330	370 UJ(EHT)	370 U	400 U
Benzo(g,h,i)perylene	µg/kg	330	370 UJ(EHT)	370 U	400 U
TICs	µg/kg		4–Hydroxy–4–Methyl–2–Pentanone [a] 10000 B,J,N,A (RT 3.50)	3–Ethyl–2–Methyl–Heptane [b] 750 J,N (RT 5.33)	4–Hydroxy–4–Methyl–2–Pentanone [a] 15000 B,J,N,A (RT 3.77)
			4,7–Dimethyl–Undecane [b] 550 J,N (RT 11.97)	5–Ethyl–2–Methyl–Heptane [b] 2500 J,N (RT 7.02)	4,6–Dimethyl–Undecane [b] 430 J,N (RT 13.57)
			Tetradecane [b] 850 J,N (RT 13.70)	Unknown [d] 1400 J (RT 9.10)	4,7–Dimethyl–Undecane [b] 740 J,N (RT 14.00)
			Unknown [d] 530 J (RT 14.67)	2,6–Dimethyl–Undecane [b] 2100 J,N (RT 10.77)	Unknown [d] 660 J (RT 14.99)
			2,7,10–Trimethyl–Dodecane [b] 1000 J,N (RT 15.32)	2,3,7–Trimethyl–Octane [b] 1900 J,N (RT 11.85)	2,6,11–Trimethyl–Dodecane [b] 570 J,N (RT 15.65)
			Hexadecane [b] 1100 J,N (RT 16.87)	Unknown [d] 1800 J (RT 13.69)	Phenol, 4–(2,2,3,3–Tetrameth [b] 2900 J,N (RT 17.27)
			Unknown [d] 520 J (RT 17.55)	Unknown [d] 1900 J (RT 15.10)	5–Propyl–Tridecane [b] 520 J,N (RT 17.89)
			Heptadecane [b] 1800 J,N (RT 18.34)	Phenol, 4–(2,2,3,3–Tetrameth [b] 6500 J,N (RT 17.40)	Unknown [d] 2400 J (RT 18.69)
			Unknown [d] 760 J (RT 19.74)	Unknown [d] 1300 J (RT 17.99)	Unknown [d] 610 J (RT 18.80)
			Unknown [d] 570 J (RT 19.80)	2,6–Dimethyl–Heptadecane [b] 5400 J,N (RT 18.84)	2–Nonylphenol [b] 300 J,N (T 18.94)
			Unknown [d] 720 J (RT 21.05)	Unknown [d] 3700 J (RT 18.97)	Phenol, 4–(1,1,3,3–Tetrameth [b] 290 J,N (RT 19.37)
			Unknown [d] 830 J (RT 22.34)	2–Nonylphenol [b] 5000 J,N (RT 19.09)	Unknown [d] 740 J (RT 20.07)
			Unknown [d] 720 J (RT 23.54)	Unknown [d] 4600 J (RT 19.24)	Unknown [d] 610 J (RT 20.15)
			Unknown [d] 590 J (RT 24.70)	Unknown [d] 5100 J (RT 19.37)	Unknown [d] 1000 J (RT 21.40)
			Docosane [b] 650 J,N (RT 25.82)	Phenol, 4–(1,1,3,3–Tetrameth [b] 5900 J,N (RT 19.50)	Unknown [d] 590 J (RT 22.67)
			Unknown [d] 540 J (RT 26.91)	Nonyl–Phenol [b] 4600 J,N (RT 19.59)	Unknown [d] 760 J (RT 23.90)
			Octacosane [b] 530 J,N (RT 27.96)	Hexadecane, 2,6,10,14–Tetram [b] 3600 J,N (RT 20.24)	Unknown [d] 560 J (RT 25.07)
			Unknown [d] 440 J (RT 28.97)	Phosphoric Acid, 2–Ethylhexy [e] 5900 J,N (RT 27.54)	Unknown [d] 690 J (RT 26.19)
			Unknown [d] 400 J (RT 29.96)	Unknown [d] 7100 J (RT 34.09)	Unknown [d] 620 J (RT 27.29)
			Unknown [d] 370 J (RT 30.92)	Unknown [d] 6500 J (RT 34.44)	Phosphoric Acid, 2–Ethylhexy [e] 510 J,N (RT 27.47)
			Unknown [d] 320 J (RT 31.89)		Unknown [d] 610 J (RT 28.32)
TIC Total	µg/kg		23790 (21)	77550 (20)	31110 (21)

Table F-9. Data Presentation Table: Soil – Site 3 – Former Leach Field, 178 th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number				MW3-1-1	MW3-1-1R	MW3-1-1a
Laboratory ID Number				95266	95267	95031
Collection Date				8-26-92	8-26-92	8-21-92
Collection Depth (ft)				0.5-1.5	0.5-1.5	0.5-1.5
Percent Solids				90	86	91
Associated Field QC Sample				TB-10	TB-10	TB-8
				EB3-1	EB3-1	EB3-1
				FB3-1	FB3-1	FB3-1
				SD5-FB	SD5-FB	SD5-FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)						
Extraction Date				9-11-92	9-11-92	8-30-92
Analysis Date				9-19-92	9-19-92	9-13-92
Dilution Factor				1	1	1
Parameter	Units	MDL				
Gasoline	mg/kg	N/A		NA	NA	NA
Diesel Fuel	mg/kg	2		<3 UJ(EHT)	<3 UJ(EHT)	28
Heavy Oil	mg/kg	2		23 J(EHT)	35 J(EHT)	<2
PRIORITY POLLUTANT METALS						
Digestion Date(s)				9-17, 9-21 and 9-22-92	9-17, 9-21 and 9-22-92	9-14 and 9-16-92
Analysis Date(s)				9-20 to 10-8-92	9-20 to 10-8-92	9-16 to 10-5-92
Dilution Factor		IDL	or IDL	1	1	1
AA METALS						
Antimony (SW3050/7041)	mg/kg	2	1.3	R(N)	R(N)	R(N)
Arsenic (SW3050/7060)	mg/kg	1.5	1.5	10.6 J(N,*)	10.1 J(N,*)	7.7 J(N)
Lead (SW3050/7421)	mg/kg	0.9	0.5	21.7 *	17.5 *	22.2 S
Mercury (SW3050/7471)	mg/kg	0.2	0.2	0.08 U	0.09 U	0.08 U
Selenium (SW3050/7740)	mg/kg	1.4	1.4	R(N)	R(N)	0.12 UJ(N,W)
Thallium (SW3050/7841)	mg/kg	1.9	0.7	0.23 B	0.23 B	0.16 UJ(MB,W)
ICP METALS (SW 3050/6010)						
Beryllium	mg/kg	0.3	0.3	0.33 B	0.29 B	0.34 B
Cadmium	mg/kg	2.1	2.1	0.2 U	0.21 U	0.22 U
Chromium	mg/kg	4	4	14.8 J(N)	9.6 J(N)	16
Copper	mg/kg	3.9	3.9	16.8	13.9	17.6
Nickel	mg/kg	10.3	10.3	17.6	11.8	17.6
Silver	mg/kg	3	3	1.6 U(MB)	1.3 U(MB)	2.5 U(MB)
Zinc	mg/kg	3.5	3.5	70.2 J(N,E)	57.9 J(N,E)	68.9 J(E)

Table F-9. Data Presentation Table: Soil -- Site 3 -- Former Leach Field, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MW3-1-1	MW3-1-1R	MW3-1-1a
Laboratory ID Number			95266	95267	95031
Collection Date			8-26-92	8-26-92	8-21-92
Collection Depth (ft)			0.5-1.5	0.5-1.5	0.5-1.5
Percent Solids			90	86	91
Associated Field QC Sample			TB-10	TB-10	TB-8
			EB3-1	EB3-1	EB3-1
			FB3-1	FB3-1	FB3-1
			SD5-FB	SD5-FB	SD5-FB
VOLATILE ORGANICS (SW 8240 [A])					
Analysis Date			8-27-92	9-2-92	8-27-92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Chloromethane	µg/kg	10	11 U	12 U	11 U
Bromomethane	µg/kg	10	11 U	12 U	11 U
Vinyl Chloride	µg/kg	10	11 U	12 U	11 U
Chloroethane	µg/kg	10	11 U	12 U	11 U
Methylene Chloride	µg/kg	10	11 U	12 U	11 U
Acetone	µg/kg	10	11 U	12 U	11 U
Carbon Disulfide	µg/kg	10	11 U	12 U	11 U
1,1-Dichloroethene	µg/kg	10	11 U	12 U	11 U
1,1-Dichloroethane	µg/kg	10	11 U	12 U	11 U
1,2-Dichloroethene (total)	µg/kg	10	11 U	12 U	11 U
Chloroform	µg/kg	10	11 U	12 U	11 U
1,2-Dichloroethane	µg/kg	10	11 U	12 U	11 U
2-Butanone	µg/kg	10	11 U	12 U	11 U
1,1,1-Trichloroethane	µg/kg	10	11 U	12 U	11 U
Carbon Tetrachloride	µg/kg	10	11 U	12 U	11 U
Bromodichloromethane	µg/kg	10	11 U	12 U	11 U
1,2-Dichloropropane	µg/kg	10	11 U	12 U	11 U
cis-1,3-Dichloropropene	µg/kg	10	11 U	12 U	11 U
Trichloroethene	µg/kg	10	11 U	12 U	11 U
Dibromochloromethane	µg/kg	10	11 U	12 U	11 U
1,1,2-Trichloroethane	µg/kg	10	11 U	12 U	11 U
Benzene	µg/kg	10	11 U	12 U	11 U
trans-1,3-Dichloropropene	µg/kg	10	11 U	12 U	11 U
Bromoform	µg/kg	10	11 U	12 U	11 U
4-Methyl-2-pentanone	µg/kg	10	11 U	12 U	11 U
2-Hexanone	µg/kg	10	11 U	12 U	11 U
Tetrachloroethene	µg/kg	10	11 U	12 U	11 U
1,1,2,2-Tetrachloroethane	µg/kg	10	11 U	12 U	11 U
Toluene	µg/kg	10	11 U	2 J	11 U
Chlorobenzene	µg/kg	10	11 U	12 U	11 U
Ethylbenzene	µg/kg	10	11 U	12 U	11 U
Styrene	µg/kg	10	11 U	12 U	11 U
Xylene (total)	µg/kg	10	11 U	12 U	11 U
TICs	µg/kg		0 (0)	0 (0)	0 (0)
TIC Total	µg/kg		0 (0)	0 (0)	0 (0)

Table F-9. Data Presentation Table: Soil – Site 3 – Former Leach Field, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MW3-1-1	MW3-1-1R	MW3-1-1a
Laboratory ID Number			95266	95267	95031
Collection Date			8-26-92	8-26-92	8-21-92
Collection Depth (ft)			0.5-1.5	0.5-1.5	0.5-1.5
Percent Solids			90	86	91
Associated Field QC Sample			TB-10	TB-10	TB-8
			EB3-1	EB3-1	EB3-1
			FB3-1	FB3-1	FB3-1
			SD5-FB	SD5-FB	SD5-FB
SEMIVOLATILE ORGANICS (SW 8270 [B])					
Extraction Date			9-1-92	9-2-92	9-1-92
Analysis Date			9-16-92	9-21-92	9-17-92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Phenol	µg/kg	330	350 U	350 U	340 U
bis(2-Chloroethyl)ether	µg/kg	330	350 U	350 U	340 U
2-Chlorophenol	µg/kg	330	350 U	350 U	340 U
1,3-Dichlorobenzene	µg/kg	330	350 U	350 U	340 U
1,4-Dichlorobenzene	µg/kg	330	350 U	350 U	340 U
1,2-Dichlorobenzene	µg/kg	330	350 U	350 U	340 U
2-Methylphenol	µg/kg	330	350 U	350 U	340 U
2,2-oxibis-(1-Chloropropane)	µg/kg	330	350 U	350 U	340 UJ(CCV)
4-Methylphenol	µg/kg	330	350 U	350 U	340 U
N-Nitroso-di-N-propylamine	µg/kg	330	230 J	350 U	340 U
Hexachloroethane	µg/kg	330	350 U	350 U	340 U
Nitrobenzene	µg/kg	330	350 U	350 U	340 U
Isophorone	µg/kg	330	350 U	350 U	340 U
2-Nitrophenol	µg/kg	330	350 U	350 U	340 U
2,4-Dimethylphenol	µg/kg	330	350 U	350 U	340 U
bis(2-Chloroethoxy)methane	µg/kg	330	350 U	350 U	340 U
2,4-Dichlorophenol	µg/kg	330	350 U	350 U	340 U
1,2,4-Trichlorobenzene	µg/kg	330	350 U	350 U	340 U
Naphthalene	µg/kg	330	350 U	350 U	340 U
4-Chloroaniline	µg/kg	330	350 U	350 U	340 U
Hexachlorobutadiene	µg/kg	330	350 U	350 U	340 U
4-Chloro-3-methylphenol	µg/kg	330	350 U	350 U	340 U
2-Methylnaphthalene	µg/kg	330	350 U	350 U	340 U
Hexachlorocyclopentadiene	µg/kg	330	350 U	350 U	340 U
2,4,6-Trichlorophenol	µg/kg	330	350 U	350 U	340 U
2,4,5-Trichlorophenol	µg/kg	800	860 U	840 U	830 U
2-Chloronaphthalene	µg/kg	330	350 U	350 U	340 U
2-Nitroaniline	µg/kg	800	860 U	840 U	830 UJ(CCV)
Dimethyl phthalate	µg/kg	330	350 U	350 U	340 U
Acenaphthylene	µg/kg	330	350 U	350 U	340 U
2,6-Dinitrotoluene	µg/kg	330	350 U	350 U	340 U
3-Nitroaniline	µg/kg	800	860 U	840 U	830 U
Acenaphthene	µg/kg	330	350 U	350 U	340 U
2,4-Dinitrophenol	µg/kg	800	860 U	840 U	830 U
4-Nitrophenol	µg/kg	800	860 UJ(CCV)	840 UJ(CCV)	830 UJ(CCV)
Dibenzofuran	µg/kg	330	350 U	350 U	340 U
2,4-Dinitrotoluene	µg/kg	330	350 U	350 U	340 U
Diethyl phthalate	µg/kg	330	350 U	350 U	340 UJ(CCV)
4-Chlorophenyl phenyl ether	µg/kg	330	350 U	350 U	340 U
Fluorene	µg/kg	330	350 U	350 U	340 U
4-Nitroaniline	µg/kg	800	860 U	840 U	830 U
4,6-Dinitro-2-methylphenol	µg/kg	800	860 U	840 U	830 U
N-Nitrosodiphenylamine (1)	µg/kg	330	350 U	350 U	340 U

Table F–9. Data Presentation Table: Soil – Site 3 – Former Leach Field, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MW3–1–1			MW3–1–1R			MW3–1–1a		
Laboratory ID Number			95266			95267			95031		
Collection Date			8–26–92			8–26–92			8–21–92		
Collection Depth (ft)			0.5–1.5			0.5–1.5			0.5–1.5		
Percent Solids			90			86			91		
Associated Field QC Sample			TB–10			TB–10			TB–8		
			EB3–1			EB3–1			EB3–1		
			FB3–1			FB3–1			FB3–1		
			SD5–FB			SD5–FB			SD5–FB		
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)											
Extraction Date			9–1–92			9–2–92			9–1–92		
Analysis Date			9–16–92			9–21–92			9–17–92		
Dilution Factor			1			1			1		
Parameter	Units	CRQL									
4–Bromophenyl phenyl ether	µg/kg	330	350 U			350 U			340 U		
Hexachlorobenzene	µg/kg	330	350 U			350 U			340 U		
Pentachlorophenol	µg/kg	800	860 U			840 U			830 U		
Phenanthrene	µg/kg	330	130 J			210 J			89 J		
Anthracene	µg/kg	330	350 U			37 J			340 U		
Carbazole	µg/kg	330	350 U			350 U			340 U		
di–N–Butyl phthalate	µg/kg	330	350 U			350 U			340 UJ(CCV)		
Fluoranthene	µg/kg	330	320 J			500			230 J		
Pyrene	µg/kg	330	300 J			420			340 J		
Butylbenzylphthalate	µg/kg	330	350 U			350 U			340 U		
3,3'–Dichlorobenzidine	µg/kg	330	350 U			350 U			340 U		
Benzo(a)anthracene	µg/kg	330	140 J			190 J			120 J		
Chrysene	µg/kg	330	190 J			270 J			150 J		
bis(2–Ethylhexyl)phthalate	µg/kg	330	60 J			60 J			60 J		
di–N–Octyl phthalate	µg/kg	330	350 U			350 U			340 U		
Benzo(b)fluoranthene	µg/kg	330	220 J			270 J			180 J		
Benzo(k)fluoranthene	µg/kg	330	200 J			180 J			64 J		
Benzo(a)pyrene	µg/kg	330	160 J			220 J			120 J		
Indeno(1,2,3–c,d)pyrene	µg/kg	330	140 J			230 J			340 U		
Dibenzo(a,h)anthracene	µg/kg	330	350 U			350 U			340 U		
Benzo(g,h,i)perylene	µg/kg	330	110 J			160 J			340 U		
TICs	µg/kg		Unknown [d]	59 J	(RT 22.05)	Hexadecanoic Acid [b]	210 J,N	(RT 22.95)	4–Hydroxy–4–Methyl–2–Pentanone [a]	20000 B,J,N,A	(RT 5.27)
			Unknown [d]	130 J	(RT 24.50)	Unknown [d]	120 J	(RT 24.50)	Unknown [d]	120 J	(RT 16.09)
			Unknown [d]	65 J	(RT 26.74)	Unknown [d]	74 J	(RT 25.07)	Unknown [d]	120 J	(RT 19.24)
			Unknown [d]	88 J	(RT 27.82)	Unknown [d]	69 J	(RT 25.64)	Unknown [d]	150 J	(RT 20.75)
			Unknown [d]	130 J	(RT 28.84)	Unknown [d]	76 J	(RT 26.74)	2,7,10–Trimethyl–Dodecane [b]	110 J,N	(RT 20.79)
			Unknown [d]	140 J	(RT 29.84)	Unknown [d]	170 J	(RT 27.81)	Unknown [d]	83 J	(RT 22.17)
			Unknown [d]	200 J	(RT 30.79)	Pentacosane [b]	140 J,N	(RT 28.82)	Unknown [d]	87 J	(RT 22.27)
			Octacosane [b]	220 J,N	(RT 31.74)	Hexacosane [b]	160 J,N	(RT 29.81)	Unknown [d]	160 J	(RT 23.54)
			Unknown [d]	79 J	(RT 32.01)	Octacosane [b]	190 J,N	(RT 30.79)	Hexadecanoic Acid [b]	170 J,N	(RT 24.30)
			Benzo[J]Fluoranthene [e]	150 J,N	(RT 32.16)	Unknown [d]	190 J	(RT 31.72)	Heptadecane, 2,6,10,14–Tetra [b]	120 J,N	(RT 24.85)
			Nonacosane [b]	240 J,N	(RT 32.67)	Unknown [d]	150 J	(RT 32.01)	Unknown [d]	140 J	(RT 26.09)
			Unknown [d]	210 J	(RT 33.57)	Benzo[J]Fluoranthene [e]	260 J,N	(RT 32.14)	Docosane [b]	150 J,N	(RT 28.44)
			Unknown [d]	140 J	(RT 33.96)	Nonacosane [b]	200 J,N	(RT 32.64)	Unknown [d]	220 J	(RT 29.56)
			Unknown [d]	160 J	(RT 34.36)	Unknown [d]	130 J	(RT 33.56)	Unknown [d]	80 J	(RT 30.54)
			Unknown [d]	220 J	(RT 34.49)	Unknown [d]	92 J	(RT 33.94)	Octacosane [b]	150 J,N	(RT 30.62)
			Unknown [d]	130 J	(RT 34.62)	Unknown [d]	310 J	(RT 34.47)	Unknown [d]	150 J	(RT 31.67)
			Unknown [d]	260 J	(RT 34.74)	Unknown [d]	240 J	(RT 34.71)	Unknown [d]	570 J	(RT 32.72)
			Unknown [d]	290 J	(RT 35.62)	Unknown [d]	200 J	(RT 35.61)	Unknown [d]	150 J	(RT 33.76)
			Unknown [d]	200 J	(RT 36.36)	Unknown [d]	220 J	(RT 36.32)	Benzo[J]Fluoranthene [e]	210 J,N	(RT 34.36)
			Unknown [d]	400 J	(RT 36.52)	Unknown [d]	440 J	(RT 36.52)	Unknown [d]	770 J	(RT 34.81)
									Unknown [d]	550 J	(RT 37.09)
TIC Total	µg/kg			3511 (20)			3641 (20)			24260 (21)	

Table F-9. Data Presentation Table: Soil – Site 3 – Former Leach Field
178 th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MW3-1-8
Laboratory ID Number			95032
Collection Date			8-21-92
Collection Depth (ft)			14.0-16.0
Percent Solids			89
Associated Field QC Sample			TB-8
			EB3-1
			FB3-1
			SD5-FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)			
Extraction Date			8-30-92
Analysis Date			9-13-92
Dilution Factor			1
Parameter	Units	MDL	
Gasoline	mg/kg	N/A	NA
Diesel Fuel	mg/kg	2	12
Heavy Oil	mg/kg	2	7
PRIORITY POLLUTANT METALS			
Digestion Date(s)			9-14 and 9-16-92
Analysis Date(s)			9-16 to 10-5-92
Dilution Factor		IDL	1
AA METALS			
Antimony (SW3050/7041)	mg/kg	1.3	R(N)
Arsenic (SW3050/7060)	mg/kg	1.5	5.2 J(N)
Lead (SW3050/7421)	mg/kg	0.5	8.3
Mercury (SW3050/7471)	mg/kg	0.2	0.09 U
Selenium (SW3050/7740)	mg/kg	1.4	0.11 UJ(N,W)
Thallium (SW3050/7841)	mg/kg	0.7	0.06 U
ICP METALS (SW3050/6010)			
Beryllium	mg/kg	0.3	0.33 B
Cadmium	mg/kg	2.1	0.98 U
Chromium	mg/kg	4	9.5
Copper	mg/kg	3.9	13.3
Nickel	mg/kg	10.3	10.3 B
Silver	mg/kg	3	3.5 B
Zinc	mg/kg	3.5	53 J(E)

Table F–9. Data Presentation Table: Soil – Site 3 – Former Leach Field
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MW3–1–8
Laboratory ID Number			95032
Collection Date			8–21–92
Collection Depth (ft)			14.0–16.0
Percent Solids			89
Associated Field QC Sample			TB–8
			EB3–1
			FB3–1
			SD5–FB
VOLATILE ORGANICS (SW 8240 [A])			
Analysis Date			8–27–92
Dilution Factor			1
Parameter	Units	CRQL	
Chloromethane	µg/kg	10	11 U
Bromomethane	µg/kg	10	11 U
Vinyl Chloride	µg/kg	10	11 U
Chloroethane	µg/kg	10	11 U
Methylene Chloride	µg/kg	10	11 U
Acetone	µg/kg	10	11 U
Carbon Disulfide	µg/kg	10	11 U
1,1–Dichloroethene	µg/kg	10	11 U
1,1–Dichloroethane	µg/kg	10	11 U
1,2–Dichloroethene (total)	µg/kg	10	11 U
Chloroform	µg/kg	10	11 U
1,2–Dichloroethane	µg/kg	10	11 U
2–Butanone	µg/kg	10	11 U
1,1,1–Trichloroethane	µg/kg	10	11 U
Carbon Tetrachloride	µg/kg	10	11 U
Bromodichloromethane	µg/kg	10	11 U
1,2–Dichloropropane	µg/kg	10	11 U
cis–1,3–Dichloropropene	µg/kg	10	11 U
Trichloroethene	µg/kg	10	11 U
Dibromochloromethane	µg/kg	10	11 U
1,1,2–Trichloroethane	µg/kg	10	11 U
Benzene	µg/kg	10	11 U
trans–1,3–Dichloropropene	µg/kg	10	11 U
Bromoform	µg/kg	10	11 U
4–Methyl–2–pentanone	µg/kg	10	11 U
2–Hexanone	µg/kg	10	11 U
Tetrachloroethene	µg/kg	10	11 U
1,1,2,2–Tetrachloroethane	µg/kg	10	11 U
Toluene	µg/kg	10	11 U
Chlorobenzene	µg/kg	10	11 U
Ethylbenzene	µg/kg	10	11 U
Styrene	µg/kg	10	11 U
Xylene (total)	µg/kg	10	11 U
TICs	µg/kg		0 (0)
TIC Total	µg/kg		0 (0)

Table F–9. Data Presentation Table: Soil – Site 3 – Former Leach Field
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MW3–1–8
Laboratory ID Number			95032
Collection Date			8–21–92
Collection Depth (ft)			14.0–16.0
Percent Solids			89
Associated Field QC Sample			TB–8
			EB3–1
			FB3–1
			SD5–FB
SEMIVOLATILE ORGANICS (SW 8270 [B])			
Extraction Date			9–1–92
Analysis Date			9–16–92
Dilution Factor			1
Parameter	Units	CRQL	
Phenol	µg/kg	330	340 U
bis(2–Chloroethyl)ether	µg/kg	330	340 U
2–Chlorophenol	µg/kg	330	340 U
1,3–Dichlorobenzene	µg/kg	330	340 U
1,4–Dichlorobenzene	µg/kg	330	340 U
1,2–Dichlorobenzene	µg/kg	330	340 U
2–Methylphenol	µg/kg	330	340 U
2,2–oxibis–(1–Chloropropane)	µg/kg	330	340 UJ(CCV)
4–Methylphenol	µg/kg	330	340 U
N–Nitroso–di–N–propylamine	µg/kg	330	340 U
Hexachloroethane	µg/kg	330	340 U
Nitrobenzene	µg/kg	330	340 U
Isophorone	µg/kg	330	340 U
2–Nitrophenol	µg/kg	330	340 U
2,4–Dimethylphenol	µg/kg	330	340 U
bis(2–Chloroethoxy)methane	µg/kg	330	340 U
2,4–Dichlorophenol	µg/kg	330	340 U
1,2,4–Trichlorobenzene	µg/kg	330	340 U
Naphthalene	µg/kg	330	340 U
4–Chloroaniline	µg/kg	330	340 U
Hexachlorobutadiene	µg/kg	330	340 UJ(CCV)
4–Chloro–3–methylphenol	µg/kg	330	340 U
2–Methylnaphthalene	µg/kg	330	340 U
Hexachlorocyclopentadiene	µg/kg	330	340 U
2,4,6–Trichlorophenol	µg/kg	330	340 U
2,4,5–Trichlorophenol	µg/kg	800	830 U
2–Chloronaphthalene	µg/kg	330	340 U
2–Nitroaniline	µg/kg	800	830 UJ(CCV)
Dimethyl phthalate	µg/kg	330	340 U
Acenaphthylene	µg/kg	330	340 U
2,6–Dinitrotoluene	µg/kg	330	340 UJ(CCV)
3–Nitroaniline	µg/kg	800	830 U
Acenaphthene	µg/kg	330	340 U
2,4–Dinitrophenol	µg/kg	800	830 U
4–Nitrophenol	µg/kg	800	830 UJ(CCV)
Dibenzofuran	µg/kg	330	340 U
2,4–Dinitrotoluene	µg/kg	330	340 U
Diethyl phthalate	µg/kg	330	340 U
4–Chlorophenyl phenyl ether	µg/kg	330	340 U
Fluorene	µg/kg	330	340 U
4–Nitroaniline	µg/kg	800	830 U
4,6–Dinitro–2–methylphenol	µg/kg	800	830 U
N–Nitrosodiphenylamine (1)	µg/kg	330	340 U

Table F-9. Data Presentation Table: Soil – Site 3 – Former Leach Field
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MW3-1-8			
Laboratory ID Number			95032			
Collection Date			8-21-92			
Collection Depth (ft)			14.0-16.0			
Percent Solids			89			
Associated Field QC Sample			TB-8			
			EB3-1			
			FB3-1			
			SD5-FB			
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)						
Extraction Date			9-1-92			
Analysis Date			9-16-92			
Dilution Factor			1			
Parameter	Units	CRQL				
4-Bromophenyl phenyl ether	µg/kg	330	340 U			
Hexachlorobenzene	µg/kg	330	340 U			
Pentachlorophenol	µg/kg	800	830 U			
Phenanthrene	µg/kg	330	340 U			
Anthracene	µg/kg	330	340 U			
Carbazole	µg/kg	330	340 U			
di-N-Butyl phthalate	µg/kg	330	340 U			
Fluoranthene	µg/kg	330	340 U			
Pyrene	µg/kg	330	340 U			
Butylbenzylphthalate	µg/kg	330	340 U			
3,3'-Dichlorobenzidine	µg/kg	330	340 U			
Benzo(a)anthracene	µg/kg	330	340 U			
Chrysene	µg/kg	330	340 U			
bis(2-Ethylhexyl)phthalate	µg/kg	330	340 U			
di-N-Octyl phthalate	µg/kg	330	340 UJ(CCV)			
Benzo(b)fluoranthene	µg/kg	330	340 U			
Benzo(k)fluoranthene	µg/kg	330	340 U			
Benzo(a)pyrene	µg/kg	330	340 U			
Indeno(1,2,3-c,d)pyrene	µg/kg	330	340 U			
Dibenzo(a,h)anthracene	µg/kg	330	340 U			
Benzo(g,h,i)perylene	µg/kg	330	340 U			
TICs	µg/kg		4-Hydroxy-4-Methyl-2-Pentanone [a]	8800 B,J,N,A	(RT 5.33)	
			Unknown [d]	130 J	(RT 20.95)	
			2,7,10-Trimethyl-Dodecane [b]	88 J,N	(RT 20.99)	
			Unknown [d]	100 J	(RT 22.37)	
			Unknown [d]	71 J	(RT 22.47)	
			Unknown [d]	120 J	(RT 23.75)	
			Iron, Tricarbonyl[N-(Phenyl- [c]	95 J,N	(RT 25.04)	
			Unknown [d]	90 J	(RT 26.29)	
			Unknown [d]	130 J	(RT 28.64)	
			Unknown [d]	100 J	(RT 29.76)	
			Unknown [d]	85 J	(RT 30.82)	
			Octacosane [b]	83 J,N	(RT 31.87)	
			Unknown [d]	140 J	(RT 32.92)	
			Unknown [d]	150 J	(RT 33.96)	
			Unknown [d]	79 J	(RT 34.99)	
TIC Total	µg/kg			10261 (15)		

Table F–9. Data Presentation Table: Soil – Site 3 – Former Leach Field, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

Validation note: All descriptive data qualifiers applied to the reported values by the laboratory are reported in parentheses.
Each data point has been assessed to determine whether the value is considered usable (i.e., no qualifier), usable but estimated (i.e., "J"), or not usable (i.e., "R"). All usability qualifiers are followed by the applicable laboratory or field QC qualifier, presented in parentheses and defined below. Usability qualifiers were not applied to values qualified by the laboratory, but were not considered to have been adversely impacted by the applicable laboratory QC result (e.g., duplicated and matrix spike analysis).

a – sample MW3–1–1a was taken from a different borehole than samples MW3–1–1 and MW3–1–1R, the boring was moved because contamination was encountered
A – samples were analyzed for VOCs using SW 8240, laboratory analyses followed methods outlined in the March 1990 CLP SOW for organic analyses
B – samples were analyzed for SVOCs using SW 3550/8270, laboratory analysis followed method details outlined in the March 1990 CLP SOW for organic analyses
CRQL – Contract Required Quantitation Limit
IDL – Instrument Detection Limit
MDL – Method Detection Limit
NA – not analyzed
N/A – not applicable
RT – retention time in minutes
TICs – tentatively identified compounds, total concentration is listed and the total number of tentatively identified compounds is inside the parenthases

Data Validation Qualifiers

J – associated numerical value is the approximate concentration
R – rejected value
U – compound/element was included in analysis, but was not detected
UJ – reported quantitation limit is approximate and may or may not represent the actual quantitation necessary to accurately and precisely measure the analyte

Explanatory Data Validation Qualifiers

CCV – continuing calibration verification
D – the identified compound was analyzed at a secondary dilution factor after exceeding the calibration range of the instrument on the first analysis
EB – compound/element was also detected in the associated equipment blank
EHT – extraction holding time outside control limits
MB – compound/element was also detected in the associated laboratory method blank

EPA–defined CLP SOW Laboratory Qualifiers

A(TICs) – suspects ALDOL–condensation product
B(metals) – the reported value is estimated because it is greater than the Instrument Detection Limit (IDL), but less than the Contract Required Detection Limit(CRDL)
B(organics) – compound was also detected in the associated laboratory method blank
E(metals) – the reported value is estimated due to the presence of interference
E(organics) – concentration exceeds the calibration range of the instrument; the sample must be diluted and reanalyzed
N – spiked sample recovery outside of control limits
N(TICs) – presumptive evidence of a compound
S – the reported value was determined by the Method of Standard Additions (MSA)
W – post–digestion spike for Graphite Furnace Atomic Absorption (GFAA) analysis is out of control limits (85–115%), while sample absorbance is less than 50% of the spike absorbance
X – compound is present, but does not meet CLP criteria
* – duplicate sample analysis outside of control limits

SAIC TIC Evaluation Categories

[a] – laboratory and extraction artifacts
[b] – petroleum or petroleum degradation products
[c] – other
[d] – unknown
[e] – polycyclic aromatic hydrocarbons
[f] – naturally occuring organic compounds

Table F–10. Data Presentation Table: Groundwater – Site 3 – Former Leach Field, 178 th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

SAIC ID Number				MW3–1–1	MW3–1–1R	MW3–1–2
Laboratory ID Number				97311	97314	9571, 9587
Collection Date				9–30–92	9–30–92	5–21–93
Associated Field QC Sample				TB–14	TB–14	TB52193
				ERBG–2	ERBG–2	EB2–2, EB3–2
				FBBA–1	FBBA–1	N/A
				FBCE–1	FBCE–1	FB2–2, FB3–2
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)						
Extraction Date				10–6–92	10–6–92	5–26–93
Analysis Date				10–21–92	10–21–92	5–25 and 6–17–93
Dilution Factor				1	1	1
Parameter	Units	MDL	or MDL			
Gasoline	mg/L	N/A	0.05	NA	NA	<0.25
Diesel Fuel	mg/L	0.1	0.05	<0.2	<0.2	<0.13
Heavy Oil	mg/L	0.1	0.1	<0.2	<0.2	<0.25
TOTAL PRIORITY POLLUTANT METALS						
Digestion Date(s)				10–19 and 10–20–92	10–19 and 10–20–92	6–11 and 6–16–93
Analysis Date(s)				10–20 to 11–6–92	10–20 to 11–6–92	6–11 to 6–25–93
Dilution Factor		IDL	or IDL	1	1	1
AA METALS						
Antimony (SW 3020/7041)	µg/L	1.2	0.6	1.3 J(N)	R(N)	1.9 J(N,W)
Arsenic (SW 3020/7060)	µg/L	0.7	0.6	62.4 J(FD)	30.9 J(FD)	2.3 J(N)
Lead (SW 3020/7421)	µg/L	0.5	0.5	59.2 J(*,FD)	33.3 J(*, +,FD)	62.4 S
Mercury (SW 7470)	µg/L	0.1	0.1	0.1 U	0.1 U	0.1 U
Selenium (SW 7740)	µg/L	1.4	0.9	R(N)	R(N)	R(N)
Thallium (SW 3020/7841)	µg/L	1.4	1.4	14 UJ(N)	1.4 UJ(N,W)	1.4 UJ(W)
ICP METALS (SW 3005/6010)						
Beryllium	µg/L	0.3	0.3	3.3 J(FD)	1.4 J(FD)	2.6 B
Cadmium	µg/L	2.1	3.7	2.1 U	2.1 U	3.8 B
Chromium	µg/L	2.9	2.8	90.6 J(FD)	45.3 J(FD)	84.4
Copper	µg/L	3.4	2.7	152 J(FD)	71.6 J(FD)	124
Nickel	µg/L	12.9	19.8	170 J(FD)	83.9 J(FD)	128
Silver	µg/L	3.8	2.9	10.5	11.1	2.9 UJ(N)
Zinc	µg/L	2.9	1.6	570 U(FB)	287 U(FB)	428 J(E)
DISSOLVED PRIORITY POLLUTANT METALS						
Digestion Date(s)				N/A	N/A	6–8 and 6–16–93
Analysis Date(s)				N/A	N/A	6–16 to 6–22–93
Dilution Factor		IDL		N/A	N/A	1
AA METALS						
Antimony (SW 3020/7041)	µg/L	0.6		NA	NA	0.9 U
Arsenic (SW 3020/7060)	µg/L	0.6		NA	NA	0.6 UJ(W)
Lead (SW 3020/7421)	µg/L	0.5		NA	NA	0.7 U(EB)
Mercury (SW 7470)	µg/L	0.1		NA	NA	0.1 U
Selenium (SW 7740)	µg/L	0.9		NA	NA	1.3 U(MB)
Thallium (SW 3020/7841)	µg/L	1.4		NA	NA	1.4 UJ(W)
ICP METALS (SW 3005/6010)						
Beryllium	µg/L	0.3		NA	NA	0.3 U
Cadmium	µg/L	3.7		NA	NA	3.7 U
Chromium	µg/L	2.8		NA	NA	2.8 U
Copper	µg/L	2.7		NA	NA	2.7 U
Nickel	µg/L	19.8		NA	NA	19.8 U
Silver	µg/L	2.9		NA	NA	2.9 UJ(N)
Zinc	µg/L	1.6		NA	NA	8.5 U(MB)

Table F–10. Data Presentation Table: Groundwater – Site 3 – Former Leach Field, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MW3–1–1	MW3–1–1R	MW3–1–2
Laboratory ID Number			97311	97314	9571, 9587
Collection Date			9–30–92	9–30–92	5–21–93
Associated Field QC Sample			TB–14	TB–14	TB52193
			ERBG–2	ERBG–2	EB2–2, EB3–2
			FBBA–1	FBBA–1	N/A
			FBCE–1	FBCE–1	FB2–2, FB3–2
VOLATILE ORGANICS (A)					
Analysis Date			10–7–92	10–7–92	5–24–93
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Chloromethane	µg/L	0.3	0.3 U	0.3 U	0.3 UJ(SR)
Bromomethane	µg/L	0.4	0.4 U	0.4 U	0.4 UJ(SR)
Vinyl Chloride	µg/L	0.5	0.5 U	0.5 U	0.5 UJ(SR)
Chloroethane	µg/L	0.2	0.2 U	0.2 U	0.2 UJ(SR)
Methylene Chloride	µg/L	0.4	0.4 U	0.4 U	0.4 UJ(SR)
Acetone	µg/L	1	1 U	1 U	1 UJ(SR)
Carbon Disulfide	µg/L	0.5	0.5 U	0.5 U	0.5 UJ(SR)
1,1–Dichloroethene	µg/L	0.5	0.5 U	0.5 U	0.5 UJ(SR)
1,1–Dichloroethane	µg/L	0.4	0.4 U	0.4 U	0.4 UJ(SR)
1,2–Dichloroethene (total)	µg/L	0.5	0.5 U	0.5 U	0.5 UJ(SR)
Chloroform	µg/L	0.4	0.4 U	0.4 U	0.4 UJ(SR)
1,2–Dichloroethane	µg/L	0.4	0.4 U	0.4 U	0.4 UJ(SR)
2–Butanone	µg/L	1	1 U	1 U	1 UJ(SR)
1,1,1–Trichloroethane	µg/L	0.4	0.4 U	0.4 U	0.4 U
Carbon Tetrachloride	µg/L	0.4	0.4 U	0.4 U	0.4 U
Bromodichloromethane	µg/L	0.4	0.4 U	0.4 U	0.4 U
1,2–Dichloropropane	µg/L	0.3	0.3 U	0.3 U	0.3 U
cis–1,3–Dichloropropene	µg/L	0.8	0.8 U	0.8 U	0.8 U
Trichloroethene	µg/L	0.5	0.5 U	0.5 U	0.5 U
Dibromochloromethane	µg/L	0.5	0.5 U	0.5 U	0.5 U
1,1,2–Trichloroethane	µg/L	0.8	0.8 U	0.8 U	0.8 U
Benzene	µg/L	0.5	0.5 U	0.5 U	0.5 U
trans–1,3–Dichloropropene	µg/L	0.8	0.8 U	0.8 U	0.8 U
Bromoform	µg/L	0.9	0.9 U	0.9 U	0.9 U
4–Methyl–2–pentanone	µg/L	0.6	0.6 U	0.6 U	0.6 U
2–Hexanone	µg/L	2	2 U	2 U	2 U
Tetrachloroethene	µg/L	0.4	0.4 U	0.4 U	0.4 U
1,1,2,2–Tetrachloroethane	µg/L	0.7	0.7 U	0.7 U	0.7 U
Toluene	µg/L	0.4	0.4 U	0.4 U	0.4 U
Chlorobenzene	µg/L	0.4	0.4 U	0.4 U	0.4 U
Ethylbenzene	µg/L	0.7	0.7 U	0.7 U	0.7 U
Styrene	µg/L	0.2	0.2 U	0.2 U	0.2 U
Xylene (total)	µg/L	0.7	0.7 U	0.7 U	0.7 U
TICs	µg/L		0 (0)	0 (0)	0 (0)
TIC Total	µg/L		0 (0)	0 (0)	0 (0)

Table F–10. Data Presentation Table: Groundwater – Site 3 – Former Leach Field, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MW3–1–1	MW3–1–1R	MW3–1–2
Laboratory ID Number			97311	97314	9571, 9587
Collection Date			9–30–92	9–30–92	5–21–93
Associated Field QC Sample			TB–14	TB–14	TB52193
			ERBG–2	ERBG–2	EB2–2, EB3–2
			FBBA–1	FBBA–1	N/A
			FBCE–1	FBCE–1	FB2–2, FB3–2
SEMIVOLATILE ORGANIC (SW 8270 [B])					
Extraction Date			10–5–92	10–5–92	5–26–93
Analysis Date			10–28–92	10–28–92	6–2–93
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Phenol	µg/L	10	11 U	11 U	11 U
bis(2–Chloroethyl)ether	µg/L	10	11 U	11 U	11 U
2–Chlorophenol	µg/L	10	11 U	11 U	11 U
1,3–Dichlorobenzene	µg/L	10	11 U	11 U	11 U
1,4–Dichlorobenzene	µg/L	10	11 U	11 U	11 U
1,2–Dichlorobenzene	µg/L	10	11 U	11 U	11 U
2–Methylphenol	µg/L	10	11 U	11 U	11 U
2,2–oxibis–(1–Chloropropane)	µg/L	10	11 U	11 U	11 UJ(CCV)
4–Methylphenol	µg/L	10	11 U	11 U	11 U
N–Nitroso–di–N–propylamine	µg/L	10	11 U	11 U	11 UJ(CCV)
Hexachloroethane	µg/L	10	11 U	11 U	11 UJ(CCV)
Nitrobenzene	µg/L	10	11 U	11 U	11 U
Isophorone	µg/L	10	11 U	11 U	11 U
2–Nitrophenol	µg/L	10	11 U	11 U	11 U
2,4–Dimethylphenol	µg/L	10	11 U	11 U	11 U
bis(2–Chloroethoxy)methane	µg/L	10	11 U	11 U	11 U
2,4–Dichlorophenol	µg/L	10	11 U	11 U	11 U
1,2,4–Trichlorobenzene	µg/L	10	11 U	11 U	11 U
Naphthalene	µg/L	10	11 U	11 U	11 U
4–Chloroaniline	µg/L	10	11 U	11 U	11 U
Hexachlorobutadiene	µg/L	10	11 U	11 U	11 UJ(CCV)
4–Chloro–3–methylphenol	µg/L	10	11 U	11 U	11 U
2–Methylnaphthalene	µg/L	10	11 U	11 U	11 U
Hexachlorocyclopentadiene	µg/L	10	11 U	11 U	11 UJ(CCV)
2,4,6–Trichlorophenol	µg/L	10	11 U	11 U	11 U
2,4,5–Trichlorophenol	µg/L	25	28 U	27 U	28 U
2–Chloronaphthalene	µg/L	10	11 U	11 U	11 U
2–Nitroaniline	µg/L	25	28 U	27 U	28 U
Dimethyl phthalate	µg/L	10	11 U	11 U	11 U
Acenaphthylene	µg/L	10	11 U	11 U	11 U
2,6–Dinitrotoluene	µg/L	10	11 U	11 U	11 U
3–Nitroaniline	µg/L	25	28 U	27 U	28 U
Acenaphthene	µg/L	10	11 U	11 U	11 U
2,4–Dinitrophenol	µg/L	25	28 U	27 U	28 UJ(CCV)
4–Nitrophenol	µg/L	25	28 UJ(CCV)	27 UJ(CCV)	28 U
Dibenzofuran	µg/L	10	11 U	11 U	11 U
2,4–Dinitrotoluene	µg/L	10	11 U	11 U	11 U
Diethyl phthalate	µg/L	10	11 U	11 U	11 U
4–Chlorophenyl phenyl ether	µg/L	10	11 U	11 U	11 U
Fluorene	µg/L	10	11 U	11 U	11 U
4–Nitroaniline	µg/L	25	28 U	27 U	28 U
4,6–Dinitro–2–methylphenol	µg/L	25	28 U	27 U	28 U
N–Nitrosodiphenylamine (1)	µg/L	10	11 U	11 U	11 U

Table F–10. Data Presentation Table: Groundwater – Site 3 – Former Leach Field, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MW3–1–1			MW3–1–1R			MW3–1–2			
Laboratory ID Number			97311			97314			9571, 9587			
Collection Date			9–30–92			9–30–92			5–21–93			
Associated Field QC Sample			TB–14			TB–14			TB52193			
			ERBG–2			ERBG–2			EB2–2, EB3–2			
			FBBA–1			FBBA–1			N/A			
			FBCE–1			FBCE–1			FB2–2, FB3–2			
SEMIVOLATILE ORGANIC (SW 8270 [B]) (Continued)												
Extraction Date			10–5–92			10–5–92			5–26–93			
Analysis Date			10–28–92			10–28–92			6–2–93			
Dilution Factor			1			1			1			
Parameter	Units	CRQL										
4–Bromophenyl phenyl ether	µg/L	10	11 U			11 U			11 U			
Hexachlorobenzene	µg/L	10	11 U			11 U			11 U			
Pentachlorophenol	µg/L	25	28 U			27 U			28 UJ(CCV)			
Phenanthrene	µg/L	10	11 U			11 U			11 U			
Anthracene	µg/L	10	11 U			11 U			11 U			
Carbazole	µg/L	10	11 U			11 U			11 U			
di–N–Butyl phthalate	µg/L	10	11 U			11 U			11 U			
Fluoranthene	µg/L	10	11 U			11 U			11 U			
Pyrene	µg/L	10	11 U			11 U			11 U			
Butylbenzylphthalate	µg/L	10	11 U			11 U			11 U			
3,3'–Dichlorobenzidine	µg/L	10	11 U			11 U			11 U			
Benzo(a)anthracene	µg/L	10	11 U			11 U			11 U			
Chrysene	µg/L	10	11 U			11 U			11 U			
bis(2–Ethylhexyl)phthalate	µg/L	10	11 U			11 U			11 U(FB)			
di–N–Octyl phthalate	µg/L	10	11 U			11 U			11 U			
Benzo(b)fluoranthene	µg/L	10	11 U			11 U			11 U			
Benzo(k)fluoranthene	µg/L	10	11 U			11 U			11 U			
Benzo(a)pyrene	µg/L	10	11 U			11 U			11 U			
Indeno(1,2,3–c,d)pyrene	µg/L	10	11 U			11 U			11 U			
Dibenzo(a,h)anthracene	µg/L	10	11 U			11 U			11 U			
Benzo(g,h,i)perylene	µg/L	10	11 U			11 U			11 U			
TICs	µg/L		Unknown [d]	7 J	(RT 5.88)	2,5,8,11,14,17–Hexaoxaoctade [c]	18 J,N	(RT 17.6)	4–Hydroxy–4–Methyl–2–Pentanone [a]	4 J,N,A	(RT 3.80)	
			Unknown [d]	2 J	(RT 8.15)				2,5,8,11,14,17–Hexaoxaoctade [c]	3 J,N	(RT 15.87)	
			2–Propanol, 1–(2–Methoxy–1–M [e]	2 J,N	(RT 8.23)				Unknown [d]	2 J	(RT 30.52)	
			2,5,8,10,14,17–Hexaoxaoctade [a]	18 J,N	(RT 17.6)							
			Octadecanoic Acid, 2–Methylp [b]	3 J,N	(RT 29.34)							
TIC Totals	µg/L			32 (5)			18 (1)			9 (3)		

Table F-10. Data Presentation Table: Groundwater – Site 3 – Former Leach Field, 178 th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			P-4-1	P-4-1R
Laboratory ID Number			9575, 9591	9576, 9592
Collection Date			5-21-93	5-21-93
Associated Field QC Sample			TB52193	TB52193
			EB2-2, EB3-2	EB2-2, EB3-2
			N/A	N/A
			FB2-2, FB3-2	FB2-2, FB3-2
TOTAL PETROLEUM HYDROCARBONS (SW 3015M)				
Extraction Date			5-26-93	5-26-93
Analysis Date			5-26 and 6-17-93	5-26 and 6-17-93
Dilution Factor			1	1
Parameter	Units	MDL		
Gasoline	mg/L	0.05	<0.25	<0.25
Diesel Fuel	mg/L	0.05	<0.13	<0.13
Heavy Oil	mg/L	0.1	<0.25	<0.25
TOTAL PRIORITY POLLUTANT METALS				
Digestion Date(s)			6-11 and 6-16-93	6-11 and 6-16-93
Analysis Date(s)			6-11 to 6-25-93	6-11 to 6-25-93
Dilution Factor		IDL	1	1
AA METALS				
Antimony (SW 3020/7041)	µg/L	0.6	0.8 J(N)	0.9 J(N)
Arsenic (SW 3020/7060)	µg/L	0.6	5.1 J(N)	4.7 J(N)
Lead (SW 3020/7421)	µg/L	0.5	14	16.6
Mercury (SW 7470)	µg/L	0.1	0.1 U	0.1 U
Selenium (SW 7740)	µg/L	0.9	R(N)	R(N)
Thallium (SW 3020/7841)	µg/L	1.4	1.4 U	1.4 U
ICP METALS (SW 3005/6010)				
Beryllium	µg/L	0.3	0.82 B	0.63 B
Cadmium	µg/L	3.7	3.7 U	3.7 U
Chromium	µg/L	2.8	25.3	22.6
Copper	µg/L	2.7	38.8	38.8
Nickel	µg/L	19.8	23 B	20.3 B
Silver	µg/L	2.9	2.9 UJ(N)	2.9 UJ(N)
Zinc	µg/L	1.6	157 J(E)	156 J(E)
DISSOLVED PRIORITY POLLUTANT METALS				
Digestion Date(s)			6-8 and 6-16-93	6-8 and 6-16-93
Analysis Date(s)			6-16 to 6-22-93	6-16 to 6-22-93
Dilution Factor		IDL	1	1
AA METALS				
Antimony (SW 3020/7041)	µg/L	0.6	1 B	2.9 B
Arsenic (SW 3020/7060)	µg/L	0.6	0.6 UJ(W)	0.6 UJ(W)
Lead (SW 3020/7421)	µg/L	0.5	0.6 U(EB)	13.1
Mercury (SW 7470)	µg/L	0.1	0.1 U	0.1 U
Selenium (SW 7740)	µg/L	0.9	0.9 U	0.9 U
Thallium (SW 3020/7841)	µg/L	1.4	1.4 U	1.4 U
ICP METALS (SW 3005/6010)				
Beryllium	µg/L	0.3	0.3 U	0.3 U
Cadmium	µg/L	3.7	3.7 U	3.7 U
Chromium	µg/L	2.8	2.8 U	2.8 U
Copper	µg/L	2.7	2.7 U	2.7 U
Nickel	µg/L	19.8	19.8 U	19.8 U
Silver	µg/L	2.9	2.9 UJ(N)	2.9 UJ(N)
Zinc	µg/L	1.6	7.6 U(MB)	6.4 U(MB)

Table F–10. Data Presentation Table: Groundwater – Site 3 – Former Leach Field, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			P–4–1		P–4–1R	
Laboratory ID Number			9575, 9591		9576, 9592	
Collection Date			5–21–93		5–21–93	
Associated Field QC Sample			TB52193		TB52193	
			EB2–2, EB3–2		EB2–2, EB3–2	
			N/A		N/A	
			FB2–2, FB3–2		FB2–2, FB3–2	
VOLATILE ORGANICS (A)						
Analysis Date			5–25–93		5–25–93	
Dilution Factor			1		1	
Parameter	Units	CRQL				
Chloromethane	µg/L	0.3	0.3 U		0.3 U	
Bromomethane	µg/L	0.4	0.4 U		0.4 U	
Vinyl Chloride	µg/L	0.5	0.5 U		0.5 U	
Chloroethane	µg/L	0.2	0.2 U		0.2 U	
Methylene Chloride	µg/L	0.4	0.4 U		0.4 U	
Acetone	µg/L	1	1 U		1 U	
Carbon Disulfide	µg/L	0.5	0.5 U		0.5 U	
1,1–Dichloroethene	µg/L	0.5	0.5 U		0.5 U	
1,1–Dichloroethane	µg/L	0.4	0.4 U		0.4 U	
1,2–Dichloroethene (total)	µg/L	0.5	0.6 X		0.5 X	
Chloroform	µg/L	0.4	0.4 U		0.4 U	
1,2–Dichloroethane	µg/L	0.4	0.4 U		0.4 U	
2–Butanone	µg/L	1	1 U		1 U	
1,1,1–Trichloroethane	µg/L	0.4	0.4 U		0.4 U	
Carbon Tetrachloride	µg/L	0.4	0.4 U		0.4 U	
Bromodichloromethane	µg/L	0.4	0.4 U		0.4 U	
1,2–Dichloropropane	µg/L	0.3	0.3 U		0.3 U	
cis–1,3–Dichloropropene	µg/L	0.8	0.8 U		0.8 U	
Trichloroethene	µg/L	0.5	0.7		0.7	
Dibromochloromethane	µg/L	0.5	0.5 U		0.5 U	
1,1,2–Trichloroethane	µg/L	0.8	0.8 U		0.8 U	
Benzene	µg/L	0.5	0.5 U		0.5 U	
trans–1,3–Dichloropropene	µg/L	0.8	0.8 U		0.8 U	
Bromoform	µg/L	0.9	0.9 U		0.9 U	
4–Methyl–2–pentanone	µg/L	0.6	0.6 U		0.6 U	
2–Hexanone	µg/L	2	2 U		2 U	
Tetrachloroethene	µg/L	0.4	0.4 U		0.4 U	
1,1,2,2–Tetrachloroethane	µg/L	0.7	0.7 U		0.7 U	
Toluene	µg/L	0.4	0.4 U		0.4 U	
Chlorobenzene	µg/L	0.4	0.4 U		0.4 U	
Ethylbenzene	µg/L	0.7	0.7 U		0.7 U	
Styrene	µg/L	0.2	0.2 U		0.2 U	
Xylene (total)	µg/L	0.7	0.7 U		0.7 U	
TICs	µg/L		6–Amino–Hexanoic Acid [f]	7 J,N (RT 11.87)	6–Amino–Hexanoic Acid [e]	13 J,N (RT 11.75)
TIC Total	µg/L			7 (1)		13 (1)

Table F–10. Data Presentation Table: Groundwater – Site 3 – Former Leach Field, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			P–4–1	P–4–1R
Laboratory ID Number			9575, 9591	9576, 9592
Collection Date			5–21–93	5–21–93
Associated Field QC Sample			TB52193	TB52193
			EB2–2, EB3–2	EB2–2, EB3–2
			N/A	N/A
			FB2–2, FB3–2	FB2–2, FB3–2
SEMIVOLATILE ORGANIC (SW 8270 [B])				
Extraction Date			5–26–93	5–26–93
Analysis Date			6–1–93	6–2–93
Dilution Factor			1	1
Parameter	Units	CRQL		
Phenol	µg/L	10	10 U	11 U
bis(2–Chloroethyl)ether	µg/L	10	10 U	11 U
2–Chlorophenol	µg/L	10	10 U	11 U
1,3–Dichlorobenzene	µg/L	10	10 U	11 U
1,4–Dichlorobenzene	µg/L	10	10 U	11 U
1,2–Dichlorobenzene	µg/L	10	10 U	11 U
2–Methylphenol	µg/L	10	10 U	11 U
2,2–oxibis–(1–Chloropropane)	µg/L	10	10 U	11 UJ(CCV)
4–Methylphenol	µg/L	10	10 U	11 U
N–Nitroso–di–N–propylamine	µg/L	10	10 U	11 UJ(CCV)
Hexachloroethane	µg/L	10	10 UJ(CCV)	11 UJ(CCV)
Nitrobenzene	µg/L	10	10 U	11 U
Isophorone	µg/L	10	10 U	11 U
2–Nitrophenol	µg/L	10	10 U	11 U
2,4–Dimethylphenol	µg/L	10	10 U	11 U
bis(2–Chloroethoxy)methane	µg/L	10	10 U	11 U
2,4–Dichlorophenol	µg/L	10	10 U	11 U
1,2,4–Trichlorobenzene	µg/L	10	10 U	11 U
Naphthalene	µg/L	10	10 U	11 U
4–Chloroaniline	µg/L	10	10 U	11 U
Hexachlorobutadiene	µg/L	10	10 UJ(CCV)	11 UJ(CCV)
4–Chloro–3–methylphenol	µg/L	10	10 U	11 U
2–Methylnaphthalene	µg/L	10	10 U	11 U
Hexachlorocyclopentadiene	µg/L	10	10 U	11 UJ(CCV)
2,4,6–Trichlorophenol	µg/L	10	10 U	11 U
2,4,5–Trichlorophenol	µg/L	25	25 U	27 U
2–Chloronaphthalene	µg/L	10	10 U	11 U
2–Nitroaniline	µg/L	25	25 U	27 U
Dimethyl phthalate	µg/L	10	10 U	11 U
Acenaphthylene	µg/L	10	10 U	11 U
2,6–Dinitrotoluene	µg/L	10	10 U	11 U
3–Nitroaniline	µg/L	25	25 UJ(CCV)	27 U
Acenaphthene	µg/L	10	10 U	11 U
2,4–Dinitrophenol	µg/L	25	25 UJ(CCV)	27 UJ(CCV)
4–Nitrophenol	µg/L	25	25 U	27 U
Dibenzofuran	µg/L	10	10 U	11 U
2,4–Dinitrotoluene	µg/L	10	10 U	11 U
Diethyl phthalate	µg/L	10	10 U	11 U
4–Chlorophenyl phenyl ether	µg/L	10	10 U	11 U
Fluorene	µg/L	10	10 U	11 U
4–Nitroaniline	µg/L	25	25 U	27 U
4,6–Dinitro–2–methylphenol	µg/L	25	25 UJ(CCV)	27 U
N–Nitrosodiphenylamine (1)	µg/L	10	10 U	11 U

Table F–10. Data Presentation Table: Groundwater – Site 3 – Former Leach Field, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			P–4–1	P–4–1R
Laboratory ID Number			9575, 9591	9576, 9592
Collection Date			5–21–93	5–21–93
Associated Field QC Sample			TB52193	TB52193
			EB2–2, EB3–2	EB2–2, EB3–2
			N/A	N/A
			FB2–2, FB3–2	FB2–2, FB3–2
SEMIVOLATILE ORGANIC (SW 8270 [B]) (Continued)				
Extraction Date			5–26–93	5–26–93
Analysis Date			6–1–93	6–2–93
Dilution Factor			1	1
Parameter	Units	CRQL		
4–Bromophenyl phenyl ether	µg/L	10	10 U	11 U
Hexachlorobenzene	µg/L	10	10 UJ(CCV)	11 U
Pentachlorophenol	µg/L	25	25 UJ(CCV)	27 UJ(CCV)
Phenanthrene	µg/L	10	10 U	11 U
Anthracene	µg/L	10	10 U	11 U
Carbazole	µg/L	10	10 UJ(CCV)	11 U
di–N–Butyl phthalate	µg/L	10	10 U	11 U
Fluoranthene	µg/L	10	10 U	11 U
Pyrene	µg/L	10	10 U	11 U
Butylbenzylphthalate	µg/L	10	10 U	11 U
3,3'–Dichlorobenzidine	µg/L	10	10 U	11 U
Benzo(a)anthracene	µg/L	10	10 U	11 U
Chrysene	µg/L	10	10 U	11 U
bis(2–Ethylhexyl)phthalate	µg/L	10	10 U	11 U
di–N–Octyl phthalate	µg/L	10	10 U	11 U
Benzo(b)fluoranthene	µg/L	10	10 U	11 U
Benzo(k)fluoranthene	µg/L	10	10 U	11 U
Benzo(a)pyrene	µg/L	10	10 U	11 U
Indeno(1,2,3–c,d)pyrene	µg/L	10	10 U	11 U
Dibenzo(a,h)anthracene	µg/L	10	10 U	11 U
Benzo(g,h,i)perylene	µg/L	10	10 U	11 U
TICs	µg/L		6–Amino–Hexanoic Acid [f] 7 J,N (RT 11.87)	6–Amino–Hexanoic Acid [e] 13 J,N (RT 11.75)
TIC Totals	µg/L		7 (1)	13 (1)

Table F–10. Data Presentation Table: Groundwater – Site 3 – Former Leach Field, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

Validation note: All descriptive data qualifiers applied to the reported values by the laboratory are reported in parentheses.
Each data point has been assessed to determine whether the value is considered usable (i.e., no qualifier), usable but estimated (i.e., "J"), or not usable (i.e., "R"). All usability qualifiers are followed by the applicable laboratory or field QC qualifier, presented in parentheses and defined below. Usability qualifiers were not applied to values qualified by the laboratory, but were not considered to have been adversely impacted by the applicable laboratory QC result (e.g., duplicated and matrix spike analysis).

A – groundwater samples were analyzed for volatile halogenated compounds and volatile aromatic compounds by E 524.2 for samples collected in 1992 or SW 8240 (25 ml purge for low level volatiles) for samples collected in 1993; these methods have been modified to incorporate CLP–type QC requirements
B – SVOCs in groundwater and field QC blanks were analyzed using EPA method 3510/8270
CRQL – Contract Required Quantitation Limit
IDL – Instrument Detection Limit
MDL – Method Detection Limit
NA – not analyzed
N/A – not applicable
RT – retention time in minutes
TICs–tentatively identified compounds, total concentration is listed and the total number of tentatively identified compounds is inside the parenthases

Data Validation Qualifiers

J – associated numerical value is the approximate concentration
R – rejected value
U – compound/element was included in analysis, but was not detected
UJ – reported quantitation limit is approximate and may or may not represent the actual quantitation necessary to accurately and precisely measure the analyte

Explanatory Data Validation Qualifiers

CCV – continuing calibration verification
EB – compound/element was also detected in the associated equipment blank
FB – compound/element was also detected in the associated field blank
FD – field duplicate relative percent differences (RPDs) outside control limits
MB – compound/element was also detected in the associated laboratory method blank
SR – surrogate recovery outside control limits

EPA–defined CLP SOW Laboratory Qualifiers

A(TICs) – suspects ALDOL–condensation product
B(metals) – the reported value is estimated because it is greater than the Instrument Detection Limit (IDL), but less than the Contract Required Detection Limit(CRDL)
E(metals) – the reported value is estimated due to the presence of interference
N – spiked sample recovery outside of control limits
N(TICs) – presumptive evidence of a compound
S – the reported value was determined by the Method of Standard Additions (MSA)
W – post–digestion spike for Graphite Furnace Atomic Absorption (GFAA) analysis is out of control limits (85–115%), while sample absorbance is less than 50% of the spike absorbance
X – compound is present, but does not meet CLP criteria
* – duplicate sample analysis outside of control limits
+ – correlation coefficient for the Method of Standard Additions is less than 0.995

SAIC TIC Evaluation Categories

[a] – laboratory and extraction artifacts
[b] – petroleum or petroleum degradation products
[c] – other
[d] – unknown
[f] – naturally occuring organic compounds

Table F-11. Data Presentation Table: Soil – Site 4 – POL Storage Area, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC ID Number			SB4-1-1	SB4-1-2	SB4-2-1	SB4-2-2
Laboratory ID Number			94530	94528	94529	94531
Collection Date			8-12-92	8-12-92	8-12-92	8-12-92
Collection Depth (ft)			0.5-2.5	2.5-4.5	0.5-2.5	2.5-4.5
Percent Solids			87	79	79	80
Associated Field QC Sample			TB-1 on 8-12-92	TB-1 on 8-12-92	TB-1 on 8-12-92	TB-1 on 8-12-92
			ER1-1	ER1-1	ER1-1	ER1-1
			FB1-1	FB1-1	FB1-1	FB1-1
			SD5-FB	SD5-FB	SD5-FB	SD5-FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)						
Extraction Date			8-17-92	8-17-92	8-17-92	8-17-92
Analysis Date			9-12-92	9-11-92	9-11-92	9-11-92
Dilution Factor			1	1	1	1
Parameter	Units	MDL				
Diesel Fuel	mg/kg	2	42	<2	<2	<2
Heavy Oil	mg/kg	2	77	<2	<2	<2
PRIORITY POLLUTANT METALS						
Digestion Date(s)			9-3 and 9-9-92	9-3 and 9-9-92	9-3 and 9-9-92	9-3 and 9-9-92
Analysis Date(s)			9-8 to 9-11-92	9-8 to 9-11-92	9-8 to 9-11-92	9-8 to 9-11-92
Dilution Factor		IDL	1	1	1	1
AA METALS						
Antimony (SW 3050/7041)	mg/kg	N/A	NA	NA	NA	NA
Arsenic (SW 3050/7060)	mg/kg	N/A	NA	NA	NA	NA
Lead (SW 3050/7421)	mg/kg	0.9	16.9	21.4	17.7	17.4
Mercury (SW 3050/7471)	mg/kg	N/A	NA	NA	NA	NA
Selenium (SW 3050/7740)	mg/kg	N/A	NA	NA	NA	NA
Thallium (SW 3050/7841)	mg/kg	N/A	NA	NA	NA	NA
ICP METALS (SW 3050/6010)						
Beryllium	mg/kg	0.3	0.34 B	0.48	0.99	0.83
Cadmium	mg/kg	2.1	0.31 B	0.19 U	0.21 U	0.27 U
Chromium	mg/kg	4	7.3	10.3	19.3	19.3
Copper	mg/kg	3.9	10.3	14.9	26.2	40.6
Nickel	mg/kg	10.3	9.6	13.6	34.5	36.6
Silver	mg/kg	3	1.2 U(MB)	0.79 U(MB)	1.3 U(MB)	1.1 U(MB)
Zinc	mg/kg	3.5	33.7 J(E)	52 J(E)	70.1 J(E)	73.7 J(E)

Table F–11. Data Presentation Table: Soil – Site 4 – POL Storage Area, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB4–1–1	SB4–1–2	SB4–2–1	SB4–2–2
Laboratory ID Number			94530	94528	94529	94531
Collection Date			8–12–92	8–12–92	8–12–92	8–12–92
Collection Depth (ft)			0.5–2.5	2.5–4.5	0.5–2.5	2.5–4.5
Percent Solids			87	79	79	80
Associated Field QC Sample			TB–1 on 8–12–92	TB–1 on 8–12–92	TB–1 on 8–12–92	TB–1 on 8–12–92
			ER1–1	ER1–1	ER1–1	ER1–1
			FB1–1	FB1–1	FB1–1	FB1–1
			SD5–FB	SD5–FB	SD5–FB	SD5–FB
VOLATILE ORGANICS (SW 8240 [A])						
Analysis Date			8–18–92	8–18–92	8–18–92	8–18–92
Dilution Factor			1	1	1	1
Parameter	Units	CRQL				
Chloromethane	µg/kg	10	11 U	13 U	13 U	12 U
Bromomethane	µg/kg	10	11 U	13 U	13 U	12 U
Vinyl Chloride	µg/kg	10	11 U	13 U	13 U	12 U
Chloroethane	µg/kg	10	11 U	13 U	13 U	12 U
Methylene Chloride	µg/kg	10	11 U	13 U	13 U	12 U
Acetone	µg/kg	10	11 U	13 U	13 U	12 U
Carbon Disulfide	µg/kg	10	11 U	13 U	13 U	12 U
1,1–Dichloroethene	µg/kg	10	11 U	13 U	13 U	12 U
1,1–Dichloroethane	µg/kg	10	11 U	13 U	13 U	12 U
1,2–Dichloroethene (total)	µg/kg	10	11 U	13 U	13 U	12 U
Chloroform	µg/kg	10	11 U	13 U	13 U	12 U
1,2–Dichloroethane	µg/kg	10	11 U	13 U	13 U	12 U
2–Butanone	µg/kg	10	11 U	13 U	13 U	12 U
1,1,1–Trichloroethane	µg/kg	10	11 U	13 U	13 U	12 U
Carbon Tetrachloride	µg/kg	10	11 U	13 U	13 U	12 U
Bromodichloromethane	µg/kg	10	11 U	13 U	13 U	12 U
1,2–Dichloropropane	µg/kg	10	11 U	13 U	13 U	12 U
cis–1,3–Dichloropropene	µg/kg	10	11 U	13 U	13 U	12 U
Trichloroethene	µg/kg	10	11 U	13 U	13 U	12 U
Dibromochloromethane	µg/kg	10	11 U	13 U	13 U	12 U
1,1,2–Trichloroethane	µg/kg	10	11 U	13 U	13 U	12 U
Benzene	µg/kg	10	11 U	13 U	13 U	12 U
trans–1,3–Dichloropropene	µg/kg	10	11 U	13 U	13 U	12 U
Bromoform	µg/kg	10	11 U	13 U	13 U	12 U
4–Methyl–2–pentanone	µg/kg	10	11 U	13 UJ(IS)	13 U	12 U
2–Hexanone	µg/kg	10	11 U	13 UJ(IS)	13 U	12 U
Tetrachloroethene	µg/kg	10	11 U	13 UJ(IS)	13 U	12 U
1,1,2,2–Tetrachloroethane	µg/kg	10	11 U	13 UJ(IS)	13 U	12 U
Toluene	µg/kg	10	11 U	13 UJ(IS)	13 U	12 U
Chlorobenzene	µg/kg	10	11 U	13 UJ(IS)	13 U	12 U
Ethylbenzene	µg/kg	10	11 U	13 UJ(IS)	13 U	12 U
Styrene	µg/kg	10	11 U	13 UJ(IS)	13 U	12 U
Xylene (total)	µg/kg	10	11 U	13 UJ(IS)	13 U	12 U
TICs	µg/kg		0 (0)	0 (0)	0 (0)	0 (0)
TIC Totals	µg/kg		0 (0)	0 (0)	0 (0)	0 (0)

Table F-11. Data Presentation Table: Soil – Site 4 – POL Storage Area, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB4-1-1	SB4-1-2	SB4-2-1	SB4-2-2
Laboratory ID Number			94530	94528	94529	94531
Collection Date			8-12-92	8-12-92	8-12-92	8-12-92
Collection Depth (ft)			0.5-2.5	2.5-4.5	0.5-2.5	2.5-4.5
Percent Solids			87	79	79	80
Associated Field QC Sample			TB-1 on 8-12-92	TB-1 on 8-12-92	TB-1 on 8-12-92	TB-1 on 8-12-92
			ER1-1	ER1-1	ER1-1	ER1-1
			FB1-1	FB1-1	FB1-1	FB1-1
			SD5-FB	SD5-FB	SD5-FB	SD5-FB
SEMIVOLATILE ORGANICS						
Extraction Date			N/A	N/A	N/A	N/A
Analysis Date			N/A	N/A	N/A	N/A
Dilution Factor			N/A	N/A	N/A	N/A
Parameter	Units	CRQL				
Phenol	µg/kg	N/A	NA	NA	NA	NA
bis(2-Chloroethyl)ether	µg/kg	N/A	NA	NA	NA	NA
2-Chlorophenol	µg/kg	N/A	NA	NA	NA	NA
1,3-Dichlorobenzene	µg/kg	N/A	NA	NA	NA	NA
1,4-Dichlorobenzene	µg/kg	N/A	NA	NA	NA	NA
1,2-Dichlorobenzene	µg/kg	N/A	NA	NA	NA	NA
2-Methylphenol	µg/kg	N/A	NA	NA	NA	NA
2,2-oxibis-(1-Chloropropane)	µg/kg	N/A	NA	NA	NA	NA
4-Methylphenol	µg/kg	N/A	NA	NA	NA	NA
N-Nitroso-di-N-propylamine	µg/kg	N/A	NA	NA	NA	NA
Hexachloroethane	µg/kg	N/A	NA	NA	NA	NA
Nitrobenzene	µg/kg	N/A	NA	NA	NA	NA
Isophorone	µg/kg	N/A	NA	NA	NA	NA
2-Nitrophenol	µg/kg	N/A	NA	NA	NA	NA
2,4-Dimethylphenol	µg/kg	N/A	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	µg/kg	N/A	NA	NA	NA	NA
2,4-Dichlorophenol	µg/kg	N/A	NA	NA	NA	NA
1,2,4-Trichlorobenzene	µg/kg	N/A	NA	NA	NA	NA
Naphthalene	µg/kg	N/A	NA	NA	NA	NA
4-Chloroaniline	µg/kg	N/A	NA	NA	NA	NA
Hexachlorobutadiene	µg/kg	N/A	NA	NA	NA	NA
4-Chloro-3-methylphenol	µg/kg	N/A	NA	NA	NA	NA
2-Methylnaphthalene	µg/kg	N/A	NA	NA	NA	NA
Hexachlorocyclopentadiene	µg/kg	N/A	NA	NA	NA	NA
2,4,6-Trichlorophenol	µg/kg	N/A	NA	NA	NA	NA
2,4,5-Trichlorophenol	µg/kg	N/A	NA	NA	NA	NA
2-Chloronaphthalene	µg/kg	N/A	NA	NA	NA	NA
2-Nitroaniline	µg/kg	N/A	NA	NA	NA	NA
Dimethyl phthalate	µg/kg	N/A	NA	NA	NA	NA
Acenaphthylene	µg/kg	N/A	NA	NA	NA	NA
2,6-Dinitrotoluene	µg/kg	N/A	NA	NA	NA	NA
3-Nitroaniline	µg/kg	N/A	NA	NA	NA	NA
Acenaphthene	µg/kg	N/A	NA	NA	NA	NA
2,4-Dinitrophenol	µg/kg	N/A	NA	NA	NA	NA
4-Nitrophenol	µg/kg	N/A	NA	NA	NA	NA
Dibenzofuran	µg/kg	N/A	NA	NA	NA	NA
2,4-Dinitrotoluene	µg/kg	N/A	NA	NA	NA	NA
Diethyl phthalate	µg/kg	N/A	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	µg/kg	N/A	NA	NA	NA	NA
Fluorene	µg/kg	N/A	NA	NA	NA	NA
4-Nitroaniline	µg/kg	N/A	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	µg/kg	N/A	NA	NA	NA	NA
N-Nitrosodiphenylamine (1)	µg/kg	N/A	NA	NA	NA	NA

Table F–11. Data Presentation Table: Soil – Site 4 – POL Storage Area, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB4–1–1	SB4–1–2	SB4–2–1	SB4–2–2
Laboratory ID Number			94530	94528	94529	94531
Collection Date			8–12–92	8–12–92	8–12–92	8–12–92
Collection Depth (ft)			0.5–2.5	2.5–4.5	0.5–2.5	2.5–4.5
Percent Solids			87	79	79	80
Associated Field QC Sample			TB–1 on 8–12–92 ER1–1 FB1–1 SD5–FB	TB–1 on 8–12–92 ER1–1 FB1–1 SD5–FB	TB–1 on 8–12–92 ER1–1 FB1–1 SD5–FB	TB–1 on 8–12–92 ER1–1 FB1–1 SD5–FB
SEMIVOLATILE ORGANICS (Continued)						
Extraction Date			N/A	N/A	N/A	N/A
Analysis Date			N/A	N/A	N/A	N/A
Dilution Factor			N/A	N/A	N/A	N/A
Parameter	Units	CRQL				
4–Bromophenyl phenyl ether	µg/kg	N/A	NA	NA	NA	NA
Hexachlorobenzene	µg/kg	N/A	NA	NA	NA	NA
Pentachlorophenol	µg/kg	N/A	NA	NA	NA	NA
Phenanthrene	µg/kg	N/A	NA	NA	NA	NA
Anthracene	µg/kg	N/A	NA	NA	NA	NA
Carbazole	µg/kg	N/A	NA	NA	NA	NA
di–N–Butyl phthalate	µg/kg	N/A	NA	NA	NA	NA
Fluoranthene	µg/kg	N/A	NA	NA	NA	NA
Pyrene	µg/kg	N/A	NA	NA	NA	NA
Butylbenzylphthalate	µg/kg	N/A	NA	NA	NA	NA
3,3'–Dichlorobenzidine	µg/kg	N/A	NA	NA	NA	NA
Benzo(a)anthracene	µg/kg	N/A	NA	NA	NA	NA
Chrysene	µg/kg	N/A	NA	NA	NA	NA
bis(2–Ethylhexyl)phthalate	µg/kg	N/A	NA	NA	NA	NA
di–N–Octyl phthalate	µg/kg	N/A	NA	NA	NA	NA
Benzo(b)fluoranthene	µg/kg	N/A	NA	NA	NA	NA
Benzo(k)fluoranthene	µg/kg	N/A	NA	NA	NA	NA
Benzo(a)pyrene	µg/kg	N/A	NA	NA	NA	NA
Indeno(1,2,3–c,d)pyrene	µg/kg	N/A	NA	NA	NA	NA
Dibenzo(a,h)anthracene	µg/kg	N/A	NA	NA	NA	NA
Benzo(g,h,i)perylene	µg/kg	N/A	NA	NA	NA	NA
TICs	µg/kg		NA	NA	NA	NA
TIC Total	µg/kg		NA	NA	NA	NA

Table F-11. Data Presentation Table: Soil – Site 4 – POL Storage Area, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB4-3-1	SB4-3-1R	SB4-3-2	SB4-3-3
Laboratory ID Number			94535	94536	94538	94537
Collection Date			8-12-92	8-12-92	8-12-92	8-12-92
Collection Depth (ft)			0.5-2.5	0.5-2.5	2.5-4.5	4.5-6.5
Percent Solids			83	82	82	83
Associated Field QC Sample			TB-1 on 8-12-92	TB-1 on 8-12-92	TB-1 on 8-12-92	TB-1 on 8-12-92
			ER1-1	ER1-1	ER1-1	ER1-1
			FB1-1	FB1-1	FB1-1	FB1-1
			SD5-FB	SD5-FB	SD5-FB	SD5-FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)						
Extraction Date			8-17-92	8-17-92	8-17-92	8-17-92
Analysis Date			9-12-92	9-11-92	9-12-92	9-12-92
Dilution Factor			1	1	1	1
Parameter	Units	MDL				
Diesel Fuel	mg/kg	2	15 J(FD)	<2	26	10
Heavy Oil	mg/kg	2	34 J(FD)	<2	59	15
PRIORITY POLLUTANT METALS						
Digestion Date(s)			9-3 and 9-9-92	9-3 and 9-9-92	9-3 and 9-9-92	9-3 and 9-9-92
Analysis Date(s)			9-8 to 9-11-92	9-8 to 9-11-92	9-8 to 9-11-92	9-8 to 9-11-92
Dilution Factor		IDL	1	1	1	1
AA METALS						
Antimony (SW 3050/7041)	mg/kg	N/A	NA	NA	NA	NA
Arsenic (SW 3050/7060)	mg/kg	N/A	NA	NA	NA	NA
Lead (SW 3050/7421)	mg/kg	0.9	19.5	17.7	15.2	22.7
Mercury (SW 3050/7471)	mg/kg	N/A	NA	NA	NA	NA
Selenium (SW 3050/7740)	mg/kg	N/A	NA	NA	NA	NA
Thallium (SW 3050/7841)	mg/kg	N/A	NA	NA	NA	NA
ICP METALS (SW 3050/6010)						
Beryllium	mg/kg	0.3	0.63	0.6	0.71	0.79
Cadmium	mg/kg	2.1	0.2 U	0.22 U	0.23 U	0.23 U
Chromium	mg/kg	4	12.1	14.3	18.1	16.3
Copper	mg/kg	3.9	19.2	15.5	18.3	19.5
Nickel	mg/kg	10.3	12.8	14.3	16.9	23.8
Silver	mg/kg	3	0.66 U(MB)	0.5 U(MB)	0.65 U(MB)	0.93 U(MB)
Zinc	mg/kg	3.5	44.5 J(E)	41.3 J(E)	52.3 J(E)	59.6 J(E)

Table F–11. Data Presentation Table: Soil – Site 4 – POL Storage Area, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB4–3–1	SB4–3–1R	SB4–3–2	SB4–3–3
Laboratory ID Number			94535	94536	94538	94537
Collection Date			8–12–92	8–12–92	8–12–92	8–12–92
Collection Depth (ft)			0.5–2.5	0.5–2.5	2.5–4.5	4.5–6.5
Percent Solids			83	82	82	83
Associated Field QC Sample			TB–1 on 8–12–92 ER1–1 FB1–1 SD5–FB	TB–1 on 8–12–92 ER1–1 FB1–1 SD5–FB	TB–1 on 8–12–92 ER1–1 FB1–1 SD5–FB	TB–1 on 8–12–92 ER1–1 FB1–1 SD5–FB
VOLATILE ORGANICS (SW 8240 [A])						
Analysis Date			8–18–92	8–18–92	8–18–92	8–18–92
Dilution Factor			1	1	1	1
Parameter	Units	CRQL				
Chloromethane	µg/kg	10	12 U	12 U	12 U	12 U
Bromomethane	µg/kg	10	12 U	12 U	12 U	12 U
Vinyl Chloride	µg/kg	10	12 U	12 U	12 U	12 U
Chloroethane	µg/kg	10	12 U	12 U	12 U	12 U
Methylene Chloride	µg/kg	10	12 U	12 U	12 U	12 U
Acetone	µg/kg	10	12 U	12 U	12 U	17 U(FB)
Carbon Disulfide	µg/kg	10	12 U	12 U	12 U	12 U
1,1–Dichloroethene	µg/kg	10	12 U	12 U	12 U	12 U
1,1–Dichloroethane	µg/kg	10	12 U	12 U	12 U	12 U
1,2–Dichloroethene (total)	µg/kg	10	12 U	12 U	12 U	12 U
Chloroform	µg/kg	10	12 U	12 U	12 U	12 U
1,2–Dichloroethane	µg/kg	10	12 U	12 U	12 U	12 U
2–Butanone	µg/kg	10	12 U	12 U	12 U	12 U
1,1,1–Trichloroethane	µg/kg	10	12 U	12 U	12 U	12 U
Carbon Tetrachloride	µg/kg	10	12 U	12 U	12 U	12 U
Bromodichloromethane	µg/kg	10	12 U	12 U	12 U	12 U
1,2–Dichloropropane	µg/kg	10	12 U	12 U	12 U	12 U
cis–1,3–Dichloropropene	µg/kg	10	12 U	12 U	12 U	12 U
Trichloroethene	µg/kg	10	12 U	12 U	12 U	12 U
Dibromochloromethane	µg/kg	10	12 U	12 U	12 U	12 U
1,1,2–Trichloroethane	µg/kg	10	12 U	12 U	12 U	12 U
Benzene	µg/kg	10	12 U	12 U	12 U	12 U
trans–1,3–Dichloropropene	µg/kg	10	12 U	12 U	12 U	12 U
Bromoform	µg/kg	10	12 U	12 U	12 U	12 U
4–Methyl–2–pentanone	µg/kg	10	12 U	12 U	12 U	12 U
2–Hexanone	µg/kg	10	12 U	12 U	12 U	12 U
Tetrachloroethene	µg/kg	10	12 U	12 U	12 U	12 U
1,1,2,2–Tetrachloroethane	µg/kg	10	12 U	12 U	12 U	12 U
Toluene	µg/kg	10	12 U	12 U	3 J	12 U
Chlorobenzene	µg/kg	10	12 U	12 U	12 U	12 U
Ethylbenzene	µg/kg	10	12 U	12 U	12 U	12 U
Styrene	µg/kg	10	12 U	12 U	12 U	12 U
Xylene (total)	µg/kg	10	12 U	12 U	12 U	12 U
TICs	µg/kg		0 (0)	0 (0)	0 (0)	2,4–Dimethyl–Hexane[b] 47 J,N (RT 13.87) Cyclopentane, 1,2,4–Trimethy[b] 14 J,N (RT 14.58) 2,3–Dimethyl–Hexane[b] 14 J,N (RT 15.49) 3–Ethyl–Hexane[b] 47 J,N (RT 16.13) 2,2–Dimethyl–3–Hexanone[b] 10 J,N (RT 18.74) 3,5–Dimethyl–Heptane[b] 27 J,N (RT 19.17) Cyclohexane, 1,2,4–Trimethyl[b] 20 J,N (RT 19.81) 4–Methyl–Octane[b] 36 J,N (RT 20.54) 3,5–Dimethyl–Heptane[b] 18 J,N (RT 21) Cyclohexane, 1–Ethyl–2–Methy[b] 10 J,N (RT 23.44) Cyclopentane, 1–Methyl–3–(2–[b] 12 J,N (RT 26.8)
TIC Totals	µg/kg		0 (0)	0 (0)	0 (0)	255 (11)

Table F-11. Data Presentation Table: Soil – Site 4 – POL Storage Area, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB4-3-1	SB4-3-1R	SB4-3-2	SB4-3-3
Laboratory ID Number			94535	94536	94538	94537
Collection Date			8-12-92	8-12-92	8-12-92	8-12-92
Collection Depth (ft)			0.5-2.5	0.5-2.5	2.5-4.5	4.5-6.5
Percent Solids			83	82	82	83
Associated Field QC Sample			TB-1 on 8-12-92	TB-1 on 8-12-92	TB-1 on 8-12-92	TB-1 on 8-12-92
			ER1-1	ER1-1	ER1-1	ER1-1
			FB1-1	FB1-1	FB1-1	FB1-1
			SD5-FB	SD5-FB	SD5-FB	SD5-FB
SEMIVOLATILE ORGANICS						
Extraction Date			N/A	N/A	N/A	N/A
Analysis Date			N/A	N/A	N/A	N/A
Dilution Factor			N/A	N/A	N/A	N/A
Parameter	Units	CRQL				
Phenol	µg/kg	N/A	NA	NA	NA	NA
bis(2-Chloroethyl)ether	µg/kg	N/A	NA	NA	NA	NA
2-Chlorophenol	µg/kg	N/A	NA	NA	NA	NA
1,3-Dichlorobenzene	µg/kg	N/A	NA	NA	NA	NA
1,4-Dichlorobenzene	µg/kg	N/A	NA	NA	NA	NA
1,2-Dichlorobenzene	µg/kg	N/A	NA	NA	NA	NA
2-Methylphenol	µg/kg	N/A	NA	NA	NA	NA
2,2-oxibis-(1-Chloropropane)	µg/kg	N/A	NA	NA	NA	NA
4-Methylphenol	µg/kg	N/A	NA	NA	NA	NA
N-Nitroso-di-N-propylamine	µg/kg	N/A	NA	NA	NA	NA
Hexachloroethane	µg/kg	N/A	NA	NA	NA	NA
Nitrobenzene	µg/kg	N/A	NA	NA	NA	NA
Isophorone	µg/kg	N/A	NA	NA	NA	NA
2-Nitrophenol	µg/kg	N/A	NA	NA	NA	NA
2,4-Dimethylphenol	µg/kg	N/A	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	µg/kg	N/A	NA	NA	NA	NA
2,4-Dichlorophenol	µg/kg	N/A	NA	NA	NA	NA
1,2,4-Trichlorobenzene	µg/kg	N/A	NA	NA	NA	NA
Naphthalene	µg/kg	N/A	NA	NA	NA	NA
4-Chloroaniline	µg/kg	N/A	NA	NA	NA	NA
Hexachlorobutadiene	µg/kg	N/A	NA	NA	NA	NA
4-Chloro-3-methylphenol	µg/kg	N/A	NA	NA	NA	NA
2-Methylnaphthalene	µg/kg	N/A	NA	NA	NA	NA
Hexachlorocyclopentadiene	µg/kg	N/A	NA	NA	NA	NA
2,4,6-Trichlorophenol	µg/kg	N/A	NA	NA	NA	NA
2,4,5-Trichlorophenol	µg/kg	N/A	NA	NA	NA	NA
2-Chloronaphthalene	µg/kg	N/A	NA	NA	NA	NA
2-Nitroaniline	µg/kg	N/A	NA	NA	NA	NA
Dimethyl phthalate	µg/kg	N/A	NA	NA	NA	NA
Acenaphthylene	µg/kg	N/A	NA	NA	NA	NA
2,6-Dinitrotoluene	µg/kg	N/A	NA	NA	NA	NA
3-Nitroaniline	µg/kg	N/A	NA	NA	NA	NA
Acenaphthene	µg/kg	N/A	NA	NA	NA	NA
2,4-Dinitrophenol	µg/kg	N/A	NA	NA	NA	NA
4-Nitrophenol	µg/kg	N/A	NA	NA	NA	NA
Dibenzofuran	µg/kg	N/A	NA	NA	NA	NA
2,4-Dinitrotoluene	µg/kg	N/A	NA	NA	NA	NA
Diethyl phthalate	µg/kg	N/A	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	µg/kg	N/A	NA	NA	NA	NA
Fluorene	µg/kg	N/A	NA	NA	NA	NA
4-Nitroaniline	µg/kg	N/A	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	µg/kg	N/A	NA	NA	NA	NA
N-Nitrosodiphenylamine (1)	µg/kg	N/A	NA	NA	NA	NA

Table F-11. Data Presentation Table: Soil – Site 4 – POL Storage Area, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB4-3-1	SB4-3-1R	SB4-3-2	SB4-3-3
Laboratory ID Number			94535	94536	94538	94537
Collection Date			8-12-92	8-12-92	8-12-92	8-12-92
Collection Depth (ft)			0.5-2.5	0.5-2.5	2.5-4.5	4.5-6.5
Percent Solids			83	82	82	83
Associated Field QC Sample			TB-1 on 8-12-92	TB-1 on 8-12-92	TB-1 on 8-12-92	TB-1 on 8-12-92
			ER1-1	ER1-1	ER1-1	ER1-1
			FB1-1	FB1-1	FB1-1	FB1-1
			SD5-FB	SD5-FB	SD5-FB	SD5-FB
SEMIVOLATILE ORGANICS (Continued)						
Extraction Date			N/A	N/A	N/A	N/A
Analysis Date			N/A	N/A	N/A	N/A
Dilution Factor			N/A	N/A	N/A	N/A
Parameter	Units	CRQL				
4-Bromophenyl phenyl ether	µg/kg	N/A	NA	NA	NA	NA
Hexachlorobenzene	µg/kg	N/A	NA	NA	NA	NA
Pentachlorophenol	µg/kg	N/A	NA	NA	NA	NA
Phenanthrene	µg/kg	N/A	NA	NA	NA	NA
Anthracene	µg/kg	N/A	NA	NA	NA	NA
Carbazole	µg/kg	N/A	NA	NA	NA	NA
di-N-Butyl phthalate	µg/kg	N/A	NA	NA	NA	NA
Fluoranthene	µg/kg	N/A	NA	NA	NA	NA
Pyrene	µg/kg	N/A	NA	NA	NA	NA
Butylbenzylphthalate	µg/kg	N/A	NA	NA	NA	NA
3,3'-Dichlorobenzidine	µg/kg	N/A	NA	NA	NA	NA
Benzo(a)anthracene	µg/kg	N/A	NA	NA	NA	NA
Chrysene	µg/kg	N/A	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	µg/kg	N/A	NA	NA	NA	NA
di-N-Octyl phthalate	µg/kg	N/A	NA	NA	NA	NA
Benzo(b)fluoranthene	µg/kg	N/A	NA	NA	NA	NA
Benzo(k)fluoranthene	µg/kg	N/A	NA	NA	NA	NA
Benzo(a)pyrene	µg/kg	N/A	NA	NA	NA	NA
Indeno(1,2,3-c,d)pyrene	µg/kg	N/A	NA	NA	NA	NA
Dibenzo(a,h)anthracene	µg/kg	N/A	NA	NA	NA	NA
Benzo(g,h,i)perylene	µg/kg	N/A	NA	NA	NA	NA
TICs	µg/kg		NA	NA	NA	NA
TIC Total	µg/kg		NA	NA	NA	NA

Table F-11. Data Presentation Table: Soil – Site 4 – POL Storage Area, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MW4-1-1S	MW4-1-4S	MW4-1-5S
Laboratory ID Number			95273	95274	95275
Collection Date			8-26-92	8-26-92	8-26-92
Collection Depth (ft)			0.5-2.5	6.0-7.5	8.0-9.5
Percent Solids			85	89	86
Associated Field QC Sample			TB-10	TB-10	TB-10
			EB4-1	EB4-1	EB4-1
			FB4-1	FB4-1	FB4-1
			SD5-FB	SD5-FB	SD5-FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)					
Extraction Date			9-11-92	9-11-92	9-11-92
Analysis Date			9-19-92	9-19-92	9-19-92
Dilution Factor			1	1	1
Parameter	Units	MDL			
Diesel Fuel	mg/kg	2	<3 UJ(EHT)	<3 UJ(EHT)	<3
Heavy Oil	mg/kg	2	<3 UJ(EHT)	4 J(EHT)	13
PRIORITY POLLUTANT METALS					
Digestion Date(s)			9-17, 9-21 and 9-22-92	9-17, 9-21 and 9-22-92	9-17, 9-21 and 9-22-92
Analysis Date(s)			9-20 to 10-8-92	9-20 to 10-8-92	9-20 to 10-8-92
Dilution Factor		IDL	1	1	1
AA METALS					
Antimony (SW 3050/7041)	mg/kg	N/A	NA	NA	NA
Arsenic (SW 3050/7060)	mg/kg	N/A	NA	NA	NA
Lead (SW 3050/7421)	mg/kg	0.9	19 J(*)	8.3 J(*)	4.8 J(*)
Mercury (SW 3050/7471)	mg/kg	N/A	NA	NA	NA
Selenium (SW 3050/7740)	mg/kg	N/A	NA	NA	NA
Thallium (SW 3050/7841)	mg/kg	N/A	NA	NA	NA
ICP METALS (SW 3050/6010)					
Beryllium	mg/kg	0.3	0.53	0.27 B	0.14 B
Cadmium	mg/kg	2.1	0.19 U	0.19 U	0.18 U
Chromium	mg/kg	4	11.4 J(N)	7.6 J(N)	3.8 J(N)
Copper	mg/kg	3.9	20.3	15.3	11.9
Nickel	mg/kg	10.3	22.5	15.1	7
Silver	mg/kg	3	1.3 U(MB)	1.2 U(MB)	1 U(MB)
Zinc	mg/kg	3.5	72.9 J(N,E)	48.1 J(N,E)	34.4 J(N,E)

Table F-11. Data Presentation Table: Soil – Site 4 – POL Storage Area, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MW4-1-1S	MW4-1-4S	MW4-1-5S
Laboratory ID Number			95273	95274	95275
Collection Date			8-26-92	8-26-92	8-26-92
Collection Depth (ft)			0.5-2.5	6.0-7.5	8.0-9.5
Percent Solids			85	89	86
Associated Field QC Sample			TB-10	TB-10	TB-10
			EB4-1	EB4-1	EB4-1
			FB4-1	FB4-1	FB4-1
			SD5-FB	SD5-FB	SD5-FB
VOLATILE ORGANICS (SW 8240 [A])					
Analysis Date			9-2-92	9-2-92	9-2-92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Chloromethane	µg/kg	10	12 U	11 U	12 U
Bromomethane	µg/kg	10	12 U	11 U	12 U
Vinyl Chloride	µg/kg	10	12 U	11 U	12 U
Chloroethane	µg/kg	10	12 U	11 U	12 U
Methylene Chloride	µg/kg	10	12 U	11 U	12 U
Acetone	µg/kg	10	12 U	11 U	12 U
Carbon Disulfide	µg/kg	10	12 U	11 U	12 U
1,1-Dichloroethene	µg/kg	10	12 U	11 U	12 U
1,1-Dichloroethane	µg/kg	10	12 U	11 U	12 U
1,2-Dichloroethene (total)	µg/kg	10	12 U	11 U	12 U
Chloroform	µg/kg	10	12 U	11 U	12 U
1,2-Dichloroethane	µg/kg	10	12 U	11 U	12 U
2-Butanone	µg/kg	10	12 U	11 U	12 U
1,1,1-Trichloroethane	µg/kg	10	12 U	11 U	12 U
Carbon Tetrachloride	µg/kg	10	12 U	11 U	12 U
Bromodichloromethane	µg/kg	10	12 U	11 U	12 U
1,2-Dichloropropane	µg/kg	10	12 U	11 U	12 U
cis-1,3-Dichloropropene	µg/kg	10	12 U	11 U	12 U
Trichloroethene	µg/kg	10	12 U	11 U	9 J
Dibromochloromethane	µg/kg	10	12 U	11 U	12 U
1,1,2-Trichloroethane	µg/kg	10	12 U	11 U	12 U
Benzene	µg/kg	10	12 U	11 U	12 U
trans-1,3-Dichloropropene	µg/kg	10	12 U	11 U	12 U
Bromoform	µg/kg	10	12 U	11 U	12 U
4-Methyl-2-pentanone	µg/kg	10	12 U	11 U	12 U
2-Hexanone	µg/kg	10	12 U	11 U	12 U
Tetrachloroethene	µg/kg	10	12 U	11 U	12 U
1,1,2,2-Tetrachloroethane	µg/kg	10	12 U	11 U	12 U
Toluene	µg/kg	10	12 U	11 U	12 U
Chlorobenzene	µg/kg	10	12 U	11 U	12 U
Ethylbenzene	µg/kg	10	12 U	11 U	12 U
Styrene	µg/kg	10	12 U	11 U	12 U
Xylene (total)	µg/kg	10	12 U	11 U	12 U
TICs	µg/kg		0 (0)	0 (0)	0 (0)
TIC Totals	µg/kg		0 (0)	0 (0)	0 (0)

Table F–11. Data Presentation Table: Soil – Site 4 – POL Storage Area, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MW4–1–1S	MW4–1–4S	MW4–1–5S
Laboratory ID Number			95273	95274	95275
Collection Date			8–26–92	8–26–92	8–26–92
Collection Depth (ft)			0.5–2.5	6.0–7.5	8.0–9.5
Percent Solids			85	89	86
Associated Field QC Sample			TB–10	TB–10	TB–10
			EB4–1	EB4–1	EB4–1
			FB4–1	FB4–1	FB4–1
			SD5–FB	SD5–FB	SD5–FB
SEMIVOLATILE ORGANICS					
Extraction Date			N/A	N/A	N/A
Analysis Date			N/A	N/A	N/A
Dilution Factor			N/A	N/A	N/A
Parameter	Units	CRQL			
Phenol	µg/kg	N/A	NA	NA	NA
bis(2–Chloroethyl)ether	µg/kg	N/A	NA	NA	NA
2–Chlorophenol	µg/kg	N/A	NA	NA	NA
1,3–Dichlorobenzene	µg/kg	N/A	NA	NA	NA
1,4–Dichlorobenzene	µg/kg	N/A	NA	NA	NA
1,2–Dichlorobenzene	µg/kg	N/A	NA	NA	NA
2–Methylphenol	µg/kg	N/A	NA	NA	NA
2,2–oxibis–(1–Chloropropane)	µg/kg	N/A	NA	NA	NA
4–Methylphenol	µg/kg	N/A	NA	NA	NA
N–Nitroso–di–N–propylamine	µg/kg	N/A	NA	NA	NA
Hexachloroethane	µg/kg	N/A	NA	NA	NA
Nitrobenzene	µg/kg	N/A	NA	NA	NA
Isophorone	µg/kg	N/A	NA	NA	NA
2–Nitrophenol	µg/kg	N/A	NA	NA	NA
2,4–Dimethylphenol	µg/kg	N/A	NA	NA	NA
bis(2–Chloroethoxy)methane	µg/kg	N/A	NA	NA	NA
2,4–Dichlorophenol	µg/kg	N/A	NA	NA	NA
1,2,4–Trichlorobenzene	µg/kg	N/A	NA	NA	NA
Naphthalene	µg/kg	N/A	NA	NA	NA
4–Chloroaniline	µg/kg	N/A	NA	NA	NA
Hexachlorobutadiene	µg/kg	N/A	NA	NA	NA
4–Chloro–3–methylphenol	µg/kg	N/A	NA	NA	NA
2–Methylnaphthalene	µg/kg	N/A	NA	NA	NA
Hexachlorocyclopentadiene	µg/kg	N/A	NA	NA	NA
2,4,6–Trichlorophenol	µg/kg	N/A	NA	NA	NA
2,4,5–Trichlorophenol	µg/kg	N/A	NA	NA	NA
2–Chloronaphthalene	µg/kg	N/A	NA	NA	NA
2–Nitroaniline	µg/kg	N/A	NA	NA	NA
Dimethyl phthalate	µg/kg	N/A	NA	NA	NA
Acenaphthylene	µg/kg	N/A	NA	NA	NA
2,6–Dinitrotoluene	µg/kg	N/A	NA	NA	NA
3–Nitroaniline	µg/kg	N/A	NA	NA	NA
Acenaphthene	µg/kg	N/A	NA	NA	NA
2,4–Dinitrophenol	µg/kg	N/A	NA	NA	NA
4–Nitrophenol	µg/kg	N/A	NA	NA	NA
Dibenzofuran	µg/kg	N/A	NA	NA	NA
2,4–Dinitrotoluene	µg/kg	N/A	NA	NA	NA
Diethyl phthalate	µg/kg	N/A	NA	NA	NA
4–Chlorophenyl phenyl ether	µg/kg	N/A	NA	NA	NA
Fluorene	µg/kg	N/A	NA	NA	NA
4–Nitroaniline	µg/kg	N/A	NA	NA	NA
4,6–Dinitro–2–methylphenol	µg/kg	N/A	NA	NA	NA
N–Nitrosodiphenylamine (1)	µg/kg	N/A	NA	NA	NA

Table F-11. Data Presentation Table: Soil – Site 4 – POL Storage Area, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MW4-1-1S	MW4-1-4S	MW4-1-5S
Laboratory ID Number			95273	95274	95275
Collection Date			8-26-92	8-26-92	8-26-92
Collection Depth (ft)			0.5-2.5	6.0-7.5	8.0-9.5
Percent Solids			85	89	86
Associated Field QC Sample			TB-10	TB-10	TB-10
			EB4-1	EB4-1	EB4-1
			FB4-1	FB4-1	FB4-1
			SD5-FB	SD5-FB	SD5-FB
SEMIVOLATILE ORGANICS (Continued)					
Extraction Date			N/A	N/A	N/A
Analysis Date			N/A	N/A	N/A
Dilution Factor			N/A	N/A	N/A
Parameter	Units	CRQL			
4-Bromophenyl phenyl ether	µg/kg	N/A	NA	NA	NA
Hexachlorobenzene	µg/kg	N/A	NA	NA	NA
Pentachlorophenol	µg/kg	N/A	NA	NA	NA
Phenanthrene	µg/kg	N/A	NA	NA	NA
Anthracene	µg/kg	N/A	NA	NA	NA
Carbazole	µg/kg	N/A	NA	NA	NA
di-N-Butyl phthalate	µg/kg	N/A	NA	NA	NA
Fluoranthene	µg/kg	N/A	NA	NA	NA
Pyrene	µg/kg	N/A	NA	NA	NA
Butylbenzylphthalate	µg/kg	N/A	NA	NA	NA
3,3'-Dichlorobenzidine	µg/kg	N/A	NA	NA	NA
Benzo(a)anthracene	µg/kg	N/A	NA	NA	NA
Chrysene	µg/kg	N/A	NA	NA	NA
bis(2-Ethylhexyl)phthalate	µg/kg	N/A	NA	NA	NA
di-N-Octyl phthalate	µg/kg	N/A	NA	NA	NA
Benzo(b)fluoranthene	µg/kg	N/A	NA	NA	NA
Benzo(k)fluoranthene	µg/kg	N/A	NA	NA	NA
Benzo(a)pyrene	µg/kg	N/A	NA	NA	NA
Indeno(1,2,3-c,d)pyrene	µg/kg	N/A	NA	NA	NA
Dibenzo(a,h)anthracene	µg/kg	N/A	NA	NA	NA
Benzo(g,h,i)perylene	µg/kg	N/A	NA	NA	NA
TICs	µg/kg		NA	NA	NA
TIC Total	µg/kg		NA	NA	NA

Table F–11. Data Presentation Table: Soil – Site 4 – POL Storage Area, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

Validation note: All descriptive data qualifiers applied to the reported values by the laboratory are reported in parentheses. Each data point has been assessed to determine whether the value is considered usable (i.e., no qualifier), usable but estimated (i.e., "J"), or not usable (i.e., "R"). All usability qualifiers are followed by the applicable laboratory or field QC qualifier, presented in parentheses and defined below. Usability qualifiers were not applied to values qualified by the laboratory, but were not considered to have been adversely impacted by the applicable laboratory QC result (e.g., duplicated and matrix spike analysis).

A – samples were analyzed for VOCs using SW 8240, laboratory analyses followed methods outlined in the March 1990 CLP SOW for organic analyses
CRQL – Contract Required Quantitation Limit
IDL – Instrument Detection Limit
MDL – Method Detection Limit
NA – not analyzed
N/A – not applicable
RT – retention time in minutes
TICs–tentatively identified compounds, total concentration is listed and the total number of tentatively identified compounds is inside the parenthases

Data Validation Qualifiers

J – associated numerical value is the approximate concentration
U – compound/element was included in analysis, but was not detected
UJ – reported quantitation limit is approximate and may or may not represent the actual quantitation necessary to accurately and precisely measure the analyte

Explanatory Data Validation Qualifiers

FB – compound/element was also detected in the associated field blank
IS – internal standard outside control limits
MB – compound/element was also detected in the associated laboratory method blank

EPA–defined CLP SOW Laboratory Qualifiers

B(metals) – the reported value is estimated because it is greater than the Instrument Detection Limit (IDL), but less than the Contract Required Detection Limit (CRDL)
E(metals) – the reported value is estimated due to the presence of interference
N – spiked sample recovery outside of control limits
N(TICs) – presumptive evidence of a compound
* – duplicate sample analysis outside of control limits

SAIC TIC Evaluation Categories

[b] – petroleum or petroleum degradation products

Table F-12. Data Presentation Table: Groundwater – Site 4 – POL Storage Area
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

SAIC ID Number				MW4-1-1	MW4-1-1DL	MW4-1-2	MW4-1-2DL
Laboratory ID Number				97272	97272DL	9572, 9588	9572DL
Collection Date				9-29-92	9-29-92	5-21-93	5-21-93
Associated Field QC Sample				TB-12,13	TB-12,13	TB52193	TB52193
				ERBG-2	ERBG-2	EB2-2, EB3-2	EB2-2, EB3-2
				FBBA-1	FBBA-1	N/A	N/A
				FBCE-1	FBCE-1	FB2-2, FB3-2	FB2-2, FB3-2
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)							
Extraction Date				10-1-92	N/A	5-25-93	N/A
Analysis Date				10-20-92	N/A	5-26 and 6-17-93	N/A
Dilution Factor				1	N/A	1	N/A
Parameter	Units	MDL	or MDL				
Gasoline	mg/L	N/A	0.05	NA	NA	<0.25	NA
Diesel Fuel	mg/L	0.1	0.05	<0.2	NA	<0.13	NA
Heavy Oil	mg/L	0.1	0.1	<0.2	NA	<0.25	NA
TOTAL PRIORITY POLLUTANT METALS							
Digestion Date(s)				10-29 and 10-20-92	N/A	6-11 and 6-16-93	N/A
Analysis Date(s)				10-20 to 11-6-92	N/A	6-11 to 6-25-93	N/A
Dilution Factor		IDL	or IDL	1	N/A	1	N/A
AA METALS							
Antimony (SW 3020/7041)	µg/L	N/A	0.6	NA	NA	2.2 J(N,W)	NA
Arsenic (SW 3020/7060)	µg/L	N/A	0.6	NA	NA	2.9 J(N)	NA
Lead (SW 3020/7421)	µg/L	0.5	0.5	4.3 U(MB)	NA	69	NA
Mercury (SW 7470)	µg/L	N/A	0.1	NA	NA	0.16 B	NA
Selenium (SW 7740)	µg/L	N/A	0.9	NA	NA	R(N)	NA
Thallium (SW 3020/7841)	µg/L	N/A	1.4	NA	NA	1.9 J(W)	NA
ICP METALS (SW 3005/6010)							
Beryllium	µg/L	0.3	0.3	0.3 U	NA	4.1 B	NA
Cadmium	µg/L	2.1	3.7	2.1 U	NA	10.9	NA
Chromium	µg/L	2.9	2.8	7.3 B	NA	127	NA
Copper	µg/L	3.4	2.7	13.4 U(FB)	NA	212	NA
Nickel	µg/L	12.9	19.8	20.7 B	NA	216	NA
Silver	µg/L	3.8	2.9	3.8 U	NA	3.6 J(N)	NA
Zinc	µg/L	2.9	1.6	50.3 U(FB)	NA	709 J(E)	NA
DISSOLVED PRIORITY POLLUTANT METALS							
Digestion Date(s)				N/A	N/A	6-8 and 6-16-93	N/A
Analysis Date(s)				N/A	N/A	6-16 to 6-22-93	N/A
Dilution Factor		IDL		N/A	N/A	1	N/A
AA METALS							
Antimony (SW 3020/7041)	µg/L	0.6		NA	NA	0.9 UJ(W)	NA
Arsenic (SW 3020/7060)	µg/L	0.6		NA	NA	0.6 UJ(W)	NA
Lead (SW 3020/7421)	µg/L	0.5		NA	NA	0.5 U(EB)	NA
Mercury (SW 7470)	µg/L	0.1		NA	NA	0.1 U	NA
Selenium (SW 7740)	µg/L	0.9		NA	NA	1.1 U(MB)	NA
Thallium (SW 3020/7841)	µg/L	1.4		NA	NA	1.4 U	NA
ICP METALS (SW 3005/6010)							
Beryllium	µg/L	0.3		NA	NA	0.3 U	NA
Cadmium	µg/L	3.7		NA	NA	3.7 U	NA
Chromium	µg/L	2.8		NA	NA	2.8 U	NA
Copper	µg/L	2.7		NA	NA	2.7 U	NA
Nickel	µg/L	19.8		NA	NA	19.8 U	NA
Silver	µg/L	2.9		NA	NA	2.9 UJ(N)	NA
Zinc	µg/L	1.6		NA	NA	6.8 U(MB)	NA

Table F-12. Data Presentation Table: Groundwater – Site 4 – POL Storage Area
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MW4-1-1	MW4-1-1DL	MW4-1-2	MW4-1-2DL
Laboratory ID Number			97272	97272DL	9572, 9588	9572DL
Collection Date			9-29-92	9-29-92	5-21-93	5-21-93
Associated Field QC Sample			TB-12,13	TB-12,13	TB52193	TB52193
			ERBG-2	ERBG-2	EB2-2, EB3-2	EB2-2, EB3-2
			FBBA-1	FBBA-1	N/A	N/A
			FBCE-1	FBCE-1	FB2-2, FB3-2	FB2-2, FB3-2
VOLATILE ORGANICS (A)						
Analysis Date			10-6-92	10-7-92	5-24-93	5-25-93
Dilution Factor			1	1	1	5
Parameter	Units	CRQL				
Chloromethane	µg/L	0.3	0.3 U	0.5 U	0.3 UJ(SR)	1 U
Bromomethane	µg/L	0.4	0.4 U	0.8 U	0.4 UJ(SR)	2 U
Vinyl Chloride	µg/L	0.5	0.5 U	1 U	0.5 UJ(SR)	2 U
Chloroethane	µg/L	0.2	0.2 U	0.3 U	0.2 UJ(SR)	0.8 U
Methylene Chloride	µg/L	0.4	0.4 U	0.8 U	0.4 UJ(SR)	2 U
Acetone	µg/L	1	1 U	2 U	1 UJ(SR)	5 U
Carbon Disulfide	µg/L	0.5	0.5 U	0.9 U	0.5 UJ(SR)	2 U
1,1-Dichloroethene	µg/L	0.5	0.5 U	1 U	0.5 UJ(SR)	3 U
1,1-Dichloroethane	µg/L	0.4	0.4 U	0.7 U	0.4 UJ(SR)	2 U
1,2-Dichloroethene (total)	µg/L	0.5	3 X	3 DX	10 J(SR)	9 DX
Chloroform	µg/L	0.4	0.4 U	0.9 U	0.4 UJ(SR)	2 U
1,2-Dichloroethane	µg/L	0.4	0.4 U	0.8 U	0.4 UJ(SR)	2 U
2-Butanone	µg/L	1	1 U	2 U	1 UJ(SR)	5 U
1,1,1-Trichloroethane	µg/L	0.4	0.4 U	0.7 U	0.4 U	2 U
Carbon Tetrachloride	µg/L	0.4	0.4 U	0.8 U	0.4 U	2 U
Bromodichloromethane	µg/L	0.4	0.4 U	0.8 U	0.4 U	2 U
1,2-Dichloropropane	µg/L	0.3	0.3 U	0.7 U	0.3 U	2 U
cis-1,3-Dichloropropene	µg/L	0.8	0.8 U	2 U	0.8 U	4 U
Trichloroethene	µg/L	0.5	71 E	61 D	120 E	110 D
Dibromochloromethane	µg/L	0.5	0.5 U	1 U	0.5 U	2 U
1,1,2-Trichloroethane	µg/L	0.8	0.8 U	2 U	0.8 U	4 U
Benzene	µg/L	0.5	0.5 U	0.9 U	0.4 J	0.5 DJ
trans-1,3-Dichloropropene	µg/L	0.8	0.8 U	2 U	0.8 U	4 U
Bromoform	µg/L	0.9	0.9 U	2 U	0.9 U	4 U
4-Methyl-2-pentanone	µg/L	0.6	0.6 U	1 U	0.6 U	3 U
2-Hexanone	µg/L	2	2 U	4 U	2 U	10 U
Tetrachloroethene	µg/L	0.4	0.4 U	0.9 U	0.4 U	2 U
1,1,2,2-Tetrachloroethane	µg/L	0.7	0.7 U	1 U	0.7 U	4 U
Toluene	µg/L	0.4	0.4 U	0.8 U	0.4 U	2 U
Chlorobenzene	µg/L	0.4	0.4 U	0.9 U	0.4 U	2 U
Ethylbenzene	µg/L	0.7	0.7 U	1 U	0.7 U	3 U
Styrene	µg/L	0.2	0.2 U	0.4 U	0.2 U	0.9 U
Xylene (total)	µg/L	0.7	0.7 U	1 U	0.7 U	3 U
TICs	µg/L		0 (0)	0 (0)	0 (0)	0 (0)
TIC Total	µg/L		0 (0)	0 (0)	0 (0)	0 (0)

Table F-12. Data Presentation Table: Groundwater – Site 4 – POL Storage Area
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MW4-1-1	MW4-1-1DL	MW4-1-2	MW4-1-2DL
Laboratory ID Number			97272	97272DL	9572, 9588	9572DL
Collection Date			9-29-92	9-29-92	5-21-93	5-21-93
Associated Field QC Sample			TB-12,13	TB-12,13	TB52193	TB52193
			ERBG-2	ERBG-2	EB2-2, EB3-2	EB2-2, EB3-2
			FBBA-1	FBBA-1	N/A	N/A
			FBCE-1	FBCE-1	FB2-2, FB3-2	FB2-2, FB3-2
SEMIVOLATILE ORGANIC (SW 8270 [B])						
Extraction Date			10-1-92	N/A	5-26-93	N/A
Analysis Date			10-23-92	N/A	6-1-93	N/A
Dilution Factor			1	N/A	1	N/A
Parameter	Units	CRQL				
Phenol	µg/L	10	10 U	NA	10 U	NA
bis(2-Chloroethyl)ether	µg/L	10	10 U	NA	10 U	NA
2-Chlorophenol	µg/L	10	10 U	NA	10 U	NA
1,3-Dichlorobenzene	µg/L	10	10 U	NA	10 U	NA
1,4-Dichlorobenzene	µg/L	10	10 U	NA	10 U	NA
1,2-Dichlorobenzene	µg/L	10	10 U	NA	10 U	NA
2-Methylphenol	µg/L	10	10 U	NA	10 U	NA
2,2-oxibis-(1-Chloropropane)	µg/L	10	10 UJ(CCV)	NA	10 U	NA
4-Methylphenol	µg/L	10	10 U	NA	10 U	NA
N-Nitroso-di-N-propylamine	µg/L	10	10 U	NA	10 U	NA
Hexachloroethane	µg/L	10	10 U	NA	10 UJ(CCV)	NA
Nitrobenzene	µg/L	10	10 U	NA	10 U	NA
Isophorone	µg/L	10	10 U	NA	10 U	NA
2-Nitrophenol	µg/L	10	10 U	NA	10 U	NA
2,4-Dimethylphenol	µg/L	10	10 U	NA	10 U	NA
bis(2-Chloroethoxy)methane	µg/L	10	10 U	NA	10 U	NA
2,4-Dichlorophenol	µg/L	10	10 U	NA	10 U	NA
1,2,4-Trichlorobenzene	µg/L	10	10 U	NA	10 U	NA
Naphthalene	µg/L	10	10 U	NA	10 U	NA
4-Chloroaniline	µg/L	10	10 U	NA	10 U	NA
Hexachlorobutadiene	µg/L	10	10 U	NA	10 UJ(CCV)	NA
4-Chloro-3-methylphenol	µg/L	10	10 U	NA	10 U	NA
2-Methylnaphthalene	µg/L	10	10 U	NA	10 U	NA
Hexachlorocyclopentadiene	µg/L	10	10 U	NA	10 U	NA
2,4,6-Trichlorophenol	µg/L	10	10 U	NA	10 U	NA
2,4,5-Trichlorophenol	µg/L	25	25 U	NA	25 U	NA
2-Chloronaphthalene	µg/L	10	10 U	NA	10 U	NA
2-Nitroaniline	µg/L	25	25 U	NA	25 U	NA
Dimethyl phthalate	µg/L	10	10 U	NA	10 U	NA
Acenaphthylene	µg/L	10	10 U	NA	10 U	NA
2,6-Dinitrotoluene	µg/L	10	10 U	NA	10 U	NA
3-Nitroaniline	µg/L	25	25 U	NA	25 UJ(CCV)	NA
Acenaphthene	µg/L	10	10 U	NA	10 U	NA
2,4-Dinitrophenol	µg/L	25	25 U	NA	25 UJ(CCV)	NA
4-Nitrophenol	µg/L	25	25 UJ(CCV)	NA	25 U	NA
Dibenzofuran	µg/L	10	10 U	NA	10 U	NA
2,4-Dinitrotoluene	µg/L	10	10 U	NA	10 U	NA
Diethyl phthalate	µg/L	10	10 U	NA	10 U	NA
4-Chlorophenyl phenyl ether	µg/L	10	10 U	NA	10 U	NA
Fluorene	µg/L	10	10 U	NA	10 U	NA
4-Nitroaniline	µg/L	25	25 U	NA	25 U	NA
4,6-Dinitro-2-methylphenol	µg/L	25	25 U	NA	25 UJ(CCV)	NA
N-Nitrosodiphenylamine (1)	µg/L	10	10 U	NA	10 U	NA

Table F–12. Data Presentation Table: Groundwater – Site 4 – POL Storage Area
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			MW4–1–1	MW4–1–1DL	MW4–1–2	MW4–1–2DL
Laboratory ID Number			97272	97272DL	9572, 9588	9572DL
Collection Date			9–29–92	9–29–92	5–21–93	5–21–93
Associated Field QC Sample			TB–12,13	TB–12,13	TB52193	TB52193
			ERBG–2	ERBG–2	EB2–2, EB3–2	EB2–2, EB3–2
			FBBA–1	FBBA–1	N/A	N/A
			FBCE–1	FBCE–1	FB2–2, FB3–2	FB2–2, FB3–2
SEMIVOLATILE ORGANIC (SW 8270 [B]) (Continued)						
Extraction Date			10–1–92	N/A	5–26–93	N/A
Analysis Date			10–23–92	N/A	6–1–93	N/A
Dilution Factor			1	N/A	1	N/A
Parameter	Units	CRQL				
4–Bromophenyl phenyl ether	µg/L	10	10 U	NA	10 U	NA
Hexachlorobenzene	µg/L	10	10 U	NA	10 UJ(CCV)	NA
Pentachlorophenol	µg/L	25	25 U	NA	25 UJ(CCV)	NA
Phenanthrene	µg/L	10	10 U	NA	10 U	NA
Anthracene	µg/L	10	10 U	NA	10 U	NA
Carbazole	µg/L	10	10 U	NA	10 UJ(CCV)	NA
di–N–Butyl phthalate	µg/L	10	10 U	NA	10 U	NA
Fluoranthene	µg/L	10	10 U	NA	10 U	NA
Pyrene	µg/L	10	10 U	NA	10 U	NA
Butylbenzylphthalate	µg/L	10	10 U	NA	10 U	NA
3,3'–Dichlorobenzidine	µg/L	10	10 U	NA	10 U	NA
Benzo(a)anthracene	µg/L	10	10 U	NA	10 U	NA
Chrysene	µg/L	10	10 U	NA	10 U	NA
bis(2–Ethylhexyl)phthalate	µg/L	10	10 U(EB)	NA	10 U	NA
di–N–Octyl phthalate	µg/L	10	10 U	NA	10 U	NA
Benzo(b)fluoranthene	µg/L	10	10 U	NA	10 U	NA
Benzo(k)fluoranthene	µg/L	10	10 U	NA	10 U	NA
Benzo(a)pyrene	µg/L	10	10 U	NA	10 U	NA
Indeno(1,2,3–c,d)pyrene	µg/L	10	10 U	NA	10 U	NA
Dibenzo(a,h)anthracene	µg/L	10	10 U	NA	10 U	NA
Benzo(g,h,i)perylene	µg/L	10	10 U	NA	10 U	NA
TICs	µg/L		Decanoic Acid [b] 10 J,N (RT 27.09)	NA	0 (0)	NA
TIC Total	µg/L		10 (1)	NA	0 (0)	NA

Table F–12. Data Presentation Table: Groundwater – Site 4 – POL Storage Area 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

Validation note: All descriptive data qualifiers applied to the reported values by the laboratory are reported in parentheses. Each data point has been assessed to determine whether the value is considered usable (i.e., no qualifier), usable but estimated (i.e., "J"), or not usable (i.e., "R"). All usability qualifiers are followed by the applicable laboratory or field QC qualifier, presented in parentheses and defined below. Usability qualifiers were not applied to values qualified by the laboratory, but were not considered to have been adversely impacted by the applicable laboratory QC result (e.g., duplicated and matrix spike analysis).

A – groundwater samples were analyzed for volatile halogenated compounds and volatile aromatic compounds by E 524.2 for samples collected in 1992 or SW 8240 (25 ml purge for low level volatiles) for samples collected in 1993; these methods have been modified to incorporate CLP–type QC requirements

B – SVOCs in groundwater and field QC blanks were analyzed using EPA method 3510/8270

CRQL – Contract Required Quantitation Limit

IDL – Instrument Detection Limit

MDL – Method Detection Limit

NA – not analyzed

N/A – not applicable

RT – retention time in minutes

TICs–tentatively identified compounds, total concentration is listed and the total number of tentatively identified compounds is inside the parenthases

Data Validation Qualifiers

J – associated numerical value is the approximate concentration

R – rejected value

U – compound/element was included in analysis, but was not detected

UJ – reported quantitation limit is approximate and may or may not represent the actual quantitation necessary to accurately and precisely measure the analyte

Explanatory Data Validation Qualifiers

CCV – continuing calibration verification

D – the identified compound was analyzed at a secondary dilution factor after exceeding the calibration range of the instrument on the first analysis

EB – compound/element was also detected in the associated equipment blank

FB – compound/element was also detected in the associated field blank

MB – compound/element was also detected in the associated laboratory method blank

SR – surrogate recovery outside control limits

EPA–defined CLP SOW Laboratory Qualifiers

B(metals) – the reported value is estimated because it is greater than the Instrument Detection Limit (IDL), but less than the Contract Required Detection Limit(CRDL)

E(metals) – the reported value is estimated due to the presence of interference

E(organics) – concentration exceeds the calibration range of the instrument; the sample must be diluted and reanalyzed

N – spiked sample recovery outside of control limits

N(TICs) – presumptive evidence of a compound

W – post–digestion spike for Graphite Furnace Atomic Absorption (GFAA) analysis is out of control limits (85–115%), while sample absorbance is less than 50% of the spike absorbance

X – compound is present, but does not meet CLP criteria

SAIC TIC Evaluation Categories

[b] – petroleum or petroleum degradation products

Table F–13. Data Presentation Table: Soil – Site 5 – Ramp Drainage Ditch, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

SAIC ID Number			SB5–1–1	SB5–1–7	SB5–1–7RE
Laboratory ID Number			94674	94675	94675RE
Collection Date			8–17–92	8–17–92	8–17–92
Collection Depth (ft)			5.0–7.0	25.0–27.0	25.0–27.0
Percent Solids			86	90	90
Associated Field QC Sample			TB–4	TB–4	TB–4
			EB5–1	EB5–1	EB5–1
			FB5–1	FB5–1	FB5–1
			SD5–FB	SD5–FB	SD5–FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)					
Extraction Date			8–27–92	8–27–92	N/A
Analysis Date			9–14–92	9–14–92	N/A
Dilution Factor			1	1	N/A
Parameter	Units	MDL			
Diesel Fuel	mg/kg	2	8	48	NA
Heavy Oil	mg/kg	2	5	13	NA
PRIORITY POLLUTANT METALS					
Digestion Date(s)			8–27 and 9–13–92	8–27 and 9–13–92	N/A
Analysis Date(s)			8–29 to 9–15–92	8–29 to 9–15–92	N/A
Dilution Factor		IDL	1	1	N/A
AA METALS					
Antimony (SW 3050/7041)	mg/kg	2	0.32 J(N,W,r)	0.21 J(N,W,r)	NA
Arsenic (SW 3050/7060)	mg/kg	1.5	6.7 J(N)	9 J(N)	NA
Lead (SW 3050/7421)	mg/kg	0.5	8.2	6.7	NA
Mercury (SW 3050/7471)	mg/kg	0.2	0.09 U	0.09 U	NA
Selenium (SW 3050/7740)	mg/kg	1.4	0.12 UJ(N,W)	0.13 UJ(N,W)	NA
Thallium (SW 3050/7841)	mg/kg	0.8	0.21 J(W)	0.21 J(W)	NA
ICP METALS (SW 3050/6010)					
Beryllium	mg/kg	0.3	0.29 B	0.2 B	NA
Cadmium	mg/kg	2.1	0.18 U	0.31 U(MB)	NA
Chromium	mg/kg	4	7.4	5.7	NA
Copper	mg/kg	3.9	13.3	16.4	NA
Nickel	mg/kg	10.3	12	18.4	NA
Silver	mg/kg	3	1.9 U(MB)	1.7 U(MB)	NA
Zinc	mg/kg	3.5	45.6 J(E)	124 J(E)	NA

Table F–13. Data Presentation Table: Soil – Site 5 – Ramp Drainage Ditch, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB5–1–1			SB5–1–7	SB5–1–7RE
Laboratory ID Number			94674			94675	94675RE
Collection Date			8–17–92			8–17–92	8–17–92
Collection Depth (ft)			5.0–7.0			25.0–27.0	25.0–27.0
Percent Solids			86			90	90
Associated Field QC Sample			TB–4			TB–4	TB–4
			EB5–1			EB5–1	EB5–1
			FB5–1			FB5–1	FB5–1
			SD5–FB			SD5–FB	SD5–FB
VOLATILE ORGANICS (SW 8240 [A])							
Analysis Date			8–21–92			8–21–92	N/A
Dilution Factor			1			1	N/A
Parameter	Units	CRQL					
Chloromethane	µg/kg	10	12 U			11 U	NA
Bromomethane	µg/kg	10	12 U			11 U	NA
Vinyl Chloride	µg/kg	10	12 U			11 U	NA
Chloroethane	µg/kg	10	12 U			11 U	NA
Methylene Chloride	µg/kg	10	12 U			11 U	NA
Acetone	µg/kg	10	12 U			34	NA
Carbon Disulfide	µg/kg	10	12 U			11 U	NA
1,1–Dichloroethene	µg/kg	10	12 U			11 U	NA
1,1–Dichloroethane	µg/kg	10	12 U			11 U	NA
1,2–Dichloroethene (total)	µg/kg	10	12 U			11 U	NA
Chloroform	µg/kg	10	12 U			11 U	NA
1,2–Dichloroethane	µg/kg	10	12 U			11 U	NA
2–Butanone	µg/kg	10	12 U			11 U	NA
1,1,1–Trichloroethane	µg/kg	10	12 U			11 U	NA
Carbon Tetrachloride	µg/kg	10	12 U			11 U	NA
Bromodichloromethane	µg/kg	10	12 U			11 U	NA
1,2–Dichloropropane	µg/kg	10	12 U			11 U	NA
cis–1,3–Dichloropropene	µg/kg	10	12 U			11 U	NA
Trichloroethene	µg/kg	10	12 U			11 U	NA
Dibromochloromethane	µg/kg	10	12 U			11 U	NA
1,1,2–Trichloroethane	µg/kg	10	12 U			11 U	NA
Benzene	µg/kg	10	12 U			11 U	NA
trans–1,3–Dichloropropene	µg/kg	10	12 U			11 U	NA
Bromoform	µg/kg	10	12 U			11 U	NA
4–Methyl–2–pentanone	µg/kg	10	12 U			11 UJ(IS)	NA
2–Hexanone	µg/kg	10	12 U			11 UJ(IS)	NA
Tetrachloroethene	µg/kg	10	12 U			11 UJ(IS)	NA
1,1,2,2–Tetrachloroethane	µg/kg	10	12 U			11 UJ(IS)	NA
Toluene	µg/kg	10	12 U			11 UJ(IS)	NA
Chlorobenzene	µg/kg	10	12 U			11 UJ(IS)	NA
Ethylbenzene	µg/kg	10	12 U			11 UJ(IS)	NA
Styrene	µg/kg	10	12 U			11 UJ(IS)	NA
Xylene (total)	µg/kg	10	12 U			11 UJ(IS)	NA
TICs	µg/kg		Dimethoxy–Methane [b]	14 J,N	(RT 5.86)	0 (0)	NA
TIC Total	µg/kg			14 (1)		0 (0)	NA

Table F–13. Data Presentation Table: Soil – Site 5 – Ramp Drainage Ditch, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB5–1–1	SB5–1–7	SB5–1–7RE
Laboratory ID Number			94674	94675	94675RE
Collection Date			8–17–92	8–17–92	8–17–92
Collection Depth (ft)			5.0–7.0	25.0–27.0	25.0–27.0
Percent Solids			86	90	90
Associated Field QC Sample			TB–4	TB–4	TB–4
			EB5–1	EB5–1	EB5–1
			FB5–1	FB5–1	FB5–1
			SD5–FB	SD5–FB	SD5–FB
SEMIVOLATILE ORGANICS (SW 8270 [B])					
Extraction Date			8–25–92	8–25–92	8–25–92
Analysis Date			9–4–92	9–11–92	9–12–92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Phenol	µg/kg	330	370 UJ(CCV)	360 U	360 U
bis(2–Chloroethyl)ether	µg/kg	330	370 U	360 U	360 U
2–Chlorophenol	µg/kg	330	370 U	360 U	360 U
1,3–Dichlorobenzene	µg/kg	330	370 U	360 U	360 U
1,4–Dichlorobenzene	µg/kg	330	370 U	360 U	360 U
1,2–Dichlorobenzene	µg/kg	330	370 U	360 U	360 U
2–Methylphenol	µg/kg	330	370 U	360 U	360 U
2,2–oxibis–(1–Chloropropane)	µg/kg	330	370 UJ(CCV)	360 U	360 U
4–Methylphenol	µg/kg	330	370 U	360 U	360 U
N–Nitroso–di–N–propylamine	µg/kg	330	370 U	360 U	360 U
Hexachloroethane	µg/kg	330	370 U	360 U	360 U
Nitrobenzene	µg/kg	330	370 UJ(CCV)	360 U	360 U
Isophorone	µg/kg	330	370 U	360 U	360 U
2–Nitrophenol	µg/kg	330	370 U	360 U	360 U
2,4–Dimethylphenol	µg/kg	330	370 U	360 U	360 U
bis(2–Chloroethoxy)methane	µg/kg	330	370 U	360 U	360 U
2,4–Dichlorophenol	µg/kg	330	370 U	360 U	360 U
1,2,4–Trichlorobenzene	µg/kg	330	370 U	360 U	360 U
Naphthalene	µg/kg	330	370 U	360 U	360 U
4–Chloroaniline	µg/kg	330	370 U	360 U	360 U
Hexachlorobutadiene	µg/kg	330	370 U	360 U	360 U
4–Chloro–3–methylphenol	µg/kg	330	370 U	360 U	360 U
2–Methylnaphthalene	µg/kg	330	370 U	360 U	360 U
Hexachlorocyclopentadiene	µg/kg	330	370 U	360 U	360 U
2,4,6–Trichlorophenol	µg/kg	330	370 U	360 U	360 U
2,4,5–Trichlorophenol	µg/kg	800	900 U	880 U	880 UJ(CCV)
2–Chloronaphthalene	µg/kg	330	370 U	360 U	360 U
2–Nitroaniline	µg/kg	800	900 U	880 U	880 U
Dimethyl phthalate	µg/kg	330	370 U	360 U	360 U
Acenaphthylene	µg/kg	330	370 U	360 U	360 U
2,6–Dinitrotoluene	µg/kg	330	370 U	360 U	360 UJ(CCV)
3–Nitroaniline	µg/kg	800	900 U	880 U	880 U
Acenaphthene	µg/kg	330	370 U	360 U	360 U
2,4–Dinitrophenol	µg/kg	800	900 U	880 UJ(CCV)	880 U
4–Nitrophenol	µg/kg	800	900 U	880 U	880 U
Dibenzofuran	µg/kg	330	370 U	360 U	360 U
2,4–Dinitrotoluene	µg/kg	330	370 U	360 U	360 U
Diethyl phthalate	µg/kg	330	370 U	360 U	360 U
4–Chlorophenyl phenyl ether	µg/kg	330	370 U	360 U	360 U
Fluorene	µg/kg	330	370 U	360 U	360 U
4–Nitroaniline	µg/kg	800	900 U	880 U	880 U
4,6–Dinitro–2–methylphenol	µg/kg	800	900 U	880 U	880 U
N–Nitrosodiphenylamine (1)	µg/kg	330	370 U	360 U	360 U

Table F–13. Data Presentation Table: Soil – Site 5 – Ramp Drainage Ditch, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB5–1–1			SB5–1–7			SB5–1–7RE			
Laboratory ID Number			94674			94675			94675RE			
Collection Date			8–17–92			8–17–92			8–17–92			
Collection Depth (ft)			5.0–7.0			25.0–27.0			25.0–27.0			
Percent Solids			86			90			90			
Associated Field QC Sample			TB–4			TB–4			TB–4			
			EB5–1			EB5–1			EB5–1			
			FB5–1			FB5–1			FB5–1			
			SD5–FB			SD5–FB			SD5–FB			
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)												
Extraction Date			8–25–92			8–25–92			8–25–92			
Analysis Date			9–4–92			9–11–92			9–12–92			
Dilution Factor			1			1			1			
Parameter	Units	CRQL										
4–Bromophenyl phenyl ether	µg/kg	330	370 U			360 U			360 U			
Hexachlorobenzene	µg/kg	330	370 U			360 U			360 U			
Pentachlorophenol	µg/kg	800	900 U			880 UJ(CCV)			880 U			
Phenanthrene	µg/kg	330	370 U			360 U			360 U			
Anthracene	µg/kg	330	370 U			360 U			360 U			
Carbazole	µg/kg	330	370 U			360 U			360 U			
di–N–Butyl phthalate	µg/kg	330	370 U			360 U			360 U			
Fluoranthene	µg/kg	330	42 J			360 U			360 U			
Pyrene	µg/kg	330	370 U			360 U			360 U			
Butylbenzylphthalate	µg/kg	330	370 U			360 U			360 UJ(CCV)			
3,3'–Dichlorobenzidine	µg/kg	330	370 U			360 U			360 U			
Benzo(a)anthracene	µg/kg	330	370 U			360 U			360 U			
Chrysene	µg/kg	330	370 U			360 U			360 U			
bis(2–Ethylhexyl)phthalate	µg/kg	330	370 U			360 U			360 U			
di–N–Octyl phthalate	µg/kg	330	370 U			360 UJ(IS)			360 UJ(IS)			
Benzo(b)fluoranthene	µg/kg	330	370 U			360 UJ(IS)			360 UJ(IS)			
Benzo(k)fluoranthene	µg/kg	330	370 U			360 U			360 U			
Benzo(a)pyrene	µg/kg	330	370 U			360 UJ(IS)			360 UJ(IS)			
Indeno(1,2,3–c,d)pyrene	µg/kg	330	370 U			360 UJ(IS)			360 UJ(IS)			
Dibenzo(a,h)anthracene	µg/kg	330	370 U			360 UJ(IS)			360 UJ(IS)			
Benzo(g,h,i)perylene	µg/kg	330	370 U			360 UJ(IS)			360 UJ(IS)			
TICs	µg/kg		4–Hydroxy–4–Methyl–2–Pentanone[a]	12000 J,N,A	(RT 4.15)	3,6–Dimethyl–Decane[b]	320 J,N	(RT 13.75)	Tetradecane[b]	350 J,N	(RT 15.25)	
			Nonanamide[c]	220 B,J,N	(RT 23.12)	Tetradecane[b]	370 J,N	(RT 15.47)	Unknown[d]	230 J	(RT 16.25)	
			Unknown[d]	240 J	(RT 25.37)	Unknown[d]	240 J	(RT 16.47)	2,7,10–Trimethyl–Dodecane[b]	450 J,N	(RT 16.87)	
			Dodecanamide[e]	370 B,J,N	(RT 25.61)	2,7,10–Trimethyl–Dodecane[b]	460 J,N	(RT 17.09)	Hexadecane[b]	570 J,N	(RT 18.39)	
			Unknown[d]	5400 J	(RT 27.71)	Hexadecane[b]	540 J,N	(RT 18.62)	Unknown[d]	320 J	(RT 19.10)	
			Unknown[d]	53 J	(RT 27.89)	Unknown[d]	360 J	(RT 19.32)	Unknown[d]	460 J	(RT 19.84)	
			Unknown[d]	55 J	(RT 27.92)	Heptadecane[b]	450 J,N	(RT 20.05)	2,6–Dimethyl–Heptadecane[b]	430 J,N	(RT 19.92)	
			Unknown[d]	63 J	(RT 28.96)	Hexadecane, 2,6,10–Trimethyl[b]	530 J,N	(RT 20.14)	Octadecane[b]	330 J,N	(RT 21.20)	
			Octacosane[b]	110 J,N	(RT 30.92)	Octadecane[b]	360 J,N	(RT 21.44)	Unknown[d]	310 J	(RT 21.32)	
			Unknown[d]	1500 J	(RT 31.81)	Unknown[d]	340 J	(RT 21.55)	Unknown[d]	530 J	(RT 22.50)	
			Unknown[d]	52 J	(RT 32.19)	Unknown[d]	450 J	(RT 22.74)	Eicosane[b]	330 J,N	(RT 23.75)	
			Unknown[d]	120 J	(RT 34.66)	Eicosane[b]	380 J,N	(RT 24.00)	Unknown[d]	240 J	(RT 24.95)	
			Unknown[d]	270 J	(RT 35.97)	Heptadecane, 2,6,10,15–Tetra[b]	260 J,N	(RT 25.19)	Docosane[b]	240 J,N	(RT 26.11)	
			Unknown[d]	96 J	(RT 36.22)	Docosane[b]	290 J,N	(RT 26.36)	Unknown[d]	240 J	(RT 27.21)	
						Unknown[d]	280 J	(RT 27.44)	Unknown[d]	1400 J	(RT 27.99)	
						Unknown[d]	1700 J	(RT 28.26)	Tetracosane[b]	170 J,N	(RT 28.27)	
						7–Hexyl–Eicosane[b]	250 J,N	(RT 28.52)	Pentacosane[b]	190 J,N	(RT 29.29)	
						Pentacosane[b]	220 J,N	(RT 29.54)	Octacosane[b]	160 J,N	(RT 31.26)	
						Hexacosane[b]	170 J,N	(RT 30.52)	Unknown[d]	1200 J	(RT 32.11)	
						Unknown[d]	1000 J	(RT 32.37)	Unknown[d]	140 J	(RT 33.12)	
TIC Total	µg/kg			20549 (14)			8970 (20)			8290 (20)		

Table F–13. Data Presentation Table: Soil – Site 5 – Ramp Drainage Ditch, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB5–2–1	SB5–2–2	SB5–3–1
Laboratory ID Number			94801	94802	94803
Collection Date			8–18–92	8–18–92	8–18–92
Collection Depth (ft)			5.0–7.0	24.0–26.0	0.5–2.0
Percent Solids			82	89	90
Associated Field QC Sample			TB–5	TB–5	TB–5
			EB5–1	EB5–1	EB5–1
			FB5–1	FB5–1	FB5–1
			SD5–FB	SD5–FB	SD5–FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)					
Extraction Date			8–29–92	8–29–92	8–29–92
Analysis Date			9–17–92	9–17–92	9–17–92
Dilution Factor			1	1	1
Parameter	Units	MDL			
Diesel Fuel	mg/kg	2	42	79	<2
Heavy Oil	mg/kg	2	18	34	12
PRIORITY POLLUTANT METALS					
Digestion Date(s)			9–3 and 9–13–92	9–3 and 9–13–92	9–3 and 9–13–92
Analysis Date(s)			9–8 to 9–25–92	9–8 to 9–25–92	9–8 to 9–25–92
Dilution Factor		IDL	1	1	1
AA METALS					
Antimony (SW 3050/7041)	mg/kg	2	0.23 UJ(N)	0.22 J(N)	0.17 UJ(N)
Arsenic (SW 3050/7060)	mg/kg	1.5	9.1 J(*)	11.9 J(*)	9.7 J(*)
Lead (SW 3050/7421)	mg/kg	0.5	9.2 *	9.4 *	17.2 *
Mercury (SW 3050/7471)	mg/kg	0.2	0.11 U	0.09 U	0.08 U
Selenium (SW 3050/7740)	mg/kg	1.4	0.16 UJ(N,W)	0.11 UJ(N,W)	0.13 UJ(N,W)
Thallium (SW 3050/7841)	mg/kg	0.8	0.42 J(N)	0.42 J(N)	0.36 J(N)
ICP METALS (SW 3050/6010)					
Beryllium	mg/kg	0.3	0.46 B	0.21 B	0.53
Cadmium	mg/kg	2.1	0.24 U	0.22 U	0.18 U
Chromium	mg/kg	4	10.8 J(N)	4.7 J(N)	12.5 J(N)
Copper	mg/kg	3.9	18	29.7	18.7
Nickel	mg/kg	10.3	17.3	46.5	20
Silver	mg/kg	3	1.6	2.9	1.5
Zinc	mg/kg	3.5	53.5 J(E)	37.5 J(E)	60.1 J(E)

Table F–13. Data Presentation Table: Soil – Site 5 – Ramp Drainage Ditch, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB5–2–1	SB5–2–2	SB5–3–1
Laboratory ID Number			94801	94802	94803
Collection Date			8–18–92	8–18–92	8–18–92
Collection Depth (ft)			5.0–7.0	24.0–26.0	0.5–2.0
Percent Solids			82	89	90
Associated Field QC Sample			TB–5	TB–5	TB–5
			EB5–1	EB5–1	EB5–1
			FB5–1	FB5–1	FB5–1
			SD5–FB	SD5–FB	SD5–FB
VOLATILE ORGANICS (SW 8240 [A])					
Analysis Date			8–24–92	8–25–92	8–24–92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Chloromethane	µg/kg	10	12 U	12 U	11 U
Bromomethane	µg/kg	10	12 U	12 U	11 U
Vinyl Chloride	µg/kg	10	12 U	12 U	11 U
Chloroethane	µg/kg	10	12 U	12 U	11 U
Methylene Chloride	µg/kg	10	12 U	12 U	11 U
Acetone	µg/kg	10	16	12	11 U
Carbon Disulfide	µg/kg	10	12 U	12 U	11 U
1,1–Dichloroethene	µg/kg	10	12 U	12 U	11 U
1,1–Dichloroethane	µg/kg	10	12 U	12 U	11 U
1,2–Dichloroethene (total)	µg/kg	10	12 U	12 U	11 U
Chloroform	µg/kg	10	12 U	12 U	11 U
1,2–Dichloroethane	µg/kg	10	12 U	12 U	11 U
2–Butanone	µg/kg	10	12 U	12 U	11 U
1,1,1–Trichloroethane	µg/kg	10	12 U	12 U	11 U
Carbon Tetrachloride	µg/kg	10	12 U	12 U	11 U
Bromodichloromethane	µg/kg	10	12 U	12 U	11 U
1,2–Dichloropropane	µg/kg	10	12 U	12 U	11 U
cis–1,3–Dichloropropene	µg/kg	10	12 U	12 U	11 U
Trichloroethene	µg/kg	10	12 U	12 U	11 U
Dibromochloromethane	µg/kg	10	12 U	12 U	11 U
1,1,2–Trichloroethane	µg/kg	10	12 U	12 U	11 U
Benzene	µg/kg	10	12 U	12 U	11 U
trans–1,3–Dichloropropene	µg/kg	10	12 U	12 U	11 U
Bromoform	µg/kg	10	12 U	12 U	11 U
4–Methyl–2–pentanone	µg/kg	10	12 U	12 U	11 U
2–Hexanone	µg/kg	10	12 U	12 U	11 U
Tetrachloroethene	µg/kg	10	12 U	12 U	11 U
1,1,2,2–Tetrachloroethane	µg/kg	10	12 U	12 U	11 U
Toluene	µg/kg	10	12 U	12 U	11 U
Chlorobenzene	µg/kg	10	12 U	12 U	11 U
Ethylbenzene	µg/kg	10	12 U	12 U	11 U
Styrene	µg/kg	10	12 U	12 U	11 U
Xylene (total)	µg/kg	10	12 U	12 U	11 U
TICs	µg/kg		0 (0)	0 (0)	0 (0)
TIC Total	µg/kg		0 (0)	0 (0)	0 (0)

Table F-13. Data Presentation Table: Soil – Site 5 – Ramp Drainage Ditch, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB5-2-1	SB5-2-2	SB5-3-1
Laboratory ID Number			94801	94802	94803
Collection Date			8-18-92	8-18-92	8-18-92
Collection Depth (ft)			5.0-7.0	24.0-26.0	0.5-2.0
Percent Solids			82	89	90
Associated Field QC Sample			TB-5	TB-5	TB-5
			EB5-1	EB5-1	EB5-1
			FB5-1	FB5-1	FB5-1
			SD5-FB	SD5-FB	SD5-FB
SEMIVOLATILE ORGANICS (SW 8270 [B])					
Extraction Date			8-21-92	8-21-92	8-21-92
Analysis Date			9-5-92	9-10-92	9-10-92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Phenol	µg/kg	330	340 U	340 U	350 U
bis(2-Chloroethyl)ether	µg/kg	330	340 U	340 U	350 U
2-Chlorophenol	µg/kg	330	340 U	340 U	350 U
1,3-Dichlorobenzene	µg/kg	330	340 U	340 U	350 U
1,4-Dichlorobenzene	µg/kg	330	340 U	340 U	350 U
1,2-Dichlorobenzene	µg/kg	330	340 U	340 U	350 U
2-Methylphenol	µg/kg	330	340 U	340 U	350 U
2,2-oxibis-(1-Chloropropane)	µg/kg	330	340 U	340 U	350 U
4-Methylphenol	µg/kg	330	340 U	340 U	350 U
N-Nitroso-di-N-propylamine	µg/kg	330	340 U	340 U	350 U
Hexachloroethane	µg/kg	330	340 U	340 U	350 U
Nitrobenzene	µg/kg	330	340 U	340 U	350 U
Isophorone	µg/kg	330	340 U	340 U	350 U
2-Nitrophenol	µg/kg	330	340 U	340 U	350 U
2,4-Dimethylphenol	µg/kg	330	340 U	340 U	350 U
bis(2-Chloroethoxy)methane	µg/kg	330	340 U	340 U	350 U
2,4-Dichlorophenol	µg/kg	330	340 U	340 U	350 U
1,2,4-Trichlorobenzene	µg/kg	330	340 U	340 U	350 U
Naphthalene	µg/kg	330	340 U	340 U	350 U
4-Chloroaniline	µg/kg	330	340 U	340 U	350 U
Hexachlorobutadiene	µg/kg	330	340 U	340 U	350 U
4-Chloro-3-methylphenol	µg/kg	330	340 U	340 U	350 U
2-Methylnaphthalene	µg/kg	330	340 U	340 U	350 U
Hexachlorocyclopentadiene	µg/kg	330	340 U	340 U	350 U
2,4,6-Trichlorophenol	µg/kg	330	340 U	340 U	350 U
2,4,5-Trichlorophenol	µg/kg	800	820 UJ(CCV)	830 UJ(CCV)	850 UJ(CCV)
2-Chloronaphthalene	µg/kg	330	340 U	340 U	350 U
2-Nitroaniline	µg/kg	800	820 U	830 U	850 U
Dimethyl phthalate	µg/kg	330	340 U	340 UJ(CCV)	350 UJ(CCV)
Acenaphthylene	µg/kg	330	340 U	340 U	350 U
2,6-Dinitrotoluene	µg/kg	330	340 UJ(CCV)	340 U	350 U
3-Nitroaniline	µg/kg	800	820 U	830 U	850 U
Acenaphthene	µg/kg	330	340 U	340 U	350 U
2,4-Dinitrophenol	µg/kg	800	820 U	340 UJ(CCV)	350 UJ(CCV)
4-Nitrophenol	µg/kg	800	820 U	830 U	850 U
Dibenzofuran	µg/kg	330	340 U	340 U	350 U
2,4-Dinitrotoluene	µg/kg	330	340 U	340 U	350 U
Diethyl phthalate	µg/kg	330	340 U	340 U	350 U
4-Chlorophenyl phenyl ether	µg/kg	330	340 U	340 U	350 U
Fluorene	µg/kg	330	340 U	340 U	350 U
4-Nitroaniline	µg/kg	800	820 U	830 U	850 U
4,6-Dinitro-2-methylphenol	µg/kg	800	820 U	830 U	850 U
N-Nitrosodiphenylamine (1)	µg/kg	330	340 U	340 U	350 U

Table F–13. Data Presentation Table: Soil – Site 5 – Ramp Drainage Ditch, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB5–2–1			SB5–2–2			SB5–3–1			
Laboratory ID Number			94801			94802			94803			
Collection Date			8–18–92			8–18–92			8–18–92			
Collection Depth (ft)			5.0–7.0			24.0–26.0			0.5–2.0			
Percent Solids			82			89			90			
Associated Field QC Sample			TB–5			TB–5			TB–5			
			EB5–1			EB5–1			EB5–1			
			FB5–1			FB5–1			FB5–1			
			SD5–FB			SD5–FB			SD5–FB			
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)												
Extraction Date			8–21–92			8–21–92			8–21–92			
Analysis Date			9–5–92			9–10–92			9–10–92			
Dilution Factor			1			1			1			
Parameter	Units	CRQL										
4–Bromophenyl phenyl ether	µg/kg	330	340 U			340 U			350 U			
Hexachlorobenzene	µg/kg	330	340 U			340 U			350 U			
Pentachlorophenol	µg/kg	800	820 U			830 U			850 U			
Phenanthrene	µg/kg	330	340 U			340 U			350 U			
Anthracene	µg/kg	330	340 U			340 U			350 U			
Carbazole	µg/kg	330	340 U			340 U			350 U			
di–N–Butyl phthalate	µg/kg	330	340 U			340 U			350 U			
Fluoranthene	µg/kg	330	340 U			340 U			350 U			
Pyrene	µg/kg	330	340 U			340 U			350 U			
Butylbenzylphthalate	µg/kg	330	340 U			340 U			350 U			
3,3'–Dichlorobenzidine	µg/kg	330	340 U			340 UJ(CCV)			350 UJ(CCV)			
Benzo(a)anthracene	µg/kg	330	340 U			340 U			350 U			
Chrysene	µg/kg	330	340 U			340 U			350 U			
bis(2–Ethylhexyl)phthalate	µg/kg	330	59 J			340 U			350 U			
di–N–Octyl phthalate	µg/kg	330	340 UJ(CCV)			340 U			350 U			
Benzo(b)fluoranthene	µg/kg	330	340 U			340 U			350 U			
Benzo(k)fluoranthene	µg/kg	330	340 U			340 U			350 U			
Benzo(a)pyrene	µg/kg	330	340 U			340 U			350 U			
Indeno(1,2,3–c,d)pyrene	µg/kg	330	340 U			340 U			350 U			
Dibenzo(a,h)anthracene	µg/kg	330	340 U			340 U			350 U			
Benzo(g,h,i)perylene	µg/kg	330	340 U			340 U			350 U			
TICs	µg/kg		4–Hydroxy–4–Methyl–2–Pentanone [a]	3500 B,J,N,A	(RT 4.55)	4–Hydroxy–4–Methyl–2–Pentanone [a]	2700 B,J,N,A	(RT 4.63)	4–Hydroxy–4–Methyl–2–Pentanone [a]	5000 B,J,N,A	(RT 4.67)	
			Unknown [d]	59 J	(RT 32.11)	2–Methyl–Nonane [b]	120 J,N	(RT 9.99)	9–Hexadecenoic Acid [f]	100 J,N	(RT 23.75)	
			Unknown [d]	220 J	(RT 37.79)	4,7–Dimethyl–Undecane [b]	200 J,N	(RT 11.99)	Hexadecanoic Acid [f]	98 J,N	(RT 23.89)	
						2,6–Dimethyl–Undecane [b]	150 J,N	(RT 12.22)	Unknown [d]	67 J	(RT 27.92)	
						Unknown [d]	430 J	(RT 13.85)	Unknown [d]	120 J	(RT 29.04)	
						Unknown [d]	440 J	(RT 15.60)	Unknown [d]	100 J	(RT 30.12)	
						2,3,7–Trimethyl–Decane [b]	220 J,N	(RT 16.60)	Unknown [d]	96 J	(RT 31.19)	
						Unknown [d]	350 J	(RT 17.27)	Unknown [d]	210 J	(RT 32.24)	
						Hexadecane [b]	310 J,N	(RT 18.84)	Unknown [d]	220 J	(RT 33.32)	
						5–Propyl–Tridecane [b]	170 J,N	(RT 19.52)	Unknown [d]	81 J	(RT 33.72)	
						Unknown [d]	460 J	(RT 20.32)	Unknown [d]	350 J	(RT 34.44)	
						2,6–Dimethyl–Heptadecane [b]	310 J,N	(RT 20.37)	Unknown [d]	440 J	(RT 36.89)	
						Unknown [d]	290 J	(RT 21.74)	Unknown [d]	170 J	(RT 37.61)	
						Unknown [d]	180 J	(RT 21.82)				
						Unknown [d]	350 J	(RT 23.09)				
						Iron, Tricarbonyl[N–(Phenyl– [b]	230 J,N	(RT 24.37)				
						Unknown [d]	150 J	(RT 25.61)				
						Docosane [b]	300 J,N	(RT 26.79)				
						Unknown [d]	340 J	(RT 27.94)				
						Unknown [d]	230 J	(RT 29.06)				
						Pentacosane [b]	240 J,N	(RT 30.12)				
TIC Total	µg/kg			3779 (3)			8170 (21)			7052 (13)		

Table F–13. Data Presentation Table: Soil – Site 5 – Ramp Drainage Ditch, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB5–3–2	SB5–4–1	SB5–4–1R
Laboratory ID Number			94804	94805	94806
Collection Date			8–18–92	8–18–92	8–18–92
Collection Depth (ft)			26.5–28.5	0.5–2.5	0.5–2.5
Percent Solids			91	89	90
Associated Field QC Sample			TB–5	TB–5	TB–5
			EB5–1	EB5–1	EB5–1
			FB5–1	FB5–1	FB5–1
			SD5–FB	SD5–FB	SD5–FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)					
Extraction Date			8–29–92	8–29–92	8–29–92
Analysis Date			9–17–92	9–17–92	9–17–92
Dilution Factor			1	1	1
Parameter	Units	MDL			
Diesel Fuel	mg/kg	2	65	2	4
Heavy Oil	mg/kg	2	27	11	13
PRIORITY POLLUTANT METALS					
Digestion Date(s)			9–3 and 9–13–92	9–3 and 9–13–92	9–3 and 9–13–92
Analysis Date(s)			9–8 to 9–25–92	9–8 to 9–25–92	9–8 to 9–25–92
Dilution Factor		IDL	1	1	1
AA METALS					
Antimony (SW 3050/7041)	mg/kg	2	0.18 UJ(N)	0.16 UJ(N)	0.16 J(N)
Arsenic (SW 3050/7060)	mg/kg	1.5	6.4 J(*)	8.7 J(*)	10.4 J(*)
Lead (SW 3050/7421)	mg/kg	0.5	9.1 S*	9.1 *	10.5 S*
Mercury (SW 3050/7471)	mg/kg	0.2	0.07 U	0.09 U	0.1 U
Selenium (SW 3050/7740)	mg/kg	1.4	0.14 UJ(N,W)	0.13 UJ(N,W)	0.62 UJ(N,W)
Thallium (SW 3050/7841)	mg/kg	0.8	0.31 J(N)	0.34 J(N)	0.23 J(N)
ICP METALS (SW 3050/6010)					
Beryllium	mg/kg	0.3	0.23 B	0.29 B	0.33 B
Cadmium	mg/kg	2.1	0.24 B	0.17 U	0.17 U
Chromium	mg/kg	4	6 J(N)	7.3 J(N)	7.4 J(N)
Copper	mg/kg	3.9	15.2	13.8	17.1
Nickel	mg/kg	10.3	11.6	15.5	16
Silver	mg/kg	3	1.5	1.6	1.8
Zinc	mg/kg	3.5	41 J(E)	43.8 J(E)	46.8 J(E)

Table F–13. Data Presentation Table: Soil – Site 5 – Ramp Drainage Ditch, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB5–3–2	SB5–4–1	SB5–4–1R
Laboratory ID Number			94804	94805	94806
Collection Date			8–18–92	8–18–92	8–18–92
Collection Depth (ft)			26.5–28.5	0.5–2.5	0.5–2.5
Percent Solids			91	89	90
Associated Field QC Sample			TB–5	TB–5	TB–5
			EB5–1	EB5–1	EB5–1
			FB5–1	FB5–1	FB5–1
			SD5–FB	SD5–FB	SD5–FB
VOLATILE ORGANICS (SW 8240 [A])					
Analysis Date			8–24–92	8–24–92	8–24–92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Chloromethane	µg/kg	10	12 U	11 U	11 U
Bromomethane	µg/kg	10	12 U	11 U	11 U
Vinyl Chloride	µg/kg	10	12 U	11 U	11 U
Chloroethane	µg/kg	10	12 U	11 U	11 U
Methylene Chloride	µg/kg	10	12 U	11 U	11 U
Acetone	µg/kg	10	12 U	11 U	11 U
Carbon Disulfide	µg/kg	10	12 U	11 U	11 U
1,1–Dichloroethene	µg/kg	10	12 U	11 U	11 U
1,1–Dichloroethane	µg/kg	10	12 U	11 U	11 U
1,2–Dichloroethene (total)	µg/kg	10	12 U	11 U	11 U
Chloroform	µg/kg	10	12 U	11 U	11 U
1,2–Dichloroethane	µg/kg	10	12 U	11 U	11 U
2–Butanone	µg/kg	10	12 U	11 U	11 U
1,1,1–Trichloroethane	µg/kg	10	12 U	11 U	11 U
Carbon Tetrachloride	µg/kg	10	12 U	11 U	11 U
Bromodichloromethane	µg/kg	10	12 U	11 U	11 U
1,2–Dichloropropane	µg/kg	10	12 U	11 U	11 U
cis–1,3–Dichloropropene	µg/kg	10	12 U	11 U	11 U
Trichloroethene	µg/kg	10	12 U	11 U	11 U
Dibromochloromethane	µg/kg	10	12 U	11 U	11 U
1,1,2–Trichloroethane	µg/kg	10	12 U	11 U	11 U
Benzene	µg/kg	10	12 U	11 U	11 U
trans–1,3–Dichloropropene	µg/kg	10	12 U	11 U	11 U
Bromoform	µg/kg	10	12 U	11 U	11 U
4–Methyl–2–pentanone	µg/kg	10	12 U	11 U	11 U
2–Hexanone	µg/kg	10	12 U	11 U	11 U
Tetrachloroethene	µg/kg	10	12 U	11 U	11 U
1,1,2,2–Tetrachloroethane	µg/kg	10	12 U	11 U	11 U
Toluene	µg/kg	10	12 U	10 J	14
Chlorobenzene	µg/kg	10	12 U	11 U	11 U
Ethylbenzene	µg/kg	10	12 U	7 J	11 U
Styrene	µg/kg	10	12 U	11 U	11 U
Xylene (total)	µg/kg	10	12 U	8 JX	11 U
TICs	µg/kg		0 (0)	0 (0)	0 (0)
TIC Total	µg/kg		0 (0)	0 (0)	0 (0)

Table F–13. Data Presentation Table: Soil – Site 5 – Ramp Drainage Ditch, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB5–3–2	SB5–4–1	SB5–4–1R
Laboratory ID Number			94804	94805	94806
Collection Date			8–18–92	8–18–92	8–18–92
Collection Depth (ft)			26.5–28.5	0.5–2.5	0.5–2.5
Percent Solids			91	89	90
Associated Field QC Sample			TB–5	TB–5	TB–5
			EB5–1	EB5–1	EB5–1
			FB5–1	FB5–1	FB5–1
			SD5–FB	SD5–FB	SD5–FB
SEMIVOLATILE ORGANICS (SW 8270 [B])					
Extraction Date			8–21–92	8–21–92	9–13–92
Analysis Date			9–10–92	9–10–92	9–14–92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Phenol	µg/kg	330	340 U	340 U	370 U
bis(2–Chloroethyl)ether	µg/kg	330	340 U	340 U	370 U
2–Chlorophenol	µg/kg	330	340 U	340 U	370 U
1,3–Dichlorobenzene	µg/kg	330	340 U	340 U	370 U
1,4–Dichlorobenzene	µg/kg	330	340 U	340 U	370 U
1,2–Dichlorobenzene	µg/kg	330	340 U	340 U	370 U
2–Methylphenol	µg/kg	330	340 U	340 U	370 U
2,2–oxibis–(1–Chloropropane)	µg/kg	330	340 U	340 U	370 U
4–Methylphenol	µg/kg	330	340 U	340 U	370 U
N–Nitroso–di–N–propylamine	µg/kg	330	340 U	340 U	370 U
Hexachloroethane	µg/kg	330	340 U	340 U	370 U
Nitrobenzene	µg/kg	330	340 U	340 U	370 U
Isophorone	µg/kg	330	340 U	340 U	370 U
2–Nitrophenol	µg/kg	330	340 U	340 U	370 U
2,4–Dimethylphenol	µg/kg	330	340 U	340 U	370 U
bis(2–Chloroethoxy)methane	µg/kg	330	340 U	340 U	370 U
2,4–Dichlorophenol	µg/kg	330	340 U	340 U	370 U
1,2,4–Trichlorobenzene	µg/kg	330	340 U	340 U	370 U
Naphthalene	µg/kg	330	340 U	340 U	370 U
4–Chloroaniline	µg/kg	330	340 U	340 U	370 U
Hexachlorobutadiene	µg/kg	330	340 U	340 U	370 U
4–Chloro–3–methylphenol	µg/kg	330	340 U	340 U	370 U
2–Methylnaphthalene	µg/kg	330	340 U	340 U	370 U
Hexachlorocyclopentadiene	µg/kg	330	340 U	340 U	370 U
2,4,6–Trichlorophenol	µg/kg	330	340 U	340 U	370 U
2,4,5–Trichlorophenol	µg/kg	800	830 UJ(CCV)	830 UJ(CCV)	890 UJ(CCV)
2–Chloronaphthalene	µg/kg	330	340 U	340 U	370 U
2–Nitroaniline	µg/kg	800	830 U	830 U	890 U
Dimethyl phthalate	µg/kg	330	340 UJ(CCV)	340 UJ(CCV)	370 UJ(CCV)
Acenaphthylene	µg/kg	330	340 U	340 U	370 U
2,6–Dinitrotoluene	µg/kg	330	340 U	340 U	370 U
3–Nitroaniline	µg/kg	800	830 U	830 U	890 U
Acenaphthene	µg/kg	330	340 U	340 U	370 U
2,4–Dinitrophenol	µg/kg	800	340 UJ(CCV)	340 UJ(CCV)	370 UJ(CCV)
4–Nitrophenol	µg/kg	800	830 U	830 U	890 U
Dibenzofuran	µg/kg	330	340 U	340 U	370 U
2,4–Dinitrotoluene	µg/kg	330	340 U	340 U	370 U
Diethyl phthalate	µg/kg	330	340 U	340 U	370 U
4–Chlorophenyl phenyl ether	µg/kg	330	340 U	340 U	370 U
Fluorene	µg/kg	330	340 U	340 U	370 U
4–Nitroaniline	µg/kg	800	830 U	830 U	890 U
4,6–Dinitro–2–methylphenol	µg/kg	800	830 U	830 U	890 U
N–Nitrosodiphenylamine (1)	µg/kg	330	340 U	340 U	370 U

Table F–13. Data Presentation Table: Soil – Site 5 – Ramp Drainage Ditch, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB5–3–2	SB5–4–1	SB5–4–1R
Laboratory ID Number			94804	94805	94806
Collection Date			8–18–92	8–18–92	8–18–92
Collection Depth (ft)			26.5–28.5	0.5–2.5	0.5–2.5
Percent Solids			91	89	90
Associated Field QC Sample			TB–5	TB–5	TB–5
			EB5–1	EB5–1	EB5–1
			FB5–1	FB5–1	FB5–1
			SD5–FB	SD5–FB	SD5–FB
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)					
Extraction Date			8–21–92	8–21–92	9–13–92
Analysis Date			9–10–92	9–10–92	9–14–92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
4–Bromophenyl phenyl ether	µg/kg	330	340 U	340 U	370 U
Hexachlorobenzene	µg/kg	330	340 U	340 U	370 U
Pentachlorophenol	µg/kg	800	830 U	830 U	890 UJ(CCV)
Phenanthrene	µg/kg	330	340 U	340 U	370 U
Anthracene	µg/kg	330	340 U	340 U	370 U
Carbazole	µg/kg	330	340 U	340 U	370 U
di–N–Butyl phthalate	µg/kg	330	340 U	340 U	370 U
Fluoranthene	µg/kg	330	340 U	340 U	370 U
Pyrene	µg/kg	330	340 U	340 U	370 U
Butylbenzylphthalate	µg/kg	330	340 U	340 U	370 U
3,3'–Dichlorobenzidine	µg/kg	330	340 UJ(CCV)	340 UJ(CCV)	370 U(CCV)
Benzo(a)anthracene	µg/kg	330	340 U	340 U	370 U
Chrysene	µg/kg	330	340 U	340 U	370 U
bis(2–Ethylhexyl)phthalate	µg/kg	330	340 U	35 J	370 U
di–N–Octyl phthalate	µg/kg	330	340 U	340 U	370 U
Benzo(b)fluoranthene	µg/kg	330	340 U	340 U	370 U
Benzo(k)fluoranthene	µg/kg	330	340 U	340 U	370 U
Benzo(a)pyrene	µg/kg	330	340 U	340 U	370 U
Indeno(1,2,3–c,d)pyrene	µg/kg	330	340 U	340 U	370 U
Dibenzo(a,h)anthracene	µg/kg	330	340 U	340 U	370 U
Benzo(g,h,i)perylene	µg/kg	330	340 U	340 U	370 U
TICs	µg/kg		4–Hydroxy–4–Methyl–2–Pentanone [a] 4000 B,J,N,A (RT 4.65)	4–Hydroxy–4–Methyl–2–Pentanone [a] 4100 B,J,N,A (RT 4.65)	4–Hydroxy–4–Methyl–2–Pentanone [a] 7400 B,J,N,A (RT 4.68)
			2–Methyl–Nonane [b] 130 J,N (RT 11.99)	Hexadecanoic Acid [f] 140 J,N (RT 23.89)	Unknown [d] 90 J (RT 29.99)
			Unknown [d] 310 J (RT 13.85)	Unknown [d] 170 J (RT 32.24)	Unknown [d] 190 J (RT 32.11)
			Tetradecane [b] 290 J,N (RT 15.60)	Unknown [d] 87 J (RT 33.31)	Unknown [d] 120 J (RT 33.16)
			2,3,7–Trimethyl–Decane [b] 160 J,N (RT 16.60)	Unknown [d] 110 J (RT 33.37)	1,4–Hexadiene, 3,3,5–Trimeth [e] 120 J,N (RT 33.24)
			Unknown [d] 330 J (RT 17.27)	Unknown [d] 370 J (RT 34.44)	Unknown [d] 280 J (RT 34.29)
			Hexadecane [b] 320 J,N (RT 18.84)	Unknown [d] 440 J (RT 36.86)	Unknown [d] 280 J (RT 36.69)
			5–Propyl–Tridecane [b] 190 J,N (RT 19.52)		
			Heptadecane [b] 490 J,N (RT 20.32)		
			2,6–Dimethyl–Heptadecane [b] 320 J,N (RT 20.37)		
			Unknown [d] 320 J (RT 21.74)		
			Unknown [d] 190 J (RT 21.82)		
			Unknown [d] 370 J (RT 23.09)		
			Unknown [d] 230 J (RT 24.37)		
			Unknown [d] 160 J (RT 25.61)		
			Docosane [b] 340 J,N (RT 26.79)		
			Unknown [d] 330 J (RT 27.94)		
			Unknown [d] 300 J (RT 29.06)		
			Pentacosane [b] 240 J,N (RT 30.12)		
			Octacosane [b] 190 J,N (RT 31.19)		
			Unknown [d] 330 J (RT 32.26)		
TIC Total	µg/kg		9540 (21)	5417 (7)	8480 (7)

Table F–13. Data Presentation Table: Soil – Site 5 – Ramp Drainage Ditch
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB5–4–2
Laboratory ID Number			94807
Collection Date			8–18–92
Collection Depth (ft)			28.5–30.5
Percent Solids			88
Associated Field QC Sample			TB–5
			EB5–1
			FB5–1
			SD5–FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)			
Extraction Date			8–29–92
Analysis Date			9–17–92
Dilution Factor			1
Parameter	Units	MDL	
Diesel Fuel	mg/kg	2	36
Heavy Oil	mg/kg	2	13
PRIORITY POLLUTANT METALS			
Digestion Date(s)			9–3 and 9–13–92
Analysis Date(s)			9–8 to 9–25–92
Dilution Factor		IDL	1
AA METALS			
Antimony (SW 3050/7041)	mg/kg	2	0.2 J(N)
Arsenic (SW 3050/7060)	mg/kg	1.5	4.4 J(*)
Lead (SW 3050/7421)	mg/kg	0.5	7.6 S*
Mercury (SW 3050/7471)	mg/kg	0.2	0.1 U
Selenium (SW 3050/7740)	mg/kg	1.4	0.15 UJ(N,W)
Thallium (SW 3050/7841)	mg/kg	0.8	0.2 UJ(N)
ICP METALS (SW 3050/6010)			
Beryllium	mg/kg	0.3	0.19 B
Cadmium	mg/kg	2.1	0.21 U
Chromium	mg/kg	4	8.7 J(N)
Copper	mg/kg	3.9	10.7
Nickel	mg/kg	10.3	11.5
Silver	mg/kg	3	1.5
Zinc	mg/kg	3.5	35 J(E)

Table F–13. Data Presentation Table: Soil – Site 5 – Ramp Drainage Ditch
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB5–4–2
Laboratory ID Number			94807
Collection Date			8–18–92
Collection Depth (ft)			28.5–30.5
Percent Solids			88
Associated Field QC Sample			TB–5
			EB5–1
			FB5–1
			SD5–FB
VOLATILE ORGANICS (SW 8240 [A])			
Analysis Date			8–24–92
Dilution Factor			1
Parameter	Units	CRQL	
Chloromethane	µg/kg	10	11 U
Bromomethane	µg/kg	10	11 U
Vinyl Chloride	µg/kg	10	11 U
Chloroethane	µg/kg	10	11 U
Methylene Chloride	µg/kg	10	11 U
Acetone	µg/kg	10	18
Carbon Disulfide	µg/kg	10	11 U
1,1–Dichloroethene	µg/kg	10	11 U
1,1–Dichloroethane	µg/kg	10	11 U
1,2–Dichloroethene (total)	µg/kg	10	11 U
Chloroform	µg/kg	10	11 U
1,2–Dichloroethane	µg/kg	10	11 U
2–Butanone	µg/kg	10	11 U
1,1,1–Trichloroethane	µg/kg	10	11 U
Carbon Tetrachloride	µg/kg	10	11 U
Bromodichloromethane	µg/kg	10	11 U
1,2–Dichloropropane	µg/kg	10	11 U
cis–1,3–Dichloropropene	µg/kg	10	11 U
Trichloroethene	µg/kg	10	11 U
Dibromochloromethane	µg/kg	10	11 U
1,1,2–Trichloroethane	µg/kg	10	11 U
Benzene	µg/kg	10	11 U
trans–1,3–Dichloropropene	µg/kg	10	11 U
Bromoform	µg/kg	10	11 U
4–Methyl–2–pentanone	µg/kg	10	11 U
2–Hexanone	µg/kg	10	11 U
Tetrachloroethene	µg/kg	10	11 U
1,1,2,2–Tetrachloroethane	µg/kg	10	11 U
Toluene	µg/kg	10	11 U
Chlorobenzene	µg/kg	10	11 U
Ethylbenzene	µg/kg	10	11 U
Styrene	µg/kg	10	11 U
Xylene (total)	µg/kg	10	11 U
TICs	µg/kg		0 (0)
TIC Total	µg/kg		0 (0)

Table F–13. Data Presentation Table: Soil – Site 5 – Ramp Drainage Ditch
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB5–4–2
Laboratory ID Number			94807
Collection Date			8–18–92
Collection Depth (ft)			28.5–30.5
Percent Solids			88
Associated Field QC Sample			TB–5
			EB5–1
			FB5–1
			SD5–FB
SEMIVOLATILE ORGANICS (SW 8270 [B])			
Extraction Date			8–21–92
Analysis Date			9–10–92
Dilution Factor			1
Parameter	Units	CRQL	
Phenol	µg/kg	330	350 U
bis(2–Chloroethyl)ether	µg/kg	330	350 U
2–Chlorophenol	µg/kg	330	350 U
1,3–Dichlorobenzene	µg/kg	330	350 U
1,4–Dichlorobenzene	µg/kg	330	350 U
1,2–Dichlorobenzene	µg/kg	330	350 U
2–Methylphenol	µg/kg	330	350 U
2,2–oxibis–(1–Chloropropane)	µg/kg	330	350 U
4–Methylphenol	µg/kg	330	350 U
N–Nitroso–di–N–propylamine	µg/kg	330	350 U
Hexachloroethane	µg/kg	330	350 U
Nitrobenzene	µg/kg	330	350 U
Isophorone	µg/kg	330	350 U
2–Nitrophenol	µg/kg	330	350 U
2,4–Dimethylphenol	µg/kg	330	350 U
bis(2–Chloroethoxy)methane	µg/kg	330	350 U
2,4–Dichlorophenol	µg/kg	330	350 U
1,2,4–Trichlorobenzene	µg/kg	330	350 U
Naphthalene	µg/kg	330	350 U
4–Chloroaniline	µg/kg	330	350 U
Hexachlorobutadiene	µg/kg	330	350 U
4–Chloro–3–methylphenol	µg/kg	330	350 U
2–Methylnaphthalene	µg/kg	330	350 U
Hexachlorocyclopentadiene	µg/kg	330	350 U
2,4,6–Trichlorophenol	µg/kg	330	350 U
2,4,5–Trichlorophenol	µg/kg	800	850 UJ(CCV)
2–Chloronaphthalene	µg/kg	330	350 U
2–Nitroaniline	µg/kg	800	850 U
Dimethyl phthalate	µg/kg	330	350 UJ(CCV)
Acenaphthylene	µg/kg	330	350 U
2,6–Dinitrotoluene	µg/kg	330	350 U
3–Nitroaniline	µg/kg	800	850 U
Acenaphthene	µg/kg	330	350 U
2,4–Dinitrophenol	µg/kg	800	350 UJ(CCV)
4–Nitrophenol	µg/kg	800	850 U
Dibenzofuran	µg/kg	330	350 U
2,4–Dinitrotoluene	µg/kg	330	350 U
Diethyl phthalate	µg/kg	330	350 U
4–Chlorophenyl phenyl ether	µg/kg	330	350 U
Fluorene	µg/kg	330	350 U
4–Nitroaniline	µg/kg	800	850 U
4,6–Dinitro–2–methylphenol	µg/kg	800	850 U
N–Nitrosodiphenylamine (1)	µg/kg	330	350 U

Table F–13. Data Presentation Table: Soil – Site 5 – Ramp Drainage Ditch
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SB5–4–2		
Laboratory ID Number			94807		
Collection Date			8–18–92		
Collection Depth (ft)			28.5–30.5		
Percent Solids			88		
Associated Field QC Sample			TB–5		
			EB5–1		
			FB5–1		
			SD5–FB		
SEMIVOLATILE ORGANICS (SW 8270 [B]) (Continued)					
Extraction Date			8–21–92		
Analysis Date			9–10–92		
Dilution Factor			1		
Parameter	Units	CRQL			
4–Bromophenyl phenyl ether	µg/kg	330	350 U		
Hexachlorobenzene	µg/kg	330	350 U		
Pentachlorophenol	µg/kg	800	850 U		
Phenanthrene	µg/kg	330	350 U		
Anthracene	µg/kg	330	350 U		
Carbazole	µg/kg	330	350 U		
di–N–Butyl phthalate	µg/kg	330	350 U		
Fluoranthene	µg/kg	330	350 U		
Pyrene	µg/kg	330	350 U		
Butylbenzylphthalate	µg/kg	330	350 U		
3,3'–Dichlorobenzidine	µg/kg	330	350 UJ(CCV)		
Benzo(a)anthracene	µg/kg	330	350 U		
Chrysene	µg/kg	330	350 U		
bis(2–Ethylhexyl)phthalate	µg/kg	330	350 U		
di–N–Octyl phthalate	µg/kg	330	350 U		
Benzo(b)fluoranthene	µg/kg	330	350 U		
Benzo(k)fluoranthene	µg/kg	330	350 U		
Benzo(a)pyrene	µg/kg	330	350 U		
Indeno(1,2,3–c,d)pyrene	µg/kg	330	350 U		
Dibenzo(a,h)anthracene	µg/kg	330	350 U		
Benzo(g,h,i)perylene	µg/kg	330	350 U		
TICs	µg/kg		4–Hydroxy–4–Methyl–2–Pentanone [a]	3200 B,J,N,A	(RT 4.63)
			2–Methyl–Nonane [b]	77 J,N	(RT 11.97)
			Unknown [d]	130 J	(RT 13.84)
			Unknown [d]	130 J	(RT 15.60)
			2,3,7–Trimethyl–Decane [b]	86 J,N	(RT 16.59)
			Unknown [d]	150 J	(RT 17.25)
			Hexadecane [b]	140 J,N	(RT 18.82)
			2,7,10–Trimethyl–Dodecane [b]	82 J,N	(RT 19.50)
			Heptadecane [b]	200 J,N	(RT 20.30)
			2,6–Dimethyl–Heptadecane [b]	160 J,N	(RT 20.35)
			Unknown [d]	140 J	(RT 21.72)
			Unknown [d]	86 J	(RT 21.80)
			Unknown [d]	170 J	(RT 23.07)
			Unknown [d]	110 J	(RT 24.37)
			Unknown [d]	86 J	(RT 25.61)
			Unknown [d]	130 J	(RT 26.79)
			Unknown [d]	150 J	(RT 27.94)
			Unknown [d]	180 J	(RT 29.04)
			Unknown [d]	140 J	(RT 30.12)
			Unknown [d]	110 J	(RT 31.19)
			Unknown [d]	210 J	(RT 32.26)
TIC Total	µg/kg			5867 (21)	

Table F–13. Data Presentation Table: Soil – Site 5 – Ramp Drainage Ditch, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

Validation note: All descriptive data qualifiers applied to the reported values by the laboratory are reported in parentheses.
Each data point has been assessed to determine whether the value is considered usable (i.e., no qualifier), usable but estimated (i.e., "J"), or not usable (i.e., "R"). All usability qualifiers are followed by the applicable laboratory or field QC qualifier, presented in parentheses and defined below. Usability qualifiers were not applied to values qualified by the laboratory, but were not considered to have been adversely impacted by the applicable laboratory QC result (e.g., duplicated and matrix spike analysis).

A – samples were analyzed for VOCs using SW 8240, laboratory analyses followed methods outlined in the March 1990 CLP SOW for organic analyses
B – samples were analyzed for SVOCs using SW 3550/8270, laboratory analysis followed method details outlined in the March 1990 CLP SOW for organic analyses
CRQL – Contract Required Quantitation Limit
IDL – Instrument Detection Limit
MDL – Method Detection Limit
NA – not analyzed
N/A – not applicable
RT – retention time in minutes
TICs–tentatively identified compounds, total concentration is listed and the total number of tentatively identified compounds is inside the parenthases

Data Validation Qualifiers

J – associated numerical value is the approximate concentration
U – compound/element was included in analysis, but was not detected
UJ – reported quantitation limit is approximate and may or may not represent the actual quantitation necessary to accurately and precisely measure the analyte

Explanatory Data Validation Qualifiers

CCV – continuing calibration verification
IS – internal standard outside control limits
MB – compound/element was also detected in the associated laboratory method blank
r – correlation coefficient for the calibration curve is less than 0.995

EPA–defined CLP SOW Laboratory Qualifiers

A(TICs) – suspects ALDOL–condensation product
B(metals) – the reported value is estimated because it is greater than the Instrument Detection Limit (IDL), but less than the Contract Required Detection Limit(CRDL)
B(organics) – compound was also detected in the associated laboratory method blank
E(metals) – the reported value is estimated due to the presence of interference
N – spiked sample recovery outside of control limits
N(TICs) – presumptive evidence of a compound
S – the reported value was determined by the Method of Standard Additions (MSA)
W – post–digestion spike for Graphite Furnace Atomic Absorption (GFAA) analysis is out of control limits (85–115%), while sample absorbance is less than 50% of the spike absorbance
X – compound is present, but does not meet CLP criteria
* – duplicate sample analysis outside of control limits

SAIC TIC Evaluation Categories

[a] – laboratory and extraction artifacts
[b] – petroleum or petroleum degradation products
[c] – other
[d] – unknown
[f] – naturally occuring organic compounds

Table F-14. Data Presentation Table: Sediment – Site 5 – Ramp Drainage Ditch, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

SAIC ID Number			SD5-1	SD5-1DL	SD5-2
Laboratory ID Number			89650	89650DL	89651
Collection Date			5-6-92	5-6-92	5-6-92
Collection Depth (ft)			0.0-0.5	0.0-0.5	0.0-0.5
Percent Solids			81	81	79
Associated Field QC Sample			SP-TB	SP-TB	SP-TB
			SD5-ER	SD5-ER	SD5-ER
			N/A	N/A	N/A
			SD5-FB	SD5-FB	SD5-FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)					
Extraction Date			6-2-92	N/A	6-2-92
Analysis Date			6-15-92	N/A	6-4-92
Dilution Factor			1	N/A	1
Parameter	Units	MDL			
Diesel Fuel	mg/kg	2	400 J(EHT)	NA	36 J(EHT)
Heavy Oil	mg/kg	2	<2 UJ(EHT)	NA	85 J(EHT)
PRIORITY POLLUTANT METALS					
Digestion Date(s)			6-1 and 6-2-92	N/A	6-1 and 6-2-92
Analysis Date(s)			6-5 to 6-18-92	N/A	6-5 to 6-18-92
Dilution Factor		IDL	1	N/A	1
AA METALS					
Antimony (SW 3050/7041)	mg/kg	3	0.52 J(N)	NA	0.46 J(N)
Arsenic (SW 3050/7060)	mg/kg	2	8.5	NA	9.5
Lead (SW 3050/7421)	mg/kg	2	268 *	NA	42.1 J(FD)
Mercury (SW 3050/7471)	mg/kg	0.1	0.09 B	NA	0.06 U
Selenium (SW 3050/7740)	mg/kg	1	0.21 UJ(MB,N,W)	NA	0.13 UJ(MB,N,W)
Thallium (SW 3050/7841)	mg/kg	1	0.23 B	NA	0.25 B
ICP METALS (SW 3050/6010)					
Beryllium	mg/kg	1	0.47 B	NA	0.48 B
Cadmium	mg/kg	3	10.1 J(N)	NA	3.2 J(N)
Chromium	mg/kg	4	126 J(E)	NA	37 J(E,FD)
Copper	mg/kg	2	37.2	NA	25.2
Nickel	mg/kg	20	22.3	NA	18.6
Silver	mg/kg	3	0.37 U	NA	0.38 U
Zinc	mg/kg	2	198 J(N,E)	NA	122 J(N,E)

Table F–14. Data Presentation Table: Sediment – Site 5 – Ramp Drainage Ditch, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD5–1	SD5–1DL	SD5–2
Laboratory ID Number			89650	89650DL	89651
Collection Date			5–6–92	5–6–92	5–6–92
Collection Depth (ft)			0.0–0.5	0.0–0.5	0.0–0.5
Percent Solids			81	81	79
Associated Field QC Sample			SP–TB	SP–TB	SP–TB
			SD5–ER	SD5–ER	SD5–ER
			N/A	N/A	N/A
			SD5–FB	SD5–FB	SD5–FB
VOLATILE ORGANICS (SW 8240 (A))					
Analysis Date			5–14–92	N/A	5–14–92
Dilution Factor			1	N/A	1
Parameter	Units	CRQL			
Chloromethane	µg/kg	10	12 U	NA	13 U
Bromomethane	µg/kg	10	12 U	NA	13 U
Vinyl Chloride	µg/kg	10	12 U	NA	13 U
Chloroethane	µg/kg	10	12 U	NA	13 U
Methylene Chloride	µg/kg	10	12 U	NA	13 U
Acetone	µg/kg	10	12 U	NA	13 U
Carbon Disulfide	µg/kg	10	12 U	NA	13 U
1,1–Dichloroethene	µg/kg	10	12 U	NA	13 U
1,1–Dichloroethane	µg/kg	10	12 U	NA	13 U
1,2–Dichloroethene (total)	µg/kg	10	12 U	NA	13 U
Chloroform	µg/kg	10	12 U	NA	13 U
1,2–Dichloroethane	µg/kg	10	12 U	NA	13 U
2–Butanone	µg/kg	10	12 U	NA	13 U
1,1,1–Trichloroethane	µg/kg	10	12 U	NA	13 U
Carbon Tetrachloride	µg/kg	10	12 U	NA	13 U
Bromodichloromethane	µg/kg	10	12 U	NA	13 U
1,2–Dichloropropane	µg/kg	10	12 U	NA	13 U
cis–1,3–Dichloropropene	µg/kg	10	12 U	NA	13 U
Trichloroethene	µg/kg	10	12 U	NA	13 U
Dibromochloro methane	µg/kg	10	12 U	NA	13 U
1,1,2–Trichloroethane	µg/kg	10	12 U	NA	13 U
Benzene	µg/kg	10	12 U	NA	13 U
trans–1,3–Dichloropropene	µg/kg	10	12 U	NA	13 U
Bromoform	µg/kg	10	12 U	NA	13 U
4–Methyl–2–pentanone	µg/kg	10	12 U	NA	13 U
2–Hexanone	µg/kg	10	12 U	NA	13 U
Tetrachloroethene	µg/kg	10	12 U	NA	13 U
1,1,2,2–Tetrachloroethane	µg/kg	10	12 U	NA	13 U
Toluene	µg/kg	10	12 U	NA	13 U
Chlorobenzene	µg/kg	10	12 U	NA	13 U
Ethylbenzene	µg/kg	10	12 U	NA	13 U
Styrene	µg/kg	10	12 U	NA	13 U
Xylene (total)	µg/kg	10	12 U	NA	13 U
TICs	µg/kg		0 (0)	NA	0 (0)
TIC Total	µg/kg		0 (0)	NA	0 (0)

Table F–14. Data Presentation Table: Sediment – Site 5 – Ramp Drainage Ditch, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD5–1	SD5–1DL	SD5–2
Laboratory ID Number			89650	89650DL	89651
Collection Date			5–6–92	5–6–92	5–6–92
Collection Depth (ft)			0.0–0.5	0.0–0.5	0.0–0.5
Percent Solids			81	81	79
Associated Field QC Sample			SP–TB	SP–TB	SP–TB
			SD5–ER	SD5–ER	SD5–ER
			N/A	N/A	N/A
			SD5–FB	SD5–FB	SD5–FB
SEMIVOLATILE ORGANIC (SW 8270 [B])					
Extraction Date			5–28–92	5–28–92	6–1–92
Analysis Date			5–30–92	6–3–92	6–3–92
Dilution Factor			1	15	1
Parameter	Units	CRQL			
Phenol	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
bis(2–Chloroethyl)ether	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
2–Chlorophenol	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
1,3–Dichlorobenzene	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
1,4–Dichlorobenzene	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
1,2–Dichlorobenzene	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
2–Methylphenol	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
2,2–oxibis–(1–Chloropropane)	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
4–Methylphenol	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
N–Nitroso–di–N–propylamine	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
Hexachloroethane	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
Nitrobenzene	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
Isophorone	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
2–Nitrophenol	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
2,4–Dimethylphenol	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
bis(2–Chloroethoxy)methane	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
2,4–Dichlorophenol	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
1,2,4–Trichlorobenzene	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
Naphthalene	µg/kg	330	450 J(EHT)	6000 UJ(EHT)	400 UJ(EHT)
4–Chloroaniline	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
Hexachlorobutadiene	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
4–Chloro–3–methylphenol	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
2–Methylnaphthalene	µg/kg	330	2800 J(EHT)	3200 J(EHT)	400 UJ(EHT)
Hexachlorocyclopentadiene	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
2,4,6–Trichlorophenol	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
2,4,5–Trichlorophenol	µg/kg	800	970 UJ(EHT)	15000 UJ(EHT)	960 UJ(EHT)
2–Chloronaphthalene	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
2–Nitroaniline	µg/kg	800	970 UJ(EHT)	15000 UJ(EHT)	960 UJ(EHT)
Dimethyl phthalate	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
Acenaphthylene	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
2,6–Dinitrotoluene	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
3–Nitroaniline	µg/kg	800	970 UJ(EHT)	15000 UJ(EHT)	960 UJ(EHT)
Acenaphthene	µg/kg	330	440 J(EHT)	6000 UJ(EHT)	400 UJ(EHT)
2,4–Dinitrophenol	µg/kg	800	970 UJ(EHT)	15000 UJ(EHT)	960 UJ(EHT)
4–Nitrophenol	µg/kg	800	970 UJ(EHT)	15000 UJ(EHT)	960 UJ(EHT)
Dibenzofuran	µg/kg	330	220 J(EHT)	6000 UJ(EHT)	400 UJ(EHT)
2,4–Dinitrotoluene	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
Diethyl phthalate	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
4–Chlorophenyl phenyl ether	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
Fluorene	µg/kg	330	450 J(EHT)	6000 UJ(EHT)	400 UJ(EHT)
4–Nitroaniline	µg/kg	800	970 UJ(EHT)	15000 UJ(EHT)	960 UJ(EHT)
4,6–Dinitro–2–methylphenol	µg/kg	800	970 UJ(EHT)	15000 UJ(EHT)	960 UJ(EHT)
N–Nitrosodiphenylamine (1)	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)

Table F–14. Data Presentation Table: Sediment – Site 5 – Ramp Drainage Ditch, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD5–1	SD5–1DL	SD5–2
Laboratory ID Number			89650	89650DL	89651
Collection Date			5–6–92	5–6–92	5–6–92
Collection Depth (ft)			0.0–0.5	0.0–0.5	0.0–0.5
Percent Solids			81	81	79
Associated Field QC Sample			SP–TB	SP–TB	SP–TB
			SD5–ER	SD5–ER	SD5–ER
			N/A	N/A	N/A
			SD5–FB	SD5–FB	SD5–FB
SEMIVOLATILE ORGANIC (SW 8270 [B]) (Continued)					
Extraction Date			5–28–92	5–28–92	6–1–92
Analysis Date			5–30–92	6–3–92	6–3–92
Dilution Factor			1	15	1
Parameter	Units	CRQL			
4–Bromophenyl phenyl ether	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
Hexachlorobenzene	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
Pentachlorophenol	µg/kg	800	970 UJ(EHT)	15000 UJ(EHT)	960 UJ(EHT)
Phenanthrene	µg/kg	330	5100 J(EHT)	8200 J(EHT)	790 J(EHT)
Anthracene	µg/kg	330	1200 J(EHT)	1400 J(EHT)	110 J(EHT)
Carbazole	µg/kg	330	950 J(EHT)	1200 J(EHT)	59 J(EHT)
di–N–Butyl phthalate	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
Fluoranthene	µg/kg	330	7300 J(EHT)	24000 J(EHT)	1600 J(EHT)
Pyrene	µg/kg	330	12000 J(EHT)	30000 J(EHT)	1800 J(EHT)
Butylbenzylphthalate	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
3,3'–Dichlorobenzidine	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT,CCV)	400 UJ(EHT,CCV)
Benzo(a)anthracene	µg/kg	330	9400 J(EHT)	16000 J(EHT)	540 J(EHT)
Chrysene	µg/kg	330	10000 J(EHT)	16000 J(EHT)	720 J(EHT)
bis(2–Ethylhexyl)phthalate	µg/kg	330	1000 J(EHT)	6000 UJ(MB,EHT)	400 UJ(MB,EHT)
di–N–Octyl phthalate	µg/kg	330	400 UJ(EHT)	6000 UJ(EHT)	400 UJ(EHT)
Benzo(b)fluoranthene	µg/kg	330	23000 J(EHT)	28000 J(EHT)	1000 J(EHT)
Benzo(k)fluoranthene	µg/kg	330	2800 J(EHT)	10000 J(EHT)	410 J(EHT)
Benzo(a)pyrene	µg/kg	330	8300 J(EHT)	17000 J(EHT)	660 J(EHT)
Indeno(1,2,3–c,d)pyrene	µg/kg	330	11000 J(EHT)	18000 J(EHT)	830 J(EHT)
Dibenzo(a,h)anthracene	µg/kg	330	4100 J(EHT)	4500 J(EHT)	400 UJ(EHT)
Benzo(g,h,i)perylene	µg/kg	330	6200 J(EHT)	13000 J(EHT)	870 J(EHT)
TICs	µg/kg		4–Hydroxy–4–Methyl–2–Pentanone [a] 3400 B,J,N (RT 5.30)	4–Hydroxy–4–Methyl–2–Pentanone [a] 3900 B,J,N (RT 4.97)	4–Hydroxy–4–Methyl–2–Pentanone [a] 6500 B,J,N (RT 5.12)
			1–Ethylidene–1H–Indene [a] 1500 J,N (RT 14.82)	1–Ethylidene–1H–Indene [c] 1800 J,N (RT 14.47)	Unknown [d] 200 J (RT 24.07)
			2,3–Dimethyl–Naphthalene [c] 790 J,N (RT 16.70)	Unknown [d] 2500 J (RT 23.92)	Hexadecanoic Acid [b] 300 J,N (RT 24.34)
			2–Methyl–Anthracene [c] 440 J,N (RT 24.09)	9H–Fluoren–9–One [c] 1600 J,N (RT 24.62)	9H–Fluoren–9–One [c] 100 J,N (RT 24.62)
			Unknown [d] 900 J (RT 24.34)	Benzo[B]Naphtho[2,3–D]Furan [c] 1100 J,N (RT 26.96)	Unknown [d] 110 J (RT 26.57)
			2–Phenylnaphthalene [c] 710 J,N (RT 25.02)	11H–Benzo[A]Fluorene [c] 2900 J,N (RT 27.62)	Unknown [d] 150 J (RT 28.44)
			11H–Benzo[A]Fluorene [c] 1100 J,N (RT 28.06)	Unknown [d] 1500 J (RT 27.86)	Unknown [d] 180 J (RT 29.56)
			Unknown [d] 560 J (RT 28.27)	4–Methyl–Pyrene [c] 1400 J,N (RT 27.92)	Unknown [d] 140 J (RT 30.64)
			Unknown [d] 580 J (RT 28.36)	Benzo[B]Naphtho[1,2–D]Thioph [c] 1100 J,N (RT 29.57)	Octacosane [b] 320 J,N (RT 31.41)
			Unknown [d] 690 J (RT 30.12)	Unknown [d] 1900 J (RT 29.69)	Unknown [d] 180 J (RT 31.71)
			3,4–Dihydrocyclopenta(Cd)Pyr [c] 650 J,N (RT 31.17)	3,4–Dihydrocyclopenta(Cd)Pyr [c] 1800 J,N (RT 30.71)	Unknown [d] 550 J (RT 31.94)
			Octacosane [b] 740 J,N (RT 32.27)	Unknown [d] 2000 J (RT 31.94)	Unknown [d] 540 J (RT 32.04)
			Unknown [d] 1300 J (RT 32.39)	Unknown [d] 2300 J (RT 32.02)	Unknown [d] 450 J (RT 32.09)
			Unknown [d] 1600 J (RT 32.54)	Unknown [d] 1600 J (RT 32.07)	Unknown [d] 1300 J (RT 32.21)
			Unknown [d] 730 J (RT 32.67)	Unknown [d] 2800 J (RT 32.17)	Unknown [d] 710 J (RT 32.34)
			Unknown [d] 960 J (RT 32.72)	Unknown [d] 1500 J (RT 32.31)	Nonacosane [b] 1100 J,N (RT 32.37)
			Unknown [d] 690 J (RT 32.82)	Unknown [d] 2600 J (RT 32.36)	Unknown [d] 560 J (RT 32.46)
			Unknown [d] 2300 J (RT 33.19)	Unknown [d] 13000 J (RT 32.81)	Unknown [d] 7300 J (RT 32.82)
			Pentatriacontane [b] 3100 J,N (RT 33.79)	Octacosane [b] 20000 J,N (RT 33.37)	Unknown [d] 2100 J (RT 33.02)
			Benzo[J]Fluoranthene [c] 1200 J,N (RT 35.24)	Benz[E]Acephenanthrylene [c] 3600 J,N (RT 33.97)	Unknown [d] 10000 J (RT 33.41)
			Unknown [d] 1000 J (RT 35.36)	Benzo[J]Fluoranthene [c] 12000 J,N (RT 34.47)	Unknown [d] 1200 J (RT 34.92)
TIC Total	µg/kg		24940 (21)	82900 (21)	33990 (21)

Table F-14. Data Presentation Table: Sediment – Site 5 – Ramp Drainage Ditch, 178 th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD5-3	SD5-3R	SD5-4
Laboratory ID Number			89652	89658	89653
Collection Date			5-6-92	5-6-92	5-6-92
Collection Depth (ft)			0.0-0.5	0.0-0.5	0.0-0.5
Percent Solids			79	80	44
Associated Field QC Sample			SP-TB	SP-TB	SP-TB
			SD5-ER	SD5-ER	SD5-ER
			N/A	N/A	N/A
			SD5-FB	SD5-FB	SD5-FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)					
Extraction Date			6-2-92	6-2-92	6-2-92
Analysis Date			6-4-92	6-14-92	6-4-92
Dilution Factor			1	1	1
Parameter	Units	MDL			
Diesel Fuel	mg/kg	2	190 J(EHT, FD)	4 J(EHT, FD)	120 J(EHT)
Heavy Oil	mg/kg	2	<2 UJ(EHT)	16 J(EHT, FD)	260 J(EHT)
PRIORITY POLLUTANT METALS					
Digestion Date(s)			6-1 and 6-2-92	6-1 and 6-2-92	6-1 and 6-2-92
Analysis Date(s)			6-5 to 6-18-92	6-5 to 6-18-92	6-5 to 6-18-92
Dilution Factor		IDL	1	1	1
AA METALS					
Antimony (SW3050/7041)	mg/kg	3	0.35 J(N)	0.47 J(N)	0.77 J(N)
Arsenic (SW 3050/7060)	mg/kg	2	5.9	9	7.2
Lead (SW 3050/7421)	mg/kg	2	24.8 J(FD)	68.9 J(FD)	256 J(FD)
Mercury (SW 3050/7471)	mg/kg	0.1	0.06 U	0.06 U	0.1 B
Selenium (SW 3050/7740)	mg/kg	1	0.12 UJ(MB,N,W)	0.19 UJ(MB,N,W)	0.44 UJ(MB,N,W)
Thallium (SW 3050/7841)	mg/kg	1	0.17 B	0.16 B	0.18 B
ICP METALS (SW 3050/6010)					
Beryllium	mg/kg	1	0.26 B	0.37 B	0.5 B
Cadmium	mg/kg	3	2.9 J(N)	5.6 J(N)	21 J(N)
Chromium	mg/kg	4	18.8 J(E,FD)	42 J(E,FD)	122 J(E,FD)
Copper	mg/kg	2	13.4	18.3	48.6
Nickel	mg/kg	20	7.7	12.9	19.4
Silver	mg/kg	3	0.28 U	0.32 U	0.4 U
Zinc	mg/kg	2	224 J(N,E)	236 J(N,E)	643 J(N,E)

Table F–14. Data Presentation Table: Sediment – Site 5 – Ramp Drainage Ditch, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD5–3	SD5–3R	SD5–4
Laboratory ID Number			89652	89658	89653
Collection Date			5–6–92	5–6–92	5–6–92
Collection Depth (ft)			0.0–0.5	0.0–0.5	0.0–0.5
Percent Solids			79	80	44
Associated Field QC Sample			SP–TB	SP–TB	SP–TB
			SD5–ER	SD5–ER	SD5–ER
			N/A	N/A	N/A
			SD5–FB	SD5–FB	SD5–FB
VOLATILE ORGANICS (SW 8240 [A])					
Analysis Date			5–14–92	5–15–92	5–14–92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Chloromethane	µg/kg	10	13 U	12 UJ(CCV)	23 U
Bromomethane	µg/kg	10	13 U	12 U	23 U
Vinyl Chloride	µg/kg	10	13 U	12 U	23 U
Chloroethane	µg/kg	10	13 U	12 U	23 U
Methylene Chloride	µg/kg	10	13 U	12 U	23 U
Acetone	µg/kg	10	13 U	12 U	23 U
Carbon Disulfide	µg/kg	10	13 U	12 U	23 U
1,1–Dichloroethene	µg/kg	10	13 U	12 U	23 U
1,1–Dichloroethane	µg/kg	10	13 U	12 U	23 U
1,2–Dichloroethene (total)	µg/kg	10	13 U	12 U	23 U
Chloroform	µg/kg	10	13 U	12 U	23 U
1,2–Dichloroethane	µg/kg	10	13 U	12 U	23 U
2–Butanone	µg/kg	10	13 U	12 U	23 U
1,1,1–Trichloroethane	µg/kg	10	13 U	12 U	23 U
Carbon Tetrachloride	µg/kg	10	13 U	12 U	23 U
Bromodichloromethane	µg/kg	10	13 U	12 U	23 U
1,2–Dichloropropane	µg/kg	10	13 U	12 U	23 U
cis–1,3–Dichloropropene	µg/kg	10	13 U	12 U	23 U
Trichloroethene	µg/kg	10	13 U	12 U	23 U
Dibromochloromethane	µg/kg	10	13 U	12 U	23 U
1,1,2–Trichloroethane	µg/kg	10	13 U	12 U	23 U
Benzene	µg/kg	10	13 U	12 U	23 U
trans–1,3–Dichloropropene	µg/kg	10	13 U	12 U	23 U
Bromoform	µg/kg	10	13 U	12 U	23 U
4–Methyl–2–pentanone	µg/kg	10	13 U	12 U	23 UJ(IS)
2–Hexanone	µg/kg	10	13 U	12 U	23 UJ(IS)
Tetrachloroethene	µg/kg	10	13 U	12 U	23 UJ(IS)
1,1,2,2–Tetrachloroethane	µg/kg	10	13 U	12 U	23 UJ(IS)
Toluene	µg/kg	10	13 U	12 U	23 UJ(IS)
Chlorobenzene	µg/kg	10	13 U	12 U	23 UJ(IS)
Ethylbenzene	µg/kg	10	13 U	12 U	23 UJ(IS)
Styrene	µg/kg	10	13 U	12 U	23 UJ(IS)
Xylene (total)	µg/kg	10	13 U	12 U	23 UJ(IS)
TICs	µg/kg		0 (0)	0 (0)	0 (0)
TIC Total	µg/kg		0 (0)	0 (0)	0 (0)

Table F–14. Data Presentation Table: Sediment – Site 5 – Ramp Drainage Ditch, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD5–3	SD5–3R	SD5–4
Laboratory ID Number			89652	89658	89653
Collection Date			5–6–92	5–6–92	5–6–92
Collection Depth (ft)			0.0–0.5	0.0–0.5	0.0–0.5
Percent Solids			79	80	44
Associated Field QC Sample			SP–TB	SP–TB	SP–TB
			SD5–ER	SD5–ER	SD5–ER
			N/A	N/A	N/A
			SD5–FB	SD5–FB	SD5–FB
SEMIVOLATILE ORGANIC (SW 8270 [B])					
Extraction Date			5–28–92	5–28–92	5–28–92
Analysis Date			5–30–92	5–30–92	5–30–92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Phenol	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
bis(2–Chloroethyl)ether	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
2–Chlorophenol	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
1,3–Dichlorobenzene	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
1,4–Dichlorobenzene	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
1,2–Dichlorobenzene	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
2–Methylphenol	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
2,2–oxibis–(1–Chloropropane)	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
4–Methylphenol	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
N–Nitroso–di–N–propylamine	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
Hexachloroethane	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
Nitrobenzene	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
Isophorone	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
2–Nitrophenol	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
2,4–Dimethylphenol	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
bis(2–Chloroethoxy)methane	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
2,4–Dichlorophenol	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
1,2,4–Trichlorobenzene	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
Naphthalene	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
4–Chloroaniline	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
Hexachlorobutadiene	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
4–Chloro–3–methylphenol	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
2–Methylnaphthalene	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
Hexachlorocyclopentadiene	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
2,4,6–Trichlorophenol	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
2,4,5–Trichlorophenol	µg/kg	800	1400 UJ(EHT)	970 UJ(EHT)	1400 UJ(EHT)
2–Chloronaphthalene	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
2–Nitroaniline	µg/kg	800	1400 UJ(EHT)	970 UJ(EHT)	1400 UJ(EHT)
Dimethyl phthalate	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
Acenaphthylene	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
2,6–Dinitrotoluene	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
3–Nitroaniline	µg/kg	800	1400 UJ(EHT)	970 UJ(EHT)	1400 UJ(EHT)
Acenaphthene	µg/kg	330	87 J(EHT)	400 UJ(EHT)	190 J(EHT)
2,4–Dinitrophenol	µg/kg	800	1400 UJ(EHT)	970 UJ(EHT)	1400 UJ(EHT)
4–Nitrophenol	µg/kg	800	1400 UJ(EHT)	970 UJ(EHT)	1400 UJ(EHT)
Dibenzofuran	µg/kg	330	63 J(EHT)	400 UJ(EHT)	100 J(EHT)
2,4–Dinitrotoluene	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
Diethyl phthalate	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
4–Chlorophenyl phenyl ether	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
Fluorene	µg/kg	330	130 J(EHT)	400 UJ(EHT)	250 J(EHT)
4–Nitroaniline	µg/kg	800	1400 UJ(EHT)	970 UJ(EHT)	1400 UJ(EHT)
4,6–Dinitro–2–methylphenol	µg/kg	800	1400 UJ(EHT)	970 UJ(EHT)	1400 UJ(EHT)
N–Nitrosodiphenylamine (1)	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)

Table F–14. Data Presentation Table: Sediment – Site 5 – Ramp Drainage Ditch, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD5–3	SD5–3R	SD5–4
Laboratory ID Number			89652	89658	89653
Collection Date			5–6–92	5–6–92	5–6–92
Collection Depth (ft)			0.0–0.5	0.0–0.5	0.0–0.5
Percent Solids			79	80	44
Associated Field QC Sample			SP–TB	SP–TB	SP–TB
			SD5–ER	SD5–ER	SD5–ER
			N/A	N/A	N/A
			SD5–FB	SD5–FB	SD5–FB
SEMIVOLATILE ORGANIC (SW 8270 [B]) (Continued)					
Extraction Date			5–28–92	5–28–92	5–28–92
Analysis Date			5–30–92	5–30–92	5–30–92
Dilution Factor			1	1	1
Parameter	Units[a]	CRQL			
4–Bromophenyl phenyl ether	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
Hexachlorobenzene	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
Pentachlorophenol	µg/kg	800	1400 UJ(EHT)	970 UJ(EHT)	1400 UJ(EHT)
Phenanthrene	µg/kg	330	1800 J(EHT,FD)	570 J(EHT,FD)	3500 J(EHT)
Anthracene	µg/kg	330	210 J(EHT)	60 J(EHT)	600 J(EHT)
Carbazole	µg/kg	330	120 J(EHT)	400 UJ(EHT)	240 J(EHT)
di–N–Butyl phthalate	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
Fluoranthene	µg/kg	330	2400 J(EHT,FD)	970 J(EHT,FD)	4500 J(EHT)
Pyrene	µg/kg	330	2500 J(EHT,FD)	1200 J(EHT,FD)	6900 J(EHT)
Butylbenzylphthalate	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
3,3'–Dichlorobenzidine	µg/kg	330	570 UJ(EHT)	400 UJ(EHT)	570 UJ(EHT)
Benzo(a)anthracene	µg/kg	330	720 J(EHT)	330 J(EHT)	2400 J(EHT)
Chrysene	µg/kg	330	1100 J(EHT,FD)	540 J(EHT,FD)	3800 J(EHT)
bis(2–Ethylhexyl)phthalate	µg/kg	330	890 J(EHT)	500 J(EHT)	460 J(EHT)
di–N–Octyl phthalate	µg/kg	330	84 J(EHT)	400 UJ(EHT)	570 UJ(EHT)
Benzo(b)fluoranthene	µg/kg	330	1500 J(EHT,FD)	730 J(EHT,FD)	6100 J(EHT)
Benzo(k)fluoranthene	µg/kg	330	690 J(EHT)	270 J(EHT)	2400 J(EHT)
Benzo(a)pyrene	µg/kg	330	930 J(EHT)	470 J(EHT,FD)	3600 J(EHT)
Indeno(1,2,3–c,d)pyrene	µg/kg	330	910 J(EHT,FD)	510 J(EHT,FD)	4500 J(EHT)
Dibenzo(a,h)anthracene	µg/kg	330	140 J(EHT)	400 UJ(EHT)	900 J(EHT)
Benzo(g,h,i)perylene	µg/kg	330	850 J(EHT,FD)	490 J(EHT,FD)	3900 J(EHT)
TICs	µg/kg		4–Hydroxy–4–Methyl–2–Pentanone[a] 4000 B,J,N (RT 5.30)	4–Hydroxy–4–Methyl–2–Pentanone[a] 2700 B,J,N (RT 5.30)	4–Hydroxy–4–Methyl–2–Pentanone[a] 4300 B,J,N (RT 5.32)
			1–Heptadecene[b] 650 J,N (RT 21.02)	1–Fluoro–Decane[b] 130 J,N (RT 21.02)	2–Methyl–Anthracene[e] 170 J,N (RT 24.02)
			Unknown[d] 190 J (RT 24.27)	1–Hexadecanol[e] 96 J,N (RT 23.57)	3–Methyl–Phenanthrene[e] 250 J,N (RT 24.10)
			Unknown[d] 500 J (RT 24.42)	Unknown[d] 140 J (RT 24.37)	Unknown[d] 440 J (RT 24.32)
			9–Hexadecenoic Acid[f] 140 J,N (RT 24.50)	Hexadecanoic Acid[b] 280 J,N (RT 24.64)	Unknown[d] 310 J (RT 24.42)
			Hexadecanoic Acid[b] 630 J,N (RT 24.69)	Unknown[d] 72 J (RT 24.95)	Hexadecanoic Acid[b] 260 J,N (RT 24.70)
			Unknown[d] 190 J (RT 24.99)	Unknown[d] 150 J (RT 26.04)	Unknown[d] 350 J (RT 25.02)
			Unknown[d] 100 J (RT 26.04)	Unknown[d] 95 J (RT 30.94)	Unknown[d] 1900 J (RT 26.11)
			Unknown[d] 150 J (RT 30.04)	Unknown[d] 320 J (RT 32.22)	11H–Benzo[A]Fluorene[e] 350 J,N (RT 28.06)
			Octacosane[b] 880 J,N (RT 32.24)	Unknown[d] 370 J (RT 32.32)	Unknown[d] 310 J (RT 28.21)
			Unknown[d] 600 J (RT 32.34)	Unknown[d] 320 J (RT 32.37)	1–Methyl–Pyrene[e] 230 J,N (RT 28.27)
			Unknown[d] 840 J (RT 32.39)	7–Hexyl–Eicosane[b] 840 J,N (RT 32.47)	3,4–Dihydrocyclopenta(Cd)Pyr[e] 210 J,N (RT 31.14)
			Unknown[d] 1800 J (RT 32.51)	Tetratetracontane[b] 480 J,N (RT 32.61)	Unknown[d] 250 J (RT 32.37)
			Unknown[d] 1100 J (RT 32.62)	Octacosane[b] 660 J,N (RT 32.64)	Unknown[d] 640 J (RT 32.52)
			Unknown[d] 1700 J (RT 32.69)	Unknown[d] 460 J (RT 32.72)	Unknown[d] 380 J (RT 32.66)
			Unknown[d] 620 J (RT 32.89)	Unknown[d] 290 J (RT 32.87)	Octacosane[b] 430 J,N (RT 32.72)
			Unknown[d] 9800 J (RT 33.12)	Unknown[d] 3200 J (RT 33.09)	Unknown[d] 340 J (RT 32.79)
			Pentatriacontane[b] 3500 J,N (RT 33.34)	Unknown[d] 1000 J (RT 33.31)	7–Hexyl–Eicosane[b] 1000 J,N (RT 33.16)
			Unknown[d] 14000 J (RT 33.71)	Pentatriacontane[b] 2900 J,N (RT 33.66)	Pentatriacontane[b] 270 J,N (RT 33.74)
			Benzo[J]Fluoranthene[e] 1100 J,N (RT 34.77)	Benzo[J]Fluoranthene[e] 620 J,N (RT 34.74)	Benzo[J]Fluoranthene[e] 560 J,N (RT 35.07)
			Unknown[d] 1400 J (RT 35.19)	Unknown[d] 710 J (RT 35.16)	Unknown[d] 760 J (RT 35.29)
TIC Total	µg/kg		43890 (21)	15833 (21)	13710 (21)

Table F-14. Data Presentation Table: Sediment – Site 5 – Ramp Drainage Ditch, 178 th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD5-4DL	SD5-4RE	SD5-5
Laboratory ID Number			89653DL	89653RE	89654
Collection Date			5-6-92	5-6-92	5-6-92
Collection Depth (ft)			0.0-0.5	0.0-0.5	0.0-0.5
Percent Solids			44	44	89
Associated Field QC Sample			SP-TB	SP-TB	SP-TB
			SD5-BR	SD5-ER	SD5-ER
			N/A	N/A	N/A
			SD5-FB	SD5-FB	SD5-FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)					
Extraction Date			N/A	N/A	6-2-92
Analysis Date			N/A	N/A	6-4-92
Dilution Factor			N/A	N/A	1
Parameter	Units	MDL			
Diesel Fuel	mg/kg	2	NA	NA	44 J(EHT)
Heavy Oil	mg/kg	2	NA	NA	320 J(EHT)
PRIORITY POLLUTANT METALS					
Digestion Date(s)			N/A	N/A	6-1 and 6-2-92
Analysis Date(s)			N/A	N/A	6-5 to 6-18-92
Dilution Factor		IDL	N/A	N/A	1
AA METALS					
Antimony (SW3050/7041)	mg/kg	3	NA	NA	0.39 J(N)
Arsenic (SW3050/7060)	mg/kg	2	NA	NA	9.1
Lead (SW3050/7421)	mg/kg	2	NA	NA	14.4 J(FD)
Mercury (SW3050/7471)	mg/kg	0.1	NA	NA	0.05 U
Selenium (SW3050/7740)	mg/kg	1	NA	NA	0.1 UJ(N,W)
Thallium (SW3050/7841)	mg/kg	1	NA	NA	0.2 B
ICP METALS (SW 3050/6010)					
Beryllium	mg/kg	1	NA	NA	0.46 B
Cadmium	mg/kg	3	NA	NA	0.34 J(N)
Chromium	mg/kg	4	NA	NA	15.1 J(E,FD)
Copper	mg/kg	2	NA	NA	18.2
Nickel	mg/kg	20	NA	NA	17.4
Silver	mg/kg	3	NA	NA	0.32 U
Zinc	mg/kg	2	NA	NA	64.8 J(N,E)

Table F–14. Data Presentation Table: Sediment – Site 5 – Ramp Drainage Ditch, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD5–4DL	SD5–4RE	SD5–5
Laboratory ID Number			89653DL	89653RE	89654
Collection Date			5–6–92	5–6–92	5–6–92
Collection Depth (ft)			0.0–0.5	0.0–0.5	0.0–0.5
Percent Solids			44	44	89
Associated Field QC Sample			SP–TB	SP–TB	SP–TB
			SD5–ER	SD5–ER	SD5–ER
			N/A	N/A	N/A
			SD5–FB	SD5–FB	SD5–FB
VOLATILE ORGANICS (SW 8240 [A])					
Analysis Date			N/A	5–15–92	5–14–92
Dilution Factor			N/A	1	1
Parameter	Units	CRQL			
Chloromethane	µg/kg	10	NA	45 UJ(CCV)	11 U
Bromomethane	µg/kg	10	NA	45 U	11 U
Vinyl Chloride	µg/kg	10	NA	45 U	11 U
Chloroethane	µg/kg	10	NA	45 U	11 U
Methylene Chloride	µg/kg	10	NA	45 U	11 U
Acetone	µg/kg	10	NA	45 U	11 U
Carbon Disulfide	µg/kg	10	NA	45 U	11 U
1,1–Dichloroethene	µg/kg	10	NA	45 U	11 U
1,1–Dichloroethane	µg/kg	10	NA	45 U	11 U
1,2–Dichloroethene (total)	µg/kg	10	NA	45 U	11 U
Chloroform	µg/kg	10	NA	45 U	11 U
1,2–Dichloroethane	µg/kg	10	NA	45 U	11 U
2–Butanone	µg/kg	10	NA	45 U	11 U
1,1,1–Trichloroethane	µg/kg	10	NA	45 U	11 U
Carbon Tetrachloride	µg/kg	10	NA	45 U	11 U
Bromodichloromethane	µg/kg	10	NA	45 U	11 U
1,2–Dichloropropane	µg/kg	10	NA	45 U	11 U
cis–1,3–Dichloropropene	µg/kg	10	NA	45 U	11 U
Trichloroethene	µg/kg	10	NA	45 U	11 U
Dibromochloro methane	µg/kg	10	NA	45 U	11 U
1,1,2–Trichloroethane	µg/kg	10	NA	45 U	11 U
Benzene	µg/kg	10	NA	45 U	11 U
trans–1,3–Dichloropropene	µg/kg	10	NA	45 U	11 U
Bromoform	µg/kg	10	NA	45 U	11 U
4–Methyl–2–pentanone	µg/kg	10	NA	45 U	11 U
2–Hexanone	µg/kg	10	NA	45 U	11 U
Tetrachloroethene	µg/kg	10	NA	45 U	11 U
1,1,2,2–Tetrachloroethane	µg/kg	10	NA	45 U	11 U
Toluene	µg/kg	10	NA	45 U	11 U
Chlorobenzene	µg/kg	10	NA	45 U	11 U
Ethylbenzene	µg/kg	10	NA	45 U	11 U
Styrene	µg/kg	10	NA	45 U	11 U
Xylene (total)	µg/kg	10	NA	45 U	11 U
TICs	µg/kg		NA	0 (0)	0 (0)
TIC Total	µg/kg		NA	0 (0)	0 (0)

Table F–14. Data Presentation Table: Sediment – Site 5 – Ramp Drainage Ditch, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD5–4DL	SD5–4RE	SD5–5
Laboratory ID Number			89653DL	89653RE	89654
Collection Date			5–6–92	5–6–92	5–6–92
Collection Depth (ft)			0.0–0.5	0.0–0.5	0.0–0.5
Percent Solids			44	44	89
Associated Field QC Sample			SP–TB	SP–TB	SP–TB
			SD5–ER	SD5–ER	SD5–ER
			N/A	N/A	N/A
			SD5–FB	SD5–FB	SD5–FB
SEMIVOLATILE ORGANIC (SW 8270 (B))					
Extraction Date			5–28–92	N/A	5–28–92
Analysis Date			6–3–92	N/A	5–29–92
Dilution Factor			10	N/A	1
Parameter	Units	CRQL			
Phenol	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
bis(2–Chloroethyl)ether	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
2–Chlorophenol	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
1,3–Dichlorobenzene	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
1,4–Dichlorobenzene	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
1,2–Dichlorobenzene	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
2–Methylphenol	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
2,2–oxibis–(1–Chloropropane)	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
4–Methylphenol	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
N–Nitroso–di–N–propylamine	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
Hexachloroethane	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
Nitrobenzene	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
Isophorone	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
2–Nitrophenol	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
2,4–Dimethylphenol	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
bis(2–Chloroethoxy)methane	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
2,4–Dichlorophenol	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
1,2,4–Trichlorobenzene	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
Naphthalene	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
4–Chloroaniline	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
Hexachlorobutadiene	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
4–Chloro–3–methylphenol	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
2–Methylnaphthalene	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
Hexachlorocyclopentadiene	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
2,4,6–Trichlorophenol	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
2,4,5–Trichlorophenol	µg/kg	800	14000 UJ(EHT)	NA	880 UJ(EHT)
2–Chloronaphthalene	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
2–Nitroaniline	µg/kg	800	14000 UJ(EHT)	NA	880 UJ(EHT)
Dimethyl phthalate	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
Acenaphthylene	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
2,6–Dinitrotoluene	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
3–Nitroaniline	µg/kg	800	14000 UJ(EHT)	NA	880 UJ(EHT)
Acenaphthene	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
2,4–Dinitrophenol	µg/kg	800	14000 UJ(EHT)	NA	880 UJ(EHT)
4–Nitrophenol	µg/kg	800	14000 UJ(EHT)	NA	880 UJ(EHT)
Dibenzofuran	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
2,4–Dinitrotoluene	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
Diethyl phthalate	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
4–Chlorophenyl phenyl ether	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
Fluorene	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)
4–Nitroaniline	µg/kg	800	14000 UJ(EHT)	NA	880 UJ(EHT)
4,6–Dinitro–2–methylphenol	µg/kg	800	14000 UJ(EHT)	NA	880 UJ(EHT)
N–Nitrosodiphenylamine (1)	µg/kg	330	5700 UJ(EHT)	NA	360 UJ(EHT)

Table F–14. Data Presentation Table: Sediment – Site 5 – Ramp Drainage Ditch, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD5–4DL			SD5–4RE		SD5–5				
Laboratory ID Number			89653DL			89653RE		89654				
Collection Date			5–6–92			5–6–92		5–6–92				
Collection Depth (ft)			0.0–0.5			0.0–0.5		0.0–0.5				
Percent Solids			44			44		89				
Associated Field QC Sample			SP–TB			SP–TB		SP–TB				
			SD5–ER			SD5–ER		SD5–ER				
			N/A			N/A		N/A				
			SD5–FB			SD5–FB		SD5–FB				
SEMIVOLATILE ORGANIC (SW 8270 [B]) (Continued)												
Extraction Date			5–28–92			N/A		5–28–92				
Analysis Date			6–3–92			N/A		5–29–92				
Dilution Factor			10			N/A		1				
Parameter	Units	CRQL										
4–Bromophenyl phenyl ether	µg/kg	330	5700 UJ(EHT)			NA		360 UJ(EHT)				
Hexachlorobenzene	µg/kg	330	5700 UJ(EHT)			NA		360 UJ(EHT)				
Pentachlorophenol	µg/kg	800	14000 UJ(EHT)			NA		880 UJ(EHT)				
Phenanthrene	µg/kg	330	5200 J(EHT)			NA		360 UJ(EHT)				
Anthracene	µg/kg	330	730 J(EHT)			NA		360 UJ(EHT)				
Carbazole	µg/kg	330	5700 UJ(EHT)			NA		360 UJ(EHT)				
di–N–Butyl phthalate	µg/kg	330	5700 UJ(EHT)			NA		360 UJ(EHT)				
Fluoranthene	µg/kg	330	11000 J(EHT)			NA		60 J(EHT)				
Pyrene	µg/kg	330	13000 J(EHT)			NA		53 J(EHT)				
Butylbenzylphthalate	µg/kg	330	5700 UJ(EHT)			NA		360 UJ(EHT)				
3,3'–Dichlorobenzidine	µg/kg	330	5700 UJ(EHT,CCV)			NA		360 UJ(EHT)				
Benzo(a)anthracene	µg/kg	330	3800 J(EHT)			NA		360 UJ(EHT)				
Chrysene	µg/kg	330	5100 J(EHT)			NA		39 J(EHT)				
bis(2–Ethylhexyl)phthalate	µg/kg	330	5700 UJ(MB,EHT)			NA		360 UJ(MB,EHT)				
di–N–Octyl phthalate	µg/kg	330	5700 UJ(EHT)			NA		360 UJ(EHT)				
Benzo(b)fluoranthene	µg/kg	330	7500 J(EHT)			NA		69 J(EHT)				
Benzo(k)fluoranthene	µg/kg	330	2100 J(EHT)			NA		360 UJ(EHT)				
Benzo(a)pyrene	µg/kg	330	4700 J(EHT)			NA		42 J(EHT)				
Indeno(1,2,3–c,d)pyrene	µg/kg	330	5900 J(EHT)			NA		360 UJ(EHT)				
Dibenzo(a,h)anthracene	µg/kg	330	5700 UJ(EHT)			NA		360 UJ(EHT)				
Benzo(g,h,i)perylene	µg/kg	330	6500 J(EHT)			NA		360 UJ(EHT)				
TICs	µg/kg		4–Hydroxy–4–Methyl–2–Pentanone [a]	5900 B,J,N	(RT 4.97)	NA		4–Hydroxy–4–Methyl–2–Pentanone [a]	2900 B,J,N	(RT 5.30)		
			Unknown [d]	2800 J	(RT 25.72)			Heptadecane, 2,6,10,14–Tetra [b]	120 J,N	(RT 28.74)		
			11H–Benzo[A]Fluorene [c]	1700 J,N	(RT 27.62)			Octacosane [b]	88 J,N	(RT 29.86)		
			1–Methyl–Pyrene [c]	2800 J,N	(RT 27.84)			Unknown [d]	98 J	(RT 30.92)		
			Benzo[B]Naphtho[1,2–D]Thioph [c]	880 J,N	(RT 29.56)			Unknown [d]	100 J	(RT 31.99)		
			Unknown [d]	1000 J	(RT 29.67)			Unknown [d]	270 J	(RT 33.02)		
			Unknown [d]	1200 J	(RT 32.02)			Unknown [d]	130 J	(RT 34.07)		
			Unknown [d]	1300 J	(RT 32.06)			Pentatriacontane [b]	550 J,N	(RT 35.14)		
			Unknown [d]	2700 J	(RT 32.16)			Unknown [d]	350 J	(RT 37.44)		
			Unknown [d]	1700 J	(RT 32.31)			Unknown [d]	200 J	(RT 38.77)		
			Unknown [d]	2500 J	(RT 32.34)							
			Unknown [d]	1300 J	(RT 32.44)							
			Unknown [d]	12000 J	(RT 32.79)							
			Unknown [d]	3800 J	(RT 33.01)							
			Benzo[E]Pyrene [c]	1800 J,N	(RT 33.94)							
			Unknown [d]	820 J	(RT 34.06)							
			Benzo[J]Fluoranthene [c]	5200 J,N	(RT 34.46)							
			Unknown [d]	3000 J	(RT 34.92)							
			Unknown [d]	4100 J	(RT 37.37)							
TIC Total	µg/kg			56500 (19)		NA			4806 (10)			

Table F–14. Data Presentation Table: Sediment – Site 5 – Ramp Drainage Ditch, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

Validation note: All descriptive data qualifiers applied to the reported values by the laboratory are reported in parentheses.
Each data point has been assessed to determine whether the value is considered usable (i.e., no qualifier), usable but estimated (i.e., "J"), or not usable (i.e., "R"). All usability qualifiers are followed by the applicable laboratory or field QC qualifier, presented in parentheses and defined below. Usability qualifiers were not applied to values qualified by the laboratory, but were not considered to have been adversely impacted by the applicable laboratory QC result (e.g., duplicated and matrix spike analysis).
A – samples were analyzed for VOCs using SW 8240, laboratory analyses followed methods outlined in the March 1990 CLP SOW for organic analyses
B – samples were analyzed for SVOCs using SW 3550/8270, laboratory analysis followed method details outlined in the March 1990 CLP SOW for organic analyses
CRQL – Contract Required Quantitation Limit
IDL – Instrument Detection Limit
MDL – Method Detection Limit
NA – not analyzed
N/A – not applicable
RT – retention time in minutes
TICs – tentatively identified compounds, total concentration is listed and the total number of tentatively identified compounds is inside the parenthases
Data Validation Qualifiers
J – associated numerical value is the approximate concentration
U – compound/element was included in analysis, but was not detected
UJ – reported quantitation limit is approximate and may or may not represent the actual quantitation necessary to accurately and precisely measure the analyte
Explanatory Data Validation Qualifiers
CCV – continuing calibration verification
EHT – extraction holding time outside control limits
FD – field duplicate relative percent differences (RPDs) outside control limits
IS – internal standard outside control limits
MB – compound/element was also detected in the associated laboratory method blank
EPA–defined CLP SOW Laboratory Qualifiers
B(metals) – the reported value is estimated because it is greater than the Instrument Detection Limit (IDL), but less than the Contract Required Detection Limit(CRDL)
B(organics) – compound was also detected in the associated laboratory method blank
E(metals) – the reported value is estimated due to the presence of interference
N – spiked sample recovery outside of control limits
N(TICs) – presumptive evidence of a compound
W – post–digestion spike for Graphite Furnace Atomic Absorption (GFAA) analysis is out of control limits (85–115%), while sample absorbance is less than 50% of the spike absorbance
* – duplicate sample analysis outside of control limits
SAIC TIC Evaluation Categories
[a] – laboratory and extraction artifacts
[b] – petroleum or petroleum degradation products
[c] – other
[d] – unknown
[e] – polycyclic aromatic hydrocarbons
[f] – naturally occuring organic compounds

Table F-15. Data Presentation Table: Water – Quality Control, Equipment Rinsates, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

SAIC ID Number				SD5-ER	ER1-1	EB2-1
Laboratory ID Number				89655	94600	94677
Collection Date				5-6-92	8-14-92	8-16-92
Associated Field QC Sample				N/A	N/A	N/A
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)						
Extraction Date				5-27-92	8-21-92	8-23-92
Analysis Date				6-5-92	9-15-92	9-17-92
Dilution Factor				1	1	1
Parameter	Units	MDL				
Gasoline	mg/L	N/A		NA	NA	NA
Diesel Fuel	mg/L	0.1		<0.1 UJ(EHT)	<2	<0.1
Heavy Oil	mg/L	0.1		<0.1 UJ(EHT)	<2	<0.1
TOTAL PRIORITY POLLUTANT METALS						
Digestion Date(s)				6-1 and 6-2-92	8-27 and 9-13-92	9-3 and 9-13-92
Analysis Date(s)				6-5 to 6-18-92	8-29 to 9-15-92	9-8 to 9-25-92
Dilution Factor		IDL or IDL		1	1	1
AA METALS						
Antimony (SW 3020/7041)	µg/L	3	2	3 U	2 U	2 U
Arsenic (SW 3020/7060)	µg/L	2	1.5	2 U	1.5 U	1.5 UJ(W)
Lead (SW 3020/7421)	µg/L	2	0.5	2 U	0.5 U	0.9 U
Mercury (SW 3020/7470)	µg/L	0.1	0.2	0.1 U	0.2 U	0.2 U
Selenium (SW 3020/7740)	µg/L	1	1.4	1 U	1.4 UJ(W)	1.4 UJ(W)
Thallium (SW 3020/7841)	µg/L	1	0.8	1 U	0.8 U	1.9 U
ICP METALS (SW 3005/6010)						
Beryllium	µg/L	1	0.3	1 U	0.3 U	0.3 U
Cadmium	µg/L	3	2.1	3 U	2.1 U	3.4 U(MB)
Chromium	µg/L	4	4	4 U	4 U	4.1 U(MB)
Copper	µg/L	2	3.9	2 U	54.6	29.4
Nickel	µg/L	20	10.3	20 U	10.3 U	10.3 U
Silver	µg/L	3	3	3 U	3 U	3 U
Zinc	µg/L	2	3.5	2 U	3.5 U	3.5 U
DISSOLVED PRIORITY POLLUTANT METALS						
Digestion Date(s)				N/A	N/A	N/A
Analysis Date(s)				N/A	N/A	N/A
Dilution Factor		IDL		N/A	N/A	N/A
AA METALS						
Antimony (SW 3020/7041)	µg/L	N/A		NA	NA	NA
Arsenic (SW 3020/7060)	µg/L	N/A		NA	NA	NA
Lead (SW 3020/7421)	µg/L	N/A		NA	NA	NA
Mercury (SW 3020/7470)	µg/L	N/A		NA	NA	NA
Selenium (SW 3020/7740)	µg/L	N/A		NA	NA	NA
Thallium (SW 3020/7841)	µg/L	N/A		NA	NA	NA
ICP METALS (SW 3005/6010)						
Beryllium	µg/L	N/A		NA	NA	NA
Cadmium	µg/L	N/A		NA	NA	NA
Chromium	µg/L	N/A		NA	NA	NA
Copper	µg/L	N/A		NA	NA	NA
Nickel	µg/L	N/A		NA	NA	NA
Silver	µg/L	N/A		NA	NA	NA
Zinc	µg/L	N/A		NA	NA	NA

Table F-15. Data Presentation Table: Water – Quality Control, Equipment Rinsates, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number				SD5-ER				ER1-1				EB2-1							
Laboratory ID Number				89655				94600				94677							
Collection Date				5-6-92				8-14-92				8-16-92							
Associated Field QC Sample				N/A				N/A				N/A							
VOLATILE ORGANICS (A)																			
Analysis Date				5-11-92				8-18-92				8-19-92							
Dilution Factor				1				1				1							
Parameter	Units	CRQL	or CRQL																
Chloromethane	µg/L	10	0.6	10 U				0.6 U				0.6 U							
Bromomethane	µg/L	10	0.5	10 U				0.5 U				0.5 U							
Vinyl Chloride	µg/L	10	0.8	10 U				0.8 U				0.8 U							
Chloroethane	µg/L	10	0.8	10 U				0.8 U				0.8 U							
Methylene Chloride	µg/L	10	1	10 U				8				1 U							
Acetone	µg/L	10	4	10 U				4 U				4 U							
Carbon Disulfide	µg/L	10	1	10 U				1 U				1 U							
1,1-Dichloroethene	µg/L	10	1	10 U				1 U				1 U							
1,1-Dichloroethane	µg/L	10	0.7	10 U				0.7 U				0.7 U							
1,2-Dichloroethene (total)	µg/L	10	0.7	10 U				0.7 U				0.7 U							
Chloroform	µg/L	10	0.5	15				0.5 U				1							
1,2-Dichloroethane	µg/L	10	0.8	10 U				0.8 U				0.8 U							
2-Butanone	µg/L	10	3	10 U				3 U				3 U							
1,1,1-Trichloroethane	µg/L	10	0.5	10 U				0.5 U				0.5 U							
Carbon Tetrachloride	µg/L	10	0.6	10 U				0.6 U				0.6 U							
Bromodichloromethane	µg/L	10	0.4	10 U				0.4 U				0.4 U							
1,2-Dichloropropane	µg/L	10	0.7	10 U				0.7 U				0.7 U							
cis-1,3-Dichloropropene	µg/L	10	0.5	10 U				0.5 U				0.5 U							
Trichloroethene	µg/L	10	0.6	10 U				0.6 U				0.6 U							
Dibromochloromethane	µg/L	10	0.4	10 U				0.4 U				0.4 U							
1,1,2-Trichloroethane	µg/L	10	0.8	10 U				0.8 U				0.8 U							
Benzene	µg/L	10	0.3	10 U				0.3 U				0.3 U							
trans-1,3-Dichloropropene	µg/L	10	0.1	10 U				0.1 U				0.1 U							
Bromoform	µg/L	10	0.3	10 U				0.3 U				0.3 U							
4-Methyl-2-pentanone	µg/L	10	0.7	10 U				0.7 U				0.7 U							
2-Hexanone	µg/L	10	2	10 U				2 U				2 U							
Tetrachloroethene	µg/L	10	0.6	10 U				0.6 U				0.6 U							
1,1,2,2-Tetrachloroethane	µg/L	10	0.9	10 U				0.9 U				0.9 U							
Toluene	µg/L	10	0.3	10 U				0.3 U				0.3 U							
Chlorobenzene	µg/L	10	0.4	10 U				0.4 U				0.4 U							
Ethylbenzene	µg/L	10	0.5	10 U				0.5 U				0.5 U							
Styrene	µg/L	10	0.4	10 U				0.4 U				0.4 U							
Xylene (total)	µg/L	10	0.6	10 U				0.6 U				0.6 U							
TICs	µg/L			Dimethoxydimethyl-Silane [a]	6 J,N	(RT 10.91)		Hexamethylcyclotrisiloxane [a]	8 J,N	(RT 18.58)		Hexamethylcyclotrisiloxane [a]	16 J,N	(RT 18.61)					
				Hexamethylcyclotrisiloxane [a]	7 J,N	(RT 18.5)		Octamethylcyclotetrasiloxane [a]	70 J,N	(RT 26.25)		Octamethylcyclotetrasiloxane [a]	190 J,N	(RT 26.24)					
TIC Total	µg/L				13 (2)				78 (2)				206 (2)						

Table F–15. Data Presentation Table: Water – Quality Control, Equipment Rinsates, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD5–ER	ER1–1	EB2–1
Laboratory ID Number			89655	94600	94677
Collection Date			5–6–92	8–14–92	8–16–92
Associated Field QC Sample			N/A	N/A	N/A
SEMIVOLATILE ORGANIC (SW 8270 [B])					
Extraction Date			5–21–92	8–20–92	8–20–92
Analysis Date			6–1–92	9–4–92	9–4–92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Phenol	µg/L	10	10 UJ(EHT)	11 U	11 U
bis(2–Chloroethyl)ether	µg/L	10	10 UJ(EHT)	11 U	11 U
2–Chlorophenol	µg/L	10	10 UJ(EHT)	11 U	11 U
1,3–Dichlorobenzene	µg/L	10	10 UJ(EHT)	11 U	11 U
1,4–Dichlorobenzene	µg/L	10	10 UJ(EHT)	11 U	11 U
1,2–Dichlorobenzene	µg/L	10	10 UJ(EHT)	11 U	11 U
2–Methylphenol	µg/L	10	10 UJ(EHT)	11 U	11 U
2,2–oxibis–(1–Chloropropane)	µg/L	10	10 UJ(EHT)	11 U	11 U
4–Methylphenol	µg/L	10	10 UJ(EHT)	11 U	11 U
N–Nitroso–di–N–propylamine	µg/L	10	10 UJ(EHT)	11 U	11 U
Hexachloroethane	µg/L	10	10 UJ(EHT)	11 U	11 U
Nitrobenzene	µg/L	10	10 UJ(EHT)	11 U	11 U
Isophorone	µg/L	10	10 UJ(EHT)	11 U	11 U
2–Nitrophenol	µg/L	10	10 UJ(EHT)	11 U	11 U
2,4–Dimethylphenol	µg/L	10	10 UJ(EHT)	11 U	11 U
bis(2–Chloroethoxy)methane	µg/L	10	10 UJ(EHT)	11 U	11 U
2,4–Dichlorophenol	µg/L	10	10 UJ(EHT)	11 U	11 U
1,2,4–Trichlorobenzene	µg/L	10	10 UJ(EHT)	11 U	11 U
Naphthalene	µg/L	10	10 UJ(EHT)	11 U	11 U
4–Chloroaniline	µg/L	10	10 UJ(EHT)	11 U	11 U
Hexachlorobutadiene	µg/L	10	10 UJ(EHT)	11 U	11 U
4–Chloro–3–methylphenol	µg/L	10	10 UJ(EHT)	11 U	11 U
2–Methylnaphthalene	µg/L	10	10 UJ(EHT)	11 U	11 U
Hexachlorocyclopentadiene	µg/L	10	10 UJ(EHT)	11 U	11 U
2,4,6–Trichlorophenol	µg/L	10	10 UJ(EHT)	11 U	11 U
2,4,5–Trichlorophenol	µg/L	25	25 UJ(EHT)	28 U	28 UJ(CCV)
2–Chloronaphthalene	µg/L	10	10 UJ(EHT)	11 U	11 U
2–Nitroaniline	µg/L	25	25 UJ(EHT)	28 U	28 U
Dimethyl phthalate	µg/L	10	10 UJ(EHT)	11 U	11 U
Acenaphthylene	µg/L	10	10 UJ(EHT)	11 U	11 U
2,6–Dinitrotoluene	µg/L	10	10 UJ(EHT)	11 U	11 UJ(CCV)
3–Nitroaniline	µg/L	25	25 UJ(EHT)	28 U	28 U
Acenaphthene	µg/L	10	10 UJ(EHT)	11 U	11 U
2,4–Dinitrophenol	µg/L	25	25 UJ(EHT,CCV)	28 U	28 U
4–Nitrophenol	µg/L	25	25 UJ(EHT)	28 U	28 U
Dibenzofuran	µg/L	10	10 UJ(EHT)	11 U	11 U
2,4–Dinitrotoluene	µg/L	10	10 UJ(EHT)	11 U	11 U
Diethyl phthalate	µg/L	10	10 UJ(EHT)	11 U	11 U
4–Chlorophenyl phenyl ether	µg/L	10	10 UJ(EHT)	11 U	11 U
Fluorene	µg/L	10	10 UJ(EHT)	11 U	11 U
4–Nitroaniline	µg/L	25	25 UJ(EHT)	28 U	28 U
4,6–Dinitro–2–methylphenol	µg/L	25	25 UJ(EHT)	28 U	28 U
N–Nitrosodiphenylamine (1)	µg/L	10	10 UJ(EHT)	11 U	11 U

Table F–15. Data Presentation Table: Water – Quality Control, Equipment Rinsates, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD5–ER		ER1–1	EB2–1
Laboratory ID Number			89655		94600	94677
Collection Date			5–6–92		8–14–92	8–16–92
Associated Field QC Sample			N/A		N/A	N/A
SEMIVOLATILE ORGANIC (SW 8270 [B]) (Continued)						
Extraction Date			5–21–92		8–20–92	8–20–92
Analysis Date			6–1–92		9–4–92	9–4–92
Dilution Factor			1		1	1
Parameter	Units	CRQL				
4–Bromophenyl phenyl ether	µg/L	10	10 UJ(EHT)		11 U	11 U
Hexachlorobenzene	µg/L	10	10 UJ(EHT)		11 U	11 U
Pentachlorophenol	µg/L	25	25 UJ(EHT)		28 U	28 U
Phenanthrene	µg/L	10	10 UJ(EHT)		11 U	11 U
Anthracene	µg/L	10	10 UJ(EHT)		11 U	11 U
Carbazole	µg/L	10	10 UJ(EHT)		11 U	11 U
di–N–Butyl phthalate	µg/L	10	10 UJ(EHT)		11 U	11 U
Fluoranthene	µg/L	10	10 UJ(EHT)		11 U	11 U
Pyrene	µg/L	10	10 UJ(EHT)		11 U	11 U
Butylbenzylphthalate	µg/L	10	10 UJ(EHT)		11 U	11 U
3,3'–Dichlorobenzidine	µg/L	10	10 UJ(EHT)		11 U	11 U
Benzo(a)anthracene	µg/L	10	10 UJ(EHT)		11 U	11 U
Chrysene	µg/L	10	10 UJ(EHT)		11 U	11 U
bis(2–Ethylhexyl)phthalate	µg/L	10	10 UJ(EHT)		11 U	11 U
di–N–Octyl phthalate	µg/L	10	10 UJ(EHT)		11 U	11 UJ(CCV)
Benzo(b)fluoranthene	µg/L	10	10 UJ(EHT)		11 U	11 U
Benzo(k)fluoranthene	µg/L	10	10 UJ(EHT)		11 U	11 U
Benzo(a)pyrene	µg/L	10	10 UJ(EHT)		11 U	11 U
Indeno(1,2,3–c,d)pyrene	µg/L	10	10 UJ(EHT)		11 U	11 U
Dibenzo(a,h)anthracene	µg/L	10	10 UJ(EHT)		11 U	11 U
Benzo(g,h,i)perylene	µg/L	10	10 UJ(EHT)		11 U	11 U
TICs	µg/L		.Alpha.–Benzeneacetic Acid [e]	2 J,N (RT 17.82)	0 (0)	0 (0)
			Unknown [d]	14 J (RT 19.67)		
TIC Total	µg/L			16 (2)	0 (0)	0 (0)

Table F–15. Data Presentation Table: Water – Quality Control, Equipment Rinsates, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number				EB3–1	EB4–1	EB5–1	ERBG–1
Laboratory ID Number				94908	95191	94808	95193
Collection Date				8–19–92	8–25–92	8–18–92	8–25–92
Associated Field QC Sample				N/A	N/A	N/A	N/A
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)							
Extraction Date				8–28–92	8–31–92	8–23–92	8–31–92
Analysis Date				9–16–92	9–19–92	9–17–92	9–19–92
Dilution Factor				1	1	1	1
Parameter	Units	MDL					
Gasoline	mg/L	N/A		NA	NA	NA	NA
Diesel Fuel	mg/L	0.1		<0.5	<0.3	<0.1	<0.3
Heavy Oil	mg/L	0.1		<0.5	<0.3	<0.1	<0.3
TOTAL PRIORITY POLLUTANT METALS							
Digestion Date(s)				9–14 and 9–16–92	9–17, 9–21 and 9–22–92	9–3 and 9–13–92	9–17, 9–21 and 9–22–92
Analysis Date(s)				9–16 to 10–5–92	9–20 to 10–8–92	9–8 to 9–25–92	9–20 to 10–8–92
Dilution Factor		IDL or IDL		1	1	1	1
AA METALS							
Antimony (SW 3020/7041)	µg/L	1.3	2	1.3 U	2 UN	2 U	2 UN
Arsenic (SW 3020/7060)	µg/L	1.5	1.5	1.5 U	1.5 U	1.5 UJ(W)	1.5 U
Lead (SW 3020/7421)	µg/L	0.5	0.9	0.8 B	1.2 U(MB)	0.9 U	1.3 U(MB)
Mercury (SW 3020/7470)	µg/L	0.2	0.2	0.2 U	0.2 U	0.2 U	0.2 U
Selenium (SW 3020/7740)	µg/L	1.4	1.4	1.4 U	1.4 U	1.4 UJ(W)	1.4 UJ(W)
Thallium (SW 3020/7841)	µg/L	0.7	1.9	0.7 U	1.9 U	1.9 U	1.9 U
ICP METALS (SW 3005/6010)							
Beryllium	µg/L	0.3	0.3	0.3 U	0.3 U	0.3 U	0.3 U
Cadmium	µg/L	2.1	2.1	2.1 U	2.1 U	2.1 U	2.1 U
Chromium	µg/L	4	4	4 U	4 U	4 U	4 U
Copper	µg/L	3.9	3.9	8.6 B	34.9	3.9 U	3.9 U
Nickel	µg/L	10.3	10.3	10.3 U	10.3 U	10.3 U	10.3 U
Silver	µg/L	3	3	3 U	3.6 U(MB)	3 U	3 U
Zinc	µg/L	3.5	3.5	4.6 B	36.3	3.5 U	3.5 U
DISSOLVED PRIORITY POLLUTANT METALS							
Digestion Date(s)				N/A	N/A	N/A	N/A
Analysis Date(s)				N/A	N/A	N/A	N/A
Dilution Factor		IDL		N/A	N/A	N/A	N/A
AA METALS							
Antimony (SW 3020/7041)	µg/L	N/A		NA	NA	NA	NA
Arsenic (SW 3020/7060)	µg/L	N/A		NA	NA	NA	NA
Lead (SW 3020/7421)	µg/L	N/A		NA	NA	NA	NA
Mercury (SW 3020/7470)	µg/L	N/A		NA	NA	NA	NA
Selenium (SW 3020/7740)	µg/L	N/A		NA	NA	NA	NA
Thallium (SW 3020/7841)	µg/L	N/A		NA	NA	NA	NA
ICP METALS (SW 3005/6010)							
Beryllium	µg/L	N/A		NA	NA	NA	NA
Cadmium	µg/L	N/A		NA	NA	NA	NA
Chromium	µg/L	N/A		NA	NA	NA	NA
Copper	µg/L	N/A		NA	NA	NA	NA
Nickel	µg/L	N/A		NA	NA	NA	NA
Silver	µg/L	N/A		NA	NA	NA	NA
Zinc	µg/L	N/A		NA	NA	NA	NA

Table F–15. Data Presentation Table: Water – Quality Control, Equipment Rinsates, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			EB3–1		EB4–1		EB5–1		ERBG–1	
Laboratory ID Number			94908		95191		94808		95193	
Collection Date			8–19–92		8–25–92		8–18–92		8–25–92	
Associated Field QC Sample			N/A		N/A		N/A		N/A	
VOLATILE ORGANICS (A)										
Analysis Date			8–21–92		9–1–92		8–20–92		9–1–92	
Dilution Factor			1		1		1		1	
Parameter	Units	CRQL								
Chloromethane	µg/L	0.6	0.6 U		0.6 U		0.6 U		0.6 U	
Bromomethane	µg/L	0.5	0.5 U		0.5 U		0.5 U		0.5 U	
Vinyl Chloride	µg/L	0.8	0.8 U		0.8 U		0.8 U		0.8 U	
Chloroethane	µg/L	0.8	0.8 U		0.8 U		0.8 U		0.8 U	
Methylene Chloride	µg/L	1	1 U		1 U		3		1 U	
Acetone	µg/L	4	4 U		4 U		4 U		4 U	
Carbon Disulfide	µg/L	1	1 U		1 U		1 U		1 U	
1,1–Dichloroethene	µg/L	1	1 U		1 U		1 U		1 U	
1,1–Dichloroethane	µg/L	0.7	0.7 U		0.7 U		0.7 U		0.7 U	
1,2–Dichloroethene (total)	µg/L	0.7	0.7 U		0.7 U		0.7 U		0.7 U	
Chloroform	µg/L	0.5	0.5 U		0.5 U		0.5 U		9	
1,2–Dichloroethane	µg/L	0.8	0.8 U		0.8 U		0.8 U		0.8 U	
2–Butanone	µg/L	3	3 U		3 U		3 U		3 U	
1,1,1–Trichloroethane	µg/L	0.5	0.5 U		0.5 U		0.5 U		0.5 U	
Carbon Tetrachloride	µg/L	0.6	0.6 U		0.6 U		0.6 U		0.6 U	
Bromodichloromethane	µg/L	0.4	0.4 U		0.4 U		0.4 U		0.4 U	
1,2–Dichloropropane	µg/L	0.7	0.7 U		0.7 U		0.7 U		0.7 U	
cis–1,3–Dichloropropene	µg/L	0.5	0.5 U		0.5 U		0.5 U		0.5 U	
Trichloroethene	µg/L	0.6	0.6 U		0.6 U		0.6 U		0.6 U	
Dibromochloromethane	µg/L	0.4	0.4 U		0.4 U		0.4 U		0.4 U	
1,1,2–Trichloroethane	µg/L	0.8	0.8 U		0.8 U		0.8 U		0.8 U	
Benzene	µg/L	0.3	0.3 U		0.3 U		0.3 U		0.3 U	
trans–1,3–Dichloropropene	µg/L	0.1	0.1 U		0.1 U		0.1 U		0.1 U	
Bromoform	µg/L	0.3	0.3 U		0.3 U		0.3 U		0.3 U	
4–Methyl–2–pentanone	µg/L	0.7	0.7 U		0.7 U		0.7 U		0.7 U	
2–Hexanone	µg/L	2	2 U		2 U		2 U		2 U	
Tetrachloroethene	µg/L	0.6	0.6 U		0.6 U		0.6 U		0.6 U	
1,1,2,2–Tetrachloroethane	µg/L	0.9	0.9 U		0.9 U		0.9 U		0.9 U	
Toluene	µg/L	0.3	0.3 U		0.3 U		0.3 U		0.3 U	
Chlorobenzene	µg/L	0.4	0.4 U		0.4 U		0.4 U		0.4 U	
Ethylbenzene	µg/L	0.5	0.5 U		0.5 U		0.5 U		0.5 U	
Styrene	µg/L	0.4	0.4 U		0.4 U		0.4 U		0.4 U	
Xylene (total)	µg/L	0.6	0.6 U		0.6 U		0.6 U		0.6 U	
TICs	µg/L		0 (0)		Octamethylcyclotetrasiloxane [a]	7 J,N (RT 27.14)	0 (0)		Cyclotetrasiloxane, Octameth [a]	9 J,N (RT 27.13)
TIC Total	µg/L		0 (0)			7 (1)	0 (0)			9 (1)

Table F-15. Data Presentation Table: Water – Quality Control, Equipment Rinsates, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			EB3-1	EB4-1	EB5-1	ERBG-1
Laboratory ID Number			94908	95191	94808	95193
Collection Date			8-19-92	8-25-92	8-18-92	8-25-92
Associated Field QC Sample			N/A	N/A	N/A	N/A
SEMIVOLATILE ORGANIC (SW 8270 [B])						
Extraction Date			8-26-92	8-31-92	8-20-92	8-31-92
Analysis Date			9-25-92	9-18-92	9-4-92	9-19-92
Dilution Factor			1	1	1	1
Parameter	Units	CRQL				
Phenol	µg/L	10	10 U	11 U	12 U	10 U
bis(2-Chloroethyl)ether	µg/L	10	10 U	11 U	12 U	10 U
2-Chlorophenol	µg/L	10	10 U	11 U	12 U	10 U
1,3-Dichlorobenzene	µg/L	10	10 U	11 U	12 U	10 U
1,4-Dichlorobenzene	µg/L	10	10 U	11 U	12 U	10 U
1,2-Dichlorobenzene	µg/L	10	10 U	11 U	12 U	10 U
2-Methylphenol	µg/L	10	10 U	11 U	12 U	10 U
2,2-oxibis-(1-Chloropropane)	µg/L	10	10 UJ(CCV)	11 U	12 U	10 U
4-Methylphenol	µg/L	10	10 U	11 U	12 U	10 U
N-Nitroso-di-N-propylamine	µg/L	10	10 U	11 U	12 U	10 U
Hexachloroethane	µg/L	10	10 U	11 U	12 U	10 U
Nitrobenzene	µg/L	10	10 U	11 U	12 U	10 U
Isophorone	µg/L	10	10 U	11 U	12 U	10 U
2-Nitrophenol	µg/L	10	10 U	11 U	12 U	10 U
2,4-Dimethylphenol	µg/L	10	10 U	11 U	12 U	10 U
bis(2-Chloroethoxy)methane	µg/L	10	10 U	11 U	12 U	10 U
2,4-Dichlorophenol	µg/L	10	10 U	11 U	12 U	10 U
1,2,4-Trichlorobenzene	µg/L	10	10 U	11 U	12 U	10 U
Naphthalene	µg/L	10	10 U	11 U	12 U	10 U
4-Chloroaniline	µg/L	10	10 U	11 U	12 U	10 U
Hexachlorobutadiene	µg/L	10	10 U	11 U	12 U	10 U
4-Chloro-3-methylphenol	µg/L	10	10 U	11 U	12 U	10 U
2-Methylnaphthalene	µg/L	10	10 U	11 U	12 U	10 U
Hexachlorocyclopentadiene	µg/L	10	10 U	11 U	12 U	10 U
2,4,6-Trichlorophenol	µg/L	10	10 U	11 U	12 U	10 U
2,4,5-Trichlorophenol	µg/L	25	25 U	27 U	29 UJ(CCV)	26 U
2-Chloronaphthalene	µg/L	10	10 U	11 U	12 U	10 U
2-Nitroaniline	µg/L	25	25 UJ(CCV)	27 U	29 U	26 U
Dimethyl phthalate	µg/L	10	10 U	11 U	12 U	10 U
Acenaphthylene	µg/L	10	10 U	11 U	12 U	10 U
2,6-Dinitrotoluene	µg/L	10	10 UJ(CCV)	11 U	12 UJ(CCV)	10 U
3-Nitroaniline	µg/L	25	25 U	27 U	29 U	26 U
Acenaphthene	µg/L	10	10 U	11 U	12 U	10 U
2,4-Dinitrophenol	µg/L	25	25 U	27 U	29 U	26 U
4-Nitrophenol	µg/L	25	25 UJ(CCV)	27 U	29 U	26 U
Dibenzofuran	µg/L	10	10 U	11 U	12 U	10 U
2,4-Dinitrotoluene	µg/L	10	10 U	11 U	12 U	10 U
Diethyl phthalate	µg/L	10	10 U	11 U	12 U	10 U
4-Chlorophenyl phenyl ether	µg/L	10	10 U	11 U	12 U	10 U
Fluorene	µg/L	10	10 U	11 U	12 U	10 U
4-Nitroaniline	µg/L	25	25 U	27 U	29 U	26 U
4,6-Dinitro-2-methylphenol	µg/L	25	25 U	27 U	29 U	26 U
N-Nitrosodiphenylamine (1)	µg/L	10	10 U	11 U	12 U	10 U

Table F–15. Data Presentation Table: Water – Quality Control, Equipment Rinsates, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			EB3–1	EB4–1	EB5–1	ERBG–1
Laboratory ID Number			94908	95191	94808	95193
Collection Date			8–19–92	8–25–92	8–18–92	8–25–92
Associated Field QC Sample			N/A	N/A	N/A	N/A
SEMIVOLATILE ORGANIC (SW 8270 [B]) (Continued)						
Extraction Date			8–26–92	8–31–92	8–20–92	8–31–92
Analysis Date			9–25–92	9–18–92	9–4–92	9–19–92
Dilution Factor			1	1	1	1
Parameter	Units	CRQL				
4–Bromophenyl phenyl ether	µg/L	10	10 U	11 U	12 U	10 U
Hexachlorobenzene	µg/L	10	10 U	11 U	12 U	10 U
Pentachlorophenol	µg/L	25	25 U	27 U	29 U	26 U
Phenanthrene	µg/L	10	10 U	11 U	12 U	10 U
Anthracene	µg/L	10	10 U	11 U	12 U	10 U
Carbazole	µg/L	10	10 U	11 U	12 U	10 U
di–N–Butyl phthalate	µg/L	10	10 UJ(CCV)	11 U	12 U	10 U
Fluoranthene	µg/L	10	10 U	11 U	12 U	10 U
Pyrene	µg/L	10	10 U	11 U	12 U	10 U
Butylbenzylphthalate	µg/L	10	10 U	11 U	12 U	10 U
3,3'–Dichlorobenzidine	µg/L	10	10 U	11 U	12 U	10 U
Benzo(a)anthracene	µg/L	10	10 U	11 U	12 U	10 U
Chrysene	µg/L	10	10 U	11 U	12 U	10 U
bis(2–Ethylhexyl)phthalate	µg/L	10	10 U	11 U	12 U	10 U
di–N–Octyl phthalate	µg/L	10	10 U	11 U	12 UJ(CCV)	10 U
Benzo(b)fluoranthene	µg/L	10	10 U	11 U	12 U	10 U
Benzo(k)fluoranthene	µg/L	10	10 U	11 U	12 U	10 U
Benzo(a)pyrene	µg/L	10	10 U	11 U	12 U	10 U
Indeno(1,2,3–c,d)pyrene	µg/L	10	10 U	11 U	12 U	10 U
Dibenzo(a,h)anthracene	µg/L	10	10 U	11 U	12 U	10 U
Benzo(g,h,i)perylene	µg/L	10	10 U	11 U	12 U	10 U
TICs	µg/L		0 (0)	Unknown [d] 3 J (RT 27.99) Unknown [d] 5 J (RT 29.01) Unknown [d] 6 J (RT 30.01) Unknown [d] 6 J (RT 30.96) Octacosane [b] 4 J,N (RT 31.91) Unknown [d] 3 J (RT 32.82) Unknown [d] 2 J (RT 33.74)	0 (0)	Unknown [d] 3 J (RT 27.89) Pentacosane [b] 4 J,N (RT 28.91) Unknown [d] 5 J (RT 29.91) Heptadecane [b] 4 J,N (RT 30.86) Octacosane [b] 3 J,N (RT 31.81) Unknown [d] 2 J (RT 32.72)
TIC Total	µg/L		0 (0)	29 (7)	0 (0)	21 (6)

Table F–15. Data Presentation Table: Water – Quality Control, Equipment Rinsates, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number				ERBG–2	EB2–2	EB3–2
Laboratory ID Number				97273	9564, 9580	9565, 9581
Collection Date				9–29–92	5–21–93	5–21–93
Associated Field QC Sample				N/A	N/A	N/A
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)						
Extraction Date				10–1–92	5–26–93	5–26–93
Analysis Date				10–20–92	5–24 and 6–16–93	5–24 and 6–16–93
Dilution Factor				1	1	1
Parameter	Units	MDL or MDL				
Gasoline	mg/L	N/A	0.05	NA	<0.25	<0.25
Diesel Fuel	mg/L	0.1	0.05	<0.2	<0.17	<0.13
Heavy Oil	mg/L	0.1	0.1	<0.2	<0.25	<0.25
TOTAL PRIORITY POLLUTANT METALS						
Digestion Date(s)				10–19 and 10–20–92	6–11 and 6–16–93	6–11 and 6–16–93
Analysis Date(s)				10–20 to 11–6–92	6–11 to 6–25–93	6–11 to 6–25–93
Dilution Factor		IDL or IDL		1	1	1
AA METALS						
Antimony (SW 3020/7041)	µg/L	1.2	0.6	2.1 J(N)	0.7 UJ(MB,N)	0.6 UJ(N)
Arsenic (SW 3020/7060)	µg/L	0.7	0.6	0.7 U	R(N)	R(N)
Lead (SW 3020/7421)	µg/L	0.5	0.5	0.8 U(MB)	0.5 U	0.7 U(MB)
Mercury (SW 3020/7470)	µg/L	0.1	0.1	0.1 U	0.1 U	0.1 U
Selenium (SW 3020/7740)	µg/L	1.4	0.9	R(N)	R(N)	R(N)
Thallium (SW 3020/7841)	µg/L	1.4	1.4	1.4 UJ(N,W)	1.4 U	1.4 U
ICP METALS (SW 3005/6010)						
Beryllium	µg/L	0.3	0.3	0.3 U	0.3 U	0.3 U
Cadmium	µg/L	2.1	3.7	2.1 U	3.7 U	3.7 U
Chromium	µg/L	2.9	2.8	2.9 U	2.8 U	2.8 U
Copper	µg/L	3.4	2.7	3.4 U	2.7 U	8.2 U(MB)
Nickel	µg/L	12.9	19.8	12.9 U	19.8 U	19.8 U
Silver	µg/L	3.8	2.9	3.8 U	2.9 UJ(N)	2.9 UJ(N)
Zinc	µg/L	2.9	1.6	5.9 U(MB)	3.6 U(MB)	5.6 U(MB)
DISSOLVED PRIORITY POLLUTANT METALS						
Digestion Date(s)				N/A	6–8 and 6–16–93	6–8 and 6–16–93
Analysis Date(s)				N/A	6–16 to 6–22–93	6–16 to 6–22–93
Dilution Factor		IDL		N/A	1	1
AA METALS						
Antimony (SW 3020/7041)	µg/L	0.6		NA	0.9 U	0.9 U
Arsenic (SW 3020/7060)	µg/L	0.6		NA	0.6 U	0.6 U
Lead (SW 3020/7421)	µg/L	0.5		NA	0.5 U	1.3 B
Mercury (SW 3020/7470)	µg/L	0.1		NA	0.1 U	0.1 U
Selenium (SW 3020/7740)	µg/L	0.9		NA	1.3 U(MB)	1 U(MB)
Thallium (SW 3020/7841)	µg/L	1.4		NA	1.4 U	1.4 U
ICP METALS (SW 3005/6010)						
Beryllium	µg/L	0.3		NA	0.66B	0.3 U
Cadmium	µg/L	3.7		NA	3.7 U	3.7 U
Chromium	µg/L	2.8		NA	2.8 U	2.8 U
Copper	µg/L	2.7		NA	5.3 B	2.7 U
Nickel	µg/L	19.8		NA	19.8 U	19.8 U
Silver	µg/L	2.9		NA	2.9 UJ(N)	2.9 UJ(N)
Zinc	µg/L	1.6		NA	3.3 U(MB)	1.6 U

Table F–15. Data Presentation Table: Water – Quality Control, Equipment Rinsates, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number				ERBG–2			EB2–2	EB3–2
Laboratory ID Number				97273			9564, 9580	9565, 9581
Collection Date				9–29–92			5–21–93	5–21–93
Associated Field QC Sample				N/A			N/A	N/A
VOLATILE ORGANICS (A)								
Analysis Date				10–6–92			5–24–93	5–24–93
Dilution Factor				1			1	1
Parameter	Units	CRQL	or CRQL					
Chloromethane	µg/L	0.6	0.3	0.3 U			0.3 U	0.3 U
Bromomethane	µg/L	0.5	0.4	0.4 U			0.4 U	0.4 U
Vinyl Chloride	µg/L	0.8	0.5	0.5 U			0.5 U	0.5 U
Chloroethane	µg/L	0.8	0.2	0.2 U			0.2 U	0.2 U
Methylene Chloride	µg/L	1	0.4	4			0.3 J	0.4 U
Acetone	µg/L	4	1	1 U			8	12
Carbon Disulfide	µg/L	1	0.5	0.5 U			0.5 U	0.5 U
1,1–Dichloroethene	µg/L	1	0.5	0.5 U			0.5 U	0.5 U
1,1–Dichloroethane	µg/L	0.7	0.4	0.4 U			0.4 U	0.4 U
1,2–Dichloroethene (total)	µg/L	0.7	0.5	0.5 U			0.5 U	0.5 U
Chloroform	µg/L	0.5	0.4	13			0.2 J	0.4 U
1,2–Dichloroethane	µg/L	0.8	0.4	0.4 U			0.4 U	0.4 U
2–Butanone	µg/L	3	1	1 U			1 U	1 U
1,1,1–Trichloroethane	µg/L	0.5	0.4	0.4 U			0.4 U	0.4 U
Carbon Tetrachloride	µg/L	0.6	0.4	0.4 U			0.4 U	0.4 U
Bromodichloromethane	µg/L	0.4	0.4	0.9			0.4 U	0.4 U
1,2–Dichloropropane	µg/L	0.7	0.3	0.3 U			0.3 U	0.3 U
cis–1,3–Dichloropropene	µg/L	0.5	0.8	0.8 U			0.8 U	0.8 U
Trichloroethene	µg/L	0.6	0.5	0.5 U			0.5 U	0.5 U
Dibromochloromethane	µg/L	0.4	0.5	0.5 U			0.5 U	0.5 U
1,1,2–Trichloroethane	µg/L	0.8	0.8	0.8 U			0.8 U	0.8 U
Benzene	µg/L	0.3	0.5	0.5 U			0.5 U	0.5 U
trans–1,3–Dichloropropene	µg/L	0.1	0.8	0.8 U			0.8 U	0.8 U
Bromoform	µg/L	0.3	0.9	0.9 U			0.9 U	0.9 U
4–Methyl–2–pentanone	µg/L	0.7	0.6	0.6 U			0.6 U	0.6 U
2–Hexanone	µg/L	2	2	2 U			2 U	2 U
Tetrachloroethene	µg/L	0.6	0.4	0.4 U			0.4 U	0.4 U
1,1,2,2–Tetrachloroethane	µg/L	0.9	0.7	0.7 U			0.7 U	0.7 U
Toluene	µg/L	0.3	0.4	0.4 U			0.4 U	0.4 U
Chlorobenzene	µg/L	0.4	0.4	0.4 U			0.5 U	0.5 U
Ethylbenzene	µg/L	0.5	0.7	0.7 U			0.7 U	0.7 U
Styrene	µg/L	0.4	0.2	0.2 U			0.2 U	0.2 U
Xylene (total)	µg/L	0.6	0.7	0.7 U			0.7 U	0.7 U
TICs	µg/L			Trichlorofluoro–Methane *	1 J,N	(RT 4.22)	0 (0)	0 (0)
TIC Total	µg/L				1 (1)		0 (0)	0 (0)

Table F–15. Data Presentation Table: Water – Quality Control, Equipment Rinsates, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			ERBG–2	EB2–2	EB3–2
Laboratory ID Number			97273	9564, 9580	9565, 9581
Collection Date			9–29–92	5–21–93	5–21–93
Associated Field QC Sample			N/A	N/A	N/A
SEMIVOLATILE ORGANIC (SW 8270 [B])					
Extraction Date			10–1–92	5–26–93	5–26–93
Analysis Date			10–28–92	6–1–93	6–1–93
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Phenol	µg/L	10	10 U	10 U	11 U
bis(2–Chloroethyl)ether	µg/L	10	10 U	10 U	11 U
2–Chlorophenol	µg/L	10	10 U	10 U	11 U
1,3–Dichlorobenzene	µg/L	10	10 U	10 U	11 U
1,4–Dichlorobenzene	µg/L	10	10 U	10 U	11 U
1,2–Dichlorobenzene	µg/L	10	10 U	10 U	11 U
2–Methylphenol	µg/L	10	10 U	10 U	11 U
2,2–oxibis–(1–Chloropropane)	µg/L	10	10 UJ(CCV)	10 U	11 U
4–Methylphenol	µg/L	10	10 U	10 U	11 U
N–Nitroso–di–N–propylamine	µg/L	10	10 U	10 U	11 U
Hexachloroethane	µg/L	10	10 U	10 UJ(CCV)	11 UJ(CCV)
Nitrobenzene	µg/L	10	10 U	10 U	11 U
Isophorone	µg/L	10	10 U	10 U	11 U
2–Nitrophenol	µg/L	10	10 U	10 U	11 U
2,4–Dimethylphenol	µg/L	10	10 U	10 U	11 U
bis(2–Chloroethoxy)methane	µg/L	10	10 U	10 U	11 U
2,4–Dichlorophenol	µg/L	10	10 U	10 U	11 U
1,2,4–Trichlorobenzene	µg/L	10	10 U	10 U	11 U
Naphthalene	µg/L	10	10 U	10 U	11 U
4–Chloroaniline	µg/L	10	10 U	10 U	11 U
Hexachlorobutadiene	µg/L	10	10 U	10 UJ(CCV)	11 UJ(CCV)
4–Chloro–3–methylphenol	µg/L	10	10 U	10 U	11 U
2–Methylnaphthalene	µg/L	10	10 U	10 U	11 U
Hexachlorocyclopentadiene	µg/L	10	10 U	10 U	11 U
2,4,6–Trichlorophenol	µg/L	10	10 U	10 U	11 U
2,4,5–Trichlorophenol	µg/L	25	25 U	25 U	27 U
2–Chloronaphthalene	µg/L	10	10 U	10 U	11 U
2–Nitroaniline	µg/L	25	25 U	25 U	27 U
Dimethyl phthalate	µg/L	10	10 U	10 U	11 U
Acenaphthylene	µg/L	10	10 U	10 U	11 U
2,6–Dinitrotoluene	µg/L	10	10 U	10 U	11 U
3–Nitroaniline	µg/L	25	25 U	25 UJ(CCV)	27 UJ(CCV)
Acenaphthene	µg/L	10	10 U	10 U	11 U
2,4–Dinitrophenol	µg/L	25	25 U	25 UJ(CCV)	27 UJ(CCV)
4–Nitrophenol	µg/L	25	25 UJ(CCV)	25 U	27 U
Dibenzofuran	µg/L	10	10 U	10 U	11 U
2,4–Dinitrotoluene	µg/L	10	10 U	10 U	11 U
Diethyl phthalate	µg/L	10	10 U	10 U	11 U
4–Chlorophenyl phenyl ether	µg/L	10	10 U	10 U	11 U
Fluorene	µg/L	10	10 U	10 U	11 U
4–Nitroaniline	µg/L	25	25 U	25 U	27 U
4,6–Dinitro–2–methylphenol	µg/L	25	25 U	25 UJ(CCV)	27 UJ(CCV)
N–Nitrosodiphenylamine (1)	µg/L	10	10 U	10 U	11 U

Table F–15. Data Presentation Table: Water – Quality Control, Equipment Rinsates, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			ERBG–2			EB2–2	EB3–2
Laboratory ID Number			97273			9564, 9580	9565, 9581
Collection Date			9–29–92			5–21–93	5–21–93
Associated Field QC Sample			N/A			N/A	N/A
SEMIVOLATILE ORGANIC (SW 8270 [B]) (Continued)							
Extraction Date			10–1–92			5–26–93	5–26–93
Analysis Date			10–28–92			6–1–93	6–1–93
Dilution Factor			1			1	1
Parameter	Units	CRQL					
4–Bromophenyl phenyl ether	µg/L	10	10 U			10 U	11 U
Hexachlorobenzene	µg/L	10	10 U			10 UJ(CCV)	11 UJ(CCV)
Pentachlorophenol	µg/L	25	25 U			25 UJ(CCV)	27 UJ(CCV)
Phenanthrene	µg/L	10	10 U			10 U	11 U
Anthracene	µg/L	10	10 U			10 U	11 U
Carbazole	µg/L	10	10 U			10 UJ(CCV)	11 UJ(CCV)
di–N–Butyl phthalate	µg/L	10	10 U			10 U	11 U
Fluoranthene	µg/L	10	10 U			10 U	11 U
Pyrene	µg/L	10	10 U			10 U	11 U
Butylbenzylphthalate	µg/L	10	10 U			10 U	11 U
3,3'–Dichlorobenzidine	µg/L	10	10 U			10 U	11 U
Benzo(a)anthracene	µg/L	10	10 U			10 U	11 U
Chrysene	µg/L	10	10 U			10 U	11 U
bis(2–Ethylhexyl)phthalate	µg/L	10	13			10 U	11 U
di–N–Octyl phthalate	µg/L	10	10 U			10 U	11 U
Benzo(b)fluoranthene	µg/L	10	10 U			10 U	11 U
Benzo(k)fluoranthene	µg/L	10	10 U			10 U	11 U
Benzo(a)pyrene	µg/L	10	10 U			10 U	11 U
Indeno(1,2,3–c,d)pyrene	µg/L	10	10 U			10 U	11 U
Dibenzo(a,h)anthracene	µg/L	10	10 U			10 U	11 U
Benzo(g,h,i)perylene	µg/L	10	10 U			10 U	11 U
TICs	µg/L		Unknown [d]	2 J	(RT 4.93)	0 (0)	0 (0)
			Unknown [d]	3 J	(RT 5.03)		
			Unknown [d]	3 J	(RT 5.9)		
			Unknown [d]	4 J	(RT 10.99)		
			Unknown [d]	3 J	(RT 14.75)		
			Unknown [d]	2 J	(RT 18.12)		
			1,3–Isobenzofurandione, 4,5 [c]	3 J,N	(RT 24.15)		
			Hexanedioic Acid, Mono (2–Eth) [c]	2 J,N	(RT 29.47)		
TIC Total	µg/L			22 (8)		0 (0)	0 (0)

Table F–15. Data Presentation Table: Water – Quality Control, Equipment Rinsates, 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

Validation note: All descriptive data qualifiers applied to the reported values by the laboratory are reported in parentheses.
Each data point has been assessed to determine whether the value is considered usable (i.e., no qualifier), usable but estimated (i.e., "J"), or not usable (i.e., "R"). All usability qualifiers are followed by the applicable laboratory or field QC qualifier, presented in parentheses and defined below. Usability qualifiers were not applied to values qualified by the laboratory, but were not considered to have been adversely impacted by the applicable laboratory QC result (e.g., duplicated and matrix spike analysis).

A – groundwater samples were analyzed for volatile halogenated compounds and volatile aromatic compounds (i.e., E 524.2), which has been modified to incorporate CLP–type QC requirements and SD5–ER,EB2–2 and EB3–2 were analyzed for volatile organic compounds (i.e., SW 8240) which has been modified for low level detection limits and modified to incorporate CLP–type QC requirements
B – SVOCs in groundwater and field QC blanks were analyzed using EPA method 3510/8270
CRQL – Contract Required Quantitation Limit
IDL – Instrument Detection Limit
MDL – Method Detection Limit
NA – not analyzed
N/A – not applicable
RT – retention time in minutes
TICs–tentatively identified compounds, total concentration is listed and the total number of tentatively identified compounds is inside the parenthases

Data Validation Qualifiers

J – associated numerical value is the approximate concentration
R – rejected value
U – compound/element was included in analysis, but was not detected
UJ – reported quantitation limit is approximate and may or may not represent the actual quantitation necessary to accurately and precisely measure the analyte

Explanatory Data Validation Qualifiers

CCV – continuing calibration verification
EHT – extraction holding time outside control limits
MB – compound/element was also detected in the associated laboratory method blank

EPA–defined CLP SOW Laboratory Qualifiers

B(metals) – the reported value is estimated because it is greater than the Instrument Detection Limit (IDL), but less than the Contract Required Detection Limit(CRDL)
N – spiked sample recovery outside of control limits
N(TICs) – presumptive evidence of a compound
W – post–digestion spike for Graphite Furnace Atomic Absorption (GFAA) analysis is out of control limits (85–115%), while sample absorbance is less than 50% of the spike absorbance

SAIC TIC Evaluation Categories

[a] – laboratory and extraction artifacts
[b] – petroleum or petroleum degradation products
[c] – other
[d] – unknown

Table F–16. Data Presentation Table: Water – Quality Control, Field Blanks (ASTM Water), 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC ID Number				FB1–1	FB2–1	FB3–1
Laboratory ID Number				94601	94678	94909
Collection Date				8–14–92	8–16–92	8–19–92
Associated Field QC Sample				N/A	N/A	N/A
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)						
Extraction Date				8–21–92	8–23–92	8–28–92
Analysis Date				9–16–92	9–17–92	9–17–92
Dilution Factor				1	1	1
Parameter	Units	MDL				
Diesel Fuel	mg/L	0.1		<2	<0.1	<0.5
Heavy Oil	mg/L	0.1		<2	<0.1	<0.5
TOTAL PRIORITY POLLUTANT METALS						
Digestion Date(s)				8–27 and 9–13–92	9–3 and 9–13–92	9–14 and 9–16–92
Analysis Date(s)				8–29 to 9–15–92	9–8 to 9–25–92	9–16 to 10–5–92
Dilution Factor		IDL or IDL		1	1	
AA METALS						
Antimony (SW 3020/7041)	µg/L	2	1.3	2 U	2 U	1.3 U
Arsenic (SW 3020/7060)	µg/L	1.5	1.5	1.5 U	1.5 U	1.5 U
Lead (SW 3020/7421)	µg/L	0.5	0.5	0.5 U	1.9 B	0.5 U
Mercury (SW 3020/7470)	µg/L	0.2	0.2	0.2 U	0.2 U	0.2 U
Selenium (SW 3020/7740)	µg/L	1.4	1.4	1.4 UJ(W)	1.9 B	1.4 U
Thallium (SW 3020/7841)	µg/L	0.8	0.7	0.8 U	1.9 UJ(W)	0.7 U
ICP METALS (SW 3005/6010)						
Beryllium	µg/L	0.3	0.3	0.3 U	0.3 U	0.3 U
Cadmium	µg/L	2.1	2.1	2.1 U	2.1 U	2.1 U
Chromium	µg/L	4	4	4 U	4 U	4 U
Copper	µg/L	3.9	3.9	55.3	12.3 B	3.9 U
Nickel	µg/L	10.3	10.3	10.6 B	10.3 U	10.3 U
Silver	µg/L	3	3	3 U	3 U	3 U
Zinc	µg/L	3.5	3.5	3.5 U	6.1 B	3.5 U

Table F–16. Data Presentation Table: Water – Quality Control, Field Blanks (ASTM Water), 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			FB1–1	FB2–1	FB3–1
Laboratory ID Number			94601	94678	94909
Collection Date			8–14–92	8–16–92	8–19–92
Associated Field QC Sample			N/A	N/A	N/A
VOLATILE ORGANICS (E 524.2 [A])					
Analysis Date			8–18–92	8–19–92	8–21–92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Chloromethane	µg/L	0.6	0.6 U	0.6 U	0.6 U
Bromomethane	µg/L	0.5	0.5 U	0.5 U	0.5 U
Vinyl Chloride	µg/L	0.8	0.8 U	0.8 U	0.8 U
Chloroethane	µg/L	0.8	0.8 U	0.8 U	0.8 U
Methylene Chloride	µg/L	1	53	10	1 U
Acetone	µg/L	4	10	4 U	4 U
Carbon Disulfide	µg/L	1	1 U	1 U	1 U
1,1–Dichloroethene	µg/L	1	1 U	1 U	1 U
1,1–Dichloroethane	µg/L	0.7	0.7 U	0.7 U	0.7 U
1,2–Dichloroethene (total)	µg/L	0.7	0.7 U	0.7 U	0.7 U
Chloroform	µg/L	0.5	0.5 U	15	13
1,2–Dichloroethane	µg/L	0.8	0.8 U	0.8 U	0.8 U
2–Butanone	µg/L	3	3 U	3 U	3 U
1,1,1–Trichloroethane	µg/L	0.5	0.5 U	0.5 U	0.5 U
Carbon Tetrachloride	µg/L	0.6	0.6 U	0.6 U	0.6 U
Bromodichloromethane	µg/L	0.4	0.4 U	9	1
1,2–Dichloropropane	µg/L	0.7	0.7 U	0.7 U	0.7 U
cis–1,3–Dichloropropene	µg/L	0.5	0.5 U	0.5 U	0.5 U
Trichloroethene	µg/L	0.6	0.6 U	0.6 U	0.6 U
Dibromochloromethane	µg/L	0.4	0.4 U	6	0.4 U
1,1,2–Trichloroethane	µg/L	0.8	0.8 U	0.8 U	0.8 U
Benzene	µg/L	0.3	0.3 U	0.3 U	0.3 U
trans–1,3–Dichloropropene	µg/L	0.1	0.1 U	0.1 U	0.1 U
Bromoform	µg/L	0.3	0.3 U	2	0.3 U
4–Methyl–2–pentanone	µg/L	0.7	0.7 U	0.7 U	0.7 U
2–Hexanone	µg/L	2	2 U	2 U	2 U
Tetrachloroethene	µg/L	0.6	0.6 U	0.6 U	0.6 U
1,1,2,2–Tetrachloroethane	µg/L	0.9	0.9 U	0.9 U	0.9 U
Toluene	µg/L	0.3	0.3 U	0.3 U	0.3 U
Chlorobenzene	µg/L	0.4	0.4 U	0.4 U	0.4 U
Ethylbenzene	µg/L	0.5	0.5 U	0.5 U	0.5 U
Styrene	µg/L	0.4	0.4 U	0.4 U	0.4 U
Xylene (total)	µg/L	0.6	0.6 U	0.6 U	0.6 U
TICs	µg/L		Octamethylcyclotetrasiloxane [a] 11 J,N (RT 26.26)	Hexamethylcyclotrisiloxane [a] 18 J,N (RT 18.61) Octamethylcyclotetrasiloxane [a] 240 J,N (RT 26.24)	Hexamethylcyclotrisiloxane [a] 6 J,N (RT 18.59)
TIC Total	µg/L		11 (1)	258 (2)	6 (1)

Table F–16. Data Presentation Table: Water – Quality Control, Field Blanks (ASTM Water), 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			FB1–1	FB2–1	FB3–1
Laboratory ID Number			94601	94678	94909
Collection Date			8–14–92	8–16–92	8–19–92
Associated Field QC Sample			N/A	N/A	N/A
SEMIVOLATILE ORGANIC (SW 8270 [B])					
Extraction Date			8–20–92	8–20–92	8–26–92
Analysis Date			9–4–92	9–4–92	9–25–92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Phenol	µg/L	10	11 U	11 U	10 U
bis(2–Chloroethyl)ether	µg/L	10	11 U	11 U	10 U
2–Chlorophenol	µg/L	10	11 U	11 U	10 U
1,3–Dichlorobenzene	µg/L	10	11 U	11 U	10 U
1,4–Dichlorobenzene	µg/L	10	11 U	11 U	10 U
1,2–Dichlorobenzene	µg/L	10	11 U	11 U	10 U
2–Methylphenol	µg/L	10	11 U	11 U	10 U
2,2–oxibis–(1–Chloropropane)	µg/L	10	11 U	11 U	10 U
4–Methylphenol	µg/L	10	11 U	11 U	10 U
N–Nitroso–di–N–propylamine	µg/L	10	11 U	11 U	10 U
Hexachloroethane	µg/L	10	11 U	11 U	10 U
Nitrobenzene	µg/L	10	11 U	11 U	10 U
Isophorone	µg/L	10	11 U	11 U	10 U
2–Nitrophenol	µg/L	10	11 U	11 U	10 U
2,4–Dimethylphenol	µg/L	10	11 U	11 U	10 U
bis(2–Chloroethoxy)methane	µg/L	10	11 U	11 U	10 UJ(CCV)
2,4–Dichlorophenol	µg/L	10	11 U	11 U	10 U
1,2,4–Trichlorobenzene	µg/L	10	11 U	11 U	10 U
Naphthalene	µg/L	10	11 U	11 U	10 U
4–Chloroaniline	µg/L	10	11 U	11 U	10 U
Hexachlorobutadiene	µg/L	10	11 U	11 U	10 U
4–Chloro–3–methylphenol	µg/L	10	11 U	11 U	10 U
2–Methylnaphthalene	µg/L	10	11 U	11 U	10 U
Hexachlorocyclopentadiene	µg/L	10	11 U	11 U	10 U
2,4,6–Trichlorophenol	µg/L	10	11 U	11 U	10 U
2,4,5–Trichlorophenol	µg/L	25	27 U	27 UJ(CCV)	25 U
2–Chloronaphthalene	µg/L	10	11 U	11 U	10 U
2–Nitroaniline	µg/L	25	27 U	27 U	25 UJ(CCV)
Dimethyl phthalate	µg/L	10	11 U	11 U	10 U
Acenaphthylene	µg/L	10	11 U	11 U	10 U
2,6–Dinitrotoluene	µg/L	10	11 U	11 UJ(CCV)	10 UJ(CCV)
3–Nitroaniline	µg/L	25	27 U	27 U	25 U
Acenaphthene	µg/L	10	11 U	11 U	10 U
2,4–Dinitrophenol	µg/L	25	27 U	27 U	25 U
4–Nitrophenol	µg/L	25	27 U	27 U	25 UJ(CCV)
Dibenzofuran	µg/L	10	11 U	11 U	10 U
2,4–Dinitrotoluene	µg/L	10	11 U	11 U	10 U
Diethyl phthalate	µg/L	10	11 U	11 U	10 U
4–Chlorophenyl phenyl ether	µg/L	10	11 U	11 U	10 U
Fluorene	µg/L	10	11 U	11 U	10 U
4–Nitroaniline	µg/L	25	27 U	27 U	25 U
4,6–Dinitro–2–methylphenol	µg/L	25	27 U	27 U	25 U
N–Nitrosodiphenylamine (1)	µg/L	10	11 U	11 U	10 U

Table F–16. Data Presentation Table: Water – Quality Control, Field Blanks (ASTM Water), 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			FB1–1	FB2–1	FB3–1
Laboratory ID Number			94601	94678	94909
Collection Date			8–14–92	8–16–92	8–19–92
Associated Field QC Sample			N/A	N/A	N/A
SEMIVOLATILE ORGANIC (SW 8270 [B]) (Continued)					
Extraction Date			8–20–92	8–20–92	8–26–92
Analysis Date			9–4–92	9–4–92	9–25–92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
4–Bromophenyl phenyl ether	µg/L	10	11 U	11 U	10 U
Hexachlorobenzene	µg/L	10	11 U	11 U	10 U
Pentachlorophenol	µg/L	25	27 U	27 U	25 U
Phenanthrene	µg/L	10	11 U	11 U	10 U
Anthracene	µg/L	10	11 U	11 U	10 U
Carbazole	µg/L	10	11 U	11 U	10 U
di–N–Butyl phthalate	µg/L	10	11 U	11 U	10 UJ(CCV)
Fluoranthene	µg/L	10	11 U	11 U	10 U
Pyrene	µg/L	10	11 U	11 U	10 U
Butylbenzylphthalate	µg/L	10	11 U	11 U	10 U
3,3'–Dichlorobenzidine	µg/L	10	11 U	11 U	10 U
Benzo(a)anthracene	µg/L	10	11 U	11 U	10 U
Chrysene	µg/L	10	11 U	11 U	10 U
bis(2–Ethylhexyl)phthalate	µg/L	10	11 U	11 U	10 U
di–N–Octyl phthalate	µg/L	10	11 U	11 UJ(CCV)	10 U
Benzo(b)fluoranthene	µg/L	10	11 U	11 U	10 U
Benzo(k)fluoranthene	µg/L	10	11 U	11 U	10 U
Benzo(a)pyrene	µg/L	10	11 U	11 U	10 U
Indeno(1,2,3–c,d)pyrene	µg/L	10	11 U	11 U	10 U
Dibenzo(a,h)anthracene	µg/L	10	11 U	11 U	10 U
Benzo(g,h,i)perylene	µg/L	10	11 U	11 U	10 U
TICs	µg/L		0 (0)	0 (0)	0 (0)
TIC Total	µg/L		0 (0)	0 (0)	0 (0)

Table F–16. Data Presentation Table: Water – Quality Control, Field Blanks (ASTM Water), 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			FB4–1	FB5–1	FBBG–1
Laboratory ID Number			95192	94809	95194
Collection Date			8–25–92	8–18–92	8–25–92
Associated Field QC Sample			N/A	N/A	N/A
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)					
Extraction Date			8–31–92	8–23–92	8–31–92
Analysis Date			9–19–92	9–17–92	9–19–92
Dilution Factor			1	1	1
Parameter	Units	MDL			
Diesel Fuel	mg/L	0.1	<0.3	<0.1	<0.3
Heavy Oil	mg/L	0.1	<0.3	<0.1	<0.3
TOTAL PRIORITY POLLUTANT METALS					
Digestion Date(s)			9–17, 9–21 and 9–22–92	9–3 and 9–13–92	9–17, 9–21 and 9–22–92
Analysis Date(s)			9–20 to 10–8–92	9–8 to 9–25–92	9–20 to 10–8–92
Dilution Factor		IDL	1	1	1
AA METALS					
Antimony (SW 3020/7041)	µg/L	2	2 UN	2 U	2 UN
Arsenic (SW 3020/7060)	µg/L	1.5	1.5 U	1.5 U	1.5 U
Lead (SW 3020/7421)	µg/L	0.5	0.5 U(MB)	0.9 U	1.1 U(MB)
Mercury (SW 3020/7470)	µg/L	0.2	0.2 U	0.2 U	0.2 U
Selenium (SW 3020/7740)	µg/L	1.4	1.4 U	1.4 U	1.4 U
Thallium (SW 3020/7841)	µg/L	1.9	1.9 U	1.9 U	1.9 U
ICP METALS (SW 3005/6010)					
Beryllium	µg/L	0.3	0.3 U	0.3 U	0.3 U
Cadmium	µg/L	2.1	2.4 B	2.1 U(MB)	2.1 U
Chromium	µg/L	4	4 U	4.5 U(MB)	4 U
Copper	µg/L	3.9	3.9 U	3.9 U	3.9 U
Nickel	µg/L	10.3	10.3 U	10.3 U	10.3 U
Silver	µg/L	3	3 U	3 U	3 U
Zinc	µg/L	3.5	10 B	3.5 U	5.6 B

Table F–16. Data Presentation Table: Water – Quality Control, Field Blanks (ASTM Water), 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			FB4–1		FB5–1		FBBG–1	
Laboratory ID Number			95192		94809		95194	
Collection Date			8–25–92		8–18–92		8–25–92	
Associated Field QC Sample			N/A		N/A		N/A	
VOLATILE ORGANICS (E 524.2 [A])								
Analysis Date			9–1–92		8–20–92		9–1–92	
Dilution Factor			1		1		1	
Parameter	Units	CRQL						
Chloromethane	µg/L	0.6	0.6 U		0.6 U		0.6 U	
Bromomethane	µg/L	0.5	0.5 U		0.5 U		0.5 U	
Vinyl Chloride	µg/L	0.8	0.8 U		0.8 U		0.8 U	
Chloroethane	µg/L	0.8	0.8 U		0.8 U		0.8 U	
Methylene Chloride	µg/L	1	1 U		1 U		1 U	
Acetone	µg/L	4	4 U		4 U		4 U	
Carbon Disulfide	µg/L	1	1 U		1 U		1 U	
1,1–Dichloroethene	µg/L	1	1 U		1 U		1 U	
1,1–Dichloroethane	µg/L	0.7	0.7 U		0.7 U		0.7 U	
1,2–Dichloroethene (total)	µg/L	0.7	0.7 U		0.7 U		0.7 U	
Chloroform	µg/L	0.5	0.5 U		0.5 U		0.5 U	
1,2–Dichloroethane	µg/L	0.8	0.8 U		0.8 U		0.8 U	
2–Butanone	µg/L	3	3 U		3 U		3 U	
1,1,1–Trichloroethane	µg/L	0.5	0.5 U		0.5 U		0.5 U	
Carbon Tetrachloride	µg/L	0.6	0.6 U		0.6 U		0.6 U	
Bromodichloromethane	µg/L	0.4	0.4 U		0.4 U		0.4 U	
1,2–Dichloropropane	µg/L	0.7	0.7 U		0.7 U		0.7 U	
cis–1,3–Dichloropropene	µg/L	0.5	0.5 U		0.5 U		0.5 U	
Trichloroethene	µg/L	0.6	0.6 U		0.6 U		0.6 U	
Dibromochloromethane	µg/L	0.4	0.4 U		0.4 U		0.4 U	
1,1,2–Trichloroethane	µg/L	0.8	0.8 U		0.8 U		0.8 U	
Benzene	µg/L	0.3	0.3 U		0.3 U		0.3 U	
trans–1,3–Dichloropropene	µg/L	0.1	0.1 U		0.1 U		0.1 U	
Bromoform	µg/L	0.3	0.3 U		0.3 U		0.3 U	
4–Methyl–2–pentanone	µg/L	0.7	0.7 U		0.7 U		0.7 U	
2–Hexanone	µg/L	2	2 U		2 U		2 U	
Tetrachloroethene	µg/L	0.6	0.6 U		0.6 U		0.6 U	
1,1,2,2–Tetrachloroethane	µg/L	0.9	0.9 U		0.9 U		0.9 U	
Toluene	µg/L	0.3	0.3 U		0.3 U		0.3 U	
Chlorobenzene	µg/L	0.4	0.4 U		0.4 U		0.4 U	
Ethylbenzene	µg/L	0.5	0.5 U		0.5 U		0.5 U	
Styrene	µg/L	0.4	0.4 U		0.4 U		0.4 U	
Xylene (total)	µg/L	0.6	0.6 U		0.6 U		0.6 U	
TICs	µg/L		Octamethylcyclotetrasiloxane [a]	10 J,N (RT 27.13)	0 (0)		Octamethylcyclotetrasiloxane [a]	6 J,N (RT 27.12)
TIC Total	µg/L			10 (1)	0 (0)			6 (1)

Table F–16. Data Presentation Table: Water – Quality Control, Field Blanks (ASTM Water), 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			FB4–1	FB5–1	FBBG–1
Laboratory ID Number			95192	94809	95194
Collection Date			8–25–92	8–18–92	8–25–92
Associated Field QC Sample			N/A	N/A	N/A
SEMIVOLATILE ORGANIC (SW 8270 [B])					
Extraction Date			8–31–92	8–20–92	8–31–92
Analysis Date			9–18–92	9–4–92	9–18–92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Phenol	µg/L	10	10 U	11 U	10 U
bis(2–Chloroethyl)ether	µg/L	10	10 U	11 U	10 U
2–Chlorophenol	µg/L	10	10 U	11 U	10 U
1,3–Dichlorobenzene	µg/L	10	10 U	11 U	10 U
1,4–Dichlorobenzene	µg/L	10	10 U	11 U	10 U
1,2–Dichlorobenzene	µg/L	10	10 U	11 U	10 U
2–Methylphenol	µg/L	10	10 U	11 U	10 U
2,2–oxibis–(1–Chloropropane)	µg/L	10	10 U	11 U	10 U
4–Methylphenol	µg/L	10	10 U	11 U	10 U
N–Nitroso–di–N–propylamine	µg/L	10	10 U	11 U	10 U
Hexachloroethane	µg/L	10	10 U	11 U	10 U
Nitrobenzene	µg/L	10	10 U	11 U	10 U
Isophorone	µg/L	10	10 U	11 U	10 U
2–Nitrophenol	µg/L	10	10 U	11 U	10 U
2,4–Dimethylphenol	µg/L	10	10 U	11 U	10 U
bis(2–Chloroethoxy)methane	µg/L	10	10 U	11 U	10 U
2,4–Dichlorophenol	µg/L	10	10 U	11 U	10 U
1,2,4–Trichlorobenzene	µg/L	10	10 U	11 U	10 U
Naphthalene	µg/L	10	10 U	11 U	10 U
4–Chloroaniline	µg/L	10	10 U	11 U	10 U
Hexachlorobutadiene	µg/L	10	10 U	11 U	10 U
4–Chloro–3–methylphenol	µg/L	10	10 U	11 U	10 U
2–Methylnaphthalene	µg/L	10	10 U	11 U	10 U
Hexachlorocyclopentadiene	µg/L	10	10 U	11 U	10 U
2,4,6–Trichlorophenol	µg/L	10	10 U	11 U	10 U
2,4,5–Trichlorophenol	µg/L	25	26 U	27 UJ(CCV)	26 U
2–Chloronaphthalene	µg/L	10	10 U	11 U	10 U
2–Nitroaniline	µg/L	25	26 U	27 U	26 U
Dimethyl phthalate	µg/L	10	10 U	11 U	10 U
Acenaphthylene	µg/L	10	10 U	11 U	10 U
2,6–Dinitrotoluene	µg/L	10	10 U	11 UJ(CCV)	10 U
3–Nitroaniline	µg/L	25	26 U	27 U	26 U
Acenaphthene	µg/L	10	10 U	11 U	10 U
2,4–Dinitrophenol	µg/L	25	26 U	27 U	26 U
4–Nitrophenol	µg/L	25	26 U	27 U	26 U
Dibenzofuran	µg/L	10	10 U	11 U	10 U
2,4–Dinitrotoluene	µg/L	10	10 U	11 U	10 U
Diethyl phthalate	µg/L	10	10 U	11 U	10 U
4–Chlorophenyl phenyl ether	µg/L	10	10 U	11 U	10 U
Fluorene	µg/L	10	10 U	11 U	10 U
4–Nitroaniline	µg/L	25	26 U	27 U	26 U
4,6–Dinitro–2–methylphenol	µg/L	25	26 U	27 U	26 U
N–Nitrosodiphenylamine (1)	µg/L	10	10 U	11 U	10 U

Table F–16. Data Presentation Table: Water – Quality Control, Field Blanks (ASTM Water), 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			FB4–1	FB5–1	FBBG–1	
Laboratory ID Number			95192	94809	95194	
Collection Date			8–25–92	8–18–92	8–25–92	
Associated Field QC Sample			N/A	N/A	N/A	
SEMIVOLATILE ORGANIC (SW 8270 [B]) (Continued)						
Extraction Date			8–31–92	8–20–92	8–31–92	
Analysis Date			9–18–92	9–4–92	9–18–92	
Dilution Factor			1	1	1	
Parameter	Units	CRQL				
4–Bromophenyl phenyl ether	µg/L	10	10 U	11 U	10 U	
Hexachlorobenzene	µg/L	10	10 U	11 U	10 U	
Pentachlorophenol	µg/L	25	26 U	27 U	26 U	
Phenanthrene	µg/L	10	10 U	11 U	10 U	
Anthracene	µg/L	10	10 U	11 U	10 U	
Carbazole	µg/L	10	10 U	11 U	10 U	
di–N–Butyl phthalate	µg/L	10	10 U	11 U	10 U	
Fluoranthene	µg/L	10	10 U	11 U	10 U	
Pyrene	µg/L	10	10 U	11 U	10 U	
Butylbenzylphthalate	µg/L	10	10 U	11 U	10 U	
3,3'–Dichlorobenzidine	µg/L	10	10 U	11 U	10 U	
Benzo(a)anthracene	µg/L	10	10 U	11 U	10 U	
Chrysene	µg/L	10	10 U	11 U	10 U	
bis(2–Ethylhexyl)phthalate	µg/L	10	10 U	11 U	10 U	
di–N–Octyl phthalate	µg/L	10	10 U	11 UJ(CCV)	10 U	
Benzo(b)fluoranthene	µg/L	10	10 U	11 U	10 U	
Benzo(k)fluoranthene	µg/L	10	10 U	11 U	10 U	
Benzo(a)pyrene	µg/L	10	10 U	11 U	10 U	
Indeno(1,2,3–c,d)pyrene	µg/L	10	10 U	11 U	10 U	
Dibenzo(a,h)anthracene	µg/L	10	10 U	11 U	10 U	
Benzo(g,h,i)perylene	µg/L	10	10 U	11 U	10 U	
TICs	µg/L		0 (0)	0 (0)	4,5–Dimethyl–2–Hepten–3–Ol [c]	5 J,N (RT 5.68)
					3–Bromo–Pentane [c]	5 J,N (RT 5.92)
TIC Total	µg/L		0 (0)	0 (0)		10 (2)

Table F–16. Data Presentation Table: Water – Quality Control, Field Blanks (ASTM Water)
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			FBBA–1
Laboratory ID Number			97308
Collection Date			9–30–92
Associated Field QC Sample			N/A
TOTAL PETROLEUM HYDROCARBONS (SW 3015M)			
Extraction Date			10–6–92
Analysis Date			10–21–92
Dilution Factor			1
Parameter	Units	MDL	
Diesel Fuel	mg/L	0.1	<0.2
Heavy Oil	mg/L	0.1	<0.2
TOTAL PRIORITY POLLUTANT METALS			
Digestion Date(s)			10–19 and 10–20–92
Analysis Date(s)			10–20 to 11–6–92
Dilution Factor		IDL	1
AA METALS			
Antimony (SW 3020/7041)	µg/L	1.2	R(N)
Arsenic (SW 3020/7060)	µg/L	0.7	0.7 U
Lead (SW 3020/7421)	µg/L	0.5	0.5 U*
Mercury (SW 3020/7470)	µg/L	0.1	0.1 U
Selenium (SW 3020/7740)	µg/L	1.4	R(N)
Thallium (SW 3020/7841)	µg/L	1.4	1.4 UJ(N)
ICP METALS (SW 3005/6010)			
Beryllium	µg/L	0.3	0.3 U
Cadmium	µg/L	2.1	2.1 U
Chromium	µg/L	2.9	2.9 U
Copper	µg/L	3.4	3.4 U
Nickel	µg/L	12.9	12.9 U
Silver	µg/L	3.8	3.8 U
Zinc	µg/L	2.9	4.2 U(MB)

Table F–16. Data Presentation Table: Water – Quality Control, Field Blanks (ASTM Water)
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			FBBA–1
Laboratory ID Number			97308
Collection Date			9–30–92
Associated Field QC Sample			N/A
VOLATILE ORGANICS (E 524.2 [A])			
Analysis Date			10–6–92
Dilution Factor			1
Parameter	Units	CRQL	
Chloromethane	µg/L	0.3	0.3 U
Bromomethane	µg/L	0.4	0.4 U
Vinyl Chloride	µg/L	0.5	0.5 U
Chloroethane	µg/L	0.2	0.2 U
Methylene Chloride	µg/L	0.4	1
Acetone	µg/L	1	1 U
Carbon Disulfide	µg/L	0.5	0.5 U
1,1–Dichloroethene	µg/L	0.5	0.5 U
1,1–Dichloroethane	µg/L	0.4	0.4 U
1,2–Dichloroethene (total)	µg/L	0.5	0.5 U
Chloroform	µg/L	0.4	34
1,2–Dichloroethane	µg/L	0.4	0.4 U
2–Butanone	µg/L	1	1 U
1,1,1–Trichloroethane	µg/L	0.4	0.4 U
Carbon Tetrachloride	µg/L	0.4	0.4 U
Bromodichloromethane	µg/L	0.4	0.8
1,2–Dichloropropane	µg/L	0.3	0.3 U
cis–1,3–Dichloropropene	µg/L	0.8	0.8 U
Trichloroethene	µg/L	0.5	0.5 U
Dibromochloromethane	µg/L	0.5	0.5 U
1,1,2–Trichloroethane	µg/L	0.8	0.8 U
Benzene	µg/L	0.5	0.5 U
trans–1,3–Dichloropropene	µg/L	0.8	0.8 U
Bromoform	µg/L	0.9	0.9 U
4–Methyl–2–pentanone	µg/L	0.6	0.6 U
2–Hexanone	µg/L	2	2 U
Tetrachloroethene	µg/L	0.4	0.4 U
1,1,2,2–Tetrachloroethane	µg/L	0.7	0.7 U
Toluene	µg/L	0.4	0.4 U
Chlorobenzene	µg/L	0.4	0.4 U
Ethylbenzene	µg/L	0.7	0.7 U
Styrene	µg/L	0.2	0.2 U
Xylene (total)	µg/L	0.7	0.7 U
TICs	µg/L		0 (0)
TIC Total	µg/L		0 (0)

Table F–16. Data Presentation Table: Water – Quality Control, Field Blanks (ASTM Water) 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			FBBA–1
Laboratory ID Number			97308
Collection Date			9–30–92
Associated Field QC Sample			N/A
SEMIVOLATILE ORGANIC (SW 8270 [B])			
Extraction Date			10–25–92
Analysis Date			10–28–92
Dilution Factor			1
Parameter	Units	CRQL	
Phenol	µg/L	10	11 U
bis(2–Chloroethyl)ether	µg/L	10	11 U
2–Chlorophenol	µg/L	10	11 U
1,3–Dichlorobenzene	µg/L	10	11 U
1,4–Dichlorobenzene	µg/L	10	11 U
1,2–Dichlorobenzene	µg/L	10	11 U
2–Methylphenol	µg/L	10	11 U
2,2–oxibis–(1–Chloropropane)	µg/L	10	11 U
4–Methylphenol	µg/L	10	11 U
N–Nitroso–di–N–propylamine	µg/L	10	11 U
Hexachloroethane	µg/L	10	11 U
Nitrobenzene	µg/L	10	11 U
Isophorone	µg/L	10	11 U
2–Nitrophenol	µg/L	10	11 U
2,4–Dimethylphenol	µg/L	10	11 U
bis(2–Chloroethoxy)methane	µg/L	10	11 U
2,4–Dichlorophenol	µg/L	10	11 U
1,2,4–Trichlorobenzene	µg/L	10	11 U
Naphthalene	µg/L	10	11 U
4–Chloroaniline	µg/L	10	11 U
Hexachlorobutadiene	µg/L	10	11 U
4–Chloro–3–methylphenol	µg/L	10	11 U
2–Methylnaphthalene	µg/L	10	11 U
Hexachlorocyclopentadiene	µg/L	10	11 U
2,4,6–Trichlorophenol	µg/L	10	11 U
2,4,5–Trichlorophenol	µg/L	25	28 U
2–Chloronaphthalene	µg/L	10	12 U
2–Nitroaniline	µg/L	25	28 U
Dimethyl phthalate	µg/L	10	11 U
Acenaphthylene	µg/L	10	11 U
2,6–Dinitrotoluene	µg/L	10	11 U
3–Nitroaniline	µg/L	25	28 U
Acenaphthene	µg/L	10	11 U
2,4–Dinitrophenol	µg/L	25	28 U
4–Nitrophenol	µg/L	25	28 UJ(CCV)
Dibenzofuran	µg/L	10	11 U
2,4–Dinitrotoluene	µg/L	10	11 U
Diethyl phthalate	µg/L	10	11 U
4–Chlorophenyl phenyl ether	µg/L	10	11 U
Fluorene	µg/L	10	11 U
4–Nitroaniline	µg/L	25	28 U
4,6–Dinitro–2–methylphenol	µg/L	25	28 U
N–Nitrosodiphenylamine (1)	µg/L	10	11 U

Table F–16. Data Presentation Table: Water – Quality Control, Field Blanks (ASTM Water)
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			FBBA–1
Laboratory ID Number			97308
Collection Date			9–30–92
Associated Field QC Sample			N/A
SEMIVOLATILE ORGANIC (SW 8270 [B]) (Continued)			
Extraction Date			10–25–92
Analysis Date			10–28–92
Dilution Factor			1
Parameter	Units	CRQL	
4–Bromophenyl phenyl ether	µg/L	10	11 U
Hexachlorobenzene	µg/L	10	11 U
Pentachlorophenol	µg/L	25	28 U
Phenanthrene	µg/L	10	11 U
Anthracene	µg/L	10	11 U
Carbazole	µg/L	10	11 U
di–N–Butyl phthalate	µg/L	10	11 U
Fluoranthene	µg/L	10	11 U
Pyrene	µg/L	10	11 U
Butylbenzylphthalate	µg/L	10	11 U
3,3'–Dichlorobenzidine	µg/L	10	11 UJ(CCV)
Benzo(a)anthracene	µg/L	10	11 U
Chrysene	µg/L	10	11 U
bis(2–Ethylhexyl)phthalate	µg/L	10	11 U
di–N–Octyl phthalate	µg/L	10	11 U
Benzo(b)fluoranthene	µg/L	10	11 U
Benzo(k)fluoranthene	µg/L	10	11 U
Benzo(a)pyrene	µg/L	10	11 U
Indeno(1,2,3–c,d)pyrene	µg/L	10	11 U
Dibenzo(a,h)anthracene	µg/L	10	11 U
Benzo(g,h,i)perylene	µg/L	10	11 U
TICs	µg/L		0 (0)
TIC Total	µg/L		0 (0)

Table F–16. Data Presentation Table: Water – Quality Control, Field Blanks (ASTM Water), 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

Validation note: All descriptive data qualifiers applied to the reported values by the laboratory are reported in parentheses.
Each data point has been assessed to determine whether the value is considered usable (i.e., no qualifier), usable but estimated (i.e., "J"), or not usable (i.e., "R"). All usability qualifiers are followed by the applicable laboratory or field QC qualifier, presented in parentheses and defined below. Usability qualifiers were not applied to values qualified by the laboratory, but were not considered to have been adversely impacted by the applicable laboratory QC result (e.g., duplicated and matrix spike analysis).
A – groundwater samples were analyzed for volatile halogenated compounds and volatile aromatic compounds (i.e., E 524.2), which has been modified to incorporate CLP–type QC requirements
B – SVOCs in groundwater and field QC blanks were analyzed using EPA method 3510/8270
CRQL – Contract Required Quantitation Limit
IDL – Instrument Detection Limit
MDL – Method Detection Limit
N/A – not applicable
RT – retention time in minutes
TICs–tentatively identified compounds, total concentration is listed and the total number of tentatively identified compounds is inside the parenthases
Data Validation Qualifiers
J – associated numerical value is the approximate concentration
R – rejected value
U – compound/element was included in analysis, but was not detected
UJ – reported quantitation limit is approximate and may or may not represent the actual quantitation necessary to accurately and precisely measure the analyte
Explanatory Data Validation Qualifiers
CCV – continuing calibration verification
MB – compound/element was also detected in the associated laboratory method blank
EPA–defined CLP SOW Laboratory Qualifiers
B(metals) – the reported value is estimated because it is greater than the Instrument Detection Limit (IDL), but less than the Contract Required Detection Limit(CRDL)
N – spiked sample recovery outside of control limits
N(TICs) – presumptive evidence of a compound
W – post–digestion spike for Graphite Furnace Atomic Absorption (GFAA) analysis is out of control limits (85–115%), while sample absorbance is less than 50% of the spike absorbance
* – duplicate sample analysis outside of control limits
SAIC TIC Evaluation Categories
[a] – laboratory and extraction artifacts
[c] – other

Table F–17. Data Presentation Table: Water – Quality Control, Field Blanks (Potable Water), 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

SAIC ID Number					SD5–FB	FBCE–1	FB2–2	FB3–2
Laboratory ID Number					89656	97395	9566, 9582	9567, 9583
Collection Date					5–6–92	10–1–92	5–21–93	5–21–93
Associated Field QC Sample					N/A	N/A	N/A	N/A
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)								
Extraction Date					5–27–92	10–6–92	5–26–93	5–26–93
Analysis Date					6–5–92	10–21–92	5–25 and 6–16–93	5–25 and 6–16–93
Dilution Factor					1	1	1	1
Parameter	Units	MDL	or	MDL				
Gasoline	mg/L	N/A		0.05	NA	NA	<0.25	<0.25
Diesel Fuel	mg/L	0.1		0.05	<0.1 UJ(EHT)	<0.2	<0.13	<0.13
Heavy Oil	mg/L	0.1		0.1	<0.1 UJ(EHT)	<0.2	<0.25	<0.25
TOTAL PRIORITY POLLUTANT METALS								
Digestion Date(s)					6–1 and 6–2–92	10–19 and 10–20–92	6–11 and 6–16–93	6–11 and 6–16–93
Analysis Date(s)					6–5 to 6–18–92	10–20 to 11–6–92	6–11 to 6–25–93	6–11 to 6–25–93
Dilution Factor		IDL	or IDL	or IDL	1	1	1	1
AA METALS								
Antimony (SW 3020/7041)	µg/L	3	1.2	0.6	3 U	R(N)	0.6 UJ(N)	0.6 UJ(N)
Arsenic (SW 3020/7060)	µg/L	2	0.7	0.6	2 U	0.7 U	R(N)	R(N)
Lead (SW 3020/7421)	µg/L	2	0.5	0.5	2 U	4.1 U(MB)	0.5 U	0.5 U
Mercury (SW 3020/7470)	µg/L	0.1	0.1	0.1	0.1 U	0.1 U	0.1 U	0.1 U
Selenium (SW 3020/7740)	µg/L	1	1.4	0.9	1 U	R(N)	R(N)	R(N)
Thallium (SW 3020/7841)	µg/L	1	1.4	1.4	1 U	1.4 UJ(N)	1.4 U	1.4 U
ICP METALS (SW 3005/6010)								
Beryllium	µg/L	1	0.3	0.3	1 U	0.3 U	0.3 U	0.3 U
Cadmium	µg/L	3	2.1	3.7	3 U	2.1 U	3.7 U	3.7 U
Chromium	µg/L	4	2.9	2.8	4 U	2.9 U	2.8 U	2.8 U
Copper	µg/L	2	3.4	2.7	2 U	9.1 B	4.5 U(MB)	8.9 U(MB)
Nickel	µg/L	20	12.9	19.8	20 U	12.9 U	19.8 U	19.8 U
Silver	µg/L	3	3.8	2.9	3 U	3.8 U	2.9 UJ(N)	2.9 UJ(N)
Zinc	µg/L	2	2.9	1.6	2.9 B	522 J(E)	3.1 U(MB)	4.4 U(MB)
DISSOLVED PRIORITY POLLUTANT METALS								
Digestion Date(s)					N/A	N/A	6–8 and 6–16–93	6–8 and 6–16–93
Analysis Date(s)					N/A	N/A	6–16 to 6–22–93	6–16 to 6–22–93
Dilution Factor		IDL			N/A	N/A	1	1
AA METALS								
Antimony (SW 3020/7041)	µg/L	0.6			NA	NA	0.9 U	0.9 U
Arsenic (SW 3020/7060)	µg/L	0.6			NA	NA	0.6 U	0.6 U
Lead (SW 3020/7421)	µg/L	0.5			NA	NA	0.5 U	0.8 B
Mercury (SW 3020/7470)	µg/L	0.1			NA	NA	0.1 U	0.1 U
Selenium (SW 3020/7740)	µg/L	0.9			NA	NA	1.1 U(MB)	0.9 U
Thallium (SW 3020/7841)	µg/L	1.4			NA	NA	1.4 U	1.4 U
ICP METALS (SW 3005/6010)								
Beryllium	µg/L	0.3			NA	NA	0.3 U	0.3 U
Cadmium	µg/L	3.7			NA	NA	3.7 U	3.7 U
Chromium	µg/L	2.8			NA	NA	2.8 U	2.8 U
Copper	µg/L	2.7			NA	NA	2.7 U	2.7 U
Nickel	µg/L	19.8			NA	NA	19.8 U	19.8 U
Silver	µg/L	2.9			NA	NA	2.9 UJ(N)	2.9 UJ(N)
Zinc	µg/L	1.6			NA	NA	2.8 U(MB)	2.6 U(MB)

Table F–17. Data Presentation Table: Water – Quality Control, Field Blanks (Potable Water), 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number				SD5–FB		FBCE–1	FB2–2	FB3–2
Laboratory ID Number				89656		97395	9566, 9582	9567, 9583
Collection Date				5–6–92		10–1–92	5–21–93	5–21–93
Associated Field QC Sample				N/A		N/A	N/A	N/A
VOLATILE ORGANICS (A)								
Analysis Date				5–11–92		10–7–92	5–24–93	5–24–93
Dilution Factor				1		1	1	1
Parameter	Units	CRQL or CRQL						
Chloromethane	µg/L	10	0.3	10 U		0.3 U	0.3 U	0.3 U
Bromomethane	µg/L	10	0.4	10 U		0.4 U	0.4 U	0.4 U
Vinyl Chloride	µg/L	10	0.5	10 U		0.5 U	0.5 U	0.5 U
Chloroethane	µg/L	10	0.2	10 U		0.2 U	0.2 U	0.2 U
Methylene Chloride	µg/L	10	0.4	10 U		0.4 U	0.4 U	0.4 U
Acetone	µg/L	10	1	10 U		1 U	11	10
Carbon Disulfide	µg/L	10	0.5	10 U		0.5 U	0.5 U	0.5 U
1,1–Dichloroethene	µg/L	10	0.5	10 U		0.5 U	0.5 U	0.5 U
1,1–Dichloroethane	µg/L	10	0.4	10 U		0.4 U	0.4 U	0.4 U
1,2–Dichloroethene (total)	µg/L	10	0.5	10 U		0.5 U	0.5 U	0.5 U
Chloroform	µg/L	10	0.4	15		10	0.4 U	0.4 U
1,2–Dichloroethane	µg/L	10	0.4	10 U		0.4 U	0.4 U	0.4 U
2–Butanone	µg/L	10	1	10 U		1 U	1 U	1 U
1,1,1–Trichloroethane	µg/L	10	0.4	10 U		0.4 U	0.4 U	0.4 U
Carbon Tetrachloride	µg/L	10	0.4	10 U		0.4 U	0.4 U	0.4 U
Bromodichloromethane	µg/L	10	0.4	10 U		7	0.4 U	0.4 U
1,2–Dichloropropane	µg/L	10	0.3	10 U		0.3 U	0.3 U	0.3 U
cis–1,3–Dichloropropene	µg/L	10	0.8	10 U		0.8 U	0.8 U	0.8 U
Trichloroethene	µg/L	10	0.5	10 U		0.5 U	0.5 U	0.5 U
Dibromochloromethane	µg/L	10	0.5	10 U		6	0.5 U	0.5 U
1,1,2–Trichloroethane	µg/L	10	0.8	10 U		0.8 U	0.8 U	0.8 U
Benzene	µg/L	10	0.5	10 U		0.5 U	0.5 U	0.5 U
trans–1,3–Dichloropropene	µg/L	10	0.8	10 U		0.8 U	0.8 U	0.8 U
Bromoform	µg/L	10	0.9	10 U		2	0.9 U	0.9 U
4–Methyl–2–pentanone	µg/L	10	0.6	10 U		0.6 U	0.6 U	0.6 U
2–Hexanone	µg/L	10	2	10 U		2 U	2 U	2 U
Tetrachloroethene	µg/L	10	0.4	10 U		0.4 U	0.4 U	0.4 U
1,1,2,2–Tetrachloroethane	µg/L	10	0.7	10 U		0.7 U	0.7 U	0.7 U
Toluene	µg/L	10	0.4	10 U		0.4 U	0.4 U	0.4 U
Chlorobenzene	µg/L	10	0.4	10 U		0.4 U	0.5 U	0.5 U
Ethylbenzene	µg/L	10	0.7	10 U		0.7 U	0.7 U	0.7 U
Styrene	µg/L	10	0.2	10 U		0.2 U	0.2 U	0.2 U
Xylene (total)	µg/L	10	0.7	10 U		0.7 U	0.7 U	0.7 U
TICs	µg/L			Hexamethylcyclotrisiloxane [a]	6 J,N (RT 18.49)	0 (0)	0 (0)	0 (0)
				Unknown Silane [a]	25 J,N (RT 26.44)			
TIC Total	µg/L				31 (2)	0 (0)	0 (0)	0 (0)

Table F–17. Data Presentation Table: Water – Quality Control, Field Blanks (Potable Water), 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD5–FB	FBCB–1	FB2–2	FB3–2
Laboratory ID Number			89656	97395	9566, 9582	9567, 9583
Collection Date			5–6–92	10–1–92	5–21–93	5–21–93
Associated Field QC Sample			N/A	N/A	N/A	N/A
SEMIVOLATILE ORGANIC (SW 8270 [B])						
Extraction Date			5–21–92	10–5–92	5–26–93	5–26–93
Analysis Date			6–1–92	10–27–92	6–2–93	6–1–93
Dilution Factor			1	1	2	1
Parameter	Units	CRQL				
Phenol	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
bis(2–Chloroethyl)ether	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
2–Chlorophenol	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
1,3–Dichlorobenzene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
1,4–Dichlorobenzene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
1,2–Dichlorobenzene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
2–Methylphenol	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
2,2–oxibis–(1–Chloropropane)	µg/L	10	10 UJ(EHT)	11 U	20 UJ(CCV)	11 U
4–Methylphenol	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
N–Nitroso–di–N–propylamine	µg/L	10	10 UJ(EHT)	11 U	20 UJ(CCV)	11 U
Hexachloroethane	µg/L	10	10 UJ(EHT)	11 U	20 UJ(CCV)	11 UJ(CCV)
Nitrobenzene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
Isophorone	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
2–Nitrophenol	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
2,4–Dimethylphenol	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
bis(2–Chloroethoxy)methane	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
2,4–Dichlorophenol	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
1,2,4–Trichlorobenzene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
Naphthalene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
4–Chloroaniline	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
Hexachlorobutadiene	µg/L	10	10 UJ(EHT)	11 U	20 UJ(CCV)	11 UJ(CCV)
4–Chloro–3–methylphenol	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
2–Methylnaphthalene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
Hexachlorocyclopentadiene	µg/L	10	10 UJ(EHT)	11 U	20 UJ(CCV)	11 U
2,4,6–Trichlorophenol	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
2,4,5–Trichlorophenol	µg/L	25	25 UJ(EHT)	28 U	50 U	27 U
2–Chloronaphthalene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
2–Nitroaniline	µg/L	25	25 UJ(EHT)	28 U	50 U	27 U
Dimethyl phthalate	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
Acenaphthylene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
2,6–Dinitrotoluene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
3–Nitroaniline	µg/L	25	25 UJ(EHT)	28 U	50 U	27 UJ(CCV)
Acenaphthene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
2,4–Dinitrophenol	µg/L	25	25 UJ(EHT,CCV)	28 U	50 UJ(CCV)	27 UJ(CCV)
4–Nitrophenol	µg/L	25	25 UJ(EHT)	28 UJ(CCV)	50 U	27 U
Dibenzofuran	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
2,4–Dinitrotoluene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
Diethyl phthalate	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
4–Chlorophenyl phenyl ether	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
Fluorene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
4–Nitroaniline	µg/L	25	25 UJ(EHT)	28 U	50 U	27 U
4,6–Dinitro–2–methylphenol	µg/L	25	25 UJ(EHT)	28 U	50 U	27 UJ(CCV)
N–Nitrosodiphenylamine (1)	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U

Table F–17. Data Presentation Table: Water – Quality Control, Field Blanks (Potable Water), 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			SD5–FB	FBCE–1	FB2–2	FB3–2
Laboratory ID Number			89656	97395	9566, 9582	9567, 9583
Collection Date			5–6–92	10–1–92	5–21–93	5–21–93
Associated Field QC Sample			N/A	N/A	N/A	N/A
SEMIVOLATILE ORGANIC (SW 8270 [B]) (Continued)						
Extraction Date			5–21–92	10–5–92	5–26–93	5–26–93
Analysis Date			6–1–92	10–27–92	6–2–93	6–1–93
Dilution Factor			1	1	2	1
Parameter	Units	CRQL				
4–Bromophenyl phenyl ether	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
Hexachlorobenzene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 UJ(CCV)
Pentachlorophenol	µg/L	25	25 UJ(EHT)	28 U	50 UJ(CCV)	27 UJ(CCV)
Phenanthrene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
Anthracene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
Carbazole	µg/L	10	10 UJ(EHT)	11 U	20 U	11 UJ(CCV)
di–N–Butyl phthalate	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
Fluoranthene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
Pyrene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
Butylbenzylphthalate	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
3,3'–Dichlorobenzidine	µg/L	10	10 UJ(EHT)	11 UJ(CCV)	20 U	11 U
Benzo(a)anthracene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
Chrysene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
bis(2–Ethylhexyl)phthalate	µg/L	10	10 UJ(MB,EHT)	11 U	20 U	2 J
di–N–Octyl phthalate	µg/L	10	2 J(EHT)	11 U	20 U	11 U
Benzo(b)fluoranthene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
Benzo(k)fluoranthene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
Benzo(a)pyrene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
Indeno(1,2,3–c,d)pyrene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
Dibenzo(a,h)anthracene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
Benzo(g,h,i)perylene	µg/L	10	10 UJ(EHT)	11 U	20 U	11 U
TICs	µg/L		Unknown[d] 4 J (RT 27.96)	Unknown[d] 3 J (RT 7.15)	0 (0)	4–Hydroxy–4–Methyl–2–Pentanone[a] 3 J,N,A (RT 3.88)
			Unknown[d] 2 J (RT 28.21)			Unknown[d] 2 J (RT 23.82)
			Unknown[d] 5 J (RT 28.34)			
			Unknown[d] 3 J (RT 28.57)			
			1,2–Benzenedicarboxylic Acid[e] 4 B,J,N (RT 28.64)			
			1,2–Benzenedicarboxylic Acid[e] 3 J,N (RT 29.01)			
			Unknown[d] 3 J (RT 34.37)			
			Unknown[d] 5 J (RT 35.27)			
TIC Total	µg/L		29 (8)	3 (1)	0 (0)	5 (2)

Table F–17. Data Presentation Table: Water – Quality Control, Field Blanks (Potable Water), 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

Validation note: All descriptive data qualifiers applied to the reported values by the laboratory are reported in parentheses.
Each data point has been assessed to determine whether the value is considered usable (i.e., no qualifier), usable but estimated (i.e., "J"), or not usable (i.e., "R"). All usability qualifiers are followed by the applicable laboratory or field QC qualifier, presented in parentheses and defined below. Usability qualifiers were not applied to values qualified by the laboratory, but were not considered to have been adversely impacted by the applicable laboratory QC result (e.g., duplicated and matrix spike analysis).

A – groundwater samples were analyzed for volatile halogenated compounds and volatile aromatic compounds (i.e., E 524.2), which has been modified to incorporate CLP–type QC requirements and samples SD5–FB, FB2–2 and FB3–2 were analyzed for volatile organic compounds (i.e, SW 8240) which has been modified for low level detection limits and modified to incorporate CLP–type QC requirements
B – SVOCs in groundwater and field QC blanks were analyzed using EPA method 3510/8270
CRQL – Contract Required Quantitation Limit
IDL – Instrument Detection Limit
MDL – Method Detection Limit
NA – not analyzed
N/A – not applicable
RT – retention time in minutes
TICs – tentatively identified compounds, total concentration is listed and the total number of tentatively identified compounds is inside the parenthases

Data Validation Qualifiers

J – associated numerical value is the approximate concentration
R – rejected value
U – compound/element was included in analysis, but was not detected
UJ – reported quantitation limit is approximate and may or may not represent the actual quantitation necessary to accurately and precisely measure the analyte

Explanatory Data Validation Qualifiers

CCV – continuing calibration verification
EHT – extraction holding time outside control limits
MB – compound/element was also detected in the associated laboratory method blank

EPA–defined CLP SOW Laboratory Qualifiers

A(TICs) – suspects ALDOL–condensation product
B(metals) – the reported value is estimated because it is greater than the Instrument Detection Limit (IDL), but less than the Contract Required Detection Limit(CRDL)
B(organics) – compound was also detected in the associated laboratory method blank
E(metals) – the reported value is estimated due to the presence of interference
N – spiked sample recovery outside of control limits
N(TICs) – presumptive evidence of a compound

SAIC TIC Evaluation Categories

[a] – laboratory and extraction artifacts
[c] – other
[d] – unknown

Table F–18. Data Presentation Table: Water – Quality Control, Trip Blanks, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC ID Number				SP–TB	TB–1 on 8–12–92	TB–2 on 8–13–92
Laboratory ID Number				89657	94533	94534
Collection Date				5–6–92	8–12–92	8–13–92
Associated Field QC Sample				N/A	N/A	N/A
VOLATILE ORGANICS (A)						
Analysis Date				5–11–92	8–18–92	8–18–92
Dilution Factor				1	1	1
Parameter	Units	CRQL	or CRQL			
Chloromethane	µg/L	10	0.6	10 U	0.6 U	0.6 U
Bromomethane	µg/L	10	0.5	10 U	0.5 U	0.5 U
Vinyl Chloride	µg/L	10	0.8	10 U	0.8 U	0.8 U
Chloroethane	µg/L	10	0.8	10 U	0.8 U	0.8 U
Methylene Chloride	µg/L	10	1	10 U	1 U	1 U
Acetone	µg/L	10	4	10 U	4 U	4 U
Carbon Disulfide	µg/L	10	1	10 U	1 U	1 U
1,1–Dichloroethene	µg/L	10	1	10 U	1 U	1 U
1,1–Dichloroethane	µg/L	10	0.7	10 U	0.7 U	0.7 U
1,2–Dichloroethene (total)	µg/L	10	0.7	10 U	0.7 U	0.7 U
Chloroform	µg/L	10	0.5	10 U	0.5 U	0.5 U
1,2–Dichloroethane	µg/L	10	0.8	10 U	0.8 U	0.8 U
2–Butanone	µg/L	10	3	10 U	3 U	3 U
1,1,1–Trichloroethane	µg/L	10	0.5	10 U	0.5 U	0.5 U
Carbon Tetrachloride	µg/L	10	0.6	10 U	0.6 U	0.6 U
Bromodichloromethane	µg/L	10	0.4	10 U	0.4 U	0.4 U
1,2–Dichloropropane	µg/L	10	0.7	10 U	0.7 U	0.7 U
cis–1,3–Dichloropropene	µg/L	10	0.5	10 U	0.5 U	0.5 U
Trichloroethene	µg/L	10	0.6	10 U	0.6 U	0.6 U
Dibromochloromethane	µg/L	10	0.4	10 U	0.4 U	0.4 U
1,1,2–Trichloroethane	µg/L	10	0.8	10 U	0.8 U	0.8 U
Benzene	µg/L	10	0.3	10 U	0.3 U	0.3 U
trans–1,3–Dichloropropene	µg/L	10	0.1	10 U	0.1 U	0.1 U
Bromoform	µg/L	10	0.3	10 U	0.3 U	0.3 U
4–Methyl–2–pentanone	µg/L	10	0.7	10 U	0.7 U	0.7 U
2–Hexanone	µg/L	10	2	10 U	2 U	2 U
Tetrachloroethene	µg/L	10	0.6	10 U	0.6 U	0.6 U
1,1,2,2–Tetrachloroethane	µg/L	10	0.9	10 U	0.9 U	0.9 U
Toluene	µg/L	10	0.3	10 U	0.3 U	0.3 U
Chlorobenzene	µg/L	10	0.4	10 U	0.4 U	0.4 U
Ethylbenzene	µg/L	10	0.5	10 U	0.5 U	0.5 U
Styrene	µg/L	10	0.4	10 U	0.4 U	0.4 U
Xylene (total)	µg/L	10	0.6	10 U	0.6 U	0.6 U
TICs	µg/L			Unknown Silane[a] 8 J,N (RT 26.47)	0 (0)	Hexamethylcyclotrisiloxane[a] 5 J,N (RT 18.65) Octamethylcyclotetrasiloxane[a] 5 J,N (RT 26.26)
TIC Total	µg/L			8 (1)	0 (0)	10 (2)

Table F–18. Data Presentation Table: Water – Quality Control, Trip Blanks, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			TB–3	TB–4	TB–5
Laboratory ID Number			94599	94679	94810
Collection Date			8–13–92	8–15–92	8–18–92
Associated Field QC Sample			N/A	N/A	N/A
VOLATILE ORGANICS (A)					
Analysis Date			8–18–92	8–19–92	8–20–92
Dilution Factor			1	1	1
Parameter	Units	CRQL			
Chloromethane	µg/L	0.6	0.6 U	0.6 U	0.6 U
Bromomethane	µg/L	0.5	0.5 U	0.5 U	0.5 U
Vinyl Chloride	µg/L	0.8	0.8 U	0.8 U	0.8 U
Chloroethane	µg/L	0.8	0.8 U	0.8 U	0.8 U
Methylene Chloride	µg/L	1	1 U	1 U	1 U
Acetone	µg/L	4	4 U	4 U	4 U
Carbon Disulfide	µg/L	1	1 U	1 U	1 U
1,1–Dichloroethene	µg/L	1	1 U	1 U	1 U
1,1–Dichloroethane	µg/L	0.7	0.7 U	0.7 U	0.7 U
1,2–Dichloroethene (total)	µg/L	0.7	0.7 U	0.7 U	0.7 U
Chloroform	µg/L	0.5	0.5 U	0.5 U	0.5 U
1,2–Dichloroethane	µg/L	0.8	0.8 U	0.8 U	0.8 U
2–Butanone	µg/L	3	3 U	3 U	3 U
1,1,1–Trichloroethane	µg/L	0.5	0.5 U	0.5 U	0.5 U
Carbon Tetrachloride	µg/L	0.6	0.6 U	0.6 U	0.6 U
Bromodichloromethane	µg/L	0.4	0.4 U	0.4 U	0.4 U
1,2–Dichloropropane	µg/L	0.7	0.7 U	0.7 U	0.7 U
cis–1,3–Dichloropropene	µg/L	0.5	0.5 U	0.5 U	0.5 U
Trichloroethene	µg/L	0.6	0.6 U	0.6 U	0.6 U
Dibromochloromethane	µg/L	0.4	0.4 U	0.4 U	0.4 U
1,1,2–Trichloroethane	µg/L	0.8	0.8 U	0.8 U	0.8 U
Benzene	µg/L	0.3	0.3 U	0.3 U	0.3 U
trans–1,3–Dichloropropene	µg/L	0.1	0.1 U	0.1 U	0.1 U
Bromoform	µg/L	0.3	0.3 U	0.3 U	0.3 U
4–Methyl–2–pentanone	µg/L	0.7	0.7 U	0.7 U	0.7 U
2–Hexanone	µg/L	2	2 U	2 U	2 U
Tetrachloroethene	µg/L	0.6	0.6 U	0.6 U	0.6 U
1,1,2,2–Tetrachloroethane	µg/L	0.9	0.9 U	0.9 U	0.9 U
Toluene	µg/L	0.3	0.3 U	0.3 U	0.3 U
Chlorobenzene	µg/L	0.4	0.4 U	0.4 U	0.4 U
Ethylbenzene	µg/L	0.5	0.5 U	0.5 U	0.5 U
Styrene	µg/L	0.4	0.4 U	0.4 U	0.4 U
Xylene (total)	µg/L	0.6	0.6 U	0.6 U	0.6 U
TICs	µg/L		Octamethylcyclotetrasiloxane[a] 9 J,N (RT 26.24)	Hexamethylcyclotrisiloxane[a] 7 J,N (RT 18.62) Octamethylcyclotetrasiloxane[a] 9 J,N (RT 26.25)	Hexamethylcyclotrisiloxane[a] 6 B,J,N (RT 18.63)
TIC Total	µg/L		9 (1)	16 (2)	6 (1)

Table F–18. Data Presentation Table: Water – Quality Control, Trip Blanks, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number				TB–6	TB–7	TB–8	TB–10	TB–12	TB–13
Laboratory ID Number				94910	94978	95033	95271	97274	97276
Collection Date				8–19–92	8–20–92	8–21–92	8–26–92	9–29–92	9–29–92
Associated Field QC Sample				N/A	N/A	N/A	N/A	N/A	N/A
VOLATILE ORGANICS (A)									
Analysis Date				8–21–93	8–24–92	8–24–92	9–1–92	10–6–92	10–6–92
Dilution Factor				1	1	1	1	1	1
Parameter	Units	CRQL	or CRQL						
Chloromethane	µg/L	0.6	0.3	0.6 U	0.6 U	0.6 U	0.6 U	0.3 U	0.3 U
Bromomethane	µg/L	0.5	0.4	0.5 U	0.5 U	0.5 U	0.5 U	0.4 U	0.4 U
Vinyl Chloride	µg/L	0.8	0.5	0.8 U	0.8 U	0.8 U	0.8 U	0.5 U	0.5 U
Chloroethane	µg/L	0.8	0.2	0.8 U	0.8 U	0.8 U	0.8 U	0.2 U	0.2 U
Methylene Chloride	µg/L	1	0.4	1 U	1 U	1 U	1 U	0.4 U	0.4 U
Acetone	µg/L	4	1	4 U	4 U	4 U	4 U	1 U	1 U
Carbon Disulfide	µg/L	1	0.5	1 U	1 U	1 U	1 U	0.5 U	0.5 U
1,1–Dichloroethene	µg/L	1	0.5	1 U	1 U	1 U	1 U	0.5 U	0.5 U
1,1–Dichloroethane	µg/L	0.7	0.4	0.7 U	0.7 U	0.7 U	0.7 U	0.4 U	0.4 U
1,2–Dichloroethene (total)	µg/L	0.7	0.5	0.7 U	0.7 U	0.7 U	0.7 U	0.5 U	0.5 U
Chloroform	µg/L	0.5	0.4	0.5 U	0.5 U	0.5 U	0.5 U	0.4 U	0.4 U
1,2–Dichloroethane	µg/L	0.8	0.4	0.8 U	0.8 U	0.8 U	0.8 U	0.4 U	0.4 U
2–Butanone	µg/L	3	1	3 U	3 U	3 U	3 U	1 U	1 U
1,1,1–Trichloroethane	µg/L	0.5	0.4	0.5 U	0.5 U	0.5 U	0.5 U	0.4 U	0.4 U
Carbon Tetrachloride	µg/L	0.6	0.4	0.6 U	0.6 U	0.6 U	0.6 U	0.4 U	0.4 U
Bromodichloromethane	µg/L	0.4	0.4	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2–Dichloropropane	µg/L	0.7	0.3	0.7 U	0.7 U	0.7 U	0.7 U	0.3 U	0.3 U
cis–1,3–Dichloropropene	µg/L	0.5	0.8	0.5 U	0.5 U	0.5 U	0.5 U	0.8 U	0.8 U
Trichloroethene	µg/L	0.6	0.5	0.6 U	0.6 U	0.6 U	0.6 U	0.5 U	0.5 U
Dibromochloromethane	µg/L	0.4	0.5	0.4 U	0.4 U	0.4 U	0.4 U	0.5 U	0.5 U
1,1,2–Trichloroethane	µg/L	0.8	0.8	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Benzene	µg/L	0.3	0.5	0.3 U	0.3 U	0.3 U	0.3 U	0.5 U	0.5 U
trans–1,3–Dichloropropene	µg/L	0.1	0.8	0.1 U	0.1 U	0.1 U	0.1 U	0.8 U	0.8 U
Bromoform	µg/L	0.3	0.9	0.3 U	0.3 U	0.3 U	0.3 U	0.9 U	0.9 U
4–Methyl–2–pentanone	µg/L	0.7	0.6	0.7 U	0.7 U	0.7 U	0.7 U	0.6 U	0.6 U
2–Hexanone	µg/L	2	2	2 U	2 U	2 U	2 U	2 U	2 U
Tetrachloroethene	µg/L	0.6	0.4	0.6 U	0.6 U	0.6 U	0.6 U	0.4 U	0.4 U
1,1,2,2–Tetrachloroethane	µg/L	0.9	0.7	0.9 U	0.9 U	0.9 U	0.9 U	0.7 U	0.7 U
Toluene	µg/L	0.3	0.4	0.3 U	0.3 U	0.3 U	0.3 U	0.4 U	0.4 U
Chlorobenzene	µg/L	0.4	0.4	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Ethylbenzene	µg/L	0.5	0.7	0.5 U	0.5 U	0.5 U	0.5 U	0.7 U	0.7 U
Styrene	µg/L	0.4	0.2	0.4 U	0.4 U	0.4 U	0.4 U	0.2 U	0.2 U
Xylene (total)	µg/L	0.6	0.7	0.6 U	0.6 U	0.6 U	0.6 U	0.7 U	0.7 U
TICs	µg/L			Hexamethylcyclotrisiloxane[a] 8 J,N (RT 18.61)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
				Octamethylcyclotetrasiloxane[a] 8 J,N (RT 26.27)					
TIC Total	µg/L			16 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

Table F–18. Data Presentation Table: Water – Quality Control, Trip Blanks
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number			TB–14	TB–15	TB52093	TB52193
Laboratory ID Number			97316	97397	9578	9579
Collection Date			9–30–92	10–1–92	5–20–93	5–21–93
Associated Field QC Sample			N/A	N/A	N/A	N/A
VOLATILE ORGANICS (A)						
Analysis Date			10–7–92	10–7–92	5–25–93	5–25–93
Dilution Factor			1	1	1	1
Parameter	Units	CRQL				
Chloromethane	µg/L	0.3	0.3 U	0.3 U	0.3 U	0.3 U
Bromomethane	µg/L	0.4	0.4 U	0.4 U	0.4 U	0.4 U
Vinyl Chloride	µg/L	0.5	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	µg/L	0.2	0.2 U	0.2 U	0.2 U	0.2 U
Methylene Chloride	µg/L	0.4	0.4 U	0.4 U	0.6	0.4 U
Acetone	µg/L	1	1 U	1 U	1 U	1 U
Carbon Disulfide	µg/L	0.5	0.5 U	0.5 U	0.5 U	0.5 U
1,1–Dichloroethene	µg/L	0.5	0.5 U	0.5 U	0.5 U	0.5 U
1,1–Dichloroethane	µg/L	0.4	0.4 U	0.4 U	0.4 U	0.4 U
1,2–Dichloroethene (total)	µg/L	0.5	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	µg/L	0.4	0.4 U	0.4 U	0.4 U	0.4 U
1,2–Dichloroethane	µg/L	0.4	0.4 U	0.4 U	0.4 U	0.4 U
2–Butanone	µg/L	1	1 U	1 U	1 U	1 U
1,1,1–Trichloroethane	µg/L	0.4	0.4 U	0.4 U	0.4 U	0.4 U
Carbon Tetrachloride	µg/L	0.4	0.4 U	0.4 U	0.4 U	0.4 U
Bromodichloromethane	µg/L	0.4	0.4 U	0.4 U	0.4 U	0.4 U
1,2–Dichloropropane	µg/L	0.3	0.3 U	0.3 U	0.3 U	0.3 U
cis–1,3–Dichloropropene	µg/L	0.8	0.8 U	0.8 U	0.8 U	0.8 U
Trichloroethene	µg/L	0.5	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	µg/L	0.5	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2–Trichloroethane	µg/L	0.8	0.8 U	0.8 U	0.8 U	0.8 U
Benzene	µg/L	0.5	0.5 U	0.5 U	0.5 U	0.5 U
trans–1,3–Dichloropropene	µg/L	0.8	0.8 U	0.8 U	0.8 U	0.8 U
Bromoform	µg/L	0.9	0.9 U	0.9 U	0.9 U	0.9 U
4–Methyl–2–pentanone	µg/L	0.6	0.6 U	0.6 U	0.6 U	0.6 U
2–Hexanone	µg/L	2	2 U	2 U	2 U	2 U
Tetrachloroethene	µg/L	0.4	0.4 U	0.4 U	0.4 U	0.4 U
1,1,2,2–Tetrachloroethane	µg/L	0.7	0.7 U	0.7 U	0.7 U	0.7 U
Toluene	µg/L	0.4	0.4 U	0.4 U	0.4 U	0.4 U
Chlorobenzene	µg/L	0.4	0.4 U	0.4 U	0.4 U	0.4 U
Ethylbenzene	µg/L	0.7	0.7 U	0.7 U	0.7 U	0.7 U
Styrene	µg/L	0.2	0.2 U	0.2 U	0.2 U	0.2 U
Xylene (total)	µg/L	0.7	0.7 U	0.7 U	0.7 U	0.7 U
TICs	µg/L		0 (0)	0 (0)	0 (0)	0 (0)
TIC Total	µg/L		0 (0)	0 (0)	0 (0)	0 (0)

Table F–18. Data Presentation Table: Water – Quality Control, Trip Blanks, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

Validation note: All descriptive data qualifiers applied to the reported values by the laboratory are reported in parentheses. Each data point has been assessed to determine whether the value is considered usable (i.e., no qualifier), usable but estimated (i.e., "J"), or not usable (i.e., "R"). All usability qualifiers are followed by the applicable laboratory or field QC qualifier, presented in parentheses and defined below. Usability qualifiers were not applied to values qualified by the laboratory, but were not considered to have been adversely impacted by the applicable laboratory QC result (e.g., duplicated and matrix spike analysis).

A – groundwater samples were analyzed for volatile halogenated compounds and volatile aromatic compounds (i.e., E 524.2), which has been modified to incorporate CLP–type QC requirements and SP–TB, TB52093, and TB52193 were analyzed for volatile organic compounds (i.e., SW 8240) which has been modified for low level detection limits and modified to incorporate CLP–type QC requirements

CRQL – Contract Required Quantitation Limit

N/A – not applicable

RT – retention time in minutes

TICs–tentatively identified compounds, total concentration is listed and the total number of tentatively identified compounds is inside the parenthases

Data Validation Qualifiers

J – associated numerical value is the approximate concentration

U – compound/element was included in analysis, but was not detected

EPA–defined CLP SOW Laboratory Qualifiers

B(organics) – compound was also detected in the associated laboratory method blank

N(TICs) – presumptive evidence of a compound

SAIC TIC Evaluation Categories

[a] – laboratory and extraction artifacts

APPENDIX G

Data Quality Assessment

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APPENDIX G. DATA QUALITY ASSESSMENT

G.1 INTRODUCTION

A standardized quality assurance/quality control (QA/QC) program was followed during the site investigation (SI) conducted for the 178th Tactical Fighter Group, Springfield Air National Guard Base (ANGB), located in Springfield, Ohio, to ensure that analytical results and the decisions based on these results are representative of the environmental condition at the sites. The objectives of the SI were to confirm the presence of contamination, collect and analyze sufficient numbers of samples to support recommendations for further investigation or the development of decision documents that recommend no further remedial investigation, and perform a preliminary risk evaluation on any contamination identified. The SI was conducted using Hazardous Waste Remedial Actions Program (HAZWRAP) Level C (i.e., U.S. Environmental Protection Agency [EPA] Level III) for soil and groundwater samples; QC requirements described in *Requirements for Quality Control of Analytical Data* (DOE/HWP-65/R1, July 1990); and the guidelines and specifications described in the Quality Assurance Project Plans (QAPPs) submitted as part of the project work plans prepared by Science Applications International Corporation (SAIC). The numbers of soil and sediment samples and groundwater samples collected during the Springfield ANGB SI, in addition to the numbers of field QC samples collected and selected laboratory QC (i.e., matrix spikes and duplicates) samples analyzed, are presented in Tables G-1a and G-1b, respectively. The data validation worksheets are referenced within the subsection describing the applicable analysis. The QC checks and results are summarized below.

G.1.1 Data Quality Objectives

The following sections summarize the data quality objectives (DQOs) for precision, accuracy, representativeness, comparability, and completeness (PARCC) obtained during the Springfield ANGB SI.

Table G–1a. Analytical Methods and Total Number of Soil, Surface Soil, and Sediment Samples Collected During Site Investigation
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

PARAMETER	ANALYTICAL DETECTION METHOD	ANALYTICAL DETECTION LIMIT	SOIL SAMPLES	REPLICATES	TRIP BLANKS	FIELD BLANKS	EQUIPMENT BLANKS	MS/MSD[4]	TOTAL NUMBER OF ANALYSES
Volatile Organic Compounds	SW 8240[2] CLP SOW 3/90 E 524.2[3]	a a a	72	10	11	8	8	14	123
Semivolatile Organic Compounds	SW 3550/8270[2] SW 3510/8270[3] CLP SOW 3/90	a a a	62	9	--	7	7	12	97
Priority Pollutant Metals	SW 3050/6010	a	72	10	--	8	8	16	114
Arsenic	SW 3050/7060	a	72	10	--	8	8	16	114
Lead	SW 3050/7421	a	72	10	--	8	8	16	114
Mercury	SW 7471	a	71	10	--	8	8	14	111
Selenium	SW 3050/7740	a	72	10	--	8	8	16	114
Antimony	SW 3005/7041	a	72	10	--	8	8	16	114
Thallium	SW 3050/7841	a	72	10	--	8	8	16	114
Lead (Total)	SW 3050/7421	a	72	10	--	8	8	16	114
Total Petroleum Hydrocarbons[1]	SW 8015[1]	a	71	10	--	8	8	12	109

[1] – The compounds of interest in this case were Gasoline Range, Diesel Fuel Range and Heavy Oil as referenced in Method WTPH–D. This is a modified Method SW 8015.
[2] – This Analytical Method was used for soils analysis.
[3] – This Analytical Method was used for waters and field QC analyses.
[4] – Matrx Spike and Laboratory Duplicate for Total Metals and Dissolved Metals
a – Detection limits are matrix and sample specific. All detection limits are listed on the comprehensive data tables located in Appendix E.

Table G–1b. Analytical Methods and Total Number of Groundwater Samples Collected During Site Investigation
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

PARAMETER	ANALYTICAL DETECTION METHOD	ANALYTICAL DETECTION LIMIT	WATER SAMPLES	REPLICATES	TRIP BLANKS	FIELD BLANKS	EQUIPMENT BLANKS	MS/MSD[3]	TOTAL NUMBER OF ANALYSES
Volatile Organic Compounds	E 524.2 CLP SOW 3/90	a a	15	2	5	3	2	4	31
Semivolatile Organic Compounds	SW 3510/8270[2] CLP SOW 3/90	a a	15	2	--	3	2	2	24
TOTAL METALS									
Priority Pollutant Metals	SW 3005/6010	a	15	2	--	3	2	4	26
Arsenic	SW 3050/7060	a	15	2	--	3	2	4	26
Lead	SW 3020/7420	a	15	2	--	3	2	4	26
Mercury	SW 7470	a	15	2	--	3	2	4	26
Selenium	SW 3050/7740	a	15	2	--	3	2	4	26
Antimony	SW 3005/7041	a	15	2	--	3	2	4	26
Thallium	SW 3020/7841	a	15	2	--	3	2	4	26
Lead (Total)	SW 3020/7420	a	15	2	--	3	2	4	26
DISSOLVED METALS									
Priority Pollutant Metals	SW 3005/6010	a	9	1	--	2	2	2	16
Arsenic	SW 3050/7060	a	9	1	--	2	2	2	16
Lead	SW 3020/7420	a	9	1	--	2	2	2	16
Mercury	SW 7470	a	9	1	--	2	2	2	16
Selenium	SW 3050/7740	a	9	1	--	2	2	2	16
Antimony	SW 3005/7041	a	9	1	--	2	2	2	16
Thallium	SW 3020/7841	a	9	1	--	2	2	2	16
Lead	SW 3020/7420	a	9	1	--	2	2	2	16
Total Petroleum Hydrocarbons[1]	SW 8015[1]	a	15	2	--	3	2	4	26

[1] – The compounds of interest in this case were Gasoline Range, Diesel Fuel Range and Heavy Oil as referenced in Method WTPH–D. This is a modified Method SW 8015.
[2] – This Analytical Method was used for waters and field QC analyses.
[3] – Matrx Spike and Laboratory Duplicate for Total Metals and Dissolved Metals
a – Detection limits are matrix and sample specific. All detection limits are listed on the comprehensive data tables located in Appendix E.

G.1.1.1 Precision

Precision is a quantitative measure of variability, comparing results for site samples to the mean, and is reported as a relative percent difference (RPD). The closer the numerical values of the measurements are to each other, the more precise the measurement is. Analytical variability can be measured through the analysis of laboratory duplicates. Precision was expressed as the percentage of the difference between results of duplicate samples for a given compound or element. RPD was calculated using the following equation:

$$\frac{/C_1 - C_2/}{\left(\frac{C_1 + C_2}{2}\right)} \times 100$$

where: C_1 = Concentration of the compound or element in the sample

C_2 = Concentration of the compound or element in the duplicate/replicate.

Precision was determined during the Springfield ANGB SI using matrix spike/matrix spike duplicate (MS/MSD) and duplicate sample analyses conducted on samples collected for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), gasoline range, diesel fuel range, heavy oil, and priority pollutant metals. The laboratory selected 1 sample in 20 and split the sample into 2 additional aliquots. MS/MSD samples were prepared by routinely analyzing the first aliquot for the parameters of interest, while the remaining two aliquots were spiked before analysis with known quantities of the parameters of interest. The RPD between the spike results was calculated and used as an indication of the analytical precision for the VOC, SVOC, gasoline range, diesel fuel range, and heavy oil analyses performed. Duplicate samples (i.e., priority pollutant metals analyses) were prepared by subdividing 1 sample of every 20 samples received and analyzing both samples of the duplicate pair. The RPD between the two detected concentrations was calculated and used as an indication of the analytical precision for the analyses performed.

All RPD values calculated from the VOC MS/MSD analyses were within the EPA Contract Laboratory Program (CLP) advisory control limits for analytical precision. Ten RPD

values (of 77 total values) calculated from the SVOC MS/MSD analyses were outside the EPA CLP advisory control limits for analytical precision. Since each analysis was evaluated according to the required QC criteria described in Section G.3 and all of these criteria were met for the environmental samples analyzed, these RPD values are considered to be a more representative reflection of the variability characteristic of the environmental condition at Springfield ANGB, and as a result, the analytical DQO for VOC and SVOC precision is considered to have been met. RPD values were calculated from gasoline range and diesel fuel range MS/MSD analyses. Strict CLP validation guidelines were applied to the priority pollutant metals duplicate sample results, even though no practical methods are defined by EPA to determine or relate the duplicate results in one environmental duplicate sample to those that might be calculated in another unrelated environmental sample. As a result, data validation qualifiers were applied to elements detected in soil and water samples associated with those samples analyzed in duplicate. These results are considered to have little impact on the environmental data quality and considered more likely to be the result of the regional matrix variability, since all other required analytical QC criteria were met. Therefore, the analytical precision DQO for priority pollutant analyses is considered to have been met. The analytical QC criteria used to evaluate analytical precision and all MS/MSD results are discussed in Section G.3.

Sample collection reproducibility and media variability were measured in the laboratory by the analysis of field replicates. Field replicates were collected using the same techniques as those used to collect the environmental samples. One sample in 10 similar matrices was collected, and sample collection reproducibility and media variability were evaluated based on the RPD values between two duplicate samples. No corrective action was taken based on RPD values.

All soil samples to be analyzed by the Weyerhaeuser Laboratory, located in Tacoma, Washington, were collected using brass (i.e., for VOC and SVOC, gasoline range, diesel fuel range, and heavy oil analyses) and stainless steel (i.e., for priority pollutant metals) liners. Each split spoon was filled with sufficient liners such that replicate samples could be collected at any sample collection interval. After the split spoon sampler was retrieved from the borehole, these liners were capped and labeled and each sample was then shipped to the laboratory in the liner.

Therefore, the replicate concentrations measured by the laboratory reflect the natural matrix variability inherent in the subsurface soils at Springfield ANGB and were not used to assess sample collection precision. Field RPD values were calculated only for compounds detected in concentrations greater than the contract required quantitation limits (CRQLs) in both or in one replicate pair samples, for compounds detected in one sample and not the other, and only for those compounds and elements not considered to be common laboratory contaminants (e.g., methylene chloride). All VOC RPD values met the acceptance criteria, except for total xylenes (200 percent) in MWBG-2-3 and MWBG-2-3R. All SVOC replicate RPD values met the evaluation criteria, except for phenanthrene (103.8 percent), fluoranthene (84.9 percent), pyrene (70.3 percent), chrysene (57.7 percent), benzo(b)fluoranthene (69.1 percent), indeno(1,2,3-c,d)pyrene (56.3 percent), and benzo(g,h,i)perylene (56.1 percent) in SD5-3 and SD5-3R, and fluoranthene (100 percent) and pyrene (91.5 percent) in SD2-1 and SD2-1R. All priority pollutant metals replicate RPD values met the evaluation criteria, except for chromium (76 percent) and lead (94 percent) in SD5-3 and SD5-3R, and chromium (144.8 percent), copper (81.2 percent), silver (54.5 percent), and zinc (145.8 percent) in SD2-1 and SD2-1R. The RPD criteria were not met for lead (56 percent) and zinc (66 percent) in MW3-1-1 and MW3-1-1R. The CRDL criteria were not met for arsenic, beryllium, copper, and nickel in groundwater samples MW3-1-1 and MW3-1-1R.

Gasoline range, diesel fuel range, and heavy oil RPD values met the evaluation criteria, except for diesel range and heavy oil in SD5-5 and SD5-5R; SB4-3-1 and SB4-3-1R; MWBG-2-3 and MWBG-2-3R; SB1-3-11 and SB1-3-11R; SD2-1 and SD2-1R; and SB2-6-1 and SB2-6-1R. The diesel range RPD value did not meet the required evaluation criteria in SB2-2-1 and SB2-2-1R. Average diesel fuel range and heavy oil RPD values range from 66.7 percent to 200 percent. A conclusion of the Springfield ANGB SI is that field duplicates play a minor role in judging the media component variability. For solid matrices such as soil and sediment, the lack of precision due to the media overwhelms the other components of precision (i.e., sampling activities, laboratory methods, etc.). Based on these RPD results and the acceptable laboratory QC results, the sample collection DQO for reproducibility is considered to have been met, except where noted. A comprehensive discussion of all replicate sample results is presented in Section G.2.4.

G.1.1.2 Accuracy

Accuracy is a measure of the closeness of a reported concentration to the true value. The closer the numerical value of the measurement approaches the true value, or actual concentration, the more accurate the measurement is. Analytical accuracy is expressed as the percent recovery of a compound or element that has been added to the environmental sample at a known concentration before analysis. The percent recovery values were calculated using the following equation:

$$\frac{A_r - A_o}{A_f} \times 100$$

where: A_r = Total compound or element concentration detected in the spiked sample
A_o = Concentration of the compound or element detected in the unspiked sample
A_f = Concentration of the compound or element added to the sample.

In addition, laboratory accuracy was qualitatively assessed by evaluating the following laboratory QC information: surrogate recovery (GC/MS only), laboratory control sample (LCS), and field samples spiked with target compounds on environmental samples.

Twenty-four (of 154 values) and 36 (of 138 values) matrix spike and matrix spike duplicate percent recovery values were outside the applicable EPA CLP control limits. All supporting SVOC and priority pollutant metals QC information cited above also was qualitatively evaluated with respect to the analytical accuracy DQO. Selected data validation qualifiers were applied to the SVOC environmental sample results due to poor surrogate recoveries. Of the qualified SVOC data points, these values have the greatest adverse impact on the environmental data quality, since these results prevent an evaluation of any aged petroleum fuel hydrocarbons that may have been detected in these samples.

Data validation qualifiers were applied to 25 antimony, 4 arsenic, and 25 selenium concentrations to indicate that these values were rejected due to unacceptable (i.e., less than 30 percent) matrix spike recoveries. In addition, data validation qualifiers were applied to

numerous other priority pollutant metals concentrations to indicate that the matrix spike recoveries were outside the applicable control limits. Despite these values, no systematic laboratory error was detected, since all LCS criteria for soil and water samples were met. As a result, all associated soil and groundwater data were qualified for data validation purposes, as required by EPA validation guidelines; however, the results are considered to have little impact on the overall environmental data quality. All supporting priority pollutant metals QC information cited above also was qualitatively evaluated with respect to the analytical accuracy DQO. Of this information, numerous data points in selected environmental samples were estimated due to graphite furnace atomic absorption (GFAA) (i.e., analytical spike and standard addition) and inductively coupled argon plasma (ICAP) (i.e., serial dilution) QC results; however, these results are not considered to have any significant adverse impact on the environmental data quality. Based on the evaluation of the MS/MSD results and the associated laboratory QC results summarized in Section G.3, the overall laboratory accuracy is acceptable, and as such, the analytical DQO for accuracy was met, except where noted.

Sampling accuracy was maximized by adherence to the strict QA program presented in the SI QAPP. All procedures (i.e., soil boring and monitoring well installation, soil and groundwater sample collection, equipment decontamination, and health monitoring equipment calibration and operation) used during the Springfield ANGB SI were documented as standard operating procedures (SOPs). Field QC blanks (i.e., trip blanks, field blanks, and equipment blanks) were prepared to ensure that all samples represent the particular site from which they were collected, assess any cross-contamination that may have occurred, and qualify the associated analytical data accordingly.

Data validation qualifiers were applied to the VOCs (i.e., methylene chloride, acetone, and chloroform) detected in nine selected (i.e., one groundwater and eight soil) environmental samples and the SVOCs (i.e., bis[2-ethylhexyl]phthalate) detected in four groundwater samples to indicate that these compounds were considered not detected due to associated field QC blank contamination. These samples were validated using the highest concentration of the applicable interferent detected in the associated field QC blank. Data validation qualifiers also were applied to copper, lead, and zinc detected in groundwater samples to indicate that these concentrations

are considered estimated, since the concentrations detected in the groundwater samples did not exceed five times that detected in the associated field QC blank. Despite the data validation qualifiers, these field QC results are not considered to have adversely impacted the groundwater sample data quality, since metals are relatively nonvolatile. In addition, it is unlikely that the water used to prepare the field QC blanks was the source of copper, lead, and zinc detected in the associated groundwater samples, since the bailer was effectively rinsed numerous times with the sample media during the well preparation activities. Based on an evaluation of the compounds and elements detected in the field QC blanks, the overall field accuracy is acceptable, except where noted. As a result, the field DQO for accuracy is considered to have been met. A comprehensive discussion of the field QC results is presented in Section G.2.

G.1.1.3 Representativeness

Representativeness was defined as the degree to which the data accurately and precisely represent a characteristic of a population, parameter variations at a sampling location, a process condition, or an environmental condition. Sample representativeness was ensured during the SI by collecting sufficient samples of a population medium, properly distributed with respect to location and time. Representativeness was assessed by reviewing the drilling techniques and equipment; well installation procedures and materials; and sample collection methods, equipment, and sample containers used during the Springfield ANGB SI, in addition to evaluating the RPD values calculated from the duplicate samples and the concentrations of interferents detected in the field and laboratory QC blanks. The reproducibility of a representative set of samples reflects the degree of heterogeneity of the sampled medium, as well as the effectiveness of the sample collection techniques.

Seven monitoring wells and eight piezometers were installed using hollow-stem auger drilling techniques. This method is commonly used to install monitoring wells to depths less than 100 feet. All samples were collected using a split spoon driven in front of the auger. As originally specified in the project Work Plan, California ring samplers (i.e., brass or stainless steel liners inserted into a split spoon sampler) were used to collect all soil samples. All data are considered to be representative.

Based on an evaluation of the factors described above and summarized in Section G.3, the samples collected during the SI are considered to be representative of the environmental condition at Springfield ANGB.

G.1.1.4 Comparability

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared to another and is limited to the other PARCC parameters, because only when precision and accuracy are known can one data set be compared to another. To optimize comparability, only the specific methods and protocols that were specified in the SI QAPP, as required by DOE/HWP-65/R1, were used to collect and analyze samples during the Springfield ANGB SI. By using consistent sampling and analysis procedures, all data sets were comparable within the sites at Springfield ANGB, between sites at the installation, or among U.S. Air Force (USAF) facilities nationwide, to ensure that remedial action decisions and priorities were based on a consistent data base. Comparability also was ensured by the analysis of EPA reference materials, establishing that the analytical procedures used were generating valid data.

All samples collected for VOC, SVOC, and priority pollutant metals analyses were analyzed using EPA methods. Samples collected for gasoline range, diesel fuel range, and heavy oil analyses were analyzed using the Total Petroleum Hydrocarbon Modified 8015 (WTPH-D) Method. Based on the precision and accuracy assessment presented above, the data collected during the SI are considered to be comparable with the data collected during previous investigations.

G.1.1.5 Completeness

Completeness is a measure of the amount of usable data resulting from a measurement system. Springfield ANGB data are considered valid within the constraints identified by data qualifiers.

Furthermore, project completeness was defined as the percentage of data used to prepare a preliminary risk evaluation and upon which recommendations for site remediation are based. For analytical data to be considered usable for the preliminary risk evaluation and remediation

recommendations, each data point must be satisfactorily validated. Rejected (e.g., due to matrix spike recoveries) concentrations reported for all analyses were not used in the risk estimates or for remediation recommendations due to the increased potential of using the concentrations of compounds and elements (i.e., false positives) or omitting compounds or elements (i.e., false negatives) that may have an adverse impact on human health. As a result, 54 priority pollutant metals (i.e., antimony, arsenic, and selenium) data points were not included in the preliminary risk evaluation. Based on the evaluation of the field and laboratory QC results presented in Sections G.2 and G.3, 100 percent of the sample data collected for VOC, SVOC, and gasoline range, diesel fuel range, and heavy oil analyses, and 96.9 percent of the sample data collected for priority pollutant metals analyses during the SI were used as the basis for all recommendations presented in this report. A complete list of these data points is presented in Table G-2.

G.2 FIELD QUALITY CONTROL ASSESSMENT

Sixteen trip blanks, 11 field blanks, 10 equipment blanks, and 10 field replicates were collected and analyzed for the same compounds and using the same laboratory techniques as those used for the environmental samples. The analytical results obtained from the field QC blanks are used to assess the efficiency and effectiveness of the sample collection, handling, and equipment decontamination procedures used in the field. Tables G-3a through G-3c contain a cross-reference of environmental samples to the associated field QC blank samples.

G.2.1 Trip Blanks

Trip blanks were prepared by the Weyerhaeuser Laboratory. These blanks were prepared with American Society for Testing and Materials (ASTM) Type II water, sent to Springfield ANGB, stored with the unused sample bottles, and returned to the laboratory with each cooler containing the environmental samples to be analyzed for VOCs using EPA Method 8240, EPA Method 524.2, and the March 1990 EPA CLP Statement of Work (SOW). Table G-4 summarizes the concentrations of the detected VOCs in the trip blank samples collected during the Springfield ANGB SI.

Table G-2. List of Rejected Data

Sample Identification	Analysis	Compound/Element Impacted	Cause QC Result
SB1-3-11R	Priority Pollutant Metals	Antimony	Spiked Sample
SB2-2-1R	Priority Pollutant Metals	Antimony	Spiked Sample
SB2-2-2	Priority Pollutant Metals	Antimony	Spiked Sample
SB2-3-1	Priority Pollutant Metals	Antimony	Spiked Sample
SB2-3-4	Priority Pollutant Metals	Antimony	Spiked Sample
SB3-1-1	Priority Pollutant Metals	Antimony	Spiked Sample
MWBG-2-1	Priority Pollutant Metals	Antimony	Spiked Sample
MWBG-2-3	Priority Pollutant Metals	Antimony	Spiked Sample
MWBG-2-3R	Priority Pollutant Metals	Antimony	Spiked Sample
SB3-1-8	Priority Pollutant Metals	Antimony	Spiked Sample
SB3-2-1	Priority Pollutant Metals	Antimony	Spiked Sample
SB3-2-4	Priority Pollutant Metals	Antimony	Spiked sample
SB3-2-7	Priority Pollutant Metals	Antimony	Spiked Sample
SB3-3-1	Priority Pollutant Metals	Antimony	Spiked Sample
SB3-3-8	Priority Pollutant Metals	Antimony	Spiked Sample
MW3-1-1a	Priority Pollutant Metals	Antimony	Spiked Sample
MW3-1-8	Priority Pollutant Metals	Antimony	Spiked Sample
MW3-1-1	Priority Pollutant Metals	Antimony	Spiked Sample
MW3-1-1	Priority Pollutant Metals	Selenium	Spiked Sample
MW3-1-1R	Priority Pollutant Metals	Antimony	Spiked Sample
MW3-1-1R	Priority Pollutant Metals	Selenium	Spiked Sample
SD2-1	Priority Pollutant Metals	Selenium	Spiked Sample
SD2-1R	Priority Pollutant Metals	Antimony	Spiked Sample
SD2-1R	Priority Pollutant Metals	Selenium	Spiked Sample
SD2-2	Priority Pollutant Metals	Selenium	Spiked Sample
FBCE-1	Priority Pollutant Metals	Antimony	Spiked Sample
FBCE-1	Priority Pollutant Metals	Selenium	Spiked Sample
FBBA-1	Priority Pollutant Metals	Antimony	Spiked Sample
FBBA-1	Priority Pollutant Metals	Selenium	Spiked Sample

Table G-2. List of Rejected Data (Continued)

Sample Identification	Analysis	Compound/Element Impacted	Cause QC Result
ERBG-2	Priority Pollutant Metals	Selenium	Spiked Sample
MWBG-2-1	Priority Pollutant Metals	Selenium	Spiked Sample
MW1-1-1	Priority Pollutant Metals	Antimony	Spiked Sample
MW1-1-1	Priority Pollutant Metals	Selenium	Spiked Sample
MW3-1-1	Priority Pollutant Metals	Selenium	Spiked Sample
MW3-1-1R	Priority Pollutant Metals	Antimony	Spiked Sample
MW3-1-1R	Priority Pollutant Metals	Selenium	Spiked Sample
MW2-1-1	Priority Pollutant Metals	Selenium	Spiked sample
MWBG1-2	Priority Pollutant Metals	Antimony	Spiked Sample
MWBG1-2	Priority Pollutant Metals	Selenium	Spiked Sample
MW1-1-2	Priority Pollutant Metals	Arsenic	Spiked Sample
MW1-1-2	Priority Pollutant Metals	Selenium	Spiked Sample
EB2-2	Priority Pollutant Metals	Arsenic	Spiked Sample
EB2-2	Priority Pollutant Metals	Selenium	Spiked Sample
FB2-2	Priority Pollutant Metals	Arsenic	Spiked Sample
FB3-2	Priority Pollutant Metals	Selenium	Spiked Sample
MW2-1-2	Priority Pollutant Metals	Selenium	Spiked Sample
MW2-2-1	Priority Pollutant Metals	Selenium	Spiked Sample
MW3-1-2	Priority Pollutant Metals	Selenium	Spiked Sample
MW4-1-2	Priority Pollutant Metals	Selenium	Spiked Sample
MWBG-1-2	Priority Pollutant Metals	Selenium	Spiked Sample
MWBG-2-2	Priority Pollutant Metals	Selenium	Spiked Sample
P-4-1	Priority Pollutant Metals	Selenium	Spiked Sample
P-4-1R	Priority Pollutant Metals	Selenium	Spiked Sample
P-5-1	Priority Pollutant Metals	Arsenic	Spiked Sample
P-5-1	Priority Pollutant Metals	Selenium	Spiked Sample

Table G–3a. Field Blank Cross Reference – Soil – 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

Site Number	SAIC Sample No.	Lab Sample No.	Collection Date	Assoc. Trip Blank	Assoc. Equipment Rinsate	Assoc. ASTM Field Blank	Assoc. Potable Water Field Blank	Requested Analysis (Refer to Table G–1a for analytical methods)									
								TPH	Antimony	Arsenic	Lead	Mercury	Selenium	Thallium	ICP Metals	VOC	SVOC
Background	MWBG1–1	94527	8–12–92	TB–1 on 8–12–92	ER1–1	FB1–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Background	MWBG1–2	94526	8–12–92	TB–1 on 8–12–92	ER1–1	FB1–1	SD5–FB		X	X	X		X	X	X	X	X
Background	MWBG–2–1	94912	8–19–92	TB–6	EB3–1	FB3–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Background	MWBG–2–3	94913	8–19–92	TB–6	EB3–1	FB3–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Background	MWBG–2–3R	94914	8–19–92	TB–6	EB3–1	FB3–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 1	SB1–1–1	94524	8–13–92	TB–2 on 8–13–92	ER1–1	FB1–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 1	SB1–1–3	94602	8–13–92	TB–3	ER1–1	FB1–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 1	SB1–1–6	94532	8–13–92	TB–2 on 8–13–92	ER1–1	FB1–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 1	SB1–2–1	94525	8–13–92	TB–2 on 8–13–92	ER1–1	FB1–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 1	SB1–2–3	94603	8–13–92	TB–3	ER1–1	FB1–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 1	SB1–2–8	94523	8–13–92	TB–2 on 8–13–92	ER1–1	FB1–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 1	SB1–3–1	94596	8–14–92	TB–3	ER1–1	FB1–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 1	SB1–3–3	94604	8–14–92	TB–3	ER1–1	FB1–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 1	SB1–3–11	94597	8–14–92	TB–3	ER1–1	FB1–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 1	SB1–3–11R	94598	8–14–92	TB–3	ER1–1	FB1–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 2	SB2–1–1	94799	8–15–92	TB–5	EB2–1	FB2–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 2	SB2–1–4	94800	8–15–92	TB–5	EB2–1	FB2–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 2	SB2–1–14	94673	8–15–92	TB–4	EB2–1	FB2–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 2	SB2–2–1	94666	8–16–92	TB–4	EB2–1	FB2–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 2	SB2–2–1R	94667	8–16–92	TB–4	EB2–1	FB2–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 2	SB2–2–2	94668	8–16–92	TB–4	EB2–1	FB2–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 2	SB2–2–17	94669	8–16–92	TB–4	EB2–1	FB2–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 2	SB2–3–1	94670	8–17–92	TB–4	EB2–1	FB2–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 2	SB2–3–4	94671	8–17–92	TB–4	EB2–1	FB2–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 2	SB2–3–16	94672	8–17–92	TB–4	EB2–1	FB2–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 2	SB2–4–1	9541	5–19–93	TB52093	EB2–2, EB3–2	N/A	FB2–2, FB3–2	X	X	X	X	X	X	X	X	X	X
Site 2	SB2–4–2	9542	5–19–93	TB52093	EB2–2, EB3–2	N/A	FB2–2, FB3–2	X	X	X	X	X	X	X	X	X	X
Site 2	SB2–5–1	9543	5–19–93	TB52093	EB2–2, EB3–2	N/A	FB2–2, FB3–2	X	X	X	X	X	X	X	X	X	X
Site 2	SB2–5–2	9544	5–19–93	TB52093	EB2–2, EB3–2	N/A	FB2–2, FB3–2	X	X	X	X	X	X	X	X	X	X
Site 2	SB2–6–1	9545	5–20–93	TB52093	EB2–2, EB3–2	N/A	FB2–2, FB3–2	X	X	X	X	X	X	X	X	X	X
Site 2	SB2–6–1R	9546	5–20–93	TB52093	EB2–2, EB3–2	N/A	FB2–2, FB3–2	X	X	X	X	X	X	X	X	X	X
Site 3	SB3–1–1	94911	8–19–92	TB–6	EB3–1	FB3–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 3	SB3–1–8	94972	8–20–92	TB–7	EB3–1	FB3–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 3	SB3–2–1	94973	8–20–92	TB–7	EB3–1	FB3–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 3	SB3–2–4	94974	8–20–92	TB–7	EB3–1	FB3–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 3	SB3–2–7	94975	8–20–92	TB–7	EB3–1	FB3–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 3	SB3–3–1	94976	8–20–92	TB–7	EB3–1	FB3–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 3	SB3–3–8	94977	8–20–92	TB–7	EB3–1	FB3–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 3	SB3–4–1	9547	5–19–93	TB52093	EB2–2, EB3–2	N/A	FB2–2, FB3–2	X	X	X	X	X	X	X	X	X	X
Site 3	SB3–4–2	9548	5–19–93	TB52093	EB2–2, EB3–2	N/A	FB2–2, FB3–2	X	X	X	X	X	X	X	X	X	X
Site 3	SB3–5–1	9549	5–19–93	TB52093	EB2–2, EB3–2	N/A	FB2–2, FB3–2	X	X	X	X	X	X	X	X	X	X
Site 3	SB3–5–2	9550	5–19–93	TB52093	EB2–2, EB3–2	N/A	FB2–2, FB3–2	X	X	X	X	X	X	X	X	X	X
Site 3	MW3–1–1	95266	8–26–92	TB–10	EB3–1	FB3–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 3	MW3–1–1R	95267	8–26–92	TB–10	EB3–1	FB3–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 3	MW3–1–1a	95032	8–21–92	TB–8	EB3–1	FB3–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 3	MW3–1–8	95031	8–21–92	TB–8	EB3–1	FB3–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 4	SB4–1–1	94530	8–12–92	TB–1 on 8–12–92	ER1–1	FB1–1	SD5–FB	X			X				X	X	
Site 4	SB4–1–2	94528	8–12–92	TB–1 on 8–12–92	ER1–1	FB1–1	SD5–FB	X			X				X	X	
Site 4	SB4–2–1	94529	8–12–92	TB–1 on 8–12–92	ER1–1	FB1–1	SD5–FB	X			X				X	X	
Site 4	SB4–2–2	94531	8–12–92	TB–1 on 8–12–92	ER1–1	FB1–1	SD5–FB	X			X				X	X	
Site 4	SB4–3–1	94535	8–12–92	TB–1 on 8–12–92	ER1–1	FB1–1	SD5–FB	X			X				X	X	
Site 4	SB4–3–1R	94536	8–12–92	TB–1 on 8–12–92	ER1–1	FB1–1	SD5–FB	X			X				X	X	
Site 4	SB4–3–2	94538	8–12–92	TB–1 on 8–12–92	ER1–1	FB1–1	SD5–FB	X			X				X	X	
Site 4	SB4–3–3	94537	8–12–92	TB–1 on 8–12–92	ER1–1	FB1–1	SD5–FB	X			X				X	X	
Site 4	MW4–1–1S	95273	8–26–92	TB–10	EB4–1	FB4–1	SD5–FB	X			X				X	X	
Site 4	MW4–1–4S	95274	8–26–92	TB–10	EB4–1	FB4–1	SD5–FB	X			X				X	X	
Site 4	MW4–1–5S	95275	8–26–92	TB–10	EB4–1	FB4–1	SD5–FB	X			X				X	X	
Site 5	SB5–1–1	94674	8–17–92	TB–4	EB5–1	FB5–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 5	SB5–1–7	94675	8–17–92	TB–4	EB5–1	FB5–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 5	SB5–2–1	94801	8–18–92	TB–5	EB5–1	FB5–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 5	SB5–2–2	94802	8–18–92	TB–5	EB5–1	FB5–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 5	SB5–3–1	94803	8–18–92	TB–5	EB5–1	FB5–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 5	SB5–3–2	94804	8–18–92	TB–5	EB5–1	FB5–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 5	SB5–4–1	94805	8–18–92	TB–5	EB5–1	FB5–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 5	SB5–4–1R	94806	8–18–92	TB–5	EB5–1	FB5–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 5	SB5–4–2	94807	8–18–92	TB–5	EB5–1	FB5–1	SD5–FB	X	X	X	X	X	X	X	X	X	X

SD5–FB: Potable water, fire hydrant at FTA 2
FB2–2: Deionized water source for Wright–Patterson AFB RI/FS
FB3–2: Deionized water source for Wright–Patterson AFB RI/FS

Table G–3b. Field Blank Cross Reference – Surface Soil/Sediment – 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

Site Number	SAIC Sample No.	Lab Sample No.	Collection Date	Assoc. Trip Blank	Assoc. Equipment Rinsate	Assoc. ASTM Field Blank	Assoc. Potable Water Field Blank	Requested Analysis (Refer to Table G–1a for analytical methods)									
								TPH	Antimony	Arsenic	Lead	Mercury	Selenium	Thallium	ICP Metals	VOC	SVOC
Background	SD3–1	9555	5–21–93	TB52093	EB2–2, EB3–2	N/A	FB2–2, FB3–2	X	X	X	X	X	X	X	X	X	X
Background	SD3–2	9556	5–21–93	TB52093	EB2–2, EB3–2	N/A	FB2–2, FB3–2	X	X	X	X	X	X	X	X	X	X
Background	SD3–2R	9557	5–21–93	TB52093	EB2–2, EB3–2	N/A	FB2–2, FB3–2	X	X	X	X	X	X	X	X	X	X
Site 2	SD2–1	95268	8–26–92	TB–10	ERBG–1	FBBG–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 2	SD2–1R	95269	8–26–92	TB–10	ERBG–1	FBBG–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 2	SD2–2	95270	8–26–92	TB–10	ERBG–1	FBBG–1	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 2	SD2–3	9551	5–21–93	TB52093	EB2–2, EB3–2	N/A	FB2–2, FB3–2	X	X	X	X	X	X	X	X	X	X
Site 2	SD2–4	9552	5–21–93	TB52093	EB2–2, EB3–2	N/A	FB2–2, FB3–2	X	X	X	X	X	X	X	X	X	X
Site 2	SD2–5	9553	5–21–93	TB52093	EB2–2, EB3–2	N/A	FB2–2, FB3–2	X	X	X	X	X	X	X	X	X	X
Site 2	SD2–6	9554	5–21–93	TB52093	EB2–2, EB3–2	N/A	FB2–2, FB3–2	X	X	X	X	X	X	X	X	X	X
Site 5	SD5–1	89650	5–6–92	SP–TB	SD5–ER	N/A	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 5	SD5–2	89651	5–6–92	SP–TB	SD5–ER	N/A	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 5	SD5–3	89652	5–6–92	SP–TB	SD5–ER	N/A	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 5	SD5–3R	89658	5–6–92	SP–TB	SD5–ER	N/A	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 5	SD5–4	89653	5–6–92	SP–TB	SD5–ER	N/A	SD5–FB	X	X	X	X	X	X	X	X	X	X
Site 5	SD5–5	89654	5–6–92	SP–TB	SD5–ER	N/A	SD5–FB	X	X	X	X	X	X	X	X	X	X

SD5–FB: Potable water, fire hydrant at FTA 2
FB2–2: Deionized water source for Wright–Patterson AFB RI/FS
FB3–2: Deionized water source for Wright–Patterson AFB RI/FS

Table G-3c. Field Blank Cross Reference – Groundwater – 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

Site Number	SAIC Sample No.	Lab Sample No.	Collection Date	Assoc. Trip Blank	Assoc. Equipment Rinsate	Assoc. ASTM Field Blank	Assoc. Potable Water Field Blank	Requested Analysis (Refer to Table G-1a for analytical methods)										
								TPH	Antimony	Arsenic	Lead	Mercury	Selenium	Thallium	ICP Metals	Dissolved Metals	VOC	SVOC
Background	MWBG-1-1	97309	9-30-92	TB-14	ERBG-2	FBBA-1	FBCE-1	X	X	X	X	X	X	X	X		X	X
Background	MWBG-1-2	9573, 9589	5-21-93	TB52193	EB2-2, EB3-2	N/A	FB2-2, FB3-2	X	X	X	X	X	X	X	X	X	X	X
Background	MWBG-2-1	97271	9-29-92	TB-12,13	ERBG-2	FBBA-1	FBCE-1	X	X	X	X	X	X	X	X		X	X
Background	MWBG-2-2	9574,9590	5-21-93	TB52193	EB2-2, EB3-2	N/A	FB2-2, FB3-2	X	X	X	X	X	X	X	X	X	X	X
Site 1	MW1-1-1	97310	9-30-92	TB-14	ERBG-2	FBBA-1	FBCE-1	X	X	X	X	X	X	X	X		X	X
Site 1	MW1-1-2	9568, 9584	5-21-93	TB52193	EB2-2, EB3-2	N/A	FB2-2, FB3-2	X	X	X	X	X	X	X	X	X	X	X
Site 2	MW2-1-1	97396	10-1-92	TB-15	ERBG-2	FBBA-1	FBCE-1	X	X	X	X	X	X	X	X		X	X
Site 2	MW2-1-2	9569, 9585	5-21-93	TB52193	EB2-2, EB3-2	N/A	FB2-2, FB3-2	X	X	X	X	X	X	X	X	X	X	X
Site 2	MW2-2-1	9570, 9586	5-21-93	TB52193	EB2-2, EB3-2	N/A	FB2-2, FB3-2	X	X	X	X	X	X	X	X	X	X	X
Site 2	P-5-1	9569, 9585	5-21-93	TB52193	EB2-2, EB3-2	N/A	FB2-2, FB3-2	X	X	X	X	X	X	X	X	X	X	X
Site 3	MW3-1-1	97311	9-30-92	TB-14	ERBG-2	FBBA-1	FBCE-1	X	X	X	X	X	X	X	X		X	X
Site 3	MW3-1-1R	97314	9-30-92	TB-14	ERBG-2	FBBA-1	FBCE-1	X	X	X	X	X	X	X	X		X	X
Site 3	MW3-1-2	9571, 9587	5-21-93	TB52193	EB2-2, EB3-2	N/A	FB2-2, FB3-2	X	X	X	X	X	X	X	X	X	X	X
Site 3	P-4-1	9575, 9591	5-21-93	TB52193	EB2-2, EB3-2	N/A	FB2-2, FB3-2	X	X	X	X	X	X	X	X	X	X	X
Site 3	P-4-1R	9576, 9592	5-21-93	TB52193	EB2-2, EB3-2	N/A	FB2-2, FB3-2	X	X	X	X	X	X	X	X	X	X	X
Site 4	MW4-1-1	97272	9-29-92	TB-12,13	ERBG-2	FBBA-1	FBCE-1	X			X				X		X	X
Site 4	MW4-1-2	9572, 9588	5-21-93	TB52193	EB2-2, EB3-2	N/A	FB2-2, FB3-2	X	X	X	X	X	X	X	X	X	X	X

FBCE-1: Potable water, Bldg 131
FB2-2: Deionized water source for Wright-Patterson AFB RI/FS
FB3-2: Deionized water source for Wright-Patterson AFB RI/FS

Table G–4. Data Summary Table: Water – Quality Control, Trip Blanks, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC ID Number		SP–TB	TB–1 on 8–12–92	TB–2 on 8–13–92
Laboratory ID Number		89657	94533	94534
Collection Date		5–6–92	8–12–92	8–13–92
Associated Field QC Sample		N/A	N/A	N/A
Parameter	Units			
VOLATILE ORGANICS (A)				
Methylene Chloride	µg/L	10 U	1 U	1 U
TICs	µg/L	Unknown Silane [a] 8 J,N (RT 26.47)	0 (0)	Hexamethylcyclotrisiloxane [a] 5 J,N (RT 18.65)
				Octamethylcyclotetrasiloxane [a] 5 J,N (RT 26.26)
TIC Total	µg/L	8 (1)	0 (0)	10 (2)

Table G–4. Data Summary Table: Water – Quality Control, Trip Blanks, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number		TB–3	TB–4	TB–5
Laboratory ID Number		94599	94679	94810
Collection Date		8–13–92	8–15–92	8–18–92
Associated Field QC Sample		N/A	N/A	N/A
Parameter	Units			
VOLATILE ORGANICS (A)				
Methylene Chloride	µg/L	1 U	1 U	1 U
TICs	µg/L	Octamethylcyclotetrasiloxane[a] 9 J,N (RT 26.24)	Hexamethylcyclotrisiloxane[a] 7 J,N (RT 18.62) Octamethylcyclotetrasiloxane[a] 9 J,N (RT 26.25)	Hexamethylcyclotrisiloxane[a] 6 B,J,N (RT 18.63)
TIC Total	µg/L	9 (1)	16 (2)	6 (1)

Table G–4. Data Summary Table: Water – Quality Control, Trip Blanks, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number		TB–6	TB–7	TB–8	TB–10	TB–12	TB–13
Laboratory ID Number		94910	94978	95033	95271	97274	97276
Collection Date		8–19–92	8–20–92	8–21–92	8–26–92	9–29–92	9–29–92
Associated Field QC Sample		N/A	N/A	N/A	N/A	N/A	N/A
Parameter	Units						
VOLATILE ORGANICS (A)							
Methylene Chloride	µg/L	1 U	1 U	1 U	1 U	0.4 U	0.4 U
TICs	µg/L	Hexamethylcyclotrisiloxane[a] 8 J,N (RT 18.61)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
		Octamethylcyclotetrasiloxane[a] 8 J,N (RT 26.27)					
TIC Total	µg/L	16 (2)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

Table G-4. Data Summary Table: Water – Quality Control, Trip Blanks 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number		TB-14	TB-15	TB52093	TB52193
Laboratory ID Number		97316	97397	9578	9579
Collection Date		9-30-92	10-1-92	5-20-93	5-21-93
Associated Field QC Sample		N/A	N/A	N/A	N/A
Parameter	Units				
VOLATILE ORGANICS (A)					
Methylene Chloride	µg/L	0.4 U	0.4 U	0.6	0.4 U
TICs	µg/L	0 (0)	0 (0)	0 (0)	0 (0)
TIC Total	µg/L	0 (0)	0 (0)	0 (0)	0 (0)

Table G–4. Data Summary Table: Water – Quality Control, Trip Blanks, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

Validation note: All descriptive data qualifiers applied to the reported values by the laboratory are reported in parentheses. Each data point has been assessed to determine whether the value is considered usable (i.e., no qualifier), usable but estimated (i.e., "J"), or not usable (i.e., "R"). All usability qualifiers are followed by the applicable laboratory or field QC qualifier, presented in parentheses and defined below. Usability qualifiers were not applied to values qualified by the laboratory, but were not considered to have been adversely impacted by the applicable laboratory QC result (e.g., duplicated and matrix spike analysis).

A – groundwater samples were analyzed for volatile halogenated compounds and volatile aromatic compounds (i.e., E 524.2), which has been modified to incorporate CLP–type QC requirements and SP–TB, TB52093, and TB52193 were analyzed for volatile organic compounds (i.e., SW 8240) which has been modified for low level detection limits and modified to incorporate CLP–type QC requirements

N/A – not applicable

RT – retention time in minutes

TICs– tentatively identified compounds, total concentration is listed and the total number of tentatively identified compounds is inside the parenthases

Data Validation Qualifiers

J – associated numerical value is the approximate concentration

U – compound/element was included in analysis, but was not detected

EPA–defined CLP SOW Laboratory Qualifiers

B(organics) – compound was also detected in the associated laboratory method blank

N(TICs) – presumptive evidence of a compound

SAIC TIC Evaluation Categories

[a] – laboratory and extraction artifacts

Sixteen trip blanks (i.e., Springfield TB, TB-1, TB-2, TB-3, TB-4, TB-5, TB-6, TB-7, TB-8, TB-10, TB-12, TB-13, TB-14, TB-15, TB-52093, and TB-52193) were collected and analyzed for VOCs using EPA Method 8240, EPA Method 524.2, and the March 1990 EPA CLP SOW. Methylene chloride was detected in TB52093 (0.6 μg/L). This VOC was not detected in the associated environmental samples; therefore, no validation qualifiers were applied.

G.2.2 Field Blanks

Field blanks were collected to provide baseline analytical data for the water used for equipment decontamination (i.e., ASTM Type II reagent water) and in the steam cleaner equipment (i.e., potable water). Field blanks were collected by randomly selecting sample containers from the supply, filling them with the appropriate water source, and then preserving and analyzing these blanks for the same compounds and using the same laboratory methods as those used for the associated environmental samples. Table G-5 summarizes the concentrations of the elements and compounds detected in the field blanks collected during the Springfield ANGB SI.

The Springfield ANGB SI was conducted in three periods. Event Number 1, conducted between May 6 and 29, 1992, included piezometer installation and sediment sample collection activities. Event Number 2, conducted between August 2 and October 1, 1992, included soil boring, piezometer, and monitoring well installation, and soil, sediment, and groundwater sample collection activities. Event Number 3, conducted between May 18 and 21, 1993, included monitoring well installation, and soil, sediment, and groundwater sample collection activities.

Nine field blanks (i.e., FB2-1, FB5-1, FB3-1, FB1-1, FB4-1, FBBG-1, FBBA-1, FB2-2, and FB3-2), prepared with ASTM Type II reagent water used as the final water rinse in the equipment decontamination procedure, were collected. Two field blanks (i.e., SD5-FB and FBCE-1), prepared with potable water used to decontaminate the drilling equipment, were collected. These blanks were sent to the Weyerhaeuser Laboratory for analyses.

Table G–5a. Data Summary Table: Water – Quality Control, Field Blanks (ASTM Water), 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC ID Number		FB1–1	FB2–1	FB3–1
Laboratory ID Number		94601	94678	94909
Collection Date		8–14–92	8–16–92	8–19–92
Associated Field QC Sample		N/A	N/A	N/A
Parameter	Units			
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)				
Diesel Fuel	mg/L	<2	<0.1	<0.5
Heavy Oil	mg/L	<2	<0.1	<0.5
TOTAL PRIORITY POLLUTANT METALS				
AA METALS				
Antimony (SW 3020/7041)	µg/L	2 U	2 U	1.3 U
Lead (SW 3020/7421)	µg/L	0.5 U	1.9 B	0.5 U
Selenium (SW 3020/7740)	µg/L	1.4 UJ(W)	1.9 B	1.4 U
ICP METALS (SW 3005/6010)				
Cadmium	µg/L	2.1 U	2.1 U	2.1 U
Copper	µg/L	55.3	12.3 B	3.9 U
Nickel	µg/L	10.6 B	10.3 U	10.3 U
Zinc	µg/L	3.5 U	6.1 B	3.5 U
VOLATILE ORGANICS (E 524.2 [A])				
Methylene Chloride	µg/L	53	10	1 U
Acetone	µg/L	10	4 U	4 U
Chloroform	µg/L	0.5 U	15	13
Bromodichloromethane	µg/L	0.4 U	9	1
Dibromochloromethane	µg/L	0.4 U	6	0.4 U
Bromoform	µg/L	0.3 U	2	0.3 U
TICs	µg/L	Octamethylcyclotetrasiloxane[a] 11 J,N (RT 26.26)	Hexamethylcyclotrisiloxane[a] 18 J,N (RT 18.61) Octamethylcyclotetrasiloxane[a] 240 J,N (RT 26.24)	Hexamethylcyclotrisiloxane[a] 6 J,N (RT 18.59)
TIC Total	µg/L	11 (1)	258 (2)	6 (1)
SEMIVOLATILE ORGANIC (SW 8270 [B])				
TICs	µg/L	0 (0)	0 (0)	0 (0)
TIC Total	µg/L	0 (0)	0 (0)	0 (0)

Table G–5a. Data Summary Table: Water – Quality Control, Field Blanks (ASTM Water), 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number		FB4–1		FB5–1	FBBG–1		FBBA–1
Laboratory ID Number		95192		94809	95194		97308
Collection Date		8–25–92		8–18–92	8–25–92		9–30–92
Associated Field QC Sample		N/A		N/A	N/A		N/A
Parameter	Units						
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)							
Diesel Fuel	mg/L	<0.3		<0.1	<0.3		<0.2
Heavy Oil	mg/L	<0.3		<0.1	<0.3		<0.2
TOTAL PRIORITY POLLUTANT METALS							
AA METALS							
Antimony (SW 3020/7041)	µg/L	2 UN		2 U	2 UN		1.2 R(N)
Lead (SW 3020/7421)	µg/L	0.5 U(MB)		0.9 U	1.1 U(MB)		0.5 U*
Selenium (SW 3020/7740)	µg/L	1.4 U		1.4 U	1.4 U		1.4 R(N)
ICP METALS (SW 3005/6010)							
Cadmium	µg/L	2.4 B		2.1 U(MB)	2.1 U		2.1 U
Copper	µg/L	3.9 U		3.9 U	3.9 U		3.4 U
Nickel	µg/L	10.3 U		10.3 U	10.3 U		12.9 U
Zinc	µg/L	10 B		3.5 U	5.6 B		4.2 U(MB)
VOLATILE ORGANICS (E 524.2 [A])							
Methylene Chloride	µg/L	1 U		1 U	1 U		1
Acetone	µg/L	4 U		4 U	4 U		1 U
Chloroform	µg/L	0.5 U		0.5 U	0.5 U		34
Bromodichloromethane	µg/L	0.4 U		0.4 U	0.4 U		0.8
Dibromochloromethane	µg/L	0.4 U		0.4 U	0.4 U		0.5 U
Bromoform	µg/L	0.3 U		0.3 U	0.3 U		0.9 U
TICs	µg/L	Octamethylcyclotetrasiloxane[a]	10 J,N (RT 27.13)	0 (0)	Octamethylcyclotetrasiloxane[a]	6 J,N (RT 27.12)	0 (0)
TIC Total	µg/L		10 (1)	0 (0)		6 (1)	0 (0)
SEMIVOLATILE ORGANIC (SW 8270 [B])							
TICs	µg/L	0 (0)		0 (0)	4,5–Dimethyl–2–Hepten–3–Ol[c]	5 J,N (RT 5.68)	0 (0)
					3–Bromo–Pentane[c]	5 J,N (RT 5.92)	
TIC Total	µg/L	0 (0)		0 (0)		10 (2)	0 (0)

Table G–5a. Data Summary Table: Water – Quality Control, Field Blanks (ASTM Water), 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

Validation note: All descriptive data qualifiers applied to the reported values by the laboratory are reported in parentheses.
Each data point has been assessed to determine whether the value is considered usable (i.e., no qualifier), usable but estimated (i.e., "J"), or not usable (i.e., "R"). All usability qualifiers are followed by the applicable laboratory or field QC qualifier, presented in parentheses and defined below. Usability qualifiers were not applied to values qualified by the laboratory, but were not considered to have been adversely impacted by the applicable laboratory QC result (e.g., duplicated and matrix spike analysis).

A – groundwater samples were analyzed for volatile halogenated compounds and volatile aromatic compounds (i.e., E 524.2), which has been modified to incorporate CLP–type QC requirements
B – SVOCs in groundwater and field QC blanks were analyzed using EPA method 3510/8270
N/A – not applicable
RT – retention time in minutes
TICs–tentatively identified compounds, total concentration is listed and the total number of tentatively identified compounds is inside the parenthases

Data Validation Qualifiers

J – associated numerical value is the approximate concentration
R – rejected value
U – compound/element was included in analysis, but was not detected
UJ – reported quantitation limit is approximate and may or may not represent the actual quantitation necessary to accurately and precisely measure the analyte

Explanatory Data Validation Qualifiers

MB – compound/element was also detected in the associated laboratory method blank

EPA–defined CLP SOW Laboratory Qualifiers

B(metals) – the reported value is estimated because it is greater than the Instrument Detection Limit (IDL), but less than the Contract Required Detection Limit(CRDL)
N – spiked sample recovery outside of control limits
N(TICs) – presumptive evidence of a compound
W – post–digestion spike for Graphite Furnace Atomic Absorption (GFAA) analysis is out of control limits (85–115%), while sample absorbance is less than 50% of the spike absorbance
* – duplicate sample analysis outside of control limits

SAIC TIC Evaluation Categories

[a] – laboratory and extraction artifacts
[c] – other

Table G-5b. Data Summary Table: Water – Quality Control, Field Blanks (Potable Water), 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

SAIC ID Number		SD5-FB	FBCE-1	FB2-2	FB3-2
Laboratory ID Number		89656	97395	9566, 9582	9567, 9583
Collection Date		5-6-92	10-1-92	5-21-93	5-21-93
Associated Field QC Sample		N/A	N/A	N/A	N/A
Parameter	Units				
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)					
Gasoline	mg/L	NA	NA	<0.25	<0.25
Diesel Fuel	mg/L	<0.1 UJ(EHT)	<0.2	<0.13	<0.13
HeavyOil	mg/L	<0.1 UJ(EHT)	<0.2	<0.25	<0.25
TOTAL PRIORITY POLLUTANT METALS					
AA METALS					
Antimony (SW 3020/7041)	µg/L	3 U	R(N)	0.6 UJ(N)	0.6 UJ(N)
Arsenic (SW 3020/7060)	µg/L	2 U	0.7 U	R(N)	0.6 R(N)
Selenium (SW 3020/7740)	µg/L	1 U	R(N)	R(N)	1.1 R(N)
ICP METALS (SW 3005/6010)					
Copper	µg/L	2 U	9.1 B	4.5 U(MB)	8.9 U(MB)
Zinc	µg/L	2.9 B	522 J(E)	3.1 U(MB)	4.4 U(MB)
DISSOLVED PRIORITY POLLUTANT METALS					
AA METALS					
Lead (SW 3020/7421)	µg/L	NA	NA	0.5 U	0.8 B
ICP METALS (SW 3005/6010)					
	µg/L	NA	NA	ND	ND
VOLATILE ORGANICS (A)					
Acetone	µg/L	10 U	1 U	11	10
Chloroform	µg/L	15	10	0.4 U	0.4 U
Bromodichloromethane	µg/L	10 U	7	0.4 U	0.4 U
Dibromochloromethane	µg/L	10 U	6	0.5 U	0.5 U
Bromoform	µg/L	10 U	2	0.9 U	0.9 U
TICs	µg/L	Hexamethylcyclotrisiloxane [a] 6 J,N (RT 18.49)	0 (0)	0 (0)	0 (0)
		Unknown Silane [a] 25 J,N (RT 26.44)			
TIC Total	µg/L	31 (2)	0 (0)	0 (0)	0 (0)
SEMIVOLATILE ORGANIC (SW 8270 [B])					
bis(2-Ethylhexyl)phthalate	µg/L	10 UJ(MB,EHT)	11 U	20 U	2 J
di-N-Octyl phthalate	µg/L	2 J(EHT)	11 U	20 U	11 U
TICs	µg/L	Unknown [d] 4 J (RT 27.96)	Unknown [d] 3 J (RT 7.15)	0 (0)	4-Hydroxy-4-Methyl-2-Pentanone [a] 3 J,N,A (RT 3.88)
		Unknown [d] 2 J (RT 28.21)			Unknown [d] 2 J (RT 23.82)
		Unknown [d] 5 J (RT 28.34)			
		Unknown [d] 3 J (RT 28.57)			
		1,2-Benzenedicarboxylic Acid [c] 4 B,J,N (RT 28.64)			
		1,2-Benzenedicarboxylic Acid [c] 3 J,N (RT 29.01)			
		Unknown [d] 3 J (RT 34.37)			
		Unknown [d] 5 J (RT 35.27)			
TIC Total	µg/L	29 (8)	3 (1)	0 (0)	5 (2)

Table G–5b. Data Summary Table: Water – Quality Control, Field Blanks (Potable Water), 178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

Validation note: All descriptive data qualifiers applied to the reported values by the laboratory are reported in parentheses.
Each data point has been assessed to determine whether the value is considered usable (i.e., no qualifier), usable but estimated (i.e., "J"), or not usable (i.e., "R"). All usability qualifiers are followed by the applicable laboratory or field QC qualifier, presented in parentheses and defined below. Usability qualifiers were not applied to values qualified by the laboratory, but were not considered to have been adversely impacted by the applicable laboratory QC result (e.g., duplicated and matrix spike analysis).

A – groundwater samples were analyzed for volatile halogenated compounds and volatile aromatic compounds (i.e., E 524.2), which 'las been modified to incorporate CLP–type QC requirements and samples SD5–FB, FB2–2 and FB3–2 were analyzed for volatile organic compounds (i.e, SW 8240) which has been modified for low level detection limits and modified to incorporate CLP–type QC requirements

B – SVOCs in groundwater and field QC blanks were analyzed using EPA method 3510/8270

NA – not analyzed

ND – not detected

N/A – not applicable

RT – retention time in minutes

TICs–tentatively identified compounds, total concentration is listed and the total number of tentatively identified compounds is inside the parenthases

Data Validation Qualifiers

J – associated numerical value is the approximate concentration

R – rejected value

U – compound/element was included in analysis, but was not detected

UJ – reported quantitation limit is approximate and may or may not represent the actual quantitation necessary to accurately and precisely measure the analyte

Explanatory Data Validation Qualifiers

CCV – continuing calibration verification

EHT – extraction holding time outside control limits

MB – compound/element was also detected in the associated laboratory method blank

EPA–defined CLP SOW Laboratory Qualifiers

A(TICs) – suspects ALDOL–condensation product

B(metals) – the reported value is estimated because it is greater than the Instrument Detection Limit (IDL), but less than the Contract Required Detection Limit(CRDL)

B(organics) – compound was also detected in the associated laboratory method blank

E(metals) – the reported value is estimated due to the presence of interference

N – spiked sample recovery outside of control limits

N(TICs) – presumptive evidence of a compound

SAIC TIC Evaluation Categories

[a] – laboratory and extraction artifacts

[c] – other

[d] – unknown

Volatile Organic Compound Analysis—Eleven field blanks (i.e., SD5-FB, FB2-1, FB5-1, FB3-1, FB1-1, FB4-1, FBBG-1, FBBA-1, FBCE-1, FB2-2, and FB3-2) were collected and analyzed for VOCs using EPA Method 8240, EPA Method 524.2, and the March 1990 EPA CLP SOW. Methylene chloride was detected in FB2-1 (10 μg/L), FB1-1 (53 μg/L), and FBBA-1 (1 μg/L). Data validation qualifiers (i.e., "U[FB]") were applied to methylene chloride concentrations detected in SB2-3-4 and SB2-3-4DL associated with FB2-1. These results are presented in the comprehensive data presentation tables in Appendix F.

Acetone was detected in FB1-1 (10 μg/L). Data validation qualifiers (i.e., "U[FB]") were applied to the acetone concentrations detected in SB1-1-6, SB4-3-3, SB1-3-11, and SB1-3-11R, associated with the field blank listed above. Acetone also was detected in FB2-2 (11 μg/L) and FB3-2 (10 μg/L). No data validation qualifiers were applied, since no acetone was detected in the associated environmental samples. Chloroform was detected in SD5-FB, (15 μg/L), FB2-1 (15 μg/L), FB3-1 (13 μg/L), FBBA-1 (34 μg/L), and FBCE-1 (10 μg/L); bromodichloromethane was detected in FB2-1 (9 μg/L), FB3-1 (1 μg/L), FBCE-1 (7μg/L), and FBBA-1 (0.8 μg/L); dibromochloromethane was detected in FB2-1 (6 μg/L) and FBCE-1 (6 μg/L); and bromoform was detected in FB2-1 (2 μg/L) and FBCB-1 (2 μg/L). No validation qualifiers were applied, since these VOCs were not detected in the associated environmental samples.

Semivolatile Organic Compound Analysis—Eleven field blanks (i.e., SD5-FB, FB2-1, FB5-1, FB3-1, FB1-1, FB4-1, FBBG-1, FBBA-1, FBCE-1, FB2-2, and FB3-2) were collected and analyzed for SVOCs using EPA Method 3510/8270. Bis(2-ethylhexyl)phthalate was detected in SD5-FB (9 μg/L). This SVOC also was detected in the laboratory method blanks analyzed with this sample; therefore, no data validation qualifiers were applied to the bis(2-ethylhexyl)phthalate concentrations detected in the associated environmental samples. Bis(2-ethylhexyl)phthalate also was detected in FB3-2 (1 μg/L). As a result, bis(2-ethylhexyl)phthalate concentrations detected in MW3-1-2 and MWBG-2-2 were qualified (i.e., "U[FB]") to indicate that bis(2-ethylhexyl)phthalate concentrations were less than 10 times the concentrations detected in the associated field blank. These results are presented in the data presentation tables in Appendix F. Di-n-octyl phthalate was detected in SD5-FB (2 μg/L). This SVOC was not

detected in the associated environmental samples; therefore, no validation qualifiers were applied.

Priority Pollutant Metals Analysis—Eleven field blanks (i.e., SD5-FB, FB2-1, FB5-1, FB1-1, FB3-1, FB4-1, FBBG-1, FBCE-1, FBBA-1, FB2-2, and FB3-2) were prepared during the Springfield ANGB SI and analyzed by the Weyerhaeuser Laboratory for priority pollutant metals analysis. Two field blanks (i.e., FB2-2 and FB3-2) were analyzed for total and dissolved metals. Interferences were detected in all field blanks associated with the environmental samples. No data validation qualifiers have been applied, except for copper and zinc.

Copper concentrations detected in MWBG-2-1, MW4-1-1, MWBG1-1, MW1-1-1, MWBG-2-2 (dissolved metals), MWBG-2-2 (total metals), P-4-4, and P-4-1R, and zinc concentrations detected in MWBG-2-1, MW4-1-1, MWBG-1-1, MW1-1-1, MW3-1-1, MW3-1-1R, and MW2-1-1 were qualified (i.e., "U[FB]") to indicate that copper and zinc concentrations were less than five times the concentrations detected in the associated field blanks. These results are presented in the data presentation tables in Appendix F.

Gasoline Range, Diesel Fuel Range, and Heavy Oil Analysis—Eleven field blanks (i.e., SD5-FB, FB2-1, FB5-1, FB3-1, FB1-1, FB4-1, FBBG-1, FBBA-1, FBCE-1, FB2-2, and FB3-2) were prepared during the Springfield ANGB SI and analyzed by the Weyerhaeuser Laboratory for gasoline range (i.e., FB2-2 and FB3-2), diesel fuel range, and heavy oil analyses. No contaminants were detected.

G.2.3 Equipment Blanks

Equipment blanks were prepared for manual and small automated sampling equipment used to collect environmental samples. One equipment blank was collected for every 10 environmental samples collected by pouring ASTM Type II reagent water through a recently decontaminated piece of equipment into a prepared sample container appropriate for the required analysis. Equipment blanks were shipped to the laboratory to be analyzed using the methods required for the environmental samples collected on the same day. Table G-6 summarizes the concentrations of the compounds and elements detected in the equipment blanks collected during

Table G–6. Data Summary Table: Water – Quality Control, Equipment Rinsates, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC ID Number		SD5–ER	ER1–1	EB2–1
Laboratory ID Number		89655	94600	94677
Collection Date		5–6–92	8–14–92	8–16–92
Associated Field QC Sample		N/A	N/A	N/A
Parameter	Units			
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)				
Gasoline	mg/L	NA	NA	NA
Diesel Fuel	mg/L	<0.1 UJ(EHT)	<2	<0.1
Heavy Oil	mg/L	<0.1 UJ(EHT)	<2	<0.1
TOTAL PRIORITY POLLUTANT METALS				
AA METALS				
Antimony (SW 3020/7041)	µg/L	3 U	2 U	2 U
Arsenic (SW 3020/7060)	µg/L	2 U	1.5 U	1.5 UJ(W)
Lead (SW 3020/7421)	µg/L	2 U	0.5 U	0.9 U
Selenium (SW 3020/7740)	µg/L	1 U	1.4 UJ(W)	1.4 UJ(W)
ICP METALS (SW 3005/6010)				
Copper	µg/L	2 U	54.6	29.4
Zinc	µg/L	2 U	3.5 U	3.5 U
DISSOLVED PRIORITY POLLUTANT METALS				
AA METALS				
Lead (SW 3020/7421)	µg/L	NA	NA	NA
ICP METALS (SW 3005/6010)				
Beryllium	µg/L	NA	NA	NA
Copper	µg/L	NA	NA	NA
VOLATILE ORGANICS (A)				
Methylene Chloride	µg/L	10 U	8	1 U
Acetone	µg/L	10 U	4 U	4 U
Chloroform	µg/L	15	0.5 U	1
Bromodichloromethane	µg/L	10 U	0.4 U	0.4 U
TICs	µg/L	Dimethoxydimethyl–Silane[a] 6 J,N (RT 10.91)	Hexamethylcyclotrisiloxane[a] 8 J,N (RT 18.58)	Hexamethylcyclotrisiloxane[a] 16 J,N (RT 18.61)
		Hexamethylcyclotrisiloxane[a] 7 J,N (RT 18.5)	Octamethylcyclotetrasiloxane[a] 70 J,N (RT 26.25)	Octamethylcyclotetrasiloxane[a] 190 J,N (RT 26.24)
TIC Total	µg/L	13 (2)	78 (2)	206 (2)
SEMIVOLATILE ORGANIC (SW 8270 [B])				
bis(2–Ethylhexyl)phthalate	µg/L	10 UJ(EHT)	11 U	11 U
TICs	µg/L	.Alpha.–Benzeneacetic Acid[c] 2 J,N (RT 17.82)	0 (0)	0 (0)
		Unknown[d] 14 J (RT 19.67)		
TIC Total	µg/L	16 (2)	0 (0)	0 (0)

Table G–6. Data Summary Table: Water – Quality Control, Equipment Rinsates, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number		EB3–1	EB4–1	EB5–1	ERBG–1
Laboratory ID Number		94908	95191	94808	95193
Collection Date		8–19–92	8–25–92	8–18–92	8–25–92
Associated Field QC Sample		N/A	N/A	N/A	N/A
Parameter	Units				
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)					
Gasoline	mg/L	NA	NA	NA	NA
Diesel Fuel	mg/L	<0.5	<0.3	<0.1	<0.3
Heavy Oil	mg/L	<0.5	<0.3	<0.1	<0.3
TOTAL PRIORITY POLLUTANT METALS					
AA METALS					
Antimony (SW 3020/7041)	µg/L	1.3 U	2 UN	2 U	2 UN
Arsenic (SW 3020/7060)	µg/L	1.5 U	1.5 U	1.5 UJ(W)	1.5 U
Lead (SW 3020/7421)	µg/L	0.8 B	1.2 U(MB)	0.9 U	1.3 U(MB)
Selenium (SW 3020/7740)	µg/L	1.4 U	1.4 U	1.4 UJ(W)	1.4 UJ(W)
ICP METALS (SW 3005/6010)					
Copper	µg/L	8.6 B	34.9	3.9 U	3.9 U
Zinc	µg/L	4.6 B	36.3	3.5 U	3.5 U
DISSOLVED PRIORITY POLLUTANT METALS					
AA METALS					
Lead (SW 3020/7421)	µg/L	NA	NA	NA	NA
ICP METALS (SW 3005/6010)					
Beryllium	µg/L	NA	NA	NA	NA
Copper	µg/L	NA	NA	NA	NA
VOLATILE ORGANICS (A)					
Methylene Chloride	µg/L	1 U	1 U	3	1 U
Acetone	µg/L	4 U	4 U	4 U	4 U
Chloroform	µg/L	0.5 U	0.5 U	0.5 U	9
Bromodichloromethane	µg/L	0.4 U	0.4 U	0.4 U	0.4 U
TICs	µg/L	0 (0)	Octamethylcyclotetrasiloxane[a] 7 J,N (RT 27.14)	0 (0)	Cyclotetrasiloxane, Octameth[a] 9 J,N (RT 27.13)
TIC Total	µg/L	0 (0)	7 (1)	0 (0)	9 (1)
SEMIVOLATILE ORGANIC (SW 8270 [B])					
bis(2–Ethylhexyl)phthalate	µg/L	10 U	11 U	12 U	10 U
TICs	µg/L	0 (0)	Unknown[d] 3 J (RT 27.99)	0 (0)	Unknown[d] 3 J (RT 27.89)
			Unknown[d] 5 J (RT 29.01)		Pentacosane[b] 4 J,N (RT 28.91)
			Unknown[d] 6 J (RT 30.01)		Unknown[d] 5 J (RT 29.91)
			Unknown[d] 6 J (RT 30.96)		Heptadecane[b] 4 J,N (RT 30.86)
			Octacosane[b] 4 J,N (RT 31.91)		Octacosane[b] 3 J,N (RT 31.81)
			Unknown[d] 3 J (RT 32.82)		Unknown[d] 2 J (RT 32.72)
			Unknown[d] 2 J (RT 33.74)		
TIC Total	µg/L	0 (0)	29 (7)	0 (0)	21 (6)

Table G–6. Data Summary Table: Water – Quality Control, Equipment Rinsates, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number		ERBG–2			EB2–2	EB3–2
Laboratory ID Number		97273			9564, 9580	9565, 9581
Collection Date		9–29–92			5–21–93	5–21–93
Associated Field QC Sample		N/A			N/A	N/A
Parameter	Units					
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)						
Gasoline	mg/L	NA			<0.25	<0.25
Diesel Fuel	mg/L	<0.2			<0.17	<0.13
Heavy Oil	mg/L	<0.2			<0.25	<0.25
TOTAL PRIORITY POLLUTANT METALS						
AA METALS						
Antimony (SW 3020/7041)	µg/L	2.1 J(N)			0.7 UJ(MB,N)	0.6 UJ(N)
Arsenic (SW 3020/7060)	µg/L	0.7 U			0.6 R(N)	0.6 R(N)
Lead (SW 3020/7421)	µg/L	0.8 U(MB)			0.5 U	0.7 U(MB)
Selenium (SW 3020/7740)	µg/L	R(N)			R(N)	1.1 R(N)
ICP METALS (SW 3005/6010)						
Copper	µg/L	3.4 U			2.7 U	8.2 U(MB)
Zinc	µg/L	5.9 U(MB)			3.6 U(MB)	5.6 U(MB)
DISSOLVED PRIORITY POLLUTANT METALS						
AA METALS						
Lead (SW 3020/7421)	µg/L	NA			0.5 U	1.3 B
ICP METALS (SW 3005/6010)						
Beryllium	µg/L	NA			0.66 B	0.3 U
Copper	µg/L	NA			5.3 B	2.7 U
VOLATILE ORGANICS (A)						
Methylene Chloride	µg/L	4			0.3 J	0.4 U
Acetone	µg/L	1 U			8	12
Chloroform	µg/L	13			0.2 J	0.4 U
Bromodichloromethane	µg/L	0.9			0.4 U	0.4 U
TICs	µg/L	Trichlorofluoro–Methane [a]	1 J,N	(RT 4.22)	0 (0)	0 (0)
TIC Total	µg/L		1 (1)		0 (0)	0 (0)
SEMIVOLATILE ORGANIC (SW 8270 [B])						
bis(2–Ethylhexyl)phthalate	µg/L	13			10 U	11 U
TICs	µg/L	Unknown [d]	2 J	(RT 4.93)	0 (0)	0 (0)
		Unknown [d]	3 J	(RT 5.03)		
		Unknown [d]	3 J	(RT 5.9)		
		Unknown [d]	4 J	(RT 10.99)		
		Unknown [d]	3 J	(RT 14.75)		
		Unknown [d]	2 J	(RT 18.12)		
		1,3–Isobenzofurandione, 4,5 [e]	3 J,N	(RT 24.15)		
		Hexanedioic Acid, Mono (2–Eth) [e]	2 J,N	(RT 29.47)		
TIC Total	µg/L		22 (8)		0 (0)	0 (0)

Table G–6. Data Summary Table: Water – Quality Control, Equipment Rinsates, 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

Validation note: All descriptive data qualifiers applied to the reported values by the laboratory are reported in parentheses.
Each data point has been assessed to determine whether the value is considered usable (i.e., no qualifier), usable but estimated (i.e., "J"), or not usable (i.e., "R"). All usability qualifiers are followed by the applicable laboratory or field QC qualifier, presented in parentheses and defined below. Usability qualifiers were not applied to values qualified by the laboratory, but were not considered to have been adversely impacted by the applicable laboratory QC result (e.g., duplicated and matrix spike analysis).

A – groundwater samples were analyzed for volatile halogenated compounds and volatile aromatic compounds (i.e., E 524.2), which has been modified to incorporate CLP–type QC requirements and SD5–ER, EB2–2, and EB3–2 were analyzed for volatile organic compounds (i.e., SW 8240) which has been modified for low level detection limits and modified to incorporate CLP–type QC requirements
B – SVOCs in groundwater and field QC blanks were analyzed using EPA method 3510/8270
NA – not analyzed
N/A – not applicable
RT – retention time in minutes
TICs–tentatively identified compounds, total concentration is listed and the total number of tentatively identified compounds is inside the parenthases

Data Validation Qualifiers

J – associated numerical value is the approximate concentration
R – rejected value
U – compound/element was included in analysis, but was not detected
UJ – reported quantitation limit is approximate and may or may not represent the actual quantitation necessary to accurately and precisely measure the analyte

Explanatory Data Validation Qualifiers

EHT – extraction holding time outside control limits
MB – compound/element was also detected in the associated laboratory method blank

EPA–defined CLP SOW Laboratory Qualifiers

B(metals) – the reported value is estimated because it is greater than the Instrument Detection Limit (IDL), but less than the Contract Required Detection Limit(CRDL)
N – spiked sample recovery outside of control limits
N(TICs) – presumptive evidence of a compound
W – post–digestion spike for Graphite Furnace Atomic Absorption (GFAA) analysis is out of control limits (85–115%), while sample absorbance is less than 50% of the spike absorbance

SAIC TIC Evaluation Categories

[a] – laboratory and extraction artifacts
[b] – petroleum or petroleum degradation products
[c] – other
[d] – unknown

the Springfield ANGB SI. The following subsections summarize the compounds and elements detected in these blanks and the impact of this interference on the environmental data quality.

Volatile Organic Compound Analysis—Ten equipment blanks (i.e., SD5-ER, EB5-1, EB2-1, EB3-1, ER1-1, EB4-1, ERBG-1, ERBG-2, EB2-2, and EB3-2) were collected and analyzed by the Weyerhaeuser Laboratory for VOCs using EPA Method 8240, EPA Method 524.2, and the March 1990 EPA CLP SOW. Methylene chloride was detected in ER1-1 (8 μg/L), ERBG-2 (4 μg/L), and EB2-2 (0.3 μg/L). As a result, the methylene chloride detected in MW2-1-1 was qualified (i.e., "U[FB]) to indicate that the compound concentration was less than 10 times the concentration detected in ERBG-2. Acetone was detected in EB2-2 (8 μg/L) and FB3-2 (12 μg/L), and chloroform was detected in SD5-ER (15 μg/L), EB2-1 (1 μg/L), ERBG-1 (9 μg/L), ERBG-2 (13 μg/L), and EB2-2 (0.2 μg/L). Data validation qualifiers (i.e., "U[EB]) were applied to the acetone concentrations detected in SB2-4-1, SB2-6-1, SB2-6-1R, SB2-6-1R RE, and SB3-4-2 and to the chloroform concentration detected in MW2-1-1 associated with ERBG-2. Bromodichloromethane was detected in ERBG-2 (0.9 μg/L); however, since this VOC was not detected in the associated environmental samples, no data validation qualifiers were applied.

Semivolatile Organic Compound Analysis—Ten equipment blanks (i.e., SD5-ER, EB2-1, EB5-1, EB3-1, ER1-1, EB4-1, ERBG-1, ERBG-2, EB2-2, and EB3-2) were collected and analyzed by the Weyerhaeuser Laboratory for SVOCs using EPA Method 3510/8270 and the March 1990 EPA CLP SOW. Bis(2-ethylhexyl)phthalate was detected in ERBG-2 (1 μg/L). Data validation qualifiers (i.e., "U[EB]") were applied to bis(2-ethylhexyl)phthalate concentrations detected in MW4-1-1 and MWBG-2-1 associated with the equipment blank listed above. These results are presented in the data presentation tables in Appendix F.

Gasoline Range, Diesel Fuel Range, and Heavy Oil Analysis—Ten equipment blanks (i.e., SD5-ER, EB2-1, EB5-1, EB3-1, ER1-1, EB4-1, ERBG-1, ERBG-2, EB2-2, and EB3-2) were collected during the Springfield ANGB SI and analyzed for gasoline range (i.e., EB2-2 and EB3-2), diesel fuel range, and heavy oil by the Weyerhaeuser Laboratory. No contaminants were detected.

Priority Pollutant Metals Analysis—Ten equipment blanks (i.e., SD5-ER, EB2-1, EB5-1, ER1-1, EB3-1, EB4-1, ERBG-1, ERBG-2, EB2-2, and EB3-2) were collected and analyzed by the Weyerhaeuser Laboratory for priority pollutant metals. Two equipment blanks (i.e., EB2-2 and EB3-2) were analyzed for total and dissolved metals. Contaminants were detected in all equipment blanks associated with environmental samples collected during the Springfield ANGB SI. Copper concentrations detected in MWBG1-2 and lead concentrations detected in MW3-1-2 (dissolved metals), MW4-1-2 (dissolved metals), MWBG-1-2 (dissolved metals), and P-4-1 (dissolved metals) were qualified (i.e., "U[EB]") to indicate that copper and lead concentrations were less than five times the concentration detected in the associated equipment blanks. These results are presented in the data presentation tables in Appendix F.

G.2.4 Field Replicates

One replicate environmental sample was collected for every 10 environmental samples, as required by DOE/HWP-65/R1. The RPD value of each detected compound or element was reviewed to assess the sample collection reproducibility and matrix variability. A total of 72 soil (i.e., soil and sediment) and 10 replicate samples, in addition to 17 water (i.e., groundwater) and 2 replicate samples were collected. One field replicate soil sample was collected after every 10 environmental samples, as indicated on the chain-of-custody forms.

As required by the Springfield ANGB SI SOW, soil samples were collected at specific intervals in the borehole (i.e., continuously for the first 10 feet, every 5 feet thereafter, and at least one sample at the water table). Specific samples to be sent to the laboratory were selected based on location in the borehole (e.g., at the water table) and health monitoring equipment or onsite GC results. Therefore, replicate sample selection was less straightforward using these sample selection criteria than simply replicating 1 sample for every 10 collected, since samples were selected only after the drilling had been completed or the monitoring well had been screened. After the split spoon was retrieved from the borehole, the samples to be screened for VOCs were immediately collected in 40-mL vials. All soil samples to be analyzed by the analytical laboratory were collected using brass (i.e., for VOC, SVOC, gasoline range, diesel fuel range, and heavy oil analyses) and stainless steel (i.e., for priority pollutant metals analysis) liners. Each split spoon was filled with sufficient liners such that replicate samples could be

collected at any sample collection interval. After the split spoon sampler was retrieved from the borehole, these liners were capped and labeled and each sample was then shipped to the laboratory in the liner. Therefore, the replicate concentrations measured by the laboratory reflect the natural matrix variability inherent in the subsurface soils at Springfield ANGB and were not used to assess sample collection precision.

Specific control limits for field duplicates were not established, in part, because the natural heterogeneity of the environmental media was much greater than the variability imported by field activities. As one might expect, soil and sediment heterogeneity imports a large degree of uncertainty to what might be considered representative values. Replicate results were evaluated using 30 and 50 percent RPD guidelines for water and soil samples, respectively, analyzed for VOCs and SVOCs, and for a control limit of priority pollutant metals concentrations greater than five times the applicable CRDL. For sample and replicate concentrations less than five times the applicable CRDL, control limits of ± 2 times and ± 4 times the CRDL (i.e., for water and soil samples, respectively) were used for those samples collected and analyzed for priority pollutant metals, as suggested by *Functional Guidelines for Evaluating Inorganics Analyses*. Tables G-7 and G-8 summarize the concentrations of the compounds and elements detected in the soil, sediment, and groundwater replicate pairs collected during the Springfield ANGB SI.

Volatile Organic Compound Analysis—Sixty-six soil samples, 16 sediment samples, and 17 groundwater samples were collected during the Springfield ANGB SI and analyzed for VOCs using EPA Method 8240 and the March 1990 EPA CLP SOW. Ten soil samples (i.e., SD5-3, SB5-4-1, SB4-3-1, MWBG-2-3, SB1-3-11, SB2-2-1, MW3-1-1, SD2-1, SB2-6-1, and SD3-2) and two groundwater samples (i.e., MW3-1-1 and P-4-1) were collected in duplicate. RPD values were not calculated for compounds not detected in both the sample and duplicate sample, for compounds detected in one sample reported at concentrations below the sample detection limit in the duplicate sample, and compounds commonly considered laboratory contaminants (i.e., methylene chloride, 2 butanone, and acetone). All RPD values were within the acceptance criteria, except for total xylenes (200 percent) in MWBG-2-3 and MWBG-2-3R. Total xylenes in MWBG-2-3 was qualified (i.e., "J[FD]") to indicate matrix variability.

Table G–7. Results of Replicated Soil, Surface Soil and Sediment Sampling Analysis for 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC ID Number		MWBG–2–3			MWBG–2–3R
Laboratory ID Number		94913			94914
Collection Date		8–19–92			8–19–92
Collection Depth (ft)		17.5–19.5			17.5–19.5
Associated Field QC Sample		TB–6			TB–6
		EB3–1			EB3–1
		FB3–1			FB3–1
Parameter	Units	SD5–FB			SD5–FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)					
Gasoline	mg/kg	NA			NA
Diesel Fuel	mg/kg	39 J(FD)			4 J(FD)
Heavy Oil	mg/kg	97 J(FD)			2 J(FD)
PRIORITY POLLUTANT METALS					
AA METALS					
Antimony (SW 3050/7041)	mg/kg	R(N)			R(N)
Arsenic (SW 3050/7060)	mg/kg	5.7 J(N)			3.8 J(N)
Lead (SW 3050/7421)	mg/kg	7.4			5.7
Mercury (SW 3050/7471)	mg/kg	0.08 U			0.1 U
Selenium (SW 3050/7740)	mg/kg	0.13 UJ(N,W)			0.16 UJ(MB,N,W)
Thallium (SW 3050/7841)	mg/kg	0.18 UJ(MB,W)			0.14 UJ(MB,W)
ICP METALS (SW 3050/6010)					
Beryllium	mg/kg	0.37 B			0.33 B
Cadmium	mg/kg	0.94 U			0.88 U
Chromium	mg/kg	8.8			7.6
Copper	mg/kg	21.7			13.6
Nickel	mg/kg	21.7			13
Silver	mg/kg	2.8 U(MB)			3 U(MB)
Zinc	mg/kg	46.7 J(E)			39.7 J(E)
VOLATILE ORGANICS (SW 8240 [A])					
Acetone	µg/kg	12 UJ(SR)			13 U
Carbon Disulfide	µg/kg	12 UJ(SR)			13 U
2–Butanone	µg/kg	12 UJ(SR)			13 U
Benzene	µg/kg	3 J(SR)			13 U
4–Methyl–2–pentanone	µg/kg	12 UJ(SR)			13 U
Toluene	µg/kg	14 J(SR)			6 J
Ethylbenzene	µg/kg	10 J(SR)			13 U
Xylene (total)	µg/kg	72 J(SR, FD))			13 U
TICs	µg/kg	Ethyl Ester Acetic Acid[a]	19 J,N	(RT 10.16)	0 (0)
		4H–Pyran–4–One, 2,6–Dimethyl[a]	34 J,N	(RT 27.02)	
		1–Ethyl–4–Methyl–Benzene[b]	36 J,N	(RT 27.11)	
		1,2,4–Trimethyl–Benzene[b]	38 J,N	(RT 27.29)	
TIC Total	µg/kg		127 (4)		0 (0)

Table G–7. Results of Replicated Soil, Surface Soil and Sediment Sampling Analysis for 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number		MWBG–2–3			MWBG–2–3R		
Laboratory ID Number		94913			94914		
Collection Date		8–19–92			8–19–92		
Collection Depth (ft)		17.5–19.5			17.5–19.5		
Associated Field QC Sample		TB–6			TB–6		
		EB3–1			EB3–1		
		FB3–1			FB3–1		
Parameter	Units	SD5–FB			SD5–FB		
SEMIVOLATILE ORGANICS (SW 8270 [B])							
N–Nitroso–di–N–propylamine	µg/kg	350 U			390 U		
Naphthalene	µg/kg	350 U			390 U		
2–Methylnaphthalene	µg/kg	350 U			390 U		
Acenaphthylene	µg/kg	350 U			390 U		
Acenaphthene	µg/kg	350 U			390 U		
Dibenzofuran	µg/kg	350 U			390 U		
Fluorene	µg/kg	350 U			390 U		
Phenanthrene	µg/kg	350 U			390 U		
Anthracene	µg/kg	350 U			390 U		
Carbazole	µg/kg	350 U			390 U		
Fluoranthene	µg/kg	350 U			390 U		
Pyrene	µg/kg	350 U			390 U		
Benzo(a)anthracene	µg/kg	350 U			390 U		
Chrysene	µg/kg	350 U			390 U		
bis(2–Ethylhexyl)phthalate	µg/kg	350 U			390 U		
di–N–Octyl phthalate	µg/kg	350 UJ(CCV)			390 UJ(CCV)		
Benzo(b)fluoranthene	µg/kg	350 U			390 U		
Benzo(k)fluoranthene	µg/kg	350 U			390 U		
Benzo(a)pyrene	µg/kg	350 U			390 U		
Indeno(1,2,3–c,d)pyrene	µg/kg	350 U			390 U		
Dibenzo(a,h)anthracene	µg/kg	350 U			390 U		
Benzo(g,h,i)perylene	µg/kg	350 U			390 U		
TICs	µg/kg	4–Hydroxy–4–Methyl–2–Pentanone [a]	12000	B,J,N,A (RT 5.37)	4–Hydroxy–4–Methyl–2–Pentanone [a]	13000	B,J,N,A (RT 5.37)
		Unknown [d]	110	J (RT 12.50)	Unknown [d]	110	J (RT 32.91)
		Unknown [d]	260	J (RT 14.40)	Unknown [d]	84	J (RT 34.99)
		Unknown [d]	80	J (RT 15.75)			
		Unknown [d]	340	J (RT 16.19)			
		Heptadecane, 2,6,10,14–Tetra [b]	210	J,N (RT 17.19)			
		Unknown [d]	370	J (RT 17.85)			
		Hexadecane [b]	310	J,N (RT 19.45)			
		Unknown [d]	180	J (RT 20.15)			
		Heptadecane [b]	470	J,N (RT 20.95)			
		2,6–Dimethyl–Heptadecane [b]	350	J,N (RT 21.00)			
		Unknown [d]	280	J (RT 22.39)			
		Unknown [d]	240	J (RT 22.47)			
		Unknown [d]	320	J (RT 23.75)			
		Iron, Tricarbonyl[N–(Phenyl– [b]	270	J,N (RT 25.06)			
		Unknown [d]	250	J (RT 26.31)			
		Unknown [d]	300	J (RT 28.64)			
		Unknown [d]	300	J (RT 29.76)			
		Pentacosane [b]	270	J,N (RT 30.84)			
		Octacosane [b]	200	J,N (RT 31.89)			
		Unknown [d]	490	J (RT 32.92)			
TIC Total	µg/kg		17600	(21)		13194	(3)

Table G–7. Results of Replicated Soil, Surface Soil and Sediment Sampling Analysis for 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number		SD3–2	SD3–2R
Laboratory ID Number		9556	9557
Collection Date		5–21–93	5–21–93
Collection Depth (ft)		0.0–0.5	0.0–0.5
Associated Field QC Sample		TB52093	TB52093
		EB2–2, EB3–2	EB2–2, EB3–2
		N/A	N/A
Parameter	Units	FB2–2, FB3–2	FB2–2, FB3–2
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)			
Gasoline	mg/kg	<0.05	<0.05
Diesel Fuel	mg/kg	24	23
Heavy Oil	mg/kg	120	99
PRIORITY POLLUTANT METALS			
AA METALS			
Antimony (SW 3050/7041)	mg/kg	0.09 UJ(N,W)	0.15 J(N,W)
Arsenic (SW 3050/7060)	mg/kg	6.7 J(N)	7.2 J(N)
Lead (SW 3050/7421)	mg/kg	213 J(N)	17.7 J(N)
Mercury (SW 3050/7471)	mg/kg	0.04 U	0.04 U
Selenium (SW 3050/7740)	mg/kg	0.14 UJ(W)	0.15 UJ(W)
Thallium (SW 3050/7841)	mg/kg	0.22 J(W)	0.23 UJ(W)
ICP METALS (SW 3050/6010)			
Beryllium	mg/kg	0.34 U(MB)	0.4 B
Cadmium	mg/kg	0.61 U	0.55 U
Chromium	mg/kg	17.3	20.3
Copper	mg/kg	15.2	18.6
Nickel	mg/kg	13.7	13.8
Silver	mg/kg	0.66 B	0.61 B
Zinc	mg/kg	65.1 J(E)	75.5 J(E)
VOLATILE ORGANICS (SW 8240 [A])			
Acetone	µg/kg	11 U	11 U
Carbon Disulfide	µg/kg	11 U	11 U
2–Butanone	µg/kg	11 U	11 U
Benzene	µg/kg	11 U	11 U
4–Methyl–2–pentanone	µg/kg	11 U	11 U
Toluene	µg/kg	11 U	11 U
Ethylbenzene	µg/kg	11 U	11 U
Xylene (total)	µg/kg	11 U	11 U
TICs	µg/kg	0 (0)	0 (0)
TIC Total	µg/kg	0 (0)	0 (0)

Table G–7. Results of Replicated Soil, Surface Soil and Sediment Sampling Analysis for 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number		SD3–2			SD3–2R		
Laboratory ID Number		9556			9557		
Collection Date		5–21–93			5–21–93		
Collection Depth (ft)		0.0–0.5			0.0–0.5		
Associated Field QC Sample		TB52093			TB52093		
		EB2–2, EB3–2			EB2–2, EB3–2		
		N/A			N/A		
Parameter	Units	FB2–2, FB3–2			FB2–2, FB3–2		
SEMIVOLATILE ORGANICS (SW 8270 [B])							
N–Nitroso–di–N–propylamine	µg/kg	360 U			360 U		
Naphthalene	µg/kg	360 U			360 U		
2–Methylnaphthalene	µg/kg	360 U			360 U		
Acenaphthylene	µg/kg	39 J			360 U		
Acenaphthene	µg/kg	360 U			360 U		
Dibenzofuran	µg/kg	360 U			360 U		
Fluorene	µg/kg	360 U			360 U		
Phenanthrene	µg/kg	150 J			380		
Anthracene	µg/kg	360 U			52 J		
Carbazole	µg/kg	44 J			360 U		
Fluoranthene	µg/kg	330 J			550		
Pyrene	µg/kg	330 J			550		
Benzo(a)anthracene	µg/kg	190 J			220 J		
Chrysene	µg/kg	210 J			280 J		
bis(2–Ethylhexyl)phthalate	µg/kg	360 U(MB)			360 U(MB)		
di–N–Octyl phthalate	µg/kg	360 U			360 U		
Benzo(b)fluoranthene	µg/kg	330 J			410		
Benzo(k)fluoranthene	µg/kg	120 J			130 J		
Benzo(a)pyrene	µg/kg	190 J			250 J		
Indeno(1,2,3–c,d)pyrene	µg/kg	210 J			240 J		
Dibenzo(a,h)anthracene	µg/kg	360 U			360 U		
Benzo(g,h,i)perylene	µg/kg	190 J			200 J		
TICs	µg/kg	4–Hydroxy–4–Methyl–2–Pentanone [a]	19000 B,J,N,A	(RT 3.93)	4–Hydroxy–4–Methyl–2–Pentanone [a]	18000 B,J,N,A	(RT 3.93)
		Unknown [d]	220 J	(RT 18.77)	Unknown [d]	180 J	(RT 18.77)
		Unknown [d]	130 J	(RT 20.15)	Unknown [d]	220 J	(RT 21.50)
		Unknown [d]	210 J	(RT 21.50)	Hexadecanoic Acid [f]	270 J,N	(RT 22.35)
		Hexadecanoic Acid [f]	360 J,N	(RT 22.35)	Unknown [d]	140 J	(RT 22.79)
		Unknown [d]	130 J	(RT 22.79)	Unknown [d]	160 J	(RT 24.00)
		Unknown [d]	290 J	(RT 24.00)	Unknown [d]	87 J	(RT 25.17)
		Unknown [d]	110 J	(RT 25.17)	Unknown [d]	390 J	(RT 26.31)
		Unknown [d]	200 J	(RT 26.31)	Hexanedioic Acid, Mono(2–Eth [c]	1700 J,N	(RT 27.27)
		Unknown [d]	190 J	(RT 27.39)	Unknown [d]	250 J	(RT 27.39)
		Unknown [d]	280 J	(RT 28.44)	Unknown [d]	1700 J	(RT 28.44)
		Unknown [d]	320 J	(RT 29.44)	Unknown [d]	250 J	(RT 29.46)
		Unknown [d]	610 J	(RT 30.46)	Unknown [d]	320 J	(RT 30.46)
		Unknown [d]	400 J	(RT 31.42)	Unknown [d]	300 J	(RT 31.42)
		Octacosane [b]	970 J,N	(RT 32.39)	Unknown [d]	510 J	(RT 32.39)
		Pentatriacontane [b]	1200 J,N	(RT 34.31)	Pentatriacontane [b]	830 J,N	(RT 34.32)
		Unknown [d]	860 J	(RT 35.42)	Unknown [d]	650 J	(RT 35.42)
		Unknown [d]	910 J	(RT 35.71)	Unknown [d]	630 J	(RT 35.69)
		Unknown [d]	2400 J	(RT 36.29)	Unknown [d]	1500 J	(RT 36.31)
		Unknown [d]	3900 J	(RT 36.77)	Unknown [d]	550 J	(RT 36.72)
		Unknown [d]	760 J	(RT 37.11)	Unknown [d]	570 J	(RT 37.09)
TIC Total	µg/kg		33450 (21)			29207 (21)	

Table G–7. Results of Replicated Soil, Surface Soil and Sediment Sampling Analysis for 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number		SB1–3–11	SB1–3–11R
Laboratory ID Number		94597	94598
Collection Date		8–14–92	8–14–92
Collection Depth (ft)		20.5–22.0	20.5–22.0
Associated Field QC Sample		TB–3	TB–3
		ER1–1	ER1–1
		FB1–1	FB1–1
Parameter	Units	SD5–FB	SD5–FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)			
Gasoline	mg/kg	NA	NA
Diesel Fuel	mg/kg	14 J(FD)	43 J(FD)
Heavy Oil	mg/kg	11 J(FD)	22 J(FD)
PRIORITY POLLUTANT METALS			
AA METALS			
Antimony (SW 3050/7041)	mg/kg	0.24 J(N,r)	R(N)
Arsenic (SW 3050/7060)	mg/kg	9.4 J(N)	3.7 J(N)
Lead (SW 3050/7421)	mg/kg	12.6	11.2
Mercury (SW 3050/7471)	mg/kg	0.11 U	0.08 U
Selenium (SW 3050/7740)	mg/kg	0.12 UJ(N,W)	0.13 UJ(N,W)
Thallium (SW 3050/7841)	mg/kg	0.28 B	0.32 B
ICP METALS (SW 3050/6010)			
Beryllium	mg/kg	0.57	0.27 B
Cadmium	mg/kg	0.19 U	0.25 U
Chromium	mg/kg	14.6	9
Copper	mg/kg	26.8	23
Nickel	mg/kg	23.9	17.7
Silver	mg/kg	1.6 U(MB)	1.1 U(MB)
Zinc	mg/kg	85.8 J(E)	81.7 J(E)
VOLATILE ORGANICS (SW 8240 [A])			
Acetone	µg/kg	25 U(FB)	18 U(FB)
Carbon Disulfide	µg/kg	12 U	12 U
2–Butanone	µg/kg	12 U	12 U
Benzene	µg/kg	12 U	12 U
4–Methyl–2–pentanone	µg/kg	12 U	12 U
Toluene	µg/kg	11 J	5 J
Ethylbenzene	µg/kg	12 U	12 U
Xylene (total)	µg/kg	12 U	12 U
TICs	µg/kg	Trichlorofluoro–Methane [a] 8 J,N (RT 4.31)	0 (0)
TIC Total	µg/kg	8 (1)	0 (0)

Table G–7. Results of Replicated Soil, Surface Soil and Sediment Sampling Analysis for 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number		SB1–3–11			SB1–3–11R		
Laboratory ID Number		94597			94598		
Collection Date		8–14–92			8–14–92		
Collection Depth (ft)		20.5–22.0			20.5–22.0		
Associated Field QC Sample		TB–3			TB–3		
		ER1–1			ER1–1		
		FB1–1			FB1–1		
Parameter	Units	SD5–FB			SD5–FB		
SEMIVOLATILE ORGANICS (SW 8270 [B])							
N–Nitroso–di–N–propylamine	µg/kg	390 U			390 U		
Naphthalene	µg/kg	390 U			390 U		
2–Methylnaphthalene	µg/kg	390 U			390 U		
Acenaphthylene	µg/kg	390 U			390 U		
Acenaphthene	µg/kg	390 U			390 U		
Dibenzofuran	µg/kg	390 U			390 U		
Fluorene	µg/kg	390 U			390 U		
Phenanthrene	µg/kg	390 U			390 U		
Anthracene	µg/kg	390 U			390 U		
Carbazole	µg/kg	390 U			390 U		
Fluoranthene	µg/kg	390 U			390 U		
Pyrene	µg/kg	390 U			390 UJ(IS)		
Benzo(a)anthracene	µg/kg	390 U			390 UJ(IS)		
Chrysene	µg/kg	390 U			390 UJ(IS)		
bis(2–Ethylhexyl)phthalate	µg/kg	71 J			390 UJ(IS)		
di–N–Octyl phthalate	µg/kg	390 U			390 UJ(IS)		
Benzo(b)fluoranthene	µg/kg	390 U			390 UJ(IS)		
Benzo(k)fluoranthene	µg/kg	390 U			390 UJ(IS)		
Benzo(a)pyrene	µg/kg	390 U			390 UJ(IS)		
Indeno(1,2,3–c,d)pyrene	µg/kg	390 U			390 UJ(IS)		
Dibenzo(a,h)anthracene	µg/kg	390 U			390 UJ(IS)		
Benzo(g,h,i)perylene	µg/kg	390 U			390 UJ(IS)		
TICs	µg/kg	Unknown [d]	200 J	(RT 20.04)	Tetradecane [b]	440 J,N	(RT 14.50)
		Unknown [d]	220 J	(RT 20.12)	2,7,10–Trimethyl–Dodecane [b]	670 J,N	(RT 16.10)
		Octadecane [b]	180 J,N	(RT 21.40)	Hexadecane [b]	820 J,N	(RT 17.64)
		Unknown [d]	260 J	(RT 22.72)	Unknown [d]	780 J	(RT 18.35)
		Eicosane [b]	230 J,N	(RT 23.97)	Heptadecane [b]	740 J,N	(RT 19.10)
		Unknown [d]	170 J	(RT 25.17)	Hexadecane, 2,6,10–Trimethyl [b]	760 J,N	(RT 19.17)
		Unknown [d]	180 J	(RT 25.96)	Octadecane [b]	560 J,N	(RT 20.49)
		Docosane [b]	210 J,N	(RT 26.32)	Hexadecane, 2,6,10,14–Tetram [b]	500 J,N	(RT 20.59)
		Unknown [d]	150 J	(RT 27.42)	Unknown [d]	880 J	(RT 21.80)
		Unknown [d]	4600 J	(RT 28.29)	Eicosane [b]	660 J,N	(RT 23.05)
		Unknown [d]	250 J	(RT 28.51)	Heptadecane, 2,6,10,15–Tetra [b]	490 J,N	(RT 24.25)
		Pentacosane [b]	190 J,N	(RT 29.51)	Dodecanamide [c]	200 B,J,N	(RT 25.26)
		Hexacosane [b]	190 J,N	(RT 30.51)	Docosane [b]	380 J,N	(RT 26.52)
		Heptacosane [b]	220 J,N	(RT 31.49)	Unknown [d]	3400 J	(RT 27.37)
		Unknown [d]	1500 J	(RT 32.36)	Unknown [d]	290 J	(RT 27.61)
		Octacosane [b]	220 J,N	(RT 32.44)	Pentacosane [b]	280 J,N	(RT 28.62)
		Nonacosane [b]	250 J,N	(RT 33.36)	Hexacosane [b]	280 J,N	(RT 29.64)
		Unknown [d]	230 J	(RT 34.27)	Heptacosane [b]	270 J,N	(RT 30.61)
		Unknown [d]	180 J	(RT 35.19)	Unknown [d]	950 J	(RT 31.47)
		Unknown [d]	170 J	(RT 35.52)	Octacosane [b]	250 J,N	(RT 31.56)
TIC Total	µg/kg		9800 (20)			13600 (20)	

Table G–7. Results of Replicated Soil, Surface Soil and Sediment Sampling Analysis for 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number		SB2–2–1	SB2–2–1R
Laboratory ID Number		94666	94667
Collection Date		8–16–92	8–16–92
Collection Depth (ft)		1.5–3.5	1.5–3.5
Associated Field QC Sample		TB–4	TB–4
		EB2–1	EB2–1
		FB2–1	FB2–1
Parameter	Units	SD5–FB	SD5–FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)			
Gasoline	mg/kg	NA	NA
Diesel Fuel	mg/kg	135 J(FD)	830 J(FD)
Heavy Oil	mg/kg	<2	<2
PRIORITY POLLUTANT METALS			
AA METALS			
Antimony (SW 3050/7041)	mg/kg	0.28 J(N,r)	R(N)
Arsenic (SW 3050/7060)	mg/kg	6.8 J(N)	8.4 J(N)
Lead (SW 3050/7421)	mg/kg	7.6	7.5
Mercury (SW 3050/7471)	mg/kg	0.09 U	0.1 U
Selenium (SW 3050/7740)	mg/kg	0.12 UJ(N,W)	0.13 UJ(N,W)
Thallium (SW 3050/7487)	mg/kg	0.17 J(W)	0.16 J(W)
ICP METALS (SW 3050/6010)			
Beryllium	mg/kg	0.28 B	0.34 B
Cadmium	mg/kg	0.19 U	0.21 U
Chromium	mg/kg	7	9.1
Copper	mg/kg	12.5	19.5
Nickel	mg/kg	14.4	20.5
Silver	mg/kg	2 U(MB)	2.1 U(MB)
Zinc	mg/kg	42.2 J(E)	52.3 J(E)
VOLATILE ORGANICS (SW 8240 [A])			
Acetone	µg/kg	1300 U	36
Carbon Disulfide	µg/kg	1300 U	11 U
2–Butanone	µg/kg	1300 U(MB)	11 U
Benzene	µg/kg	1300 U	2 J
4–Methyl–2–pentanone	µg/kg	1300 U	11 U
Toluene	µg/kg	1300 U	11 U
Ethylbenzene	µg/kg	1300 U	120
Xylene (total)	µg/kg	600 JX	390 X
TICs	µg/kg	Hexamethylcyclotrisiloxane[a] 18 B,J,N (RT 18.64)	3–Methyl–Hexane[b] 69 J,N (RT 11.19)
		3,5–Dimethyl–Heptane[b] 29 J,N (RT 19)	Methyl–Cyclohexane[b] 240 J,N (RT 14.17)
		2,6–Dimethyl–Octane[b] 26 J,N (RT 23.5)	2–Methyl–Heptane[b] 300 J,N (RT 15.72)
		4–(1–Methylethyl)–Heptane[b] 18 J,N (RT 23.9)	3–Methyl–Heptane[b] 300 J,N (RT 16.17)
		2,5–Dimethyl–Octane[b] 27 J,N (RT 24.78)	3,5–Dimethyl–Heptane[b] 71 J,N (RT 19.22)
		Benzene, Trimethyl– Isomer[b] 19 J,N (RT 26.01)	Ethyl–Cyclohexane[b] 110 J,N (RT 19.93)
		Decane[b] 28 J,N (RT 26.41)	2,3,4–Trimethyl–Hexane[b] 120 J,N (RT 20.63)
		Benzene, Trimethyl– Isomer[b] 36 J,N (RT 26.99)	3–Methyl–Octane[b] 96 J,N (RT 21.04)
		4–Methyl–Decane[b] 22 J,N (RT 27.14)	Propyl–Benzene[b] 110 J,N (RT 26.88)
		Undecane[b] 42 J,N (RT 29.6)	1–Ethyl–2–Methyl–Benzene[b] 140 J,N (RT 27.32)
		2,6–Dimethyl–1,6–Octadiene[c] 31 J,N (RT 31.29)	
TIC Total	µg/kg	296 (11)	1556 (10)

Table G–7. Results of Replicated Soil, Surface Soil and Sediment Sampling Analysis for 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number		SB2–2–1			SB2–2–1R		
Laboratory ID Number		94666			94667		
Collection Date		8–16–92			8–16–92		
Collection Depth (ft)		1.5–3.5			1.5–3.5		
Associated Field QC Sample		TB–4			TB–4		
		EB2–1			EB2–1		
		FB2–1			FB2–1		
Parameter	Units	SD5–FB			SD5–FB		
SEMIVOLATILE ORGANICS (SW 8270 [B])							
N–Nitroso–di–N–propylamine	µg/kg	370 U			1400 U		
Naphthalene	µg/kg	290 J			540 J		
2–Methylnaphthalene	µg/kg	770			1600		
Acenaphthylene	µg/kg	370 U			1400 UJ(IS)		
Acenaphthene	µg/kg	370 U			1400 UJ(IS)		
Dibenzofuran	µg/kg	370 U			1400 UJ(IS)		
Fluorene	µg/kg	370 U			1400 UJ(IS)		
Phenanthrene	µg/kg	370 U			270 J		
Anthracene	µg/kg	370 U			1400 U		
Carbazole	µg/kg	370 U			1400 U		
Fluoranthene	µg/kg	370 U			240 J		
Pyrene	µg/kg	370 U			250 J		
Benzo(a)anthracene	µg/kg	370 U			1400 U		
Chrysene	µg/kg	370 U			1400 U		
bis(2–Ethylhexyl)phthalate	µg/kg	370 U			1400 U		
di–N–Octyl phthalate	µg/kg	370 U			1400 U		
Benzo(b)fluoranthene	µg/kg	370 U			1400 U		
Benzo(k)fluoranthene	µg/kg	370 U			1400 U		
Benzo(a)pyrene	µg/kg	370 U			1400 U		
Indeno(1,2,3–c,d)pyrene	µg/kg	370 U			1400 U		
Dibenzo(a,h)anthracene	µg/kg	370 U			1400 U		
Benzo(g,h,i)perylene	µg/kg	370 U			1400 U		
TICs	µg/kg	1–Ethyl–3–Methyl–Benzene [b]	2000 J,N	(RT 6.57)	Pentane, 2,2,3,3–Tetramethyl [b]	2700 J,N	(RT 6.33)
		5–Ethyl–2–Methyl–Heptane [b]	2300 J,N	(RT 8.13)	5–Ethyl–2–Methyl–Heptane [b]	4800 J,N	(RT 7.72)
		Benzene, 4–Ethyl–1,2–Dimethy [b]	1300 J,N	(RT 8.94)	2,4,6–Trimethyl–Octane [b]	4800 J,N	(RT 9.39)
		2,4,6–Trimethyl–Octane [b]	3400 J,N	(RT 9.90)	Unknown [d]	2000 J	(RT 11.07)
		Benzene, 1,2,4,5–Tetramethyl [b]	3100 J,N	(RT 10.27)	Dodecane [b]	8600 J,N	(RT 11.40)
		Benzene, 1,2,3,5–Tetramethyl [b]	2000 J,N	(RT 10.92)	2,6–Dimethyl–Undecane [b]	5900 J,N	(RT 11.65)
		Unknown [d]	2000 J	(RT 11.04)	Unknown [d]	1400 J	(RT 12.49)
		3,7–Dimethyl–Nonane [b]	750 J,N	(RT 11.24)	2,10–Dimethyl–Undecane [b]	2000 J,N	(RT 12.57)
		Unknown [d]	1700 J	(RT 11.64)	2,6,7–Trimethyl–Decane [b]	8600 J,N	(RT 12.75)
		Dodecane [b]	5900 J,N	(RT 11.97)	3,8–Dimethyl–Undecane [b]	19000 J,N	(RT 13.27)
		2,6–Dimethyl–Undecane [b]	7000 J,N	(RT 12.22)	1,4–Methanonaphthalene, 1,4–*	2300 J,N	(RT 13.39)
		7–Methyl–Tridecane [b]	2200 J,N	(RT 13.32)	2,6,6–Trimethyl–Decane [b]	4300 J,N	(RT 13.54)
		Unknown [d]	2600 J	(RT 13.84)	3–Ethyl–Undecane [b]	3900 J,N	(RT 14.32)
		2–Methyl–Tridecane [b]	760 J,N	(RT 14.89)	Unknown [d]	7500 J	(RT 14.54)
		Unknown [d]	1400 J	(RT 15.12)	2,3,5–Trimethyl–Decane [b]	25000 J,N	(RT 14.97)
		Unknown [d]	4000 J	(RT 15.54)	2–Methyl–Tetradecane [b]	7200 J,N	(RT 15.94)
		Unknown [d]	1300 J	(RT 16.50)	2,7,10–Trimethyl–Dodecane [b]	11000 J,N	(RT 16.54)
		2,7,10–Trimethyl–Dodecane [b]	1400 J,N	(RT 17.10)	Hexadecane [b]	4200 J,N	(RT 18.04)
		Dodecanamide [c]	3800 B,J,N	(RT 28.22)	Unknown [d]	2000 J	(RT 19.47)
		Unknown [d]	2000 J	(RT 32.31)	Ci60 D10–Phenanthrene*	2100 J	(RT 20.55)
TIC Total	µg/kg		50910 (20)			129300 (20)	

Table G–7. Results of Replicated Soil, Surface Soil and Sediment Sampling Analysis for 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number		SB2–6–1	SB2–6–1R
Laboratory ID Number		9545	9546
Collection Date		5–20–93	5–20–93
Collection Depth (ft)		16.5–17.5	16.5–17.5
Associated Field QC Sample		TB52093	TB52093
		EB2–2, EB3–2	EB2–2, EB3–2
		N/A	N/A
Parameter	Units	FB2–2, FB3–2	FB2–2, FB3–2
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)			
Gasoline	mg/kg	<0.05	<0.05
Diesel Fuel	mg/kg	31 J(FD)	62 J(FD)
Heavy Oil	mg/kg	35 J(FD)	63 J(FD)
PRIORITY POLLUTANT METALS			
AA METALS			
Antimony (SW 3050/7041)	mg/kg	0.09 UJ(N,W)	0.09 UJ(N,W)
Arsenic (SW 3050/7060)	mg/kg	3.40 J(N)	3.00 J(N)
Lead (SW 3050/7421)	mg/kg	7.30 J(N)	6.30 J(N)
Mercury (SW 3050/7471)	mg/kg	0.05 U	0.04 U
Selenium (SW 3050/7740)	mg/kg	0.14 UJ(W)	0.14 U
Thallium (SW 3050/7487)	mg/kg	0.22 U	0.27 J(W)
ICP METALS (SW 3050/6010)			
Beryllium	mg/kg	0.30 U(MB)	0.33 U(MB)
Cadmium	mg/kg	0.64 U	0.59 U
Chromium	mg/kg	9.10	8.70
Copper	mg/kg	14.20	12.60
Nickel	mg/kg	12.30	15.40
Silver	mg/kg	0.50 U	0.47 U
Zinc	mg/kg	35.90 J(E)	37.50 J(E)
VOLATILE ORGANICS (SW 8240 [A])			
Acetone	µg/kg	120 U(EB)	95 U(EB)
Carbon Disulfide	µg/kg	2 J	11 U
2–Butanone	µg/kg	32	26
Benzene	µg/kg	11 U	11 U
4–Methyl–2–pentanone	µg/kg	9 J	17 J(IS)
Toluene	µg/kg	11 U	11 UJ(IS)
Ethylbenzene	µg/kg	11 U	11 UJ(IS)
Xylene (total)	µg/kg	11 U	11 UJ(IS)
TICs	µg/kg	Unknown [d] 10 J,N (RT 6.77)	Unknown Ketone [d] 16 J,N (RT 13.50)
		Unknown Alkane [d] 9 J,N (RT 8.55)	2–Pentanone, 3–Methyl– [b] 9 J,N (RT 18.19)
		Unknown Ketone [d] 20 J,N (RT 13.39)	
TIC Total	µg/kg	39 (3)	25 (2)

Table G–7. Results of Replicated Soil, Surface Soil and Sediment Sampling Analysis for 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number		SB2–6–1			SB2–6–1R		
Laboratory ID Number		9545			9546		
Collection Date		5–20–93			5–20–93		
Collection Depth (ft)		16.5–17.5			16.5–17.5		
Associated Field QC Sample		TB52093			TB52093		
		EB2–2, EB3–2			EB2–2, EB3–2		
		N/A			N/A		
Parameter	Units	FB2–2, FB3–2			FB2–2, FB3–2		
SEMIVOLATILE ORGANICS (SW 8270 [B])							
N–Nitroso–di–N–propylamine	µg/kg	360 U			360 UJ(EHT)		
Naphthalene	µg/kg	360 U			360 UJ(EHT)		
2–Methylnaphthalene	µg/kg	360 U			360 UJ(EHT)		
Acenaphthylene	µg/kg	360 U			360 UJ(EHT)		
Acenaphthene	µg/kg	360 U			360 UJ(EHT)		
Dibenzofuran	µg/kg	360 U			360 UJ(EHT)		
Fluorene	µg/kg	360 U			360 UJ(EHT)		
Phenanthrene	µg/kg	360 U			360 UJ(EHT)		
Anthracene	µg/kg	360 U			360 UJ(EHT)		
Carbazole	µg/kg	360 UJ(CCV)			360 UJ(EHT, CCV)		
Fluoranthene	µg/kg	360 U			360 UJ(EHT)		
Pyrene	µg/kg	360 U			360 UJ(EHT)		
Benzo(a)anthracene	µg/kg	360 U			360 UJ(EHT)		
Chrysene	µg/kg	360 U			360 UJ(EHT)		
bis(2–Ethylhexyl)phthalate	µg/kg	430 U(MB)			360 UJ(EHT)		
di–N–Octyl phthalate	µg/kg	360 U			360 UJ(EHT)		
Benzo(b)fluoranthene	µg/kg	360 U			360 UJ(EHT)		
Benzo(k)fluoranthene	µg/kg	360 U			360 UJ(EHT)		
Benzo(a)pyrene	µg/kg	360 U			360 UJ(EHT)		
Indeno(1,2,3–c,d)pyrene	µg/kg	360 U			360 UJ(EHT)		
Dibenzo(a,h)anthracene	µg/kg	360 U			360 UJ(EHT)		
Benzo(g,h,i)perylene	µg/kg	360 U			360 UJ(EHT)		
TICs	µg/kg	2–Pentanone, 4–Hydroxy–4–Met[a]	15000 B,J,N,A	(RT 3.55)	Unknown[d]	350 J	(RT 13.69)
		Unknown[d]	630 J	(RT 9.32)	Decane, 2,3,7–Trimethyl–[b]	510 J,N	(RT 14.67)
		Decane, 3,6–Dimethyl–[b]	150 J,N	(RT 13.69)	Unknown[d]	1200 J	(RT 14.92)
		Unknown[d]	220 J	(RT 15.32)	Dodecane, 2,6,11–Trimethyl–[b]	1000 J,N	(RT 16.87)
		Dodecane, 2,6,11–Trimethyl–[b]	260 J,N	(RT 16.87)	Tridecane, 5–Propyl–[b]	430 J,N	(RT 17.55)
		Unknown[d]	230 J	(RT 17.54)	Unknown[d]	930 J	(RT 18.34)
		Unknown[d]	430 J	(RT 18.32)	Heptadecane, 2,6–Dimethyl–[b]	500 J,N	(RT 18.39)
		Unknown[d]	360 J	(RT 18.35)	Unknown[d]	610 J	(RT 19.74)
		Unknown[d]	310 J	(RT 19.72)	Unknown[d]	440 J	(RT 19.80)
		Unknown[d]	240 J	(RT 19.80)	Unknown[d]	620 J	(RT 21.05)
		Unknown[d]	300 J	(RT 21.05)	Unknown[d]	520 J	(RT 22.32)
		Heptadecane, 2,6,10,14–Tetra[b]	260 J,N	(RT 22.30)	Unknown[d]	770 J	(RT 23.54)
		Unknown[d]	330 J	(RT 23.52)	Unknown[d]	580 J	(RT 24.70)
		Unknown[d]	300 J	(RT 24.70)	Unknown[d]	660 J	(RT 25.82)
		Unknown[d]	300 J	(RT 25.82)	Unknown[d]	510 J	(RT 26.91)
		Hexanedioic Acid, Mono(2–Eth[b]	2000 J,N	(RT 26.77)	Unknown[d]	490 J	(RT 27.96)
		Unknown[d]	250 J	(RT 26.91)	Octacosane[b]	350 J,N	(RT 28.96)
		Unknown[d]	250 J	(RT 27.94)	Unknown[d]	460 J	(RT 29.96)
		Unknown[d]	230 J	(RT 28.96)	Unknown[d]	290 J	(RT 30.92)
		Unknown[d]	270 J	(RT 29.94)	Unknown[d]	290 J	(RT 31.87)
		Unknown[d]	280 J	(RT 30.92)			
TIC Total	µg/kg		22600 (21)			11510 (20)	

Table G–7. Results of Replicated Soil, Surface Soil and Sediment Sampling Analysis for 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number		SD2–1	SD2–1R
Laboratory ID Number		95268	95269
Collection Date		8–26–92	8–26–92
Collection Depth (ft)		0.0–0.5	0.0–0.5
Associated Field QC Sample		TB–10	TB–10
		ERBG–1	ERBG–1
		FBBG–1	FBBG–1
Parameter	Units	SD5–FB	SD5–FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)			
Gasoline	mg/kg	NA	NA
Diesel Fuel	mg/kg	180 J(EHT, FD)	<3 UJ(EHT)
Heavy Oil	mg/kg	640 J(EHT, FD)	5 J(EHT, FD)
PRIORITY POLLUTANT METALS			
AA METALS			
Antimony (SW 3050/7041)	mg/kg	0.94 J(N)	R(N)
Arsenic (SW 3050/7060)	mg/kg	5.4 J(N,*)	8.6 J(N,*)
Lead (SW 3050/7421)	mg/kg	154 *	106 *
Mercury (SW 3050/7471)	mg/kg	0.22	0.09 U
Selenium (SW 3050/7740)	mg/kg	R(N)	R(N)
Thallium (SW 3050/7487)	mg/kg	0.22 J(W)	0.19 B
ICP METALS (SW 3050/6010)			
Beryllium	mg/kg	0.39 B	0.25 B
Cadmium	mg/kg	3.3	0.2 U
Chromium	mg/kg	41.9 J(N,FD)	6.7 J(N,FD)
Copper	mg/kg	27.7 J(FD)	11.7 J(FD)
Nickel	mg/kg	19	11.5
Silver	mg/kg	2.1 U(MB)	1.2 U(MB)
Zinc	mg/kg	284 J(N,E,FD)	44.5 J(N,E,FD)
VOLATILE ORGANICS (SW 8240 [A])			
Acetone	µg/kg	280	12 U
Carbon Disulfide	µg/kg	2 J	12 U
2–Butanone	µg/kg	59	12 U
Benzene	µg/kg	15 U	12 U
4–Methyl–2–pentanone	µg/kg	15 UJ(IS)	12 U
Toluene	µg/kg	15 UJ(IS)	12 U
Ethylbenzene	µg/kg	15 UJ(IS)	12 U
Xylene (total)	µg/kg	15 UJ(IS)	12 U
TICs	µg/kg	Pentane[b] 9 J,N (RT 13.01)	0 (0)
		Hexanal[c] 19 J,N (RT 20.22)	
		2,4,4–Trimethyl–1–Pentene[b] 21 J,N (RT 22.23)	
TIC Total	µg/kg	49 (3)	0 (0)

Table G–7. Results of Replicated Soil, Surface Soil and Sediment Sampling Analysis for 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number		SD2–1			SD2–1R		
Laboratory ID Number		95268			95269		
Collection Date		8–26–92			8–26–92		
Collection Depth (ft)		0.0–0.5			0.0–0.5		
Associated Field QC Sample		TB–10			TB–10		
		ERBG–1			ERBG–1		
		FBBG–1			FBBG–1		
Parameter	Units	SD5–FB			SD5–FB		
SEMIVOLATILE ORGANICS (SW 8270 [B])							
N–Nitroso–di–N–propylamine	µg/kg	9400 UJ(SR)			370 U		
Naphthalene	µg/kg	9400 UJ(SR)			370 U		
2–Methylnaphthalene	µg/kg	9400 UJ(SR)			370 U		
Acenaphthylene	µg/kg	9400 UJ(SR)			370 U		
Acenaphthene	µg/kg	9400 UJ(SR)			370 U		
Dibenzofuran	µg/kg	9400 UJ(SR)			370 U		
Fluorene	µg/kg	9400 UJ(SR)			370 U		
Phenanthrene	µg/kg	22000 J(SR)			360 J		
Anthracene	µg/kg	990 J(SR)			370 U		
Carbazole	µg/kg	5300 J(SR)			70 J		
Fluoranthene	µg/kg	36000 J(SR,FD)			600 J(FD)		
Pyrene	µg/kg	29000 J(SR,FD)			540 J(FD)		
Benzo(a)anthracene	µg/kg	9100 J(SR)			200 J		
Chrysene	µg/kg	22000 J(SR)			370 J		
bis(2–Ethylhexyl)phthalate	µg/kg	3600 J(SR)			83 J		
di–N–Octyl phthalate	µg/kg	9400 UJ(SR)			370 U		
Benzo(b)fluoranthene	µg/kg	25000 J(SR)			350 J		
Benzo(k)fluoranthene	µg/kg	14000 J(SR)			280 J		
Benzo(a)pyrene	µg/kg	15000 J(SR)			180 J		
Indeno(1,2,3–c,d)pyrene	µg/kg	14000 J(SR)			250 J		
Dibenzo(a,h)anthracene	µg/kg	9400 UJ(SR)			370 U		
Benzo(g,h,i)perylene	µg/kg	10000 J(SR)			220 J		
TICs	µg/kg	Phenol, 4–(1,1,3,3–Tetrameth [b]	23000 J,N	(RT 18.12)	Unknown [d]	520 J	(RT 14.85)
		Unknown [d]	8500 J	(RT 21.57)	Phenol, 4–(1,1,3,3–Tetrameth [b]	1700 J,N	(RT 18.25)
		9,10–Anthracenedione [a]	11000 J,N	(RT 22.95)	Unknown [d]	860 J	(RT 21.70)
		Unknown [d]	15000 J	(RT 24.70)	Hexadecanoic Acid [b]	750 J,N	(RT 23.12)
		Unknown [d]	9400 J	(RT 27.69)	Unknown [d]	200 J	(RT 25.19)
		Unknown [d]	3700 J	(RT 27.82)	Octadecanoic Acid [b]	470 J,N	(RT 25.44)
		7–Hexyl–Eicosane [b]	9600 J,N	(RT 28.82)	Unknown [d]	120 J	(RT 26.84)
		Benz(A)Anthracene–7,12–Dione [a]	8100 J,N	(RT 29.82)	Unknown [d]	290 J	(RT 27.79)
		Unknown [d]	9300 J	(RT 30.79)	Pentacosane [b]	270 J,N	(RT 28.92)
		Unknown [d]	6800 J	(RT 31.39)	Unknown [d]	220 J	(RT 29.91)
		Unknown [d]	5700 J	(RT 31.74)	Unknown [d]	300 J	(RT 30.89)
		Unknown [d]	4200 J	(RT 32.01)	Unknown [d]	350 J	(RT 31.47)
		Benzo[J]Fluoranthene [a]	16000 J,N	(RT 32.21)	Octacosane [b]	190 J,N	(RT 31.82)
		Nonacosane [b]	8400 J,N	(RT 32.67)	Unknown [d]	180 J	(RT 32.11)
		Unknown [d]	9600 J	(RT 32.74)	Benzo[J]Fluoranthene [a]	190 J,N	(RT 32.27)
		Unknown [d]	6300 J	(RT 33.57)	Nonacosane [b]	390 J,N	(RT 32.74)
		Unknown [d]	12000 J	(RT 34.51)	Unknown [d]	240 J	(RT 33.66)
		Unknown [d]	10000 J	(RT 34.72)	Unknown [d]	880 J	(RT 34.57)
		Unknown [d]	5400 J	(RT 36.36)	Unknown [d]	330 J	(RT 34.82)
		(3ß,24S)–Stigmast–5–En–3–Ol [a]	6600 J,N	(RT 36.52)	Unknown [d]	440 J	(RT 36.46)
TIC Total	µg/kg		188600 (20)			8890 (20)	

Table G–7. Results of Replicated Soil, Surface Soil and Sediment Sampling Analysis for 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number		MW3–1–1	MW3–1–1R	SB4–3–1	SB4–3–1R
Laboratory ID Number		95266	95267	94535	94536
Collection Date		8–26–92	8–26–92	8–12–92	8–12–92
Collection Depth (ft)		0.5–1.5	0.5–1.5	0.5–2.5	0.5–2.5
Associated Field QC Sample		TB–10	TB–10	TB–1 on 8–12–92	TB–1 on 8–12–92
		EB3–1	EB3–1	ER1–1	ER1–1
		FB3–1	FB3–1	FB1–1	FB1–1
Parameter	Units	SD5–FB	SD5–FB	SD5–FB	SD5–FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)					
Gasoline	mg/kg	NA	NA	15 J(FD)	<2
Diesel Fuel	mg/kg	<3 UJ(EHT)	<3 UJ(EHT)	34 J(FD)	<2
Heavy Oil	mg/kg	23 J(EHT)	35 J(EHT)		
PRIORITY POLLUTANT METALS					
AA METALS					
Antimony (SW 3050/7041)	mg/kg	R(N)	R(N)	NA	NA
Arsenic (SW 3050/7060)	mg/kg	10.6 J(N,*)	10.1 J(N,*)	NA	NA
Lead (SW 3050/7421)	mg/kg	21.7 *	17.5 *	19.5	17.7
Mercury (SW 3050/7471)	mg/kg	0.08 U	0.09 U	NA	NA
Selenium (SW 3050/7740)	mg/kg	R(N)	R(N)	NA	NA
Thallium (SW 3050/7841)	mg/kg	0.23 B	0.23 B	NA	NA
ICP METALS (SW 3050/6010)					
Beryllium	mg/kg	0.33 B	0.29 B	0.63	0.6
Cadmium	mg/kg	0.2 U	0.21 U	0.2 U	0.22 U
Chromium	mg/kg	14.8 J(N)	9.6 J(N)	12.1	14.3
Copper	mg/kg	16.8	13.9	19.2	15.5
Nickel	mg/kg	17.6	11.8	12.8	14.3
Silver	mg/kg	1.6 U(MB)	1.3 U(MB)	0.66 U(MB)	0.5 U(MB)
Zinc	mg/kg	70.2 J(N,E)	57.9 J(N,E)	44.5 J(E)	41.3 J(E)
VOLATILE ORGANICS (SW 8240 [A])					
Acetone	µg/kg	11 U	12 U	12 U	12 U
Carbon Disulfide	µg/kg	11 U	12 U	12 U	12 U
2–Butanone	µg/kg	11 U	12 U	12 U	12 U
Benzene	µg/kg	11 U	12 U	12 U	12 U
4–Methyl–2–pentanone	µg/kg	11 U	12 U	12 U	12 U
Toluene	µg/kg	11 U	2 J	12 U	12 U
Ethylbenzene	µg/kg	11 U	12 U	12 U	12 U
Xylene (total)	µg/kg	11 U	12 U	12 U	12 U
TICs	µg/kg	0 (0)	0 (0)	0 (0)	0 (0)
TIC Total	µg/kg	0 (0)	0 (0)	0 (0)	0 (0)

Table G–7. Results of Replicated Soil, Surface Soil and Sediment Sampling Analysis for 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number		MW3–1–1	MW3–1–1R	SB4–3–1	SB4–3–1R
Laboratory ID Number		95266	95267	94535	94536
Collection Date		8–26–92	8–26–92	8–12–92	8–12–92
Collection Depth (ft)		0.5–1.5	0.5–1.5	0.5–2.5	0.5–2.5
Associated Field QC Sample		TB–10	TB–10	TB–1 on 8–12–92	TB–1 on 8–12–92
		EB3–1	EB3–1	ER1–1	ER1–1
		FB3–1	FB3–1	FB1–1	FB1–1
Parameter	Units	SD5–FB	SD5–FB	SD5–FB	SD5–FB
SEMIVOLATILE ORGANICS (SW 8270 [B])					
N–Nitroso–di–N–propylamine	µg/kg	230 J	350 U	NA	NA
Naphthalene	µg/kg	350 U	350 U	NA	NA
2–Methylnaphthalene	µg/kg	350 U	350 U	NA	NA
Acenaphthylene	µg/kg	350 U	350 U	NA	NA
Acenaphthene	µg/kg	350 U	350 U	NA	NA
Dibenzofuran	µg/kg	350 U	350 U	NA	NA
Fluorene	µg/kg	350 U	350 U	NA	NA
Phenanthrene	µg/kg	130 J	210 J	NA	NA
Anthracene	µg/kg	350 U	37 J	NA	NA
Carbazole	µg/kg	350 U	350 U	NA	NA
Fluoranthene	µg/kg	320 J	500	NA	NA
Pyrene	µg/kg	300 J	420	NA	NA
Benzo(a)anthracene	µg/kg	140 J	190 J	NA	NA
Chrysene	µg/kg	190 J	270 J	NA	NA
bis(2–Ethylhexyl)phthalate	µg/kg	60 J	60 J	NA	NA
di–N–Octyl phthalate	µg/kg	350 U	350 U	NA	NA
Benzo(b)fluoranthene	µg/kg	220 J	270 J	NA	NA
Benzo(k)fluoranthene	µg/kg	200 J	180 J	NA	NA
Benzo(a)pyrene	µg/kg	160 J	220 J	NA	NA
Indeno(1,2,3–c,d)pyrene	µg/kg	140 J	230 J	NA	NA
Dibenzo(a,h)anthracene	µg/kg	350 U	350 U	NA	NA
Benzo(g,h,i)perylene	µg/kg	110 J	160 J	NA	NA
TICs	µg/kg	Unknown [d] 59 J (RT 22.05)	Hexadecanoic Acid [b] 210 J,N (RT 22.95)	NA	NA
		Unknown [d] 130 J (RT 24.50)	Unknown [d] 120 J (RT 24.50)		
		Unknown [d] 65 J (RT 26.74)	Unknown [d] 74 J (RT 25.07)		
		Unknown [d] 88 J (RT 27.82)	Unknown [d] 69 J (RT 25.64)		
		Unknown [d] 130 J (RT 28.84)	Unknown [d] 76 J (RT 26.74)		
		Unknown [d] 140 J (RT 29.84)	Unknown [d] 170 J (RT 27.81)		
		Unknown [d] 200 J (RT 30.79)	Pentacosane [b] 140 J,N (RT 28.82)		
		Octacosane [b] 220 J,N (RT 31.74)	Hexacosane [b] 160 J,N (RT 29.81)		
		Unknown [d] 79 J (RT 32.01)	Octacosane [b] 190 J,N (RT 30.79)		
		Benzo[J]Fluoranthene [e] 150 J,N (RT 32.16)	Unknown [d] 190 J (RT 31.72)		
		Nonacosane [b] 240 J,N (RT 32.67)	Unknown [d] 150 J (RT 32.01)		
		Unknown [d] 210 J (RT 33.57)	Benzo[J]Fluoranthene [e] 260 J,N (RT 32.14)		
		Unknown [d] 140 J (RT 33.96)	Nonacosane [b] 200 J,N (RT 32.64)		
		Unknown [d] 160 J (RT 34.36)	Unknown [d] 130 J (RT 33.56)		
		Unknown [d] 220 J (RT 34.49)	Unknown [d] 92 J (RT 33.94)		
		Unknown [d] 130 J (RT 34.62)	Unknown [d] 310 J (RT 34.47)		
		Unknown [d] 260 J (RT 34.74)	Unknown [d] 240 J (RT 34.71)		
		Unknown [d] 290 J (RT 35.62)	Unknown [d] 200 J (RT 35.61)		
		Unknown [d] 200 J (RT 36.36)	Unknown [d] 220 J (RT 36.32)		
		Unknown [d] 400 J (RT 36.52)	Unknown [d] 440 J (RT 36.52)		
TIC Total	µg/kg	3511 (20)	3641 (20)	NA	NA

Table G–7. Results of Replicated Soil, Surface Soil and Sediment Sampling Analysis for 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number		SB5–4–1	SB5–4–1R
Laboratory ID Number		94805	94806
Collection Date		8–18–92	8–18–92
Collection Depth (ft)		0.5–2.5	0.5–2.5
Associated Field QC Sample		TB–5	TB–5
		EB5–1	EB5–1
		FB5–1	FB5–1
Parameter	Units	SD5–FB	SD5–FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)			
Gasoline	mg/kg	NA	NA
Diesel Fuel	mg/kg	2	4
Heavy Oil	mg/kg	11	13
PRIORITY POLLUTANT METALS			
AA METALS			
Antimony (SW 3050/7041)	mg/kg	0.16 UJ(N)	0.16 J(N)
Arsenic (SW 3050/7060)	mg/kg	8.7 J(*)	10.4 J(*)
Lead (SW 3050/7421)	mg/kg	9.1 *	10.5 S*
Mercury (SW 3050/7471)	mg/kg	0.09 U	0.1 U
Selenium (SW 3050/7740)	mg/kg	0.13 UJ(N,W)	0.62 UJ(N,W)
Thallium (SW 3050/7841)	mg/kg	0.34 J(N)	0.23 J(N)
ICP METALS (SW 3050/6010)			
Beryllium	mg/kg	0.29 B	0.33 B
Cadmium	mg/kg	0.17 U	0.17 U
Chromium	mg/kg	7.3 J(N)	7.4 J(N)
Copper	mg/kg	13.8	17.1
Nickel	mg/kg	15.5	16
Silver	mg/kg	1.6	1.8
Zinc	mg/kg	43.8 J(E)	46.8 J(E)
VOLATILE ORGANICS (SW 8240 [A])			
Acetone	µg/kg	11 U	11 U
Carbon Disulfide	µg/kg	11 U	11 U
2–Butanone	µg/kg	11 U	11 U
Benzene	µg/kg	11 U	11 U
4–Methyl–2–pentanone	µg/kg	11 U	11 U
Toluene	µg/kg	10 J	14
Ethylbenzene	µg/kg	7 J	11 U
Xylene (total)	µg/kg	8 JX	11 U
TICs	µg/kg	0 (0)	0 (0)
TIC Total	µg/kg	0 (0)	0 (0)

Table G–7. Results of Replicated Soil, Surface Soil and Sediment Sampling Analysis for 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number		SB5–4–1			SB5–4–1R		
Laboratory ID Number		94805			94806		
Collection Date		8–18–92			8–18–92		
Collection Depth (ft)		0.5–2.5			0.5–2.5		
Associated Field QC Sample		TB–5			TB–5		
		EB5–1			EB5–1		
		FB5–1			FB5–1		
Parameter	Units	SD5–FB			SD5–FB		
SEMIVOLATILE ORGANICS (SW 8270 [B])							
N–Nitroso–di–N–propylamine	µg/kg	340 U			370 U		
Naphthalene	µg/kg	340 U			370 U		
2–Methylnaphthalene	µg/kg	340 U			370 U		
Acenaphthylene	µg/kg	340 U			370 U		
Acenaphthene	µg/kg	340 U			370 U		
Dibenzofuran	µg/kg	340 U			370 U		
Fluorene	µg/kg	340 U			370 U		
Phenanthrene	µg/kg	340 U			370 U		
Anthracene	µg/kg	340 U			370 U		
Carbazole	µg/kg	340 U			370 U		
Fluoranthene	µg/kg	340 U			370 U		
Pyrene	µg/kg	340 U			370 U		
Benzo(a)anthracene	µg/kg	340 U			370 U		
Chrysene	µg/kg	340 U			370 U		
bis(2–Ethylhexyl)phthalate	µg/kg	35 J			370 U		
di–N–Octyl phthalate	µg/kg	340 U			370 U		
Benzo(b)fluoranthene	µg/kg	340 U			370 U		
Benzo(k)fluoranthene	µg/kg	340 U			370 U		
Benzo(a)pyrene	µg/kg	340 U			370 U		
Indeno(1,2,3–c,d)pyrene	µg/kg	340 U			370 U		
Dibenzo(a,h)anthracene	µg/kg	340 U			370 U		
Benzo(g,h,i)perylene	µg/kg	340 U			370 U		
TICs	µg/kg	4–Hydroxy–4–Methyl–2–Pentanone [a]	4100	B,J,N,A (RT 4.65)	4–Hydroxy–4–Methyl–2–Pentanone [a]	7400	B,J,N,A (RT 4.68)
		Hexadecanoic Acid [f]	140	J,N (RT 23.89)	Unknown [d]	90	J (RT 29.99)
		Unknown [d]	170	J (RT 32.24)	Unknown [d]	190	J (RT 32.11)
		Unknown [d]	87	J (RT 33.31)	Unknown [d]	120	J (RT 33.16)
		Unknown [d]	110	J (RT 33.37)	1,4–Hexadiene, 3,3,5–Trimeth [e]	120	J,N (RT 33.24)
		Unknown [d]	370	J (RT 34.44)	Unknown [d]	280	J (RT 34.29)
		Unknown [d]	440	J (RT 36.86)	Unknown [d]	280	J (RT 36.69)
TIC Total	µg/kg	5417 (7)			8480 (7)		

Table G–7. Results of Replicated Soil, Surface Soil and Sediment Sampling Analysis for 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number		SD5–3	SD5–3R
Laboratory ID Number		89652	89658
Collection Date		5–6–92	5–6–92
Collection Depth (ft)		0.0–0.5	0.0–0.5
Associated Field QC Sample		SP–TB	SP–TB
		SD5–ER	SD5–ER
		N/A	N/A
Parameter	Units	SD5–FB	SD5–FB
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)			
Gasoline	mg/kg	NA	NA
Diesel Fuel	mg/kg	190 J(EHT, FD)	4 J(EHT, FD)
Heavy Oil	mg/kg	<2 UJ(EHT)	16 J(EHT, FD)
PRIORITY POLLUTANT METALS			
AA METALS			
Antimony (SW 3050/7041)	mg/kg	0.35 J(N)	0.47 J(N)
Arsenic (SW 3050/7060)	mg/kg	5.9	9
Lead (SW 3050/7421)	mg/kg	24.8 J(FD)	68.9 J(FD)
Mercury (SW 3050/7471)	mg/kg	0.06 U	0.06 U
Selenium (SW 3050/7740)	mg/kg	0.12 UJ(MB,N,W)	0.19 UJ(MB,N,W)
Thallium (SW 3050/7841)	mg/kg	0.17 B	0.16 B
ICP METALS (SW 3050/6010)			
Beryllium	mg/kg	0.26 B	0.37 B
Cadmium	mg/kg	2.9 J(N)	5.6 J(N)
Chromium	mg/kg	18.8 J(E,FD)	42 J(E,FD)
Copper	mg/kg	13.4	18.3
Nickel	mg/kg	7.7	12.9
Silver	mg/kg	0.28 U	0.32 U
Zinc	mg/kg	224 J(N,E)	236 J(N,E)
VOLATILE ORGANICS (SW 8240 [A])			
Acetone	µg/kg	13 U	12 U
Carbon Disulfide	µg/kg	13 U	12 U
2–Butanone	µg/kg	13 U	12 U
Benzene	µg/kg	13 U	12 U
4–Methyl–2–pentanone	µg/kg	13 U	12 U
Toluene	µg/kg	13 U	12 U
Ethylbenzene	µg/kg	13 U	12 U
Xylene (total)	µg/kg	13 U	12 U
TICs	µg/kg	0 (0)	0 (0)
TIC Total	µg/kg	0 (0)	0 (0)

Table G–7. Results of Replicated Soil, Surface Soil and Sediment Sampling Analysis for 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number		SD5–3			SD5–3R		
Laboratory ID Number		89652			89658		
Collection Date		5–6–92			5–6–92		
Collection Depth (ft)		0.0–0.5			0.0–0.5		
Associated Field QC Sample		SP–TB			SP–TB		
		SD5–ER			SD5–ER		
		N/A			N/A		
Parameter	Units	SD5–FB			SD5–FB		
SEMIVOLATILE ORGANIC (SW 8270 [B])							
N–Nitroso–di–N–propylamine	µg/kg	570 UJ(EHT)			400 UJ(EHT)		
Naphthalene	µg/kg	570 UJ(EHT)			400 UJ(EHT)		
2–Methylnaphthalene	µg/kg	570 UJ(EHT)			400 UJ(EHT)		
Acenaphthylene	µg/kg	570 UJ(EHT)			400 UJ(EHT)		
Acenaphthene	µg/kg	87 J(EHT)			400 UJ(EHT)		
Dibenzofuran	µg/kg	63 J(EHT)			400 UJ(EHT)		
Fluorene	µg/kg	130 J(EHT)			400 UJ(EHT)		
Phenanthrene	µg/kg	1800 J(EHT,FD)			570 J(EHT,FD)		
Anthracene	µg/kg	210 J(EHT)			60 J(EHT)		
Carbazole	µg/kg	120 J(EHT)			400 UJ(EHT)		
Fluoranthene	µg/kg	2400 J(EHT,FD)			970 J(EHT,FD)		
Pyrene	µg/kg	2500 J(EHT,FD)			1200 J(EHT,FD)		
Benzo(a)anthracene	µg/kg	720 J(EHT)			330 J(EHT)		
Chrysene	µg/kg	1100 J(EHT,FD)			540 J(EHT,FD)		
bis(2–Ethylhexyl)phthalate	µg/kg	890 J(EHT)			500 J(EHT)		
di–N–Octyl phthalate	µg/kg	84 J(EHT)			400 UJ(EHT)		
Benzo(b)fluoranthene	µg/kg	1500 J(EHT,FD)			730 J(EHT,FD)		
Benzo(k)fluoranthene	µg/kg	690 J(EHT)			270 J(EHT)		
Benzo(a)pyrene	µg/kg	930 J(EHT)			470 J(EHT,FD)		
Indeno(1,2,3–c,d)pyrene	µg/kg	910 J(EHT,FD)			510 J(EHT,FD)		
Dibenzo(a,h)anthracene	µg/kg	140 J(EHT)			400 UJ(EHT)		
Benzo(g,h,i)perylene	µg/kg	850 J(EHT,FD)			490 J(EHT,FD)		
TICs	µg/kg	4–Hydroxy–4–Methyl–2–Pentanone [a]	4000 B,J,N	(RT 5.30)	4–Hydroxy–4–Methyl–2–Pentanone [a]	2700 B,J,N	(RT 5.30)
		1–Heptadecene [b]	650 J,N	(RT 21.02)	1–Fluoro–Decane [b]	130 J,N	(RT 21.02)
		Unknown [d]	190 J	(RT 24.27)	1–Hexadecanol [c]	96 J,N	(RT 23.57)
		Unknown [d]	500 J	(RT 24.42)	Unknown [d]	140 J	(RT 24.37)
		9–Hexadecenoic Acid [f]	140 J,N	(RT 24.50)	Hexadecanoic Acid [b]	280 J,N	(RT 24.64)
		Hexadecanoic Acid [b]	630 J,N	(RT 24.69)	Unknown [d]	72 J	(RT 24.95)
		Unknown [d]	190 J	(RT 24.99)	Unknown [d]	150 J	(RT 26.04)
		Unknown [d]	100 J	(RT 26.04)	Unknown [d]	95 J	(RT 30.94)
		Unknown [d]	150 J	(RT 30.04)	Unknown [d]	320 J	(RT 32.22)
		Octacosane [b]	880 J,N	(RT 32.24)	Unknown [d]	370 J	(RT 32.32)
		Unknown [d]	600 J	(RT 32.34)	Unknown [d]	320 J	(RT 32.37)
		Unknown [d]	840 J	(RT 32.39)	7–Hexyl–Eicosane [b]	840 J,N	(RT 32.47)
		Unknown [d]	1800 J	(RT 32.51)	Tetratetracontane [b]	480 J,N	(RT 32.61)
		Unknown [d]	1100 J	(RT 32.62)	Octacosane [b]	660 J,N	(RT 32.64)
		Unknown [d]	1700 J	(RT 32.69)	Unknown [d]	460 J	(RT 32.72)
		Unknown [d]	620 J	(RT 32.89)	Unknown [d]	290 J	(RT 32.87)
		Unknown [d]	9800 J	(RT 33.12)	Unknown [d]	3200 J	(RT 33.09)
		Pentatriacontane [b]	3500 J,N	(RT 33.34)	Unknown [d]	1000 J	(RT 33.31)
		Unknown [d]	14000 J	(RT 33.71)	Pentatriacontane [b]	2900 J,N	(RT 33.66)
		Benzo[J]Fluoranthene [e]	1100 J,N	(RT 34.77)	Benzo[J]Fluoranthene [e]	620 J,N	(RT 34.74)
		Unknown [d]	1400 J	(RT 35.19)	Unknown [d]	710 J	(RT 35.16)
TIC Total	µg/kg		43890 (21)			15833 (21)	

Table G–7. Results of Replicated Soil, Surface Soil and Sediment Sampling Analysis for 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

Validation note: All descriptive data qualifiers applied to the reported values by the laboratory are reported in parentheses.
Each data point has been assessed to determine whether the value is considered usable (i.e., no qualifier), usable but estimated (i.e., "J"), or not usable (i.e., "R"). All usability qualifiers are followed by the applicable laboratory or field QC qualifier, presented in parentheses and defined below. Usability qualifiers were not applied to values qualified by the laboratory, but were not considered to have been adversely impacted by the applicable laboratory QC result (e.g., duplicated and matrix spike analysis).

A – samples were analyzed for VOCs using SW 8240, laboratory analyses followed methods outlined in the March 1990 CLP SOW for organic analyses
B – samples were analyzed for SVOCs using SW 3550/8270, laboratory analysis followed method details outlined in the March 1990 CLP SOW for organic analyses
NA – not analyzed
N/A – not applicable
RT – retention time in minutes
TICs–tentatively identified compounds, total concentration is listed and the total number of tentatively identified compounds is inside the parenthases

Data Validation Qualifiers

J – associated numerical value is the approximate concentration
R – rejected value
U – compound/element was included in analysis, but was not detected
UJ – reported quantitation limit is approximate and may or may not represent the actual quantitation necessary to accurately and precisely measure the analyte

Explanatory Data Validation Qualifiers

CCV – continuing calibration verification
EB – compound/element was also detected in the associated equipment blank
EHT – extraction holding time outside control limits
FB – compound/element was also detected in the associated field blank
FD – field duplicate relative percent differences (RPDs) outside control limits
IS – internal standard outside control limits
MB – compound/element was also detected in the associated laboratory method blank
r – correlation coefficient for the calibration curve is less than 0.995
SR – surrogate recovery outside control limits

EPA–defined CLP SOW Laboratory Qualifiers

A(TICs) – suspects ALDOL–condensation product
B(metals) – the reported value is estimated because it is greater than the Instrument Detection Limit (IDL), but less than the Contract Required Detection Limit(CRDL)
B(organics) – compound was also detected in the associated laboratory method blank
E(metals) – the reported value is estimated due to the presence of interference
N – spiked sample recovery outside of control limits
N(TICs) – presumptive evidence of a compound
S – the reported value was determined by the Method of Standard Additions (MSA)
W – post–digestion spike for Graphite Furnace Atomic Absorption (GFAA) analysis is out of control limits (85–115%), while sample absorbance is less than 50% of the spike absorbance
X – compound is present, but does not meet CLP criteria
* – duplicate sample analysis outside of control limits

SAIC TIC Evaluation Categories

[a] – laboratory and extraction artifacts
[b] – petroleum or petroleum degradation products
[c] – other
[d] – unknown
[e] – polycyclic aromatic hydrocarbons
[f] – naturally occuring organic compounds

Table G–8. Results of Replicated Groundwater Sampling Analysis for 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC ID Number		MW3–1–1	MW3–1–1R
Laboratory ID Number		97311	97314
Collection Date		9–30–92	9–30–92
Associated Field QC Sample		TB–14	TB–14
		ERBG–2	ERBG–2
		FBBA–1	FBBA–1
Parameter	Units	FBCE–1	FBCE–1
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)			
Gasoline	mg/L	NA	NA
Diesel Fuel	mg/L	<0.2	<0.2
Heavy Oil	mg/L	<0.2	<0.2
TOTAL PRIORITY POLLUTANT METALS			
AA METALS			
Antimony (SW 3020/7041)	µg/L	1.3 J(N)	R(N)
Arsenic (SW 3020/7060)	µg/L	62.4 J(FD)	30.9 J(FD)
Lead (SW 3020/7421)	µg/L	59.2 J(*,FD)	33.3 J(*,+,FD)
Selenium (SW 7740)	µg/L	R(N)	R(N)
ICP METALS (SW 3005/6010)			
Beryllium	µg/L	3.3 J(FD)	1.4 J(FD)
Chromium	µg/L	90.6 J(FD)	45.3 J(FD)
Copper	µg/L	152 J(FD)	71.6 J(FD)
Nickel	µg/L	170 J(FD)	83.9 J(FD)
Silver	µg/L	10.5	11.1
Zinc	µg/L	570 U(FB)	287 U(FB)
DISSOLVED PRIORITY POLLUTANT METALS			
AA METALS			
Antimony (SW 3020/7041)	µg/L	NA	NA
Lead (SW 3020/7421)	µg/L	NA	NA
ICP METALS (SW 3005/6010)			
	µg/L	NA	NA
VOLATILE ORGANICS (A)			
1,2–Dichloroethene (total)	µg/L	0.5 U	0.5 U
Trichloroethene	µg/L	0.5 U	0.5 U
TICs	µg/L	0 (0)	0 (0)
TIC Total	µg/L	0 (0)	0 (0)
SEMIVOLATILE ORGANIC (SW 8270 [B])			
TICs	µg/L	Unknown[d] 7 J (RT 5.88)	2,5,8,11,14,17–Hexaoxaoctade[c] 18 J,N (RT 17.6)
		Unknown[d] 2 J (RT 8.15)	
		2–Propanol, 1–(2–Methoxy–1–M[c] 2 J,N (RT 8.23)	
		2,5,8,10,14,17–Hexaoxaoctade[c] 18 J,N (RT 17.6)	
		Octadecanoic Acid, 2–Methylp[b] 3 J,N (RT 29.34)	
TIC Totals	µg/L	32 (5)	18 (1)

Table G–8. Results of Replicated Groundwater Sampling Analysis for 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC ID Number		P–4–1			P–4–1R		
Laboratory ID Number		9575, 9591			9576, 9592		
Collection Date		5–21–93			5–21–93		
Associated Field QC Sample		TB52193			TB52193		
		EB2–2, EB3–2			EB2–2, EB3–2		
		N/A			N/A		
Parameter	Units	FB2–2, FB3–2			FB2–2, FB3–2		
TOTAL PETROLEUM HYDROCARBONS (SW 8015M)							
Gasoline	mg/L	<0.25			<0.25		
Diesel Fuel	mg/L	<0.13			<0.13		
Heavy Oil	mg/L	<0.25			<0.25		
TOTAL PRIORITY POLLUTANT METALS							
AA METALS							
Antimony (SW 3020/7041)	µg/L	0.8 J(N)			0.9 J(N)		
Arsenic (SW 3020/7060)	µg/L	5.1 J(N)			4.7 J(N)		
Lead (SW 3020/7421)	µg/L	14			16.6		
Selenium (SW 7740)	µg/L	R(N)			R(N)		
ICP METALS (SW 3005/6010)							
Beryllium	µg/L	0.82 B			0.63 B		
Chromium	µg/L	25.3			22.6		
Copper	µg/L	38.8			38.8		
Nickel	µg/L	23 B			20.3 B		
Silver	µg/L	2.9 UJ(N)			2.9 UJ(N)		
Zinc	µg/L	157 J(E)			156 J(E)		
DISSOLVED PRIORITY POLLUTANT METALS							
AA METALS							
Antimony (SW 3020/7041)	µg/L	1 B			2.9 B		
Lead (SW 3020/7421)	µg/L	0.6 U(EB)			13.1		
ICP METALS (SW 3005/6010)							
	µg/L	ND			ND		
VOLATILE ORGANICS (A)							
1,2–Dichloroethene (total)	µg/L	0.6 X			0.5 X		
Trichloroethene	µg/L	0.7			0.7		
TICs	µg/L	6–Amino–Hexanoic Acid[f]	7 J,N	(RT 11.87)	6–Amino–Hexanoic Acid[e]	13 J,N	(RT 11.75)
TIC Total	µg/L		7 (1)			13 (1)	
SEMIVOLATILE ORGANIC (SW 8270 [B])							
TICs	µg/L	6–Amino–Hexanoic Acid[f]	7 J,N	(RT 11.87)	6–Amino–Hexanoic Acid[e]	13 J,N	(RT 11.75)
TIC Totals	µg/L		7 (1)			13 (1)	

Table G–8. Results of Replicated Groundwater Sampling Analysis for 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

Validation note: All descriptive data qualifiers applied to the reported values by the laboratory are reported in parentheses. Each data point has been assessed to determine whether the value is considered usable (i.e., no qualifier), usable but estimated (i.e., "J"), or not usable (i.e., "R"). All usability qualifiers are followed by the applicable laboratory or field QC qualifier, presented in parentheses and defined below. Usability qualifiers were not applied to values qualified by the laboratory, but were not considered to have been adversely impacted by the applicable laboratory QC result (e.g., duplicated and matrix spike analysis).

A – groundwater samples were analyzed for volatile halogenated compounds and volatile aromatic compounds by E 524.2 for samples collected in 1992 or SW 8240 (25 ml purge for low level volatiles) for samples collected in 1993; these methods have been modified to incorporate CLP–type QC requirements
B – SVOCs in groundwater and field QC blanks were analyzed using EPA method 3510/8270
NA – not analyzed
ND – not detected
N/A – not applicable
RT – retention time in minutes
TICs–tentatively identified compounds, total concentration is listed and the total number of tentatively identified compounds is inside the parenthases

Data Validation Qualifiers

J – associated numerical value is the approximate concentration
R – rejected value
U – compound/element was included in analysis, but was not detected
UJ – reported quantitation limit is approximate and may or may not represent the actual quantitation necessary to accurately and precisely measure the analyte

Explanatory Data Validation Qualifiers

EB – compound/element was also detected in the associated equipment blank
FB – compound/element was also detected in the associated field blank
FD – field duplicate relative percent differences (RPDs) outside control limits

EPA–defined CLP SOW Laboratory Qualifiers

B(metals) – the reported value is estimated because it is greater than the Instrument Detection Limit (IDL), but less than the Contract Required Detection Limit(CRDL)
E(metals) – the reported value is estimated due to the presence of interference
N – spiked sample recovery outside of control limits
N(TICs) – presumptive evidence of a compound
X – compound is present, but does not meet CLP criteria
* – duplicate sample analysis outside of control limits
+ – correlation coefficient for the Method of Standard Additions is less than 0.995

SAIC TIC Evaluation Categories

[b] – petroleum or petroleum degradation products
[c] – other
[d] – unknown
[f] – naturally occuring organic compounds

Semivolatile Organic Compound Analysis—Fifty-five soil samples, 16 sediment samples, and 17 groundwater samples were collected during the Springfield ANGB SI and analyzed for SVOCs using EPA Method 8270 and the March 1990 EPA CLP SOW. Six soil samples (i.e., SB5-4-1, MWBG-2-3, SB1-3-11, SB2-2-1, MW3-1-1, and SB2-6-1), three sediment samples (i.e., SD5-3, SD2-1, and SD3-2), and two water samples (i.e., MW3-1-1 and P-4-1) were collected in duplicate. RPD values were not calculated for compounds not detected in both the sample and duplicate sample, for compounds detected in one sample and reported at concentrations below the sample detection limit in the duplicate sample, or for compounds commonly considered laboratory contaminants (e.g., phthalates) and tentatively identified compounds (TICs). All RPD criteria were met, except for phenanthrene, fluoranthene, pyrene, chrysene, benzo(b)fluoranthene, indeno(1,2,3-c,d)pyrene, and benzo(g,h,i)perylene in SD5-3 and SD5-3R, and fluoranthene and pyrene in SD2-1 and SD2-1R. As a result, data validation qualifiers were applied (i.e., "J[FD]") to the applicable values presented in the data presentation tables in Appendix F to indicate this matrix variability. These RPD values are most likely due to the expected uneven distribution of phenanthrene, fluoranthene, pyrene, chrysene, benzo(b)fluoranthene, indeno(1,2,3-c,d)pyrene, and benzo(g,h,i)perylene in the soils at Springfield ANGB. These QC results are considered to have no adverse impact on the overall environmental data quality.

Gasoline Range, Diesel Fuel Range, and Heavy Oil Analysis—Eighty-one soil and sediment samples and 17 groundwater samples were collected during the Springfield ANGB SI and analyzed for gasoline range, diesel fuel range, and heavy oil using the method cited in Section G.3. Ten soil samples (i.e., SD5-3, SB5-4-1, SB4-3-1, MWBG-2-3, SB1-3-1, SB2-2-1, MW3-1-1, SD2-1, SB2-6-1, and SD3-2) were collected in duplicate. Two groundwater samples (i.e., MW3-1-1 and P-4-1) were collected in duplicate. RPD values were not calculated for compounds not detected in both the sample and duplicate sample. The RPD criteria were not met for diesel range and heavy oil in SD5-5 and SD5-5R; SB4-3-1 and SB4-3-1R; MWBG-2-3 and MWBG-2-3R; and SD2-1 and SD2-1R. The RPD value was outside the EPA acceptance criteria for diesel range in SB1-3-11 and SB1-3-11R.

As a result, data validation qualifiers were applied (i.e., "J[FD]") to the applicable values presented in the data presentation tables in Appendix F to indicate this matrix variability. These RPD values are most likely due to the expected uneven distribution of diesel fuel range and heavy oil in the soils at Springfield ANGB.

Priority Pollutant Metals Analyses—Eighty-two soil and sediment samples and 17 groundwater samples were collected during the Springfield ANGB SI and analyzed for priority pollutant metals using the EPA solid waste methods cited in Section G.3. Ten soil samples (i.e., SD5-3, SB5-4-1, SB4-3-1, MWBG-2-3, SB1-3-11, SB2-1-1, MW3-1-1, SD2-1, SB2-6-1, and SD3-2) and three groundwater samples (i.e., MW3-1-1, P-4-1 [total metals], and P-4-1 [dissolved metals]) were collected in duplicate. RPD values were not calculated for elements not detected in both the sample and duplicate samples. All RPD values were within control limits (i.e., 50 and 30 percent for soil and water, respectively) for all element concentrations greater than five times the CRDL in both the sample and duplicate sample, except for chromium and lead in SD5-3 and SD5-3R; chromium, copper, silver, and zinc in SD2-1 and SD2-1R; and lead and zinc in MW3-1-1 and MW3-1-1R.

The CRDL criteria were met for all elements detected in concentrations less than five times the CRDL in the sample or in the duplicate sample, or in both the sample and duplicate sample, except for arsenic, beryllium, copper, and nickel in MW3-1-1. As a result, data validation qualifiers were applied (i.e., "J[FD]") to the applicable arsenic, beryllium, chromium, copper, lead, nickel, silver, and zinc values presented in the data presentation tables in Appendix F to indicate this matrix variability.

G.3 LABORATORY QUALITY CONTROL ASSESSMENT

All environmental (i.e., soil, sediment, and groundwater) samples and field QC blanks (i.e., trip blanks, field blanks, and equipment blanks) collected during the Springfield ANGB

SI were analyzed using EPA solid waste test methods and general chemical methodology from the following references:

- *Statement of Work for Organic Analysis, Multi-Media, Multi-Concentration*, EPA Contract Laboratory Program, March 1990 (VOCs and SVOCs)
- *Statement of Work for Inorganic Analysis, Multi-Media, Multi-Concentration*, EPA Contract Laboratory Program, March 1990 (priority pollutant metals)
- *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Third Edition, September 1986, with 1989 revisions (VOCs, SVOCs, and priority pollutant metals)
- *Guidance for Remediation of Releases From Underground Storage Tanks*, Washington State Department of Ecology, Total Petroleum Hydrocarbon WTPH-D modified 8015 method (diesel fuel and heavy oil)
- *Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water* (Method EPA 524.2 VOC)

All data were validated and qualified using the guidelines and specifications described in the following documents:

- *Laboratory Data Validation Functional Guidelines For Evaluating Organics Analyses*, EPA Contract Laboratory Program, February 1988 (VOCs and SVOCs)
- *Laboratory Data Validation Functional Guidelines For Evaluating Inorganics Analyses*, EPA Contract Laboratory Program, February 1988 (priority pollutant metals)
- *Requirements for Quality Control of Analytical Data*, Hazardous Waste Remedial Actions Program, Martin Marietta Energy Systems, Inc. (DOE/HWP-65/R1).

All descriptive data validation qualifiers applied to the reported values by the laboratory were reported in parentheses. Each data point was assessed to determine whether the value was considered usable (i.e., no qualifier), usable but estimated (i.e., "J"), or not usable (i.e., "R"). All usability qualifiers are followed by the applicable laboratory or field QC qualifier, presented in parentheses and defined in the table footnotes. Usability qualifiers were not applied to values that were qualified by the laboratory, but were not considered to have been adversely impacted by the applicable laboratory QC result (e.g., duplicate and matrix spike analysis), as per EPA CLP validation guidelines. All laboratory and data validation qualifiers used were applied to

all data (i.e., detected and nondetected values) as necessary, on the comprehensive data presentation tables in Appendix F, and to the appropriate detected values summarized in the data tables in Section 3 of the SI report text. All qualifiers are defined at the end of each table presenting analytical data.

For the purposes of the SI, VOC and SVOC TICs that could not be directly attributed to laboratory method blank or field QC blank interference were used to indicate contamination resulting from past fuel use at the applicable site. All TIC concentrations were added together and reported in the Section 3 data summary tables and the Appendix F data presentation tables as a single estimated value. The number of individual compounds detected was presented in parentheses adjacent to the cumulative concentration. A detailed TIC evaluation is discussed in Section 4 of this appendix.

G.3.1 Organic Analyses

Environmental (i.e., soil, sediment, and groundwater) samples and field QC blanks (i.e., field blanks, equipment blanks, and trip blanks [VOC analysis only]) collected during the Springfield ANGB SI were submitted to the Weyerhaeuser Laboratory for VOC, SVOC, and gasoline range, diesel fuel range, and heavy oil analyses using EPA Methods, the March 1990 EPA CLP SOW, and WTPH-D. A data quality assessment is presented in the following subsections.

G.3.1.1 Volatile Organic Compound Analysis (EPA Method 8240, EPA Method 524.2, and the March 1990 EPA CLP SOW)

Sixty-six soil samples, 16 sediment samples, 17 groundwater samples, and 37 field QC blanks (i.e., trip blanks, field blanks, and equipment blanks) were collected and analyzed by the Weyerhaeuser Laboratory for VOCs using EPA Method 8240, EPA Method 524.2, and the March 1990 EPA CLP SOW. Groundwater samples and associated field QC blanks were analyzed using EPA Method 524.2, EPA Method 8240, and the March 1990 EPA CLP SOW, which were modified for low-level detection limits, as required by the Ohio Environmental Protection Agency (OEPA), for the February 1988 target VOCs. Data quality was evaluated using the guidelines and control limits specified for holding times, tuning and mass calibration

results, initial and continuing calibration verification, method blank, system monitoring compounds, internal standard area, and MS/MSD results. The VOC data validation worksheets are presented in Tables G-9a through G-9f.

Holding Times—Holding times were defined as the maximum amount of time allowed to elapse between the date and time of sample collection and the date and time of sample analysis. The Weyerhaeuser Laboratory was required by the Springfield ANGB SI SOW to meet holding times of 7 days for unpreserved water samples, 14 days for preserved (i.e., sufficient hydrochloric acid to lower the pH to 2) water samples, and 14 days for soil samples collected for VOC analysis.

Analysis of samples that have exceeded the method-recommended holding times may result in the following: concentrations of compounds that would have been detected ordinarily are undetected due to chemical transformation, compound volatilization, or biodegradation; reported concentrations lower than those originally present in the sample, due to the factors previously stated; or reported concentrations greater than those originally present in the sample, due to external contamination of water samples or changes in soil moisture content. Based on an evaluation of all environmental samples and field QC blanks analyzed for VOCs using EPA Method 8240, EPA Method 524.2, and the March 1990 EPA CLP SOW, all holding time criteria were met.

Tuning and Mass Calibration Results—The first step in the calibration of the GC/MS system is to ensure correct mass calibration, mass resolution, and mass transmission. This was accomplished, in addition to a sensitivity check, using p-bromofluorobenzene (p-BFB) injected at a concentration near the instrument detection limit (IDL), as required by the March 1990 EPA CLP SOW protocol. This standard was analyzed every 12 hours to ensure that the GC/MS was tuned correctly. Tuning and mass calibration requirements used to evaluate the acceptable instrument operation are described in the March 1990 EPA CLP SOW. Based on an evaluation of the ionization and fragmentation criteria, in addition to the instrument tune frequency, all p-BFB tuning and mass calibration criteria requirements were met.

Table G-9a. Volatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Date Collected	Date Analyzed	Volatile Surrogate Recovery	Volatile MS/MSD Analyses	Volatile Blank Analyses	Volatile Tuning/Mass Calibration	Volatile Internal Standards
SOILS								
VBLKS1	VBLKS1	NA	05/14/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES	(SEE ANALYSES FOR B2-4-1)	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA1: 05/14/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY, EXCEPT THE AREA FOR SD5-4 FOR CBZ.
SD5-1	89650	05/06/92	05/14/92					
SD5-2	89651	05/06/92	05/14/92					
SD5-3	89652	05/06/92	05/14/92					
SD5-4	89653	05/06/92	05/14/92					
SD5-5	89654	05/06/92	05/14/92					
SOILS								
VBLKS2	VBLKS2	NA	05/15/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES	B2-4-1 ALL RECOVERY AND DIFFERENCE VALUES WITHIN LIMITS	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA1: 05/15/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
SD5-3R	89658	05/06/92	05/15/92					
SD5-4RE	89653RE	05/06/92	05/15/92					
WATERS								
VBLKW1	VBLKW1	NA	05/11/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR WATER SAMPLES	FIELD QC ONLY; NO MS/MSD REQUIRED	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA2: 05/11/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
SD5-ER	89655	05/06/92	05/11/92					
SD5-FB	89656	05/06/92	05/11/92					
Springfield TB	89657	05/06/92	05/11/92					
WATERS								
VBLKW1	VBLKW1	NA	08/19/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR WATER SAMPLES	FIELD QC ONLY; NO MS/MSD REQUIRED	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA2: 08/19/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
EB2-1	94677	08/16/92	08/19/92					
FB2-1	94678	08/16/92	08/19/92					
TB-4	94679	08/17/92	08/19/92					
WATERS								
VBLKW2	VBLKW2	NA	08/20/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR WATER SAMPLES	FIELD QC ONLY; NO MS/MSD REQUIRED	NO CONTAMINANTS DETECTED, TIC TOTAL=18(2)_	INST# VOA2: 08/20/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
EB5-1	94808	08/18/92	08/20/92					
FB5-1	94809	08/18/92	08/20/92					
TB-5	94810	08/18/92	08/20/92					
SOILS								
VBLKS1	VBLKS1	NA	08/24/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES, EXCEPT: SB2-1-4 DCE=62% (70%) AND SB2-1-4RE DCE=65% (70%).	(SEE ANALYSES FOR SB5-4-1R)	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA1: 08/24/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
SB2-1-1	94799	08/15/92	08/24/92					
SB2-1-4	94800	08/15/92	08/24/92					
SB2-1-4RE	94800RE	08/15/92	08/24/92					
SB5-2-1	94801	08/18/92	08/24/92					
SB5-3-1	94803	08/18/92	08/24/92					
SB5-3-2	94804	08/18/92	08/24/92					
SB5-4-1	94805	08/18/92	08/24/92					
SB5-4-1R	94806	08/18/92	08/24/92					
SB5-4-2	94807	08/18/92	08/24/92					
SOILS								
VBLKS2	VBLKS2	NA	08/25/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES	(SEE ANALYSES FOR SB5-4-1R)	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA1: 08/25/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
SB5-2-2	94802	08/18/92	08/25/92					
SOILS								
VBLKS3	VBLKS3	NA	08/31/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES	SB5-4-1R ALL RECOVERY AND DIFFERENCE VALUES WITHIN LIMITS	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA1: 08/31/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
SB5-4-1R MS	94806 MS	08/18/92	08/31/92					
SB5-4-1R MSD	94806 MSD	08/18/92	08/31/92					

Table G-9a. Volatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Initial Calibration	Continuing Calibration	Field Blank Analysis	Equipment Blank Analysis	Trip Blank Analysis
SOILS						
VBLKS1	VBLKS1	05/14/92 (INST# VOA1)	05/14/92 (INST# VOA1)	NA	NA	NA
SD5-1	89650	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	SD5-FB	SD5-ER	Springfield TB
SD5-2	89651	ALL RRF > 0.05	ALL RRF50 > 0.05	SD5-FB	SD5-ER	Springfield TB
SD5-3	89652	%RSD < 30%	%D < 25%; EXCEPT	SD5-FB	SD5-ER	Springfield TB
SD5-4	89653		CLME=27.7%, DCP13t=32.8%	SD5-FB	SD5-ER	Springfield TB
SD5-5	89654			SD5-FB	SD5-ER	Springfield TB
SOILS						
VBLKS2	VBLKS2		05/15/92 (INST# VOA1)	NA	NA	NA
SD5-3R	89658		DAILY TUNE IN CONTROL:	SD5-FB	SD5-ER	Springfield TB
SD5-4RE	89653RE		ALL RRF50 > 0.05	SD5-FB	SD5-ER	Springfield TB
			%D < 25%; EXCEPT			
			CLME=53.8%, DCP13t=36.5%			
WATERS						
VBLKW1	VBLKW1	04/30/92 (INST# VOA2)	05/11/92 (INST# VOA2)	NA	NA	NA
SD5-ER	89655	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	NA	NA	NA
SD5-FB	89656	ALL RRF > 0.05	ALL RRF50 > 0.05	NA	NA	NA
Springfield TB	89657	%RSD < 30%	%D < 25%	NA	NA	NA
WATERS						
VBLKW1	VBLKW1	08/18/92 (INST# VOA2)	08/19/92 (INST# VOA2)	NA	NA	NA
EB2-1	94677	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	NA	NA	NA
FB2-1	94678	ALL RRF > 0.05	ALL RRF50 > 0.05	NA	NA	NA
TB-4	94679	%RSD < 30%; EXCEPT	%D < 25%	NA	NA	NA
		HXO2=30.4%				
WATERS						
VBLKW2	VBLKW2		08/20/92 (INST# VOA2)	NA	NA	NA
EB5-1	94808		DAILY TUNE IN CONTROL:	NA	NA	NA
FB5-1	94809		ALL RRF50 > 0.05	NA	NA	NA
TB-5	94810		%D < 25%	NA	NA	NA
SOILS						
VBLKS1	VBLKS1	07/13/92 (INST# VOA1)	08/24/92 (INST# VOA1)	NA	NA	NA
SB2-1-1	94799	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	FB2-1	EB2-1	TB-5
SB2-1-4	94800	ALL RRF > 0.05	ALL RRF50 > 0.05	FB2-1	EB2-1	TB-5
SB2-1-4 RE	94800 RE	%RSD < 30%	%D < 25%; EXCEPT	FB2-1	EB2-1	TB-5
SB5-2-1	94801		CLME=29%, CTCL=25.9%	FB5-1	EB5-1	TB-5
SB5-3-1	94803			FB5-1	EB5-1	TB-5
SB5-3-2	94804			FB5-1	EB5-1	TB-5
SB5-4-1	94805			FB5-1	EB5-1	TB-5
SB5-4-1R	94806			FB5-1	EB5-1	TB-5
SB5-4-2	94807			FB5-1	EB5-1	TB-5
SOILS						
VBLKS2	VBLKS2		08/25/92 (INST# VOA1)	NA	NA	NA
SB5-2-2	94802		DAILY TUNE IN CONTROL:	FB5-1	EB5-1	TB-5
			ALL RRF50 > 0.05			
			%D < 25%			
SOILS						
VBLKS3	VBLKS3		08/31/92 (INST# VOA1)	NA	NA	NA
SB5-4-1R MS	94806 MS		DAILY TUNE IN CONTROL:	FB5-1	EB5-1	TB-5
SB5-4-1R MSD	94806 MSD		ALL RRF50 > 0.05	FB5-1	EB5-1	TB-5
			%D < 25%; EXCEPT			
			CLME=30.2%			

Table G-9a. Volatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Significant Sample Results	Tentatively Identified Compounds	Data Validation Qualifiers
SOILS				
VBLKS1	VBLKS1	None Detected	0 (0)	
SD5-1	89650	None Detected	0 (0)	None Applied
SD5-2	89651	None Detected	0 (0)	None Applied
SD5-3	89652	None Detected	0 (0)	None Applied
SD5-4	89653	None Detected	0 (0)	HXO2,4ME2PENT,PCE,PCA,BZME,CLBZ,EBZ,STY,XYLENES=UJ(IS)
SD5-5	89654	None Detected	0 (0)	None Applied
SOILS				
VBLKS2	VBLKS2	None Detected	0 (0)	
SD5-3R	89658	None Detected	0 (0)	CLME=12UJ(CCV)
SD5-4RE	89653RE	None Detected	0 (0)	CLME=45UJ(CCV)
WATERS				
VBLKW1	VBLKW1	None Detected	0 (0)	
SD5-ER	89655	TCLME=15 µg/l	13 (2)	None Applied
SD5-FB	89656	TCLME=15 µg/l	31 (2)	None Applied
Springfield TB	89657	None Detected	8 (1)	None Applied
WATERS				
VBLKW1	VBLKW1	None Detected	0 (0)	
EB2-1	94677	TCLME=1 µg/l	206 (2)	None Applied
FB2-1	94678	MTLNCL=10/TCLME=15/BDCME=9/DBCME=6/TBME=2 µg/l	258 (2)	None Applied
TB-4	94679	None Detected	16 (2)	None Applied
WATERS				
VBLKW2	VBLKW2	None Detected	18 (2)	
EB5-1	94808	MTLNCL=3 µg/l	0 (0)	None Applied
FB5-1	94809	None Detected	0 (0)	None Applied
TB-5	94810	None Detected	6 (1)	None Applied
SOILS				
VBLKS1	VBLKS1	None Detected	0 (0)	
SB2-1-1	94799	ACE=82 µg/kg	0 (0)	None Applied
SB2-1-4	94800	ACE=5J µg/kg	0 (0)	ACE=5J(SR)/All other compounds=UJ(SR)
SB2-1-4 RE	94800 RE	ACE=21 µg/kg	0 (0)	ACE=21J(SR)/All other compounds=UJ(SR)
SB5-2-1	94801	ACE=16 µg/kg	0 (0)	None Applied
SB5-3-1	94803	None Detected	0 (0)	None Applied
SB5-3-2	94804	None Detected	0 (0)	None Applied
SB5-4-1	94805	BZME=10J/EBZ=7J/XYLENES=8JX µg/kg	0 (0)	None Applied
SB5-4-1R	94806	BZME=14 µg/kg	0 (0)	None Applied
SB5-4-2	94807	ACE=18 µg/kg	0 (0)	None Applied
SOILS				
VBLKS2	VBLKS2	None Detected	0 (0)	
SB5-2-2	94802	ACE=12 µg/kg	0 (0)	None Applied
SOILS				
VBLKS3	VBLKS3	None Detected	0 (0)	
SB5-4-1R MS	94806 MS	Not Applicable	Data Not Provided	Not Applicable
SB5-4-1R MSD	94806 MSD	Not Applicable	Data Not Provided	Not Applicable

Table G-9b. Volatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Date Collected	Date Analyzed	Volatile Surrogate Recovery	Volatile MS/MSD Analyses	Volatile Blank Analyses	Volatile Tuning/Mass Calibration	Volatile Internal Standards
SOILS								
VBLKS1	VBLKS1	NA	08/18/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES	SB1-1-1 ALL RECOVERY AND DIFFERENCE VALUES WITHIN LIMITS	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA1: 08/18/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY, EXCEPT THE AREA FOR SB4-1-2 FOR CBZ.
MWBG1-1	94527	08/12/92	08/18/92					
MWBG1-2	94526	08/12/92	08/18/92					
SB1-1-1	94524	08/13/92	08/18/92					
SB1-1-6	94532	08/13/92	08/18/92					
SB1-2-1	94525	08/13/92	08/18/92					
SB1-2-8	94523	08/13/92	08/18/92					
SB4-1-1	94530	08/12/92	08/18/92					
SB4-1-2	94528	08/12/92	08/18/92					
SB4-2-1	94529	08/12/92	08/18/92					
SB4-2-2	94531	08/12/92	08/18/92					
SB4-3-1	94535	08/12/92	08/18/92					
SB4-3-1R	94536	08/12/92	08/18/92					
SB4-3-2	94538	08/12/92	08/18/92					
SB4-3-3	94537	08/12/92	08/18/92					
SB1-1-1MS	94524 MS	08/13/92	08/18/92					
SB1-1-1MSD	94524 MSD	08/13/92	08/18/92					
WATERS								
VBLKW1	VBLKW1	NA	08/18/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR WATER SAMPLES	FIELD QC ONLY; NO MS/MSD REQUIRED	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# Not Provided: 08/18/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
TB-1 on 8-12-92	94533	08/12/92	08/18/92					
TB-2 on 8-13-92	94534	08/13/92	08/18/92					
WATERS								
VBLKW1	VBLKW1	NA	08/21/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR WATER SAMPLES	FIELD QC ONLY; NO MS/MSD REQUIRED	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA2: 08/21/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
EB3-1	94908	08/19/92	08/21/92					
FB3-1	94909	08/19/92	08/21/92					
TB-6	94910	08/19/92	08/21/92					
WATERS								
VBLKW2	VBLKW2	NA	08/24/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR WATER SAMPLES	FIELD QC ONLY; NO MS/MSD REQUIRED	NO CONTAMINANTS DETECTED, TIC TOTAL=7(1)	INST# VOA2: 08/24/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
TB-7	94978	08/20/92	08/24/92					
TB-8	95033	08/21/92	08/24/92					
SOILS								
VBLKS1	VBLKS1	NA	08/26/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES	(SEE ANALYSES FOR MWBG-2-1)	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA1: 08/26/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
MWBG-2-1	94912	08/19/92	08/26/92					
SB3-2-4	94974	08/20/92	08/26/92					
SOILS								
VBLKS2	VBLKS2	NA	08/27/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES, EXCEPT: MWBG-2-3 DCE=59% (70%).	(SEE ANALYSES FOR MWBG-2-1)	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA1: 08/27/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
MW3-1-1a	95031	08/21/92	08/27/92					
MW3-1-8	95032	08/21/92	08/27/92					
MWBG-2-3	94913	08/19/92	08/27/92					
MWBG-2-3R	94914	08/19/92	08/27/92					
SB3-1-1	94911	08/19/92	08/27/92					
SB3-1-8	94972	08/20/92	08/27/92					
SB3-2-1	94973	08/20/92	08/27/92					
SB3-2-7	94975	08/20/92	08/27/92					
SB3-3-1	94976	08/20/92	08/27/92					
SB3-3-8	94977	08/20/92	08/27/92					
SOILS								
VBLKS3	VBLKS3	NA	08/31/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES	MWBG-2-1 ALL RECOVERY AND DIFFERENCE VALUES WITHIN LIMITS	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA1: 08/31/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
MWBG-2-1MS	94912 MS	08/19/92	08/31/92					
MWBG-2-1MSD	94912 MSD	08/19/92	08/31/92					

Table G–9b. Volatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Initial Calibration	Continuing Calibration	Field Blank Analysis	Equipment Blank Analysis	Trip Blank Analysis
SOILS						
VBLKS1	VBLKS1	07/13/92 (INST# VOA1)	08/18/92 (INST# VOA1)	NA	NA	NA
MWBG1–1	94527	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	FB1–1	ER1–1	TB–1
MWBG1–2	94526	ALL RRF > 0.05	ALL RRF50 > 0.05	FB1–1	ER1–1	TB–1
SB1–1–1	94524	%RSD < 30%	%D < 25%	FB1–1	ER1–1	TB–2
SB1–1–6	94532	08/18/92 (INST# VOA2)	08/18/92 (INST# VOA2)	FB1–1	ER1–1	TB–2
SB1–2–1	94525	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	FB1–1	ER1–1	TB–2
SB1–2–8	94523	ALL RRF > 0.05	ALL RRF50 > 0.05	FB1–1	ER1–1	TB–2
SB4–1–1	94530	%RSD < 30%; EXCEPT	%D < 25%	FB1–1	ER1–1	TB–1
SB4–1–2	94528	HXO2=30.4%		FB1–1	ER1–1	TB–1
SB4–2–1	94529			FB1–1	ER1–1	TB–1
SB4–2–2	94531			FB1–1	ER1–1	TB–1
SB4–3–1	94535			FB1–1	ER1–1	TB–1
SB4–3–1R	94536			FB1–1	ER1–1	TB–1
SB4–3–2	94538			FB1–1	ER1–1	TB–1
SB4–3–3	94537			FB1–1	ER1–1	TB–1
SB1–1–1 MS	94524 MS			FB1–1	ER1–1	TB–1
SB1–1–1 MSD	94524 MSD			FB1–1	ER1–1	TB–1
WATERS						
VBLKW1	VBLKW1			NA	NA	NA
TB–1 on 8–12–92	94533			NA	NA	NA
TB–2 on 8–13–92	94534			NA	NA	NA
WATERS						
VBLKW1	VBLKW1	08/18/92 (INST# VOA2)	08/21/92 (INST# VOA2)	NA	NA	NA
EB3–1	94908	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	NA	NA	NA
FB3–1	94909	ALL RRF > 0.05	ALL RRF50 > 0.05	NA	NA	NA
TB–6	94910	%RSD < 30%; EXCEPT HXO2=30.4%	%D < 25%; EXCEPT HXO2=28.2%	NA	NA	NA
WATERS						
VBLKW2	VBLKW2		08/24/92 (INST# VOA2)	NA	NA	NA
TB–7	94978		DAILY TUNE IN CONTROL:	NA	NA	NA
TB–8	95033		ALL RRF50 > 0.05 %D < 25%; EXCEPT ACE=29%, HXO2=27.6%	NA	NA	NA
SOILS						
VBLKS1	VBLKS1	07/13/92 (INST# VOA1)	08/26/92 (INST# VOA1)	NA	NA	NA
MWBG–2–1	94912	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	FB3–1	EB3–1	TB–6
SB3–2–4	94974	ALL RRF > 0.05 %RSD < 30%	ALL RRF50 > 0.05 %D < 25%	FB3–1	EB3–1	TB–7
SOILS						
VBLKS2	VBLKS2		08/27/92 (INST# VOA1)	NA	NA	NA
MW3–1–1a	95031		DAILY TUNE IN CONTROL:	FB3–1	EB3–1	TB–8
MW3–1–8	95032		ALL RRF50 > 0.05	FB3–1	EB3–1	TB–8
MWBG–2–3	94913		%D < 25%	FB3–1	EB3–1	TB–6
MWBG–2–3R	94914			FB3–1	EB3–1	TB–6
SB3–1–1	94911			FB3–1	EB3–1	TB–6
SB3–1–8	94972			FB3–1	EB3–1	TB–7
SB3–2–1	94973			FB3–1	EB3–1	TB–7
SB3–2–7	94975			FB3–1	EB3–1	TB–7
SB3–3–1	94976			FB3–1	EB3–1	TB–7
SB3–3–8	94977			FB3–1	EB3–1	TB–7
SOILS						
VBLKS3	VBLKS3		08/31/92 (INST# VOA1)	NA	NA	NA
MWBG–2–1 MS	94912 MS		DAILY TUNE IN CONTROL:	FB3–1	EB3–1	TB–6
MWBG–2–1 MSD	94912 MSD		ALL RRF50 > 0.05 %D < 25%; EXCEPT CLME=30.2%	FB3–1	EB3–1	TB–6

Table G-9b. Volatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Significant Sample Results	Tentatively Identified Compounds	Data Validation Qualifiers
SOILS				
VBLKS1	VBLKS1	None Detected	0 (0)	
MWBG1-1	94527	None Detected	0 (0)	None Applied
MWBG1-2	94526	None Detected	0 (0)	None Applied
SB1-1-1	94524	BZME=3J µg/kg	0 (0)	None Applied
SB1-1-6	94532	ACE=11 µg/kg	0 (0)	ACE=11U(FB)
SB1-2-1	94525	None Detected	0 (0)	None Applied
SB1-2-8	94523	None Detected	0 (0)	None Applied
SB4-1-1	94530	None Detected	0 (0)	None Applied
SB4-1-2	94528	None Detected	0 (0)	HXO2,4ME2PENT,PCE,PCA,BZME,CLBZ,EBZ,STY,XYLENES=UJ(IS)
SB4-2-1	94529	None Detected	0 (0)	None Applied
SB4-2-2	94531	None Detected	0 (0)	None Applied
SB4-3-1	94535	None Detected	0 (0)	None Applied
SB4-3-1R	94536	None Detected	0 (0)	None Applied
SB4-3-2	94538	BZME=3J µg/kg	0 (0)	None Applied
SB4-3-3	94537	ACE=17 µg/kg	255 (11)	ACE=17U(FB)
SB1-1-1 MS	94524 MS	Not Applicable	Data Not Provided	Not Applicable
SB1-1-1 MSD	94524 MSD	Not Applicable	Data Not Provided	Not Applicable
WATERS				
VBLKW1	VBLKW1	None Detected	0 (0)	
TB-1 on 8-12-92	94533	None Detected	0 (0)	None Applied
TB-2 on 8-13-92	94534	None Detected	10 (2)	None Applied
WATERS				
VBLKW1	VBLKW1	None Detected	0 (0)	
EB3-1	94908	None Detected	0 (0)	None Applied
FB3-1	94909	TCLME=13/BDCME=1 µg/l	6 (1)	None Applied
TB-6	94910	None Detected	16 (2)	None Applied
WATERS				
VBLKW2	VBLKW2	None Detected	7 (1)	
TB-7	94978	None Detected	0 (0)	None Applied
TB-8	95033	None Detected	0 (0)	None Applied
SOILS				
VBLKS1	VBLKS1	None Detected	0 (0)	
MWBG-2-1	94912	None Detected	0 (0)	None Applied
SB3-2-4	94974	XYLENES=80X µg/kg	1510 (11)	None Applied
SOILS				
VBLKS2	VBLKS2	None Detected	0 (0)	
MW3-1-1a	95031	None Detected	0 (0)	None Applied
MW3-1-8	95032	None Detected	0 (0)	None Applied
MWBG-2-3	94913	BZ=3J/BZME=14/EBZ=10J/XYLENES=72X µg/kg	127 (4)	BZ=3J(SR)/BZME=14J(SR)/EBZ=10J(SR)/XYLENES=72J(SR, FD)/ All other compounds=UJ(SR)
MWBG-2-3R	94914	BZME=6J µg/kg	0 (0)	None Applied
SB3-1-1	94911	None Detected	0 (0)	None Applied
SB3-1-8	94972	ACE=14 µg/kg	0 (0)	None Applied
SB3-2-1	94973	None Detected	9 (1)	None Applied
SB3-2-7	94975	ACE=20 µg/kg	46 (4)	None Applied
SB3-3-1	94976	None Detected	0 (0)	None Applied
SB3-3-8	94977	None Detected	0 (0)	None Applied
SOILS				
VBLKS3	VBLKS3	None Detected	0 (0)	
MWBG-2-1 MS	94912 MS	Not Applicable	Data Not Provided	Not Applicable
MWBG-2-1 MSD	94912 MSD	Not Applicable	Data Not Provided	Not Applicable

Table G–9c. Volatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Date Collected	Date Analyzed	Volatile Surrogate Recovery	Volatile MS/MSD Analyses	Volatile Blank Analyses	Volatile Tuning/Mass Calibration	Volatile Internal Standards
WATERS								
VBLKW1	VBLKW1	NA	08/18/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR WATER SAMPLES	FIELD QC ONLY; NO MS/MSD REQUIRED	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA2: 08/18/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
ER1-1	94600	08/14/92	08/18/92					
FB1-1	94601	08/14/92	08/18/92					
TB-3	94599	08/14/92	08/18/92					
SOILS								
VBLKS1	VBLKS1	NA	08/19/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES	SB1-3-1 ALL RECOVERY AND DIFFERENCE VALUES WITHIN LIMITS	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA1: 08/19/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
SB1-1-3	94602	08/13/92	08/19/92					
SB1-2-3	94603	08/13/92	08/19/92					
SB1-3-1	94596	08/14/92	08/19/92					
SB1-3-11	94597	08/14/92	08/19/92					
SB1-3-11R	94598	08/14/92	08/19/92					
SB1-3-3	94604	08/14/92	08/19/92					
SB1-3-1 MS	94596 MS	08/14/92	08/19/92					
SB1-3-1 MSD	94596 MSD	08/14/92	08/19/92					
SOILS								
VBLKS2	VBLKS2	NA	08/21/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES	(SEE ANALYSES FOR SB2-2-2)	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA1: 08/21/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY, EXCEPT THE AREAS FOR SB2-3-4 FOR BCM AND SB2-1-14 AND SB5-1-7 FOR CBZ.
SB2-1-14	94673	08/15/92	08/21/92					
SB2-2-1R	94667	08/16/92	08/21/92					
SB2-3-16	94672	08/17/92	08/21/92					
SB2-3-4	94671	08/17/92	08/21/92					
SB5-1-1	94674	08/17/92	08/21/92					
SB5-1-7	94675	08/17/92	08/21/92					
SOILS								
VBLKS3	VBLKS3	NA	08/24/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES	(SEE ANALYSES FOR SB2-2-2)	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA1: 08/24/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY, EXCEPT THE AREA FOR SB2-3-4DL FOR BCM.
SB2-2-17	94669	08/16/92	08/24/92					
SB2-3-4DL	94671DL	08/17/92	08/24/92					
SOILS								
VBLKM1	VBLKM1	NA	08/25/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES, EXCEPT: SB2-2-2 DCB=124% (121%) AND SB2-2-2 MS DCB=123% (121%).	SB2-2-2 ALL RECOVERY AND DIFFERENCE VALUES WITHIN LIMITS	CONTAMINANTS DETECTED MEK=600J µg/kg. TIC TOTAL=24(2)	INST# VOA2: 08/25/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
SB2-2-1	94666	08/16/92	08/25/92					
SB2-2-2	94668	08/16/92	08/25/92					
SB2-2-2 MS	94668 MS	08/16/92	08/25/92					
SB2-2-2 MSD	94668 MSD	08/16/92	08/26/92					
SOILS								
VBLKS4	VBLKS4	NA	08/26/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES	(SEE ANALYSES FOR SB2-2-2)	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA1: 08/26/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
SB2-3-1	94670	08/17/92	08/26/92					

Table G–9c. Volatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Initial Calibration	Continuing Calibration	Field Blank Analysis	Equipment Blank Analysis	Trip Blank Analysis
WATERS						
VBLKW1	VBLKW1	08/18/92 (INST# VOA2)	08/18/92 (INST# VOA2)	NA	NA	NA
ER1–1	94600	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	NA	NA	NA
FB1–1	94601	ALL RRF > 0.05	ALL RRF50 > 0.05	NA	NA	NA
TB–3	94599	%RSD < 30%; EXCEPT HXO2=30.4%	%D < 25%	NA	NA	NA
SOILS						
VBLKS1	VBLKS1	07/13/92 (INST# VOA1)	08/19/92 (INST# VOA1)	NA	NA	NA
SB1–1–3	94602	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	FB1–1	ER1–1	TB–3
SB1–2–3	94603	ALL RRF > 0.05	ALL RRF50 > 0.05	FB1–1	ER1–1	TB–3
SB1–3–1	94596	%RSD < 30%	%D < 25%	FB1–1	ER1–1	TB–3
SB1–3–11	94597			FB1–1	ER1–1	TB–3
SB1–3–11R	94598			FB1–1	ER1–1	TB–3
SB1–3–3	94604			FB1–1	ER1–1	TB–3
SB1–3–1 MS	94596 MS			FB1–1	ER1–1	TB–3
SB1–3–1 MSD	94596 MSD			FB1–1	ER1–1	TB–3
SOILS						
VBLKS2	VBLKS2		08/21/92 (INST# VOA1)	NA	NA	NA
SB2–1–14	94673		DAILY TUNE IN CONTROL:	FB2–1	EB2–1	TB–4
SB2–2–1R	94667		ALL RRF50 > 0.05	FB2–1	EB2–1	TB–4
SB2–3–16	94672		%D < 25%; EXCEPT	FB2–1	EB2–1	TB–4
SB2–3–4	94671		CLME=26.8%	FB2–1	EB2–1	TB–4
SB5–1–1	94674			FB2–1	EB2–1	TB–4
SB5–1–7	94675			FB2–1	EB2–1	TB–4
SOILS						
VBLKS3	VBLKS3		08/24/92 (INST# VOA1)	NA	NA	NA
SB2–2–17	94669		DAILY TUNE IN CONTROL:	FB2–1	EB2–1	TB–4
SB2–3–4DL	94671DL		ALL RRF50 > 0.05	FB2–1	EB2–1	TB–4
			%D < 25%; EXCEPT CLME=29%, CTCL=25.9%			
SOILS						
VBLKM1	VBLKM1		08/25/92 (INST# VOA2)	NA	NA	NA
SB2–2–1	94666		DAILY TUNE IN CONTROL:	FB2–1	EB2–1	TB–4
SB2–2–2	94668		ALL RRF50 > 0.05	FB2–1	EB2–1	TB–4
SB2–2–2 MS	94668 MS		%D < 25%	FB2–1	EB2–1	TB–4
SB2–2–2 MSD	94668 MSD			FB2–1	EB2–1	TB–4
SOILS						
VBLKS4	VBLKS4		08/26/92 (INST# VOA1)	NA	NA	NA
SB2–3–1	94670		DAILY TUNE IN CONTROL:	FB2–1	EB2–1	TB–4
			ALL RRF50 > 0.05			
			%D < 25%			

Table G–9c. Volatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Significant Sample Results	Tentatively Identified Compounds	Data Validation Qualifiers
WATERS				
VBLKW1	VBLKW1	None Detected	0 (0)	
ER1–1	94600	MTLNCL=8 µg/l	78 (2)	None Applied
FB1–1	94601	MTLNCL=53/ACE=10 µg/l	11 (1)	None Applied
TB–3	94599	None Detected	9 (1)	None Applied
SOILS				
VBLKS1	VBLKS1	None Detected	0 (0)	
SB1–1–3	94602	None Detected	0 (0)	None Applied
SB1–2–3	94603	None Detected	0 (0)	None Applied
SB1–3–1	94596	None Detected	0 (0)	None Applied
SB1–3–11	94597	ACE=25/BZME=11J µg/kg	8 (1)	ACE=25U(FB)
SB1–3–11R	94598	ACE=18/BZME=5J µg/kg	0 (0)	ACE=18U(FB)
SB1–3–3	94604	None Detected	0 (0)	None Applied
SB1–3–1 MS	94596 MS	Not Applicable	Data Not Provided	Not Applicable
SB1–3–1 MSD	94596 MSD	Not Applicable	Data Not Provided	Not Applicable
SOILS				
VBLKS2	VBLKS2	None Detected	0 (0)	
SB2–1–14	94673	ACE=53 µg/kg	0 (0)	HXO2,4ME2PENT,PCE,PCA,BZME,CLBZ,STY=UJ(IS)/EBZ=120J(IS)/XYLENES=390J(IS)
SB2–2–1R	94667	ACE=36/BZ=2J/EBZ=120/XYLENES=390X µg/kg	1556 (10)	None Applied
SB2–3–16	94672	ACE=20 µg/kg	0 (0)	None Applied
SB2–3–4	94671	MTLNCL=41/ACE=54/MEK=14/BZ=19/EBZ=280E/ XYLENES=300X µg/kg	563 (10)	MTLNCL=41UJ(FB,IS)/ACE=54J(IS)/MEK=14J(IS)/BRME,CLME,VC,CDS,DCE11,DCA11, DCE12,TCLME,DCA12=UJ(IS)
SB5–1–1	94674	None Detected	14 (1)	None Applied
SB5–1–7	94675	ACE=34 µg/kg	0 (0)	HXO2,4ME2PENT,PCE,PCA,BZME,CLBZ,EBZ,STY,XYLENES=UJ(IS)
SOILS				
VBLKS3	VBLKS3	None Detected	0 (0)	
SB2–2–17	94669	None Detected	0 (0)	None Applied
SB2–3–4DL	94671DL	MTLNCL=15D/ACE=42D/BZ=8DJ/EBZ=140D/ XYLENES=160DX µg/kg	219 (10)	MTLNCL=15UJ(FB,IS)/ACE=42J(IS)/CLME,BRME,VC,CDS,DCE11,DCA11,DCE12,TCLME, DCA12,MEK=UJ(IS)
SOILS				
VBLKM1	VBLKM1	MEK=600J µg/kg	24 (2)	
SB2–2–1	94666	MEK=1200BJ/XYLENES=600JX µg/kg	296 (11)	MEK=1300U(MB)
SB2–2–2	94668	XYLENES=1400X µg/kg	1059 (11)	XYLENES=1400J(SR)/All other compounds=UJ(SR)
SB2–2–2 MS	94668 MS	Not Applicable	Data Not Provided	Not Applicable
SB2–2–2 MSD	94668 MSD	Not Applicable	Data Not Provided	Not Applicable
SOILS				
VBLKS4	VBLKS4	None Detected	0 (0)	
SB2–3–1	94670	ACE=90/BZ=8J/EBZ=170/XYLENES=450X µg/kg	1008 (11)	None Applied

Table G-9d. Volatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Date Collected	Date Analyzed	Volatile Surrogate Recovery	Volatile MS/MSD Analyses	Volatile Blank Analyses	Volatile Tuning/Mass Calibration	Volatile Internal Standards
WATERS								
VBLKW1	VBLKW1	NA	09/01/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR WATER SAMPLES	FIELD QC ONLY; NO MS/MSD REQUIRED	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA2: 09/01/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
EB4-1	95191	08/25/92	09/01/92					
ERBG-1	95193	08/25/92	09/01/92					
FB4-1	95192	08/25/92	09/01/92					
FBBG-1	95194	08/25/92	09/01/92					
TB-10	95271	08/26/92	09/01/92					
SOILS								
VBLKS1	VBLKS1	NA	09/02/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES	[MW3-1-IR] ALL RECOVERY AND DIFFERENCE VALUES WITHIN LIMITS	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA1: 09/02/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY, EXCEPT THE AREA FOR [SD2-1] FOR CBZ.
MW3-1-1	95266	08/26/92	09/02/92					
MW3-1-IR	95267	08/26/92	09/02/92					
MW4-1-1S	95273	08/26/92	09/02/92					
MW4-1-4S	95274	08/26/92	09/02/92					
MW4-1-5S	95275	08/26/92	09/02/92					
SD2-1	95268	08/26/92	09/02/92					
SD2-1R	95269	08/26/92	09/02/92					
SD2-2	95270	08/26/92	09/02/92					
MW3-1-IR MS	95267 MS	08/26/92	09/02/92					
SOILS								
VBLKS2	VBLKS2	NA	09/03/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES	[MW3-1-IR] ALL RECOVERY AND DIFFERENCE VALUES WITHIN LIMITS	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA1: 09/03/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
SD2-1RE	95268 RE	08/26/92	09/03/92					
MW3-1-IR MSD	95267 MSD	08/26/92	09/03/92					
WATERS								
VBLKW1	VBLKW1	NA	10/06/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR WATER SAMPLES	(SEE ANALYSES FOR [MW3-1-1])	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA1: 10/06/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
ERBG-2	97273	09/29/92	10/06/92					
FBBA-1	97308	09/30/92	10/06/92					
MW1-1-1	97310	09/30/92	10/06/92					
MW4-1-1	97272	09/29/92	10/06/92					
MWBG-1-1	97309	09/30/92	10/06/92					
MWBG-2-1	97271	09/29/92	10/06/92					
TB-12	97274	09/29/92	10/06/92					
TB-13	97276	09/29/92	10/06/92					
WATERS								
VBLKW2	VBLKW2	NA	10/07/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR WATER SAMPLES	[MW3-1-1] ALL RECOVERY AND DIFFERENCE VALUES WITHIN LIMITS	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA1: 10/07/92 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
FBCB-1	97395	10/01/92	10/07/92					
MW2-1-1	97396	10/01/92	10/07/92					
MW3-1-1	97311	09/30/92	10/07/92					
MW3-1-IR	97314	09/30/92	10/07/92					
MW4-1-1DL	97272 DL	09/29/92	10/07/92					
TB-14	97316	09/30/92	10/07/92					
TB-15	97397	10/01/92	10/07/92					
MW3-1-1MS	97311 MS	09/30/92	10/07/92					
MW3-1-1MSD	97311 MSD	09/30/92	10/07/92					

Table G–9d. Volatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Initial Calibration	Continuing Calibration	Field Blank Analysis	Equipment Blank Analysis	Trip Blank Analysis
WATERS						
VBLKW1	VBLKW1	08/18/92 (INST# VOA2)	09/01/92 (INST# VOA2)	NA	NA	NA
EB4–1	95191	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	NA	NA	NA
ERBG–1	95193	ALL RRF > 0.05	ALL RRF50 > 0.05	NA	NA	NA
FB4–1	95192	%RSD < 30%; EXCEPT	%D < 25%	NA	NA	NA
FBBG–1	95194	HXO2=30.4%		NA	NA	NA
TB–10	95271			NA	NA	NA
SOILS						
VBLKS1	VBLKS1	07/13/92 (INST# VOA1)	09/02/92 (INST# VOA1)	NA	NA	NA
MW3–1–1	95266	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	FB3–1, SD5–FB	EB3–1	TB–10
MW3–1–1R	95267	ALL RRF > 0.05	ALL RRF50 > 0.05	FB3–1, SD5–FB	EB3–1	TB–10
MW4–1–1S	95273	%RSD < 30%	%D < 25%; EXCEPT	FB4–1, SD5–FB	EB4–1	TB–10
MW4–1–4S	95274		CLEA=27.2%	FB4–1, SD5–FB	EB4–1	TB–10
MW4–1–5S	95275			FB4–1, SD5–FB	EB4–1	TB–10
SD2–1	95268			FBBG–1, SD5–FB	ERBG–1	TB–10
SD2–1R	95269			FBBG–1, SD5–FB	ERBG–1	TB–10
SD2–2	95270			FBBG–1, SD5–FB	ERBG–1	TB–10
MW3–1–1R MS	95267 MS			FB3–1, SD5–FB	EB3–1	TB–10
SOILS						
VBLKS2	VBLKS2		09/03/92 (INST# VOA1)	NA	NA	NA
SD2–1 RE	95268 RE		DAILY TUNE IN CONTROL:	FBBG -1, SD5–FB	ERBG–1	TB–10
MW3–1–1R MSD	95267 MSD		ALL RRF50 > 0.05	FB3–1, SD5–FB	EB3–1	TB–10
			%D < 25%; EXCEPT TBME=25.9%, CLME=36.7%, CLEA=35%, MEK=31.1%			
WATERS						
VBLKW1	VBLKW1	10/06/92 (INST# VOA1)	10/06/92 (INST# VOA1)	NA	NA	NA
ERBG–2	97273	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	NA	NA	NA
FBBA–1	97308	ALL RRF > 0.05	ALL RRF50 > 0.05	NA	NA	NA
MW1–1–1	97310	%RSD < 30%	%D < 25%	FBBA–1, FBCE–1	ERBG–2	TB–14
MW4–1–1	97272			FBBA–1, FBCE–1	ERBG–2	TB–12, –13
MWBG–1–1	97309			FBBA–1, FBCE–1	ERBG–2	TB–14
MWBG–2–1	97271			FBBA–1, FBCE–1	ERBG–2	TB–12, –13
TB–12	97274			NA	NA	NA
TB–13	97276			NA	NA	NA
WATERS						
VBLKW2	VBLKW2		10/07/92 (INST# VOA1)	NA	NA	NA
FBCE–1	97395		DAILY TUNE IN CONTROL:	NA	NA	NA
MW2–1–1	97396		ALL RRF50 > 0.05	FBBA–1, FBCE–1	ERBG–2	TB–15
MW3–1–1	97311		%D < 25%; EXCEPT	FBBA–1, FBCE–1	ERBG–2	TB–14
MW3–1–1R	97314		CLME=25.7%	FBBA–1, FBCE–1	ERBG–2	TB–14
MW4–1–1 DL	97272 DL			FBBA–1, FBCE–1	ERBG–2	TB–12, –13
TB–14	97316			NA	NA	NA
TB–15	97397			NA	NA	NA
MW3–1–1 MS	97311 MS			FBBA–1, FBCE–1	ERBG–2	TB–14
MW3–1–1 MSD	97311 MSD			FBBA–1, FBCE–1	ERBG–2	TB–14

Table G-9d. Volatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Significant Sample Results	Tentatively Identified Compounds	Data Validation Qualifiers
WATERS				
VBLKW1	VBLKW1	None Detected	0 (0)	
EB4-1	95191	None Detected	7 (1)	None Applied
ERBG-1	95193	TCLME=9 µg/l	9 (1)	None Applied
FB4-1	95192	None Detected	10 (1)	None Applied
FBBG-1	95194	None Detected	6 (1)	None Applied
TB-10	95271	None Detected	0 (0)	None Applied
SOILS				
VBLKS1	VBLKS1	None Detected	0 (0)	
MW3-1-1	95266	None Detected	0 (0)	None Applied
MW3-1-1R	95267	BZME=2J µg/kg	0 (0)	None Applied
MW4-1-1S	95273	None Detected	0 (0)	None Applied
MW4-1-4S	95274	None Detected	0 (0)	None Applied
MW4-1-5S	95275	TCE=9J µg/kg	0 (0)	None Applied
SD2-1	95268	ACE=280/CDS=2J/MEK=59 µg/kg	49 (3)	HXO2,4ME2PENT,PCE,PCA,BZME=15UJ(IS)/ CLBZ,EBZ,STY,XYLENES=15UJ(IS)
SD2-1R	95269	None Detected	0 (0)	None Applied
SD2-2	95270	ACE=26/MEK=9J µg/kg	0 (0)	None Applied
MW3-1-1R MS	95267 MS	Not Applicable	Data Not Provided	Not Applicable
SOILS				
VBLKS2	VBLKS2	None Detected	0 (0)	
SD2-1 RE	95268 RE	ACE=200/MEK=46 µg/kg	0 (0)	None Applied
MW3-1-1R MSD	95267 MSD	Not Applicable	Data Not Provided	Not Applicable
WATERS				
VBLKW1	VBLKW1	None Detected	0 (0)	
ERBG-2	97273	MTLNCL=4/TCLME=13/BDCME=0.9 µg/l	1 (1)	None Applied
FBBA-1	97308	MTLNCL=1/TCLME=34/BDCME=0.8 µg/l	0 (0)	None Applied
MW1-1-1	97310	None Detected	0 (0)	None Applied
MW4-1-1	97272	DCE12=3X/TCE=71E µg/l	0 (0)	None Applied
MWBG-1-1	97309	None Detected	0 (0)	None Applied
MWBG-2-1	97271	None Detected	0 (0)	None Applied
TB-12	97274	None Detected	0 (0)	None Applied
TB-13	97276	None Detected	0 (0)	None Applied
WATERS				
VBLKW2	VBLKW2	None Detected	0 (0)	
FBCE-1	97395	TCLME=10/BDCME=7/DBCME=6/TBME=2 µg/l	0 (0)	None Applied
MW2-1-1	97396	MTLNCL=0.4/TCLME=0.1J µg/l	0 (0)	MTLNCL=0.4U(EB)/TCLME=0.4U(EB)
MW3-1-1	97311	None Detected	0 (0)	None Applied
MW3-1-1R	97314	None Detected	0 (0)	None Applied
MW4-1-1 DL	97272 DL	DCE12=3DX/TCE=61D µg/l	0 (0)	None Applied
TB-14	97316	None Detected	0 (0)	None Applied
TB-15	97397	None Detected	0 (0)	None Applied
MW3-1-1 MS	97311 MS	Not Applicable	Data Not Provided	Not Applicable
MW3-1-1 MSD	97311 MSD	Not Applicable	Data Not Provided	Not Applicable

Table G-9e. Volatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Date Collected	Date Analyzed	Volatile Surrogate Recovery	Volatile MS/MSD Analyses	Volatile Blank Analyses	Volatile Tuning/Mass Calibration	Volatile Internal Standards
WATERS								
VBLKW1	VBLKW1	NA	05/24/93	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR WATER SAMPLES, EXCEPT: MW3-1-2 DCE=116% (115%) AND MW4-1-2 DCE=116% (115%).	(SEE ANALYSES FOR MW1-1-2)	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA1: 05/24/93 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
EB2-2	9564	05/21/93	05/24/93					
EB3-2	9565	05/21/93	05/24/93					
FB2-2	9566	05/21/93	05/24/93					
FB3-2	9567	05/21/93	05/24/93					
MW2-1-2	9569	05/21/93	05/24/93					
MW2-2-1	9570	05/21/93	05/24/93					
MW3-1-2	9571	05/21/93	05/24/93					
MW4-1-2	9572	05/21/93	05/24/93					
MWBG-1-2	9573	05/21/93	05/24/93					
WATERS								
VBLKW2	VBLKW2	NA	05/25/93	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR WATER SAMPLES	(SEE ANALYSES FOR MW1-1-2)	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA1: 05/25/93 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
MW1-1-2	9568	05/21/93	05/25/93					
MW4-1-2DL	9572DL	05/21/93	05/25/93					
MWBG-2-2	9574	05/21/93	05/25/93					
P-4-1	9575	05/21/93	05/25/93					
P-4-1R	9576	05/21/93	05/25/93					
P-5-1	9577	05/21/93	05/25/93					
TB52093	9578	05/20/93	05/25/93					
TB52193	9579	05/21/93	05/25/93					
WATERS								
VBLKW3	VBLKW3	NA	05/26/93	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR WATER SAMPLES	MW1-1-2 ALL RECOVERY AND DIFFERENCE VALUES WITHIN LIMITS	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA1: 05/26/93 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
MW1-1-2MS	9568MS	05/21/93	05/26/93					
MW1-1-2MSD	9568MSD	05/21/93	05/26/93					
SOILS								
VBLKS1	VBLKS1	NA	05/25/93	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES	(SEE ANALYSES FOR SB2-4-1)	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA1: 05/25/93 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY, EXCEPT THE AREA FOR SB2-6-1R FOR CBZ.
SB2-4-1	9541	05/19/93	05/25/93					
SB2-5-1	9543	05/19/93	05/25/93					
SB2-6-1R	9546	05/20/93	05/26/93					
SB3-4-1	9547	05/19/93	05/26/93					
SOILS								
VBLKS2	VBLKS2	NA	05/26/93	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES	(SEE ANALYSES FOR SB2-4-1)	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA1: 05/26/93 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY, EXCEPT THE AREA FOR SB2-6-1RRE FOR CBZ.
SB2-4-2	9542	05/19/93	05/26/93					
SB2-5-2	9544	05/19/93	05/26/93					
SB2-6-1	9545	05/20/93	05/26/93					
SB2-6-1RRE	9546RE	05/20/93	05/26/93					

Table G–9c. Volatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Initial Calibration	Continuing Calibration	Field Blank Analysis	Equipment Blank Analysis	Trip Blank Analysis
WATERS						
VBLKW1	VBLKW1	05/24/93 (INST# VOA1)	05/24/93 (INST# VOA1)	NA	NA	NA
EB2–2	9564	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	NA	NA	NA
EB3–2	9565	ALL RRF > 0.05	ALL RRF50 > 0.05	NA	NA	NA
FB2–2	9566	%RSD < 30%	%D < 25%	NA	NA	NA
FB3–2	9567			NA	NA	NA
MW2–1–2	9569			FB2–2,FB3–2	EB2–2,EB3–2	TB52193
MW2–2–1	9570			FB2–2,FB3–2	EB2–2,EB3–2	TB52193
MW3–1–2	9571			FB2–2,FB3–2	EB2–2,EB3–2	TB52193
MW4–1–2	9572			FB2–2,FB3–2	EB2–2,EB3–2	TB52193
MWBG–1–2	9573			FB2–2,FB3–2	EB2–2,EB3–2	TB52193
WATERS						
VBLKW2	VBLKW2	05/24/93 (INST# VOA1)	05/25/93 (INST# VOA1)	NA	NA	NA
MW1–1–2	9568	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	FB2–2,FB3–2	EB2–2,EB3–2	TB52193
MW4–1–2DL	9572DL	ALL RRF > 0.05	ALL RRF50 > 0.05	FB2–2,FB3–2	EB2–2,EB3–2	TB52193
MWBG–2–2	9574	%RSD < 30%	%D < 25%	FB2–2,FB3–2	EB2–2,EB3–2	TB52193
P–4–1	9575			FB2–2,FB3–2	EB2–2,EB3–2	TB52193
P–4–1R	9576			FB2–2,FB3–2	EB2–2,EB3–2	TB52193
P–5–1	9577			FB2–2,FB3–2	EB2–2,EB3–2	TB52193
TB52093	9578			NA	NA	NA
TB52193	9579			NA	NA	NA
WATERS						
VBLKW3	VBLKW3	05/24/93 (INST# VOA1)	05/26/93 (INST# VOA1)	NA	NA	NA
MW1–1–2MS	9568MS	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	FB2–2,FB3–2	EB2–2,EB3–2	TB52193
MW1–1–2MSD	9568MSD	ALL RRF > 0.05	ALL RRF50 > 0.05	FB2–2,FB3–2	EB2–2,EB3–2	TB52193
		%RSD < 30%	%D < 25%			
SOILS						
VBLKS1	VBLKS1	05/20/93 (INST# VOA1)	05/25/93 (INST# VOA1)	NA	NA	NA
SB2–4–1	9541	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	FB2–2,FB3–2	EB2–2,EB3–2	TB52093
SB2–5–1	9543	ALL RRF > 0.05	ALL RRF50 > 0.05	FB2–2,FB3–2	EB2–2,EB3–2	TB52093
SB2–6–1R	9546	%RSD < 30%	%D < 25%	FB2–2,FB3–2	EB2–2,EB3–2	TB52093
SB3–4–1	9547			FB2–2,FB3–2	EB2–2,EB3–2	TB52093
SOILS						
VBLKS2	VBLKS2	05/20/93 (INST# VOA1)	05/26/93 (INST# VOA1)	NA	NA	NA
SB2–4–2	9542	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	FB2–2,FB3–2	EB2–2,EB3–2	TB52093
SB2–5–2	9544	ALL RRF > 0.05	ALL RRF50 > 0.05	FB2–2,FB3–2	EB2–2,EB3–2	TB52093
SB2–6–1	9545	%RSD < 30%	%D < 25%; EXCEPT	FB2–2,FB3–2	EB2–2,EB3–2	TB52093
SB2–6–1RRE	9546RE		CLME=28.9%	FB2–2,FB3–2	EB2–2,EB3–2	TB52093

Table G–9e. Volatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Significant Sample Results	Tentatively Identified Compounds	Data Validation Qualifiers
WATERS				
VBLKW1	VBLKW1	None Detected	0 (0)	None Applied
EB2–2	9564	MTLNCL=0.3J/ACE=8/TCLME=0.2J/CLBZ=0.5Uug/l	0 (0)	None Applied
EB3–2	9565	ACE=12/CLBZ=0.5Uug/l	0 (0)	None Applied
FB2–2	9566	ACE=11/CLBZ=0.5Uug/l	0 (0)	None Applied
FB3–2	9567	ACE=10/CLBZ=0.5Uug/l	0 (0)	None Applied
MW2–1–2	9569	PCE=0.2Jug/l	0 (0)	None Applied
MW2–2–1	9570	None Detected	0 (0)	None Applied
MW3–1–2	9571	None Detected	0 (0)	CLME,BRME,VC,CLEA,MTLNCL,ACE,CDS,DCE11,DCA11,DCE12,TCLME,DCA12,MEK=UJ(SR)
MW4–1–2	9572	DCE12=10X/TCE=120E/TCA112=0.8U/BZ=0.4Jug/l	0 (0)	CLME,BRME,VC,CLEA,MTLNCL,ACE,CDS,DCE11,TCLME,DCA12,MEK=UJ(SR)/DCE12=10J(SR)
MWBG–1–2	9573	None Detected	0 (0)	None Applied
WATERS				
VBLKW2	VBLKW2	None Detected	0 (0)	None Applied
MW1–1–2	9568	TCA112=0.8Uug/l	0 (0)	None Applied
MW4–1–2DL	9572DL	DCE12=9DX/TCE=110D/BZ=0.5DJug/l	0 (0)	None Applied
MWBG–2–2	9574	None Detected	0 (0)	None Applied
P–4–1	9575	DCE12=0.6X/TCE=0.7ug/l	0 (0)	None Applied
P–4–1R	9576	DCE12=0.5X/TCE=0.7ug/l	0 (0)	None Applied
P–5–1	9577	None Detected	0 (0)	None Applied
TB52093	9578	MTLNCL=0.6ug/l	0 (0)	None Applied
TB52193	9579	None Detected	0 (0)	None Applied
WATERS				
VBLKW3	VBLKW3	None Detected	0 (0)	None Applied
MW1–1–2MS	9568MS	Not Applicable	Data Not Provided	Not Applicable
MW1–1–2MSD	9568MSD	Not Applicable	Data Not Provided	Not Applicable
SOILS				
VBLKS1	VBLKS1	None Detected	0 (0)	None Applied
SB2–4–1	9541	ACE=55/DCE12=19/BZ=42/4MP2PENT=50ug/kg	40 (4)	ACE=55U(EB)
SB2–5–1	9543	None Detected	7 (1)	None Applied
SB2–6–1R	9546	ACE=95/MEK=26/4ME2PENT=17ug/kg	25 (2)	ACE=95U(EB)/HXO2,PCE,PCA,BZME,CLBZ,EBZ,STY,XYLENES=UJ(IS)/4ME2PENT=17J(IS)
SB3–4–1	9547	EBZ=10J/XYLENES=3JXug/kg	4980 (12)	None Applied
SOILS				
VBLKS2	VBLKS2	None Deteeted	0 (0)	None Applied
SB2–4–2	9542	None Detected	0 (0)	CLME=UJ(CCV)
SB2–5–2	9544	None Detected	0 (0)	CLME=UJ(CCV)
SB2–6–1	9545	ACE=120/CDS=2J/MEK=32/4ME2PENT=9Jug/kg	39 (3)	CLME=UJ(CCV)/ACE=120U(EB)
SB2–6–1RRE	9546RE	ACE=120/CDS=2J/MEK=36/4ME2PENT=26ug/kg	48 (4)	CLME=UJ(CCV)/ACE=120U(EB)/HXO2,PCE,PCA,BZME,CLBZ,EBZ,STY,XYLENES=UJ(IS)/4ME2PENT=26J(IS)

Table G-9f. Volatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Date Collected	Date Analyzed	Volatile Surrogate Recovery	Volatile MS/MSD Analyses	Volatile Blank Analyses	Volatile Tuning/Mass Calibration	Volatile Internal Standards
SOILS								
VBLKS3	VBLKS3	NA	05/27/93	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES	SB2-4-1 ALL RECOVERY AND DIFFERENCE VALUES WITHIN LIMITS	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA1: 05/26/93 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
SB3-4-2	9548	05/19/93	05/27/93					
SB3-5-1	9549	05/19/93	05/27/93					
SD2-3	9551	05/21/93	05/27/93					
SD2-4	9552	05/21/93	05/27/93					
SD2-5	9553	05/21/93	05/27/93					
SD2-6	9554	05/21/93	05/27/93					
SD3-1	9555	05/21/93	05/27/93					
SD3-2	9556	05/21/93	05/27/93					
SD3-2R	9557	05/21/93	05/27/93					
SB2-4-1MS	9541MS	05/19/93	05/27/93					
SB2-4-1MSD	9541MSD	05/19/93	05/27/93					
SOILS								
VBLKS4	VBLKS4	NA	05/27/93	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES	(SEE ANALYSES FOR SB2-4-1)	NO CONTAMINANTS DETECTED, TIC TOTAL=0	INST# VOA1: 05/27/93 ALL BFB TUNING AND MASS CALIBRATION CRITERIA MET.	BCM, DFB, AND CBZ ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
SB3-5-2	9550	05/19/93	05/27/93					

Table G-9f. Volatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Initial Calibration	Continuing Calibration	Field Blank Analysis	Equipment Blank Analysis	Trip Blank Analysis
SOILS						
VBLKS3	VBLKS3	05/20/93 (INST# VOA1)	05/26/93 (INST# VOA1)	NA	NA	NA
SB3-4-2	9548	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	FB2-2,FB3-2	EB2-2,EB3-2	TB52093
SB3-5-1	9549	ALL RRF > 0.05	ALL RRF50 > 0.05	FB2-2,FB3-2	EB2-2,EB3-2	TB52093
SD2-3	9551	%RSD < 30%	%D < 25%	FB2-2,FB3-2	EB2-2,EB3-2	TB52093
SD2-4	9552			FB2-2,FB3-2	EB2-2,EB3-2	TB52093
SD2-5	9553			FB2-2,FB3-2	EB2-2,EB3-2	TB52193
SD2-6	9554			FB2-2,FB3-2	EB2-2,EB3-2	TB52193
SD3-1	9555			FB2-2,FB3-2	EB2-2,EB3-2	TB52193
SD3-2	9556			FB2-2,FB3-2	EB2-2,EB3-2	TB52193
SD3-2R	9557			FB2-2,FB3-2	EB2-2,EB3-2	TB52193
SB2-4-1MS	9541MS			FB2-2,FB3-2	EB2-2,EB3-2	TB52093
SB2-4-1MSD	9541MSD			FB2-2,FB3-2	EB2-2,EB3-2	TB52093
SOILS						
VBLKS4	VBLKS4	05/20/93 (INST# VOA1)	05/25/93 (INST# VOA1)	NA	NA	NA
SB3-5-2	9550	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	FB2-2,FB3-2	EB2-2,EB3-2	TB52193
		ALL RRF > 0.05	ALL RRF50 > 0.05			
		%RSD < 30%	%D < 25%			

Table G–9f. Volatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Significant Sample Results	Tentatively Identified Compounds	Data Validation Qualifiers
SOILS				
VBLKS3	VBLKS3	None Detected	0 (0)	None Applied
SB3-4-2	9548	None Detected	8 (1)	None Applied
SB3-5-1	9549	ACE=52/CDS=2J/TOL=3J/EBZ=2J/XYLENES=18Xug/kg	2638 (12)	ACE=52U(EB)
SD2-3	9551	None Detected	0 (0)	None Applied
SD2-4	9552	None Detected	0 (0)	None Applied
SD2-5	9553	None Detected	0 (0)	None Applied
SD2-6	9554	None Detected	0 (0)	None Applied
SD3-1	9555	None Detected	0 (0)	None Applied
SD3-2	9556	None Detected	0 (0)	None Applied
SD3-2R	9557	None Detected	0 (0)	None Applied
SB2-4-1MS	9541MS	Not Applicable	Data Not Provided	Not Applicable
SB2-4-1MSD	9541MSD	Not Applicable	Data Not Provided	Not Applicable
SOILS				
VBLKS4	VBLKS4	None Detected	0 (0)	None Applied
SB3-5-2	9550	None Detected	29 (3)	None Applied

Footnotes to Tables G−9a,−9b,−9c,−9d,−9e,−9f. Volatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

Control limits for Water VOC Surrogate Recovery
Toluene−d8 (TOL): 88−110
4−Bromofluorobensene (BFB): 86−115
1,2−Dichloroethane−d4 (DCE): 76−114
Control Limits for Soil VOC Surrogate Recovery
Toluene−d8 (TOL): 84−138
Bromofluorobenzene (BFB): 59−113
1,2−Dichloroethane−d4 (DCE): 70−121
Control Limits for Water VOC MS/MSD Analyses
1,1−Dichloroethene (DCE11): 61−145, %RPD=14
Trichloroethene (TCE): 71−120, %RPD=14
Benzene (BZ): 76−127, %RPD=11
Toluene (TOL): 76−125, %RPD=13
Chlorobenzene (CLBZ): 75−130, %RPD=13
Control Limits for Soil VOC MS/MSD Analyses
1,1−Dichloroethene (DCE11): 59−172, %RPD=22
Trichloroethene (TCE): 62−137, %RPD=24
Benzene (BZ): 66−142, %RPD=21
Toluene (TOL): 59−139, %RPD=21
Chlorobenzene (CLBZ): 60−133, %RPD=21
Tuning and mass calibration performed with bromofluorobenzene (BFB)
Volatile Internal Standard Area Summary Compounds:
Bromochloromethane(BCM)
1,4−Difluorobenzene(DFB)
Chlorobenzene−d5(CBZ)
NA − Not Applicable
Significant sample result data qualifiers:
J − analyte present between the lower detection limit of the instrument and the lower quantitation limit.
X−compound is present, but does not meet CLP criteria.
D − analyte identified in an analysis at a secondary dilution factor.
E − analyte's concentration exceeds the calibration range of the instrument for this specific analysis
B−analyte was found in the associated blank as well as in the sample.
TIC−Tentatively Identified Compounds (number of non−TCL compounds detected)
Data validation qualifiers:
U−not detected
J−estimated concentration
IS−internal standard
SR−surrogate recovery
MB−method blank
FB−field blank
FD−field duplicate
CCV−continuing calibration verification
EB−equipment blank
Abbreviation for VOC Compounds:
Chloromethane=CLME
Bromomethane=BRME
Vinyl chloride=VC
Chloroethane=CLEA
Methylene chloride=MTLNCL
Acetone=ACE
Carbon disulfide=CDS
1,1−Dichloroethene=DCE11
1,1−Dichloroethane=DCA11
1,2−Dichloroethene (total)=DCE12
Chloroform=TCLME
1,2−Dichloroethane=DCA12
2−Butanone=MEK
1,1,1−Trichloroethane=TCA
Carbon Tetrachloride=CTCL
Bromodichloromethane=BDCME
1,2−Dichloropropane=DCPA12
cis−1,3−Dichloropropene=DCPEc13
Trichloroethene=TCE
Dibromochloromethane=DBCME
1,1,2−Trichloroethane=TCA112
Benzene=BZ
trans−1,3−Dichloropropene=DCP13t
Bromoform=TBME
4−Methyl−2−pentanone=4ME2PENT
2−Hexanone=HXO2
Tetrachloroethene=PCE
1,1,2,2−Tetrachloroethane=PCA
Tolene=BZME
Chlorobenzene=CLBZ
Ethylbenzene=EBZ
Styrene=STY
Total Xylenes=XYLENES

Initial Calibration Results—Calibration of each GC/MS used to analyze the samples collected during the Springfield ANGB SI was established and validated by injecting EPA-traceable standards at five concentrations, spanning the expected sample concentration range. Initial calibration was conducted after the GC/MS tune criteria were met and before any samples were analyzed to determine the linearity and dynamic range of the response of the GC/MS system to the target compounds. Following the initial calibration, the average relative response factors (RRFs) and percent relative standard deviation (%RSD) for all VOCs were evaluated to verify the validity of the initial calibration. Initial calibration criteria requirements across all five points (i.e., greater than 0.050 and less than 30 percent for RRFs and %RSDs, respectively) are presented in the *Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses*. Based on an evaluation of all initial calibration verification (ICV) results, all RRF and %RSD values were met, except for 2-hexanone (i.e., %RSD = 30.4) in the ICV conducted on August 18, 1992. No 2-hexanone was detected in the associated water and soil samples; therefore, the impact of this ICV result is minimal, and as a result, no data validation qualifiers were applied.

Continuing Calibration Results—A check of the calibration curve was conducted once every 12 hours. The continuing calibration of the GC/MS system is evaluated based on the magnitude of the RRFs and percent difference (%D) between the average RRF of each compound in the initial calibration and the RRF of that compound in the continuing calibration standard. Continuing calibration criteria requirements (i.e., greater than 0.050 and less than ±25 percent for RRFs and %Ds, respectively) are presented in the *Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses*. Based on an evaluation of the continuing calibration conducted for VOC analyses, all criteria were met, except for chloromethane in the continuing calibration verifications (CCVs) conducted on May 14 and 15, August 21, 24, and 31, September 3, and October 7, 1992; trans-1,3-dichloropropene in the CCVs conducted on May 14 and 15, 1992; carbon tetrachloride in the CCV conducted on August 24, 1992; 2-hexanone in the CCVs conducted on August 21 and 24, 1992; acetone in the CCV conducted on August 24, 1992; chloroethane in the CCVs conducted on September 3, 1992 and May 26, 1993; and bromoform and 2-butanone in the CCV conducted on September 3, 1992. The chloromethane undetected results in SD5-3R and SD5-4RE were qualified

(i.e., "UJ[CCV]" in the comprehensive data presentation tables) to indicate the exceeded %D for the CCV (i.e., greater than 50 percent). No other data validation qualifiers have been applied, since no VOCs were detected in the associated samples and differences are less than 50 percent.

Internal Standard Summaries—Three internal standards (ISs) (i.e., bromochloromethane, 1,4-difluorobenzene, and chlorobenzene-d_5) were added in all calibration standards, environmental samples, and QC blanks immediately before analysis as indicators of instrumental operating variations. The concentration of VOCs detected in each sample was calculated with reference to the response factor (RF) of the appropriate IS for that compound. IS area requirements are described in the March 1990 EPA CLP SOW. Based on an evaluation of all analyses, all IS areas were within acceptable ranges in all analyses, except for chlorobenzene-d_5 in SD5-4, SB4-1-2, SB2-1-14, SB5-1-7, SD2-1, SB2-6-1R, and SB2-6-1R RE, and bromochloromethane in SB2-3-4 and SB2-3-4DL. As a result, the VOCs based on the RF of those ISs were qualified (i.e., all undetected values will be presented as "UJ[IS]" and all detected values will be presented "J[IS]") to indicate that the internal standard areas were outside the appropriate limits.

System Monitoring Compound Recoveries (Surrogate Recoveries)—Three compounds (i.e., toluene-d_8, p-BFB, and 1,2-dichloroethane-d_4) were added to each calibration standard, environmental sample, and laboratory and field QC sample immediately before analysis and reanalysis, if necessary, to evaluate the performance of the entire purge and trap-gas GC/MS system. The control limits for system monitoring compound recoveries in soil and water samples are described in the March 1990 EPA CLP SOW and the footnotes to Tables G-9a through G-9f. All system monitoring compound recoveries were within the control limits, except 1,2-dichloroethane-d_4 in SB2-1-4 (62 percent), SB2-1-4RE (65 percent), MWBG-2-3 (59 percent), SB2-2-2 (124 percent), MW3-1-2 (116 percent), and MW4-1-2 (116 percent). The analytical results for these samples were qualified to indicate that the system monitoring compound recoveries were outside the required limits (i.e., all undetected values will be presented as "UJ[SR]" and all detected values will be presented as "J[SR]"). Tables G-10 and

Table G – 10. VOC Surrogate Recovery QC Summary: Soil, Surface Soil, and Sediment
178th Tactical Fighter Group, Springfield ANGB, Springfield Ohio

PARAMETER	TOTAL NUMBER ANALYSES*	PERCENT RECOVERY RANGES	PERCENT RECOVERY CONTROL LIMITS	NUMBER WITHIN CONTROL LIMITS	NUMBER OUTSIDE CONTROL LIMITS
Toluene – d8	121	(90 – 117)	(84 – 138)	121	0
Bromofluorobenzene	121	(68 – 110)	(59 – 113)	121	0
1,2 – Dichloroethane – d4	121	(59 – 124)	(70 – 121)	116	5

* *Soil/Sediment Samples (including reanalyses and dilutions), Matrix Spike, Matrix Spike Duplicate, and Method Blanks*

Table G – 11. VOC Surrogate Recovery QC Summary: Groundwater
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

PARAMETER	TOTAL NUMBER ANALYSES*	PERCENT RECOVERY RANGES	PERCENT RECOVERY CONTROL LIMITS	NUMBER WITHIN CONTROL LIMITS	NUMBER OUTSIDE CONTROL LIMITS
Toluene–d8	72	(96–108)	(88–110)	72	0
Bromofluorobenzene	72	(72–103)	(86–115)	72	0
1,2–Dichloroethane–d4	72	(80–116)	(76–114)	70	2

** Groundwater Samples (including dilutions), Matrix Spike, Matrix Spike Duplicate, Method Blanks, Trip Blanks, Field Blanks, and Equipment Blanks.*

G-11 summarize the system monitoring compound recovery results for soil and water samples, respectively.

Method Blanks—One method blank analysis was conducted once every 12-hour time period on each GC/MS system used to analyze the samples collected during the Springfield ANGB SI. Each method blank was evaluated for interferents that prevent accurate quantitation of a target compound. According to CLP method blank criteria, a laboratory blank may not contain methylene chloride, 2-butanone, toluene, or acetone in concentrations five times greater than the contract required quantitation limit (CRQL) or any other target compound in concentrations greater than the CRQL. Based on an evaluation of all method blanks analyzed for VOCs using the March 1990 EPA CLP SOW, 2-butanone was detected in method blank VBLKS4M1 associated with soil samples. 2-Butanone was detected at concentrations of 600 parts per billion (ppb) equivalents (i.e., μg/kg for soil). The concentration of 2-butanone detected in SB2-2-1 was qualified (i.e., "U[MB]") in the comprehensive data presentation tables in Appendix F to indicate that the 2-butanone did not exceed 10 times that detected in the method blank. Therefore, 2-butanone will not be considered an undetected compound for risk assessment purposes.

Matrix Spike/Matrix Spike Duplicate Results—MS/MSD analyses were conducted to assess the accuracy and precision of the laboratory and to evaluate the matrix effect of the sample upon the analytical methodology based upon the percent recovery of each compound. Accuracy was expressed as the percent recovery of the spike compounds. Precision was expressed as the RPD of the concentrations of the spike compounds in the MS/MSD samples. The control limits for percent recoveries in soil and water samples were described in the March 1990 EPA CLP SOW. No action was taken based on percent recovery or RPD values; however, MS/MSDs were evaluated to verify that 1 MS/MSD analysis was conducted for each 20 environmental samples received by the laboratory (excluding dilutions and reanalyses conducted), that these analyses were conducted on environmental samples only, and that the recovery and difference results did not indicate systematic laboratory control problems. Tables G-12 and G-13 summarize the MS/MSD results for soil and sediment and groundwater samples, respectively.

Table G–12. VOC MS/MSD QC Summary: Soil, Surface Soil, and Sediment
178th Tactical Fighter Group, Springfield ANGB, Springfield Ohio

	ACCURACY					PRECISION				
PARAMETER	MS/MSD TOTAL No. ANALYSES	PERCENT RECOVERY RANGES	%R CONTROL LIMITS	NUMBER WITHIN CONTROL LIMITS	NUMBER OUTSIDE CONTROL LIMITS	MSD TOTAL No. ANALYSES	RPD RANGE	RPD LIMIT	NUMBER WITHIN CONTROL LIMITS	NUMBER OUTSIDE CONTROL LIMITS
1,1–Dichloroethane	14	(65–116)	(59–172)	14	0	7	(0–10)	22	7	0
Trichloroethane	14	(92–105)	(62–137)	14	0	7	(1–8)	24	7	0
Benzene	14	(87–108)	(66–142)	14	0	7	(1–4)	21	7	0
Toluene	14	(88–109)	(59–139)	14	0	7	(0–7)	21	7	0
Chlorobenzene	14	(101–109)	(60–133)	14	0	7	(0–4)	21	7	0

Matrix Spike and Matrix Spike Duplicate Analyses Performed on Samples: SB4–5–1R, SB1–1–1, MWBG–2–1, SB1–3–1, SB2–2–2, MW3–1–1R, and SB2–4–1..

Table G–13. VOC MS/MSD QC Summary: Groundwater
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

	ACCURACY					PRECISION				
PARAMETER	MS/MSD TOTAL No. ANALYSES	PERCENT RECOVERY RANGES	%R CONTROL LIMITS	NUMBER WITHIN CONTROL LIMITS	NUMBER OUTSIDE CONTROL LIMITS	MSD TOTAL No. ANALYSES	RPD RANGE	RPD LIMIT	NUMBER WITHIN CONTROL LIMITS	NUMBER OUTSIDE CONTROL LIMITS
1,1–Dichloroethane	4	(84–92)	(61–145)	4	0	2	(0–9)	14	2	0
Trichloroethane	4	(91–101)	(71–120)	4	0	2	(0–2)	14	2	0
Benzene	4	(98–101)	(76–127)	4	0	2	(0–1)	11	2	0
Toluene	4	(93–100)	(76–125)	4	0	2	2	13	2	0
Chlorobenzene	4	(96–103)	(75–130)	4	0	2	(0–2)	13	2	0

Matrix Spike and Matrix Spike Duplicate analyses Performed on Sample: MW3–1–1 and MW1–1–2

Seven MS/MSD analyses were conducted using soil samples (i.e., SB4-5-1R, SB1-1-1, MWBG-2-1, SB1-3-1, SB2-2-2, MW3-1-1R, and SB2-4-1) collected during the Springfield ANGB SI. All MS/MSD recovery and all RPD values were within control limits. Two MS/MSD analyses was conducted using groundwater samples (i.e., MW3-1-1 and MW1-1-2) collected during the Springfield ANGB SI. All percent recovery and RPD values were within the control limits.

Significant Qualified Sample Results—Data validation qualifiers applied to data, due to continuing calibration verification, internal standard, system monitoring compounds, and method blank results, are presented in the data summary tables in Section 3 of the SI report text and in the comprehensive data presentation tables in Appendix F.

G.3.1.2 Semivolatile Organic Compound Analysis (EPA Methods 3550/8270, 3510/8270, and the March 1990 EPA CLP SOW)

Fifty-five soil samples, 16 sediment samples, 17 groundwater samples, and 21 field QC blanks (i.e., field and equipment blanks only) were collected and analyzed by the Weyerhaeuser Laboratory using EPA Methods 3550/8270, 3510/8270, and the March 1990 EPA CLP SOW. Data quality was evaluated using the guidelines and control limits specified for holding times, tuning and mass calibration, initial and continuing calibration verification, method blank, system monitoring compound, internal standard area, and MS/MSD results. The significant qualified sample results are presented following the laboratory QC results discussion. The SVOC data validation worksheets are presented in Tables G-14a through G-14g.

Holding Times—Holding times were defined as the maximum amount of time allowed to elapse between the date and time of sample collection and the date and time the sample was extracted. Holding times were further defined as the maximum amount of time allowed to elapse between the date and time of extraction and sample analysis. The Weyerhaeuser Laboratory was required to meet extraction holding times of 7 days for water samples and 14 days for soil samples collected for SVOC analysis. All analyses were required within 40 days after extraction. Based on an evaluation of all environmental samples and field QC blanks analyzed for SVOCs using the March 1990 EPA CLP SOW, all holding time criteria were met,

Table G–14a. Semivolatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Date Collected	Date Extracted	Date Analyzed	Semivolatile Surrogate Recovery	Semivolatile MS/MSD Analyses	Semivolatile Blank Analyses	Semivolatile Tuning/Mass Calibration	Semivolatile Internal Standards
SOILS									
SBLKS1	SBLKS1	NA	05/28/92	05/30/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES	(SEE ANALYSES FOR B2–1–2)	CONTAMINANT DETECTED, BIS2EHP=43J µg/kg, TIC TOTAL=3000(1)	INST# FINN: ALL DFTPP TUNING AND MASS CALIBRATION CRITERIA WITHIN CONTROL LIMITS 3 TUNES APPLY: (05/29/92; 06/01,02/92)	DCB, NPT, ANT, PHN, CRY, AND PRY: ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
SD5–1	89650	05/06/92	05/28/92	05/30/92					
SD5–1DL	89650DL	05/06/92	05/28/92	06/03/92					
SD5–3	89652	05/06/92	05/28/92	05/30/92					
SD5–3R	89658	05/06/92	05/28/92	05/30/92					
SD5–4	89653	05/06/92	05/28/92	05/30/92					
SD5–4DL	89653DL	05/06/92	05/28/92	06/03/92					
SD5–5	89654	05/06/92	05/28/92	05/29/92					
WATERS									
SBLKW1	SBLKW1	NA	05/21/92	05/30/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR WATER SAMPLES	FIELD QC ONLY; NO MS/MSD REQUIRED	CONTAMINANT DETECTED, BIS2EHP=3J µg/l, TIC TOTAL=41(11)	INST# FINN: ALL DFTPP TUNING AND MASS CALIBRATION CRITERIA WITHIN CONTROL LIMITS 2 TUNES APPLY: (05/29/92; 06/01/92)	DCB, NPT, ANT, PHN, CRY, AND PRY: ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
SD5–ER	89655	05/06/92	05/21/92	06/01/92					
SD5–FB	89656	05/06/92	05/21/92	06/01/92					
SOILS									
SBLKS2	SBLKS2	NA	06/01/92	06/02/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES	(SEE ANALYSES FOR B2–1–2)	CONTAMINANT DETECTED, BIS2EHP=47J µg/kg, TIC TOTAL=6059(2)	INST# FINN: ALL DFTPP TUNING AND MASS CALIBRATION CRITERIA WITHIN CONTROL LIMITS 1 TUNE APPLIES: (06/02/92)	DCB, NPT, ANT, PHN, CRY, AND PRY: ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
SD5–2	89651	05/06/92	06/01/92	06/03/92					

Table G–14a. Semivolatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Initial Calibration	Continuing Calibration	Field Blank Analysis	Equipment Blank Analysis
SOILS					
SBLKS1	SBLKS1	05/28/92 (INST# FINN)	05/29/92 (INST# FINN)	NA	NA
SD5–1	89650	DAILY TUNE IN CONTROL: ALL RRF > 0.05 %RSD < 30%; EXCEPT DBZD33=35.5% 06/01/92 (INST# FINN2) DAILY TUNE IN CONTROL: ALL RRF > 0.05 %RSD < 30%; EXCEPT DBZD33=35.1%	DAILY TUNE IN CONTROL: ALL RRF50 > 0.05 %D < 25%; EXCEPT DNOP=31.4%, o1CLP22=34.2%, DNT26=28.2%, 4NO2AN=34.8%, DN46M=30.4%, DBZD33=38% 06/01/92 (INST# FINN) DAILY TUNE IN CONTROL: ALL RRF50 > 0.05 %D < 25%; EXCEPT HCCP=27.7%, DNP24=56.7%, DN46M=39.1%, PCP=29.8% 06/02/92 (INST# FINN) DAILY TUNE IN CONTROL: ALL RRF50 > 0.05 %D < 25%; EXCEPT DNP24=33.6%, DN46M=32.6%, DBZD33=56.6%	SD5–FB	SD5–ER
SD5–1DL	89650DL			SD5–FB	SD5–ER
SD5–3	89652			SD5–FB	SD5–ER
SD5–3R	89658			SD5–FB	SD5–ER
SD5–4	89653			SD5–FB	SD5–ER
SD5–4DL	89653DL			SD5–FB	SD5–ER
SD5–5	89654			SD5–FB	SD5–ER
WATERS					
SBLKW1	SBLKW1			NA	NA
SD5–ER	89655			NA	NA
SD5–FB	89656			NA	NA
SOILS					
SBLKS2	SBLKS2			NA	NA
SD5–2	89651			SD5–FB	SD5–ER

Table G–14a. Semivolatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Significant Sample Results	Tentatively Identified Compounds	Data Validation Qualifiers
SOILS				
SBLKS1	SBLKS1	BIS2EHP=43J µg/kg	3000 (1)	
SD5–1	89650	NAPH=450/MTNPH2=2800/ACNP=440/ DBZFUR=220J/FL=450/PHAN=5100E/ ANTH=1200/CAR=950/FLA=7300E/PYR=12000E/ BZAA=9400E/CHRY=10000E/BIS2EHP=1000B/ BZBF=23000E/BZKF=2800/BZAP=8300E/ INP123=11000E/DBAHA=4100E/ BZGHIP=6200E µg/kg	24940 (21)	NAPH=450J(EHT)/MTNPH2=2800J(EHT)/ACNP=440J(EHT)/DBZFUR=220J(EHT)/ FL=450J(EHT)/PHAN=5100J(EHT)/ANTH=1200J(EHT)/CAR=950J(EHT)/ FLA=7300J(EHT)/PYR=12000J(EHT)/BZAA=9400J(EHT)/CHRY=10000J(EHT)/ BIS2EHP=1000J(EHT)/BZBF=23000J(EHT)/BZKF=2800J(EHT)/BZAP=8300J(EHT)/ INP123=11000J(EHT)/DBAHA=4100J(EHT)/BZGHIP=6200J(EHT)/ All other compounds=UJ(EHT)
SD5–1DL	89650DL	MTNPH2=3200DJ/PHAN=8200D/ANTH=1400DJ/ CAR=1200DJ/FLA=24000D/PYR=30000D/ BZAA=16000D/CHRY=16000D/ BIS2EHP=1700BDJ/BZBF=28000D/BZKF=10000D/ BZAP=17000D/INP123=18000D/DBAHA=4500DJ/ BZGHIP=13000D µg/kg	82900 (21)	MTNPH2=3200J(EHT)/PHAN=8200J(EHT)/ANTH=1400J(EHT)/CAR=1200J(EHT)/ FLA=24000J(EHT)/PYR=30000J(EHT)/BZAA=16000J(EHT)/CHRY=16000J(EHT)/ BIS2EHP=6000UJ(MB,EHT)/BZBF=28000J(EHT)/BZKF=10000J(EHT)/ BZAP=17000J(EHT)/INP123=18000J(EHT)/DBAHA=4500J(EHT)/ BZGHIP=13000J(EHT)/DBZD33=UJ(EHT,CCV)/All other compounds=UJ(EHT)
SD5–3	89652	ACNP=87J/DBZFUR=63J/FL=130J/PHAN=1800/ ANTH=210J/CAR=120J/FLA=2400/PYR=2500/ BZAA=720/CHRY=1100/BIS2EHP=890B/ DNOP=84J/BZBF=1500/BZKF=690/BZAP=930/ INP123=910/DBAHA=140J/BZGHIP=850 µg/kg	43890 (21)	ACNP=87J(EHT)/DBZFUR=63J(EHT)/FL=130J(EHT)/PHAN=1800J(EHT,FD)/ ANTH=210J(EHT)/CAR=120J(EHT)/FLA=2400J(EHT,FD)/PYR=2500J(EHT,FD)/ BZAA=720J(EHT)/CHRY=1100J(EHT,FD)/BIS2EHP=890J(EHT)/DNOP=84J(EHT)/ BZBF=1500J(EHT,FD)/BZKF=690J(EHT)/BZAP=930J(EHT)/INP123=910J(EHT,FD)/ DBAHA=140J(EHT)/BZGHIP=850J(EHT,FD)/All other compounds=UJ(EHT)
SD5–3R	89658	PHAN=570/ANTH=60J/FLA=970/PYR=1200/ BZAA=330J/CHRY=540/BIS2EHP=500B/ BZBF=730/BZKF=270J/BZAP=470/INP123=510/ BZGHIP=490 µg/kg	15833 (21)	PHAN=570J(EHT,FD)/ANTH=60J(EHT)/FLA=970J(EHT,FD)/PYR=1200J(EHT,FD)/ BZAA=330J(EHT)/CHRY=540J(EHT,FD)/BIS2EHP=500J(EHT)/ BZBF=730J(EHT,FD)/BZKF=270J(EHT)/BZAP=470J(EHT,FD)/INP123=510J(EHT,FD)/ BZGHIP=490J(EHT,FD)/All other compounds=UJ(EHT)
SD5–4	89653	ACNP=190J/DBZFUR=100J/FL=250J/PHAN=3500/ ANTH=600/CAR=240J/FLA=4500/PYR=6900E/ BZAA=2400/CHRY=3800/BIS2EHP=460BJ/ BZBF=6100E/BZKF=2400/BZAP=3600/ INP123=4500/DBAHA=900/BZGHIP=3900 µg/kg	13710 (21)	ACNP=190J(EHT)/DBZFUR=100J(EHT)/FL=250J(EHT)/PHAN=3500J(EHT)/ ANTH=600J(EHT)/CAR=240J(EHT)/FLA=4500J(EHT)/PYR=6900J(EHT)/ BZAA=2400J(EHT)/CHRY=3800J(EHT)/BIS2EHP=460J(EHT)/BZBF=6100J(EHT)/ BZKF=2400J(EHT)/BZAP=3600J(EHT)/INP123=4500J(EHT)/DBAHA=900J(EHT)/ BZGHIP=3900J(EHT)/All other compounds=UJ(EHT)
SD5–4DL	89653DL	PHAN=5200DJ/ANTH=730DJ/FLA=11000D/ PYR=13000D/BZAA=3800DJ/CHRY=5100DJ/ BIS2EHP=800BDJ/BZBF=7500D/BZKF=2100DJ/ BZAP=4700DJ/INP123=5900D/ BZGHIP=6500D µg/kg	56500 (19)	PHAN=5200J(EHT)/ANTH=730J(EHT)/FLA=11000J(EHT)/PYR=13000J(EHT)/ BZAA=3800J(EHT)/CHRY=5100J(EHT)/BIS2EHP=5700UJ(MB,EHT)/ BZBF=7500J(EHT)/BZKF=2100J(EHT)/BZAP=4700J(EHT)/INP123=5900J(EHT)/ BZGHIP=6500J(EHT)/DBZD33=UJ(EHT,CCV)/All other compounds=UJ(EHT)
SD5–5	89654	FLA=60J/PYR=53J/CHRY=39J/BIS2EHP=73BJ/ BZBF=69J/BZAP=42J µg/kg	4806 (10)	FLA=60J(EHT)/PYR=53J(EHT)/CHRY=39J(EHT)/BIS2EHP=360UJ(MB,EHT)/ BZBF=69J(EHT)/BZAP=42J(EHT)/All other compounds=UJ(EHT)
WATERS				
SBLKW1	SBLKW1	BIS2EHP=3J µg/l	41 (11)	
SD5–ER	89655	None Detected	16 (2)	DNP24=UJ(EHT,CCV)/All other compounds=UJ(EHT)
SD5–FB	89656	BIS2EHP=9BJ/DNOP=2J µg/l	29 (8)	BIS2EHP=10UJ(MB,EHT)/DNOP=2J(EHT)/DNP24=UJ(EHT,CCV)/ All other compounds=UJ(EHT)
SOILS				
SBLKS2	SBLKS2	BIS2EHP=47J µg/kg	6059 (2)	
SD5–2	89651	PHAN=790/ANTH=110J/CAR=59J/FLA=1600/ PYR=1800/BZAA=540/CHRY=720/ BIS2EHP=330BJ/BZBF=1000/BZKF=410/ BZAP=660/INP123=830/BZGHIP=870 µg/kg	33990 (21)	PHAN=790J(EHT)/ANTH=110J(EHT)/CAR=59J(EHT)/FLA=1600J(EHT)/ PYR=1800J(EHT)/BZAA=540J(EHT)/CHRY=720J(EHT)/BIS2EHP=400UJ(MB,EHT)/ BZBF=1000J(EHT)/BZKF=410J(EHT)/BZAP=660J(EHT)/INP123=830J(EHT)/ BZGHIP=870J(EHT)/DBZD33=UJ(EHT,CCV)/All other compounds=UJ(EHT)

Table G–14b. Semivolatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Date Collected	Date Extracted	Date Analyzed	Semivolatile Surrogate Recovery	Semivolatile MS/MSD Analyses	Semivolatile Blank Analyses	Semivolatile Tuning/Mass Calibration	Internal Standards
WATERS									
SBLKW1	SBLKW1	NA	08/20/92	09/02/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR WATER SAMPLES	FIELD QC ONLY; NO MS/MSD REQUIRED	NO CONTAMINANT DETECTED, TIC TOTAL=0	INST# FINN: ALL DFTPP TUNING AND MASS CALIBRATION CRITERIA WITHIN CONTROL LIMITS. 2 TUNES APPLY: (09/02,04/92)	DCB, NPT, ANT, PHN, CRY, AND PRY: ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
EB2-1	94677	08/16/92	08/20/92	09/04/92					
EB5-1	94808	08/18/92	08/20/92	09/04/92					
FB2-1	94678	08/16/92	08/20/92	09/04/92					
FB5-1	94809	08/18/92	08/20/92	09/04/92					
SOILS									
SBLKS3	SBLKS3	NA	08/21/92	09/04/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES	[SB2-1-1] ALL RECOVERY AND DIFFERENCE VALUES WITHIN LIMITS	NO CONTAMINANT DETECTED, TIC TOTAL=3993(2)	INST# FINN: ALL DFTPP TUNING AND MASS CALIBRATION CRITERIA WITHIN CONTROL LIMITS. 2 TUNES APPLY: (09/04, 10/92)	DCB, NPT, ANT, PHN, CRY, AND PRY: ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
SB2-1-1	94799	08/15/92	08/21/92	09/04/92					
SB2-1-4	94800	08/15/92	08/21/92	09/04/92					
SB5-2-1	94801	08/18/92	08/21/92	09/05/92					
SB5-2-2	94802	08/18/92	08/21/92	09/10/92					
SB5-3-1	94803	08/18/92	08/21/92	09/10/92					
SB5-3-2	94804	08/18/92	08/21/92	09/10/92					
SB5-4-1	94805	08/18/92	08/21/92	09/10/92					
SB5-4-2	94807	08/18/92	08/21/92	09/10/92					
SB2-1-1 MS	94799 MS	08/15/92	08/21/92	09/05/92					
SB2-1-1 MSD	94799 MSD	08/15/92	08/21/92	09/05/92					
SOILS									
SBLKSX	SBLKSX	NA	09/13/92	09/15/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES	(SEE ANALYSES FOR [SB2-1-1])	NO CONTAMINANT DETECTED, TIC TOTAL=6300(1)	INST# FINN: ALL DFTPP TUNING AND MASS CALIBRATION CRITERIA WITHIN CONTROL LIMITS. 1 TUNE APPLIES: (09/14/92)	DCB, NPT, ANT, PHN, CRY, AND PRY: ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
SB5-4-1R	94806	08/18/92	09/13/92	09/14/92					
SOILS									
SBLKT1	SBLKT1	NA	08/18/92	08/20/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES, EXCEPT: [SB1-1-6 MS] 2FP=23% (25%).	[SB1-1-6] ALL RECOVERY AND DIFFERENCE VALUES WITHIN LIMITS EXCEPT RECOVERIES AND RPD= PHENOL=43% RPD(35%); DCBZ14=27% MS(28%), 54% RPD(27%); NNSPR=27% MS(41%), 48% RPD(38%); TCB124=28% MS(38%), 49% RPD(23%), AND PYR=149% MS(142%).	NO CONTAMINANT DETECTED, TIC TOTAL=20000(1)	INST#s FINN & FIN2: ALL DFTPP TUNING AND MASS CALIBRATION CRITERIA WITHIN CONTROL LIMITS. 3 TUNES APPLY: (08/20/92; 09/03, 10/92)	DCB, NPT, ANT, PHN, CRY, AND PRY: ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
MWBG1-1	94527	08/12/92	08/18/92	09/04/92					
MWBG1-2	94526	08/12/92	08/18/92	09/04/92					
SB1-1-6	94532	08/13/92	08/18/92	09/04/92					
SB1-2-1	94525	08/13/92	08/18/92	09/03/92					
SB1-1-6 MS	94532 MS	08/13/92	08/18/92	09/10/92					
SB1-1-6 MSD	94532 MSD	08/13/92	08/18/92	09/10/92					
SOILS									
SBLKSX	SBLKSX	NA	09/05/92	09/14/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES	(SEE ANALYSES FOR [SB1-1-6])	NO CONTAMINANT DETECTED, TIC TOTAL=2200(1)	INST# FINN: ALL DFTPP TUNING AND MASS CALIBRATION CRITERIA WITHIN CONTROL LIMITS. 2 TUNES APPLY: (09/10, 14/92)	DCB, NPT, ANT, PHN, CRY, AND PRY: ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
SB1-1-1	94524	08/13/92	09/05/92	09/10/92					
SB1-2-8	94523	08/13/92	09/05/92	09/10/92					

Table G–14b. Semivolatile Organic Compound Data Validation Worksheets 178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Initial Calibration	Continuing Calibration	Field Blank Analysis	Equipment Blank Analysis
WATERS					
SBLKW1	SBLKW1	05/28/92 (INST# FINN)	09/02/92 (INST# FINN)	NA	NA
EB2–1	94677	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	NA	NA
EB5–1	94808	ALL RRF > 0.05	ALL RRF50 > 0.05	NA	NA
FB2–1	94678	%RSD < 30%; EXCEPT	%D < 25%; EXCEPT	NA	NA
FB5–1	94809	DBZD33=35.5%	TCP245=39.9%, DNT26=26.8%	NA	NA
			09/04/92 (INST# FINN)		
			DAILY TUNE IN CONTROL:		
			ALL RRF50 > 0.05		
SOILS			%D < 25%; EXCEPT		
SBLKS3	SBLKS3		TCP245=39.9%, DNT26=26.8%,	NA	NA
SB2–1–1	94799		DNOP=30.4%	FB2–1, SD5–FB	EB2–1
SB2–1–4	94800			FB2–1, SD5–FB	EB2–1
SB5–2–1	94801			FB5–1, SD5–FB	EB5–1
SB5–2–2	94802		09/10/92 (INST# FINN)	FB5–1, SD5–FB	EB5–1
SB5–3–1	94803		DAILY TUNE IN CONTROL:	FB5–1, SD5–FB	EB5–1
SB5–3–2	94804		ALL RRF50 > 0.05	FB5–1, SD5–FB	EB5–1
SB5–4–1	94805		%D < 25%; EXCEPT	FB5–1, SD5–FB	EB5–1
SB5–4–2	94807		TCP245=39.5%, DNP24=37.5%,	FB5–1, SD5–FB	EB5–1
SB2–1–1 MS	94799 MS		DBZD33=35.8%, DMPH=26.1%	FB2–1, SD5–FB	EB2–1
SB2–1–1 MSD	94799 MSD			FB2–1, SD5–FB	EB2–1
SOILS					
SBLKSX	SBLKSX		09/14/92 (INST# FINN)	NA	NA
SB5–4–1R	94806		DAILY TUNE IN CONTROL:	FB5–1, SD5–FB	EB5–1
			ALL RRF50 > 0.05		
			%D < 25%; EXCEPT		
			TCP245=28.1%, DNP24=53.8%,		
			PCP=39.6%, DBZD33=52.6%,		
			DMPH=28.6%		
SOILS					
SBLKT1	SBLKT1	05/28/92 (INST# FINN)	08/20/92 (INST# FINN2)	NA	NA
MWBG1–1	94527	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	FB1–1, SD5–FB	ER1–1
MWBG1–2	94526	ALL RRF > 0.05	ALL RRF50 > 0.05	FB1–1, SD5–FB	ER1–1
SB1–1–6	94532	%RSD < 30%; EXCEPT	%D < 25%; EXCEPT	FB1–1, SD5–FB	ER1–1
SB1–2–1	94525	DBZD33=35.5%	DNP24=28.3%, NTPH4=49.1%	FB1–1, SD5–FB	ER1–1
SB1–1–6 MS	94532 MS	08/04/92 (INST# FINN2)	09/03/92 (INST# FINN)	FB1–1, SD5–FB	ER1–1
SB1–1–6 MSD	94532 MSD	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	FB1–1, SD5–FB	ER1–1
		ALL RRF > 0.05	ALL RRF50 > 0.05		
		%RSD < 30%	%D < 25%; EXCEPT		
SOILS			TCP245=37%, PCP=26.1%		
SBLKSX	SBLKSX		09/10/92 (INST# FINN)	NA	NA
SB1–1–1	94524		DAILY TUNE IN CONTROL:	FB1–1, SD5–FB	ER1–1
SB1–2–8	94523		ALL RRF50 > 0.05	FB1–1, SD5–FB	ER1–1
			%D < 25%		
			09/14/92 (INST# FINN)		
			DAILY TUNE IN CONTROL:		
			ALL RRF50 > 0.05		
			%D < 25%; EXCEPT		
			TCP245=39.5%, DMPH=26.1%,		
			DNP24=37.5%, DBZD33=35.8%		

Table G-14b. Semivolatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Significant Sample Results	Tentatively Identified Compounds	Data Validation Qualifiers
WATERS				
SBLKW1	SBLKW1	None Detected	0 (0)	
EB2-1	94677	None Detected	0 (0)	TCP245=28UJ(CCV)/DNT26=11UJ(CCV)/DNOP=11UJ(CCV)
EB5-1	94808	None Detected	0 (0)	TCP245=29UJ(CCV)/DNT26=12UJ(CCV)/DNOP=12UJ(CCV)
FB2-1	94678	None Detected	0 (0)	TCP245=27UJ(CCV)/DNT26=11UJ(CCV)/DNOP=11UJ(CCV)
FB5-1	94809	None Detected	0 (0)	TCP245=27UJ(CCV)/DNT26=11UJ(CCV)/DNOP=11UJ(CCV)
SOILS				
SBLKS3	SBLKS3	None Detected	3993 (2)	
SB2-1-1	94799	FLA=47J/PYR=51J/BIS2EHP=93J µg/kg	14059 (21)	TCP245=820UJ(CCV)/DNT26=340UJ(CCV)/DNOP=340UJ(CCV)
SB2-1-4	94800	PYR=34J/BIS2EHP=41J µg/kg	5676 (12)	TCP245=800UJ(CCV)/DNT26=330UJ(CCV)/DNOP=330UJ(CCV)
SB5-2-1	94801	BIS2EHP=59J µg/kg	3779 (3)	TCP245=820UJ(CCV)/DNT26=340UJ(CCV)/DNOP=340UJ(CCV)
SB5-2-2	94802	None Detected	8170 (21)	TCP245=830UJ(CCV)/DNP24=340UJ(CCV)/DBZD33=340UJ(CCV)/DMPH=340UJ(CCV)
SB5-3-1	94803	None Detected	7052 (13)	TCP245=850UJ(CCV)/DNP24=350UJ(CCV)/DBZD33=350UJ(CCV)/DMPH=350UJ(CCV)
SB5-3-2	94804	None Detected	9540 (21)	TCP245=830UJ(CCV)/DNP24=340UJ(CCV)/DBZD33=340UJ(CCV)/DMPH=340UJ(CCV)
SB5-4-1	94805	BIS2EHP=35J µg/kg	5417 (7)	TCP245=830UJ(CCV)/DNP24=340UJ(CCV)/DBZD33=340UJ(CCV)/DMPH=340UJ(CCV)
SB5-4-2	94807	None Detected	5867 (21)	TCP245=850UJ(CCV)/DNP24=350UJ(CCV)/DBZD33=350UJ(CCV)/DMPH=350UJ(CCV)
SB2-1-1 MS	94799 MS	Not Applicable	Data Not Provided	Not Applicable
SB2-1-1 MSD	94799 MSD	Not Applicable	Data Not Provided	Not Applicable
SOILS				
SBLKSX	SBLKSX	None Detected	6300 (1)	
SB5-4-1R	94806	None Detected	8480 (7)	TCP245=890UJ(CCV)/DNP24=370UJ(CCV)/DBZD33=370U(CCV)/DMPH=370UJ(CCV)/ PCP=890UJ(CCV)
SOILS				
SBLKT1	SBLKT1	None Detected	20000 (1)	
MWBG1-1	94527	None Detected	29099 (22)	TCP245=800UJ(CCV)/PCP=800UJ(CCV)
MWBG1-2	94526	BIS2EHP=36J µg/kg	24462 (21)	TCP245=810UJ(CCV)/PCP=810UJ(CCV)
SB1-1-6	94532	None Detected	39990 (21)	TCP245=900UJ(CCV)/PCP=900UJ(CCV)
SB1-2-1	94525	BIS2EHP=34J µg/kg	26245 (20)	TCP245=810UJ(CCV)/PCP=810UJ(CCV)
SB1-1-6 MS	94532 MS	Not Applicable	Data Not Provided	Not Applicable
SB1-1-6 MSD	94532 MSD	Not Applicable	Data Not Provided	Not Applicable
SOILS				
SBLKSX	SBLKSX	None Detected	2200 (1)	
SB1-1-1	94524	MTNPH2=110J/PHAN=45J/BIS2EHP=64J µg/kg	18870 (21)	None Applied
SB1-2-8	94523	MTNPH2=190J/PHAN=93J µg/kg	26700 (21)	None Applied

Table G--14c. Semivolatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Date Collected	Date Extracted	Date Analyzed	Semivolatile Surrogate Recovery	Semivolatile MS/MSD Analyses	Semivolatile Blank Analyses	Semivolatile Tuning/Mass Calibration	Internal Standards
SOILS									
SBLKS1	SBLKS1	NA	09/01/92	09/15/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES, EXCEPT: [MW3-1-8] FBP=26% (30%).	[SB3-2-1] ALL RECOVERY AND DIFFERENCE VALUES WITHIN LIMITS EXCEPT RECOVERY AND RPD: PYR=4% MSD(35%), 173% RPD(36%).	NO CONTAMINANT DETECTED, TIC TOTAL=9700(1)	INST# FINN: ALL DFTPP TUNING AND MASS CALIBRATION CRITERIA WITHIN CONTROL LIMITS. 3 TUNES APPLY: (09/15-17/92)	DCB, NPT, ANT, PHN, CRY, AND PRY: ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
MW3-1-1a	95031	08/21/92	09/01/92	09/17/92					
MW3-1-8	95032	08/21/92	09/01/92	09/16/92					
MWBG-2-1	94912	08/19/92	09/01/92	09/16/92					
MWBG-2-3	94913	08/19/92	09/01/92	09/16/92					
MWBG-2-3R	94914	08/19/92	09/01/92	09/16/92					
SB3-1-1	94911	08/19/92	09/01/92	09/16/92					
SB3-1-8	94972	08/20/92	09/01/92	09/16/92					
SB3-2-1	94973	08/20/92	09/01/92	09/16/92					
SB3-2-1DL	94973DL	08/20/92	09/01/92	09/17/92					
SB3-2-4	94974	08/20/92	09/01/92	09/15/92					
SB3-2-7	94975	08/20/92	09/01/92	09/15/92					
SB3-3-1	94976	08/20/92	09/01/92	09/16/92					
SB3-3-8	94977	08/20/92	09/01/92	09/16/92					
SB3-2-1 MS	94973 MS	08/20/92	09/01/92	09/17/92					
SB3-2-1 MSD	94973 MSD	08/20/92	09/01/92	09/17/92					
WATERS									
SBLKW2	SBLKW2	NA	08/26/92	09/21/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR WATER SAMPLES	FIELD QC ONLY; NO MS/MSD REQUIRED	NO CONTAMINANT DETECTED, TIC TOTAL=0	INST# FINN: ALL DFTPP TUNING AND MASS CALIBRATION CRITERIA WITHIN CONTROL LIMITS. 2 TUNES APPLY: (09/21,25/92)	DCB, NPT, ANT, PHN, CRY, AND PRY: ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
EB3-1	94908	08/19/92	08/26/92	09/25/92					
FB3-1	94909	08/19/92	08/26/92	09/25/92					

Table G-14c. Semivolatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Initial Calibration	Continuing Calibration	Field Blank Analysis	Equipment Blank Analysis
SOILS					
SBLKS1	SBLKS1	05/28/92 (INST# FINN)	09/15/92 (INST# FINN)	NA	NA
MW3-1-1a	95031	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	FB3-1, SD5-FB	EB3-1
		ALL RRF > 0.05	ALL RRF50 > 0.05		
		%RSD < 30%; EXCEPT	%D < 25%; EXCEPT		
MW3-1-8	95032	DBZD33=35.5%	o1CLP22=53.4%, HCBU=26.0%,	FB3-1, SD5-FB	EB3-1
			2NO2AN=29.2%, DNT26=36.8%,		
MWBG-2-1	94912		NTPH4=41.5%, DNBP=30.6%	FB3-1, SD5-FB	EB3-1
			09/16/92 (INST# FINN)		
MWBG-2-3	94913		DAILY TUNE IN CONTROL:	FB3-1, SD5-FB	EB3-1
			ALL RRF50 > 0.05		
MWBG-2-3R	94914		%D < 25%; EXCEPT	FB3-1, SD5-FB	EB3-1
			o1CLP22=55.8%, DNP24=29.8%,		
SB3-1-1	94911		NTPH4=29.7%, DNBP=28.6%,	FB3-1, SD5-FB	EB3-1
			DBZD33=27.9%		
			09/17/92 (INST# FINN)		
SB3-1-8	94972		DAILY TUNE IN CONTROL:	FB3-1, SD5-FB	EB3-1
			ALL RRF50 > 0.05		
SB3-2-1	94973		%D < 25%; EXCEPT	FB3-1, SD5-FB	EB3-1
			o1CLP22=67.1%,		
			2NO2AN=29.8%, NTPH4=51.7%,		
			DEPH=27.9%, DNBP=29.7%		
SB3-2-1DL	94973DL			FB3-1, SD5-FB	EB3-1
SB3-2-4	94974			FB3-1, SD5-FB	EB3-1
SB3-2-7	94975			FB3-1, SD5-FB	EB3-1
SB3-3-1	94976			FB3-1, SD5-FB	EB3-1
SB3-3-8	94977			FB3-1, SD5-FB	EB3-1
SB3-2-1 MS	94973 MS			FB3-1, SD5-FB	EB3-1
SB3-2-1 MSD	94973 MSD			FB3-1, SD5-FB	EB3-1
WATERS					
SBLKW2	SBLKW2		09/21/92 (INST# FINN)	NA	NA
EB3-1	94908		DAILY TUNE IN CONTROL:	NA	NA
			ALL RRF50 > 0.05		
FB3-1	94909		%D < 25%; EXCEPT	NA	NA
			o1CLP22=82.3%, NNSPR=25.7%,		
			2NO2AN=29.8%, DEPH=31.2%,		
			DNBP=28.7%		
			09/25/92 (INST# FINN)		
			DAILY TUNE IN CONTROL:		
			ALL RRF50 > 0.05		
			%D < 25%; EXCEPT		
			o1CLP22=69.8%,		
			2NO2AN=35.4%, DNT26=33%,		
			NTPH4=39%, DNBP=33.7%		

Table G-14c. Semivolatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Significant Sample Results	Tentatively Identified Compounds	Data Validation Qualifiers
SOILS				
SBLKS1	SBLKS1	None Detected	9700 (1)	
MW3-1-1a	95031	PHAN=89J/FLA=230J/PYR=340J/BZAA=120J/ CHRY=150J/BIS2EHP=60J/BZBF=180J/ BZKF=64J/BZAP=120J µg/kg	24260 (21)	o1CLP22=340UJ(CCV)/2NO2AN=830UJ(CCV)/NTPH4=830UJ(CCV)/ DEPH=340UJ(CCV)/DNBP=340UJ(CCV)
MW3-1-8	95032	None Detected	10261 (15)	o1CLP22=340UJ(CCV)/HCBU=340UJ(CCV)/2NO2AN=830UJ(CCV)/ DNT26=340UJ(CCV)/NTPH4=830UJ(CCV)/DNOP=340UJ(CCV)
MWBG-2-1	94912	FLA=82J/PYR=75J/BZBF=47J µg/kg	15800 (7)	o1CLP22=400UJ(CCV)/HCBU=400UJ(CCV)/2NO2AN=960UJ(CCV)/ DNT26=400UJ(CCV)/NTPH4=960UJ(CCV)/DNOP=400UJ(CCV)
MWBG-2-3	94913	None Detected	17600 (21)	o1CLP22=350UJ(CCV)/HCBU=350UJ(CCV)/2NO2AN=850UJ(CCV)/ DNT26=350UJ(CCV)/NTPH4=850UJ(CCV)/DNOP=350UJ(CCV)
MWBG-2-3R	94914	None Detected	13194 (3)	o1CLP22=390UJ(CCV)/HCBU=390UJ(CCV)/2NO2AN=950UJ(CCV)/ DNT26=390UJ(CCV)/NTPH4=950UJ(CCV)/DNOP=390UJ(CCV)
SB3-1-1	94911	PHAN=170J/FLA=480J/PYR=530J/BZAA=220J/ CHRY=270J/BZBF=330J/BZKF=170J/BZAP=230J/ INP123=230J/BZGHIP=210J µg/kg	26110 (14)	o1CLP22=670UJ(CCV)/HCBU=670UJ(CCV)/2NO2AN=1600UJ(CCV)/ DNT26=670UJ(CCV)/NTPH4=1600UJ(CCV)/DNOP=670UJ(CCV)
SB3-1-8	94972	None Detected	20460 (21)	o1CLP22=390UJ(CCV)/HCBU=390UJ(CCV)/2NO2AN=940UJ(CCV)/ DNT26=390UJ(CCV)/NTPH4=940UJ(CCV)/DNOP=390UJ(CCV)
SB3-2-1	94973	ACNP=35J/FL=51J/PHAN=1100/ANTH=130J/ CAR=75J/FLA=3100E/PYR=3400E/BZAA=1000/ CHRY=1200/BZBF=1600/BZKF=570/BZAP=980/ INP123=880/BZGHIP=700 µg/kg	22639 (21)	o1CLP22=330UJ(CCV)/2NO2AN=790UJ(CCV)/NTPH4=790UJ(CCV)/ DEPH=330UJ(CCV)/DNBP=330UJ(CCV)
SB3-2-1DL	94973DL	PHAN=560DJ/FLA=1500D/PYR=1700D/ BZAA=620DJ/CHRY=750DJ/BZBF=920DJ/ BZKF=380DJ/BZAP=630DJ/INP123=550DJ/ BZGHIP=460DJ µg/kg	15320 (5)	o1CLP22=980UJ(CCV)/2NO2AN=2400UJ(CCV)/NTPH4=2400UJ(CCV)/ DEPH=980UJ(CCV)/DNBP=980UJ(CCV)
SB3-2-4	94974	MTNPH2=170J/FL=56J/PHAN=190J/FLA=320J/ PYR=340J/BZAA=110J/CHRY=130J/ BIS2EHP=140J/BZBF=120J/BZKF=37J/BZAP=79J/ INP123=78J/BZGHIP=73J µg/kg	38150 (21)	o1CLP22=360UJ(CCV)/HCBU=360UJ(CCV)/2NO2AN=880UJ(CCV)/ DNT26=360UJ(CCV)/NTPH4=880UJ(CCV)/DNOP=360UJ(CCV)
SB3-2-7	94975	None Detected	18364 (21)	o1CLP22=340UJ(CCV)/HCBU=340UJ(CCV)/2NO2AN=820UJ(CCV)/ DNT26=340UJ(CCV)/NTPH4=820UJ(CCV)/DNOP=340UJ(CCV)
SB3-3-1	94976	FL=45J/PHAN=780/ANTH=130J/CAR=58J/ FLA=2100/PYR=2400/BZAA=800/CHRY=900/ BIS2EHP=70J/BZBF=1100/BZKF=370/BZAP=750/ INP123=720/BZGHIP=550 µg/kg	19511 (21)	o1CLP22=350UJ(CCV)/DNP24=840UJ(CCV)/NTPH4=840UJ(CCV)/ DNBP=350UJ(CCV)/DBZD33=350UJ(CCV)
SB3-3-8	94977	None Detected	14535 (14)	o1CLP22=370UJ(CCV)/HCBU=370UJ(CCV)/2NO2AN=890UJ(CCV)/ DNT26=370UJ(CCV)/NTPH4=890UJ(CCV)/DNOP=370UJ(CCV)
SB3-2-1 MS	94973 MS	Not Applicable	Data Not Provided	Not Applicable
SB3-2-1 MSD	94973 MSD	Not Applicable	Data Not Provided	Not Applicable
WATERS				
SBLKW2	SBLKW2	None Detected	0 (0)	
EB3-1	94908	None Detected	0 (0)	o1CLP22=10UJ(CCV)/2NO2AN=25UJ(CCV)/DNT26=10UJ(CCV)/NTPH4=25UJ(CCV)/ DNBP=10UJ(CCV)
FB3-1	94909	None Detected	0 (0)	o1CLP22=10UJ(CCV)/2NO2AN=25UJ(CCV)/DNT26=10UJ(CCV)/NTPH4=25UJ(CCV)/ DNBP=10UJ(CCV)

Table G–14d. Semivolatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Date Collected	Date Extracted	Date Analyzed	Semivolatile Surrogate Recovery	Semivolatile MS/MSD Analyses	Semivolatile Blank Analyses	Semivolatile Tuning/Mass Calibration	Internal Standards
SOILS									
SBLKT1	SBLKT1	NA	08/25/92	09/02/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES, EXCEPT: SB1-3-11R RE] 2FP= 140% (121%); [SB2-2-1R] PHL=118% (113%), 2FP= 158% (121%); AND [SB2-2-1R RE] 2FP= 155% (121%).	[SB1-3-11] ALL RECOVERY AND DIFFERENCE VALUES WITHIN LIMITS EXCEPT RECOVERIES AND RPDs: CLPH2= 23% MS (25%); DCBZ14=6% MS, 12% MSD(28%), 67% RPD(27%); NNSPR=26% MS, 31% MSD(41%); TCB124= 14% MS, 20% MSD(38%), 35% RPD(23%); AND ACNP=23% RPD(19%).	NO CONTAMINANT DETECTED, TIC TOTAL=9177(6)	INST# FIN2: ALL DFTPP TUNING AND MASS CALIBRATION CRITERIA WITHIN CONTROL LIMITS. 4 TUNES APPLY: (09/02,04,11,12/92)	DCB, NPT, ANT, PHN, CRY, AND PRY: ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY, EXCEPT THE AREAS FOR: [SB1-3-11R] FOR CRY AND PRY; [SB2-2-1R] FOR ANT; [SB2-2-1R RE] FOR ANT; [SB1-3-11R RE] FOR PRY; [SB2-2-2] FOR ANT; [SB2-3-1] FOR ANT; [SB2-2-17] FOR PHN, CRY, AND PRY; [SB2-3-1] FOR PHN; [SB5-1-7] FOR PRY; [SB2-2-2 RE] FOR ANT; [SB2-3-1 RE] FOR ANT AND PHN; [SB2-2-17 RE] FOR PHN, CRY, AND PRY; AND [SB5-1-7 RE] FOR PRY.
SB1-3-11R RE	94598 RE	08/14/92	08/25/92	09/04/92					
SB1-3-3	94604	08/14/92	08/25/92	09/11/92					
SB2-1-14	94673	08/15/92	08/25/92	09/11/92					
SB2-2-1	94666	08/16/92	08/25/92	09/11/92					
SB2-2-17	94669	08/16/92	08/25/92	09/11/92					
SB2-2-17 RE	94669 RE	08/16/92	08/25/92	09/12/92					
SB2-2-1R	94667	08/16/92	08/25/92	09/04/92					
SB2-2-1R RE	94667 RE	08/16/92	08/25/92	09/05/92					
SB2-2-2	94668	08/16/92	08/25/92	09/11/92					
SB2-2-2 RE	94668 RE	08/16/92	08/25/92	09/12/92					
SB2-3-1	94670	08/17/92	08/25/92	09/11/92					
SB2-3-16	94672	08/17/92	08/25/92	09/11/92					
SB2-3-1 RE	94670 RE	08/17/92	08/25/92	09/12/92					
SB2-3-4	94671	08/17/92	08/25/92	09/04/92					
SB5-1-1	94674	08/17/92	08/25/92	09/04/92					
SB5-1-7	94675	08/17/92	08/25/92	09/11/92					
SB5-1-7 RE	94675 RE	08/17/92	08/25/92	09/12/92					
SB1-3-11 MS	94597 MS	08/14/92	08/25/92	09/11/92					
SB1-3-11 MSD	94597 MSD	08/14/92	08/25/92	09/11/92					
WATERS									
SBLKW1	SBLKW1	NA	08/20/92	09/02/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR WATER SAMPLES	FIELD QC ONLY; NO MS/MSD REQUIRED	NO CONTAMINANT DETECTED, TIC TOTAL=0	INST# FINN: ALL DFTPP TUNING AND MASS CALIBRATION CRITERIA WITHIN CONTROL LIMITS. 2 TUNES APPLY: (09/02,04/92)	DCB, NPT, ANT, PHN, CRY, AND PRY: ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
ER1-1	94600	08/14/92	08/20/92	09/04/92					
FB1-1	94601	08/14/92	08/20/92	09/04/92					

Table G-14d. Semivolatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Initial Calibration	Continuing Calibration	Field Blank Analysis	Equipment Blank Analysis
SOILS					
SBLKT1	SBLKT1	08/04/92 (INST# FINN2)	09/02/92 (INST# FINN2)	NA	NA
SB1-1-3	94602	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	FB1-1, SD5-FB	ER1-1
SB1-2-3	94603	ALL RRF > 0.05	ALL RRF50 > 0.05	FB1-1, SD5-FB	ER1-1
SB1-3-1	94596	%RSD < 30%	%D < 25%; EXCEPT	FB1-1, SD5-FB	ER1-1
SB1-3-11	94597		o1CLP22=28.8%	FB1-1, SD5-FB	ER1-1
SB1-3-11R	94598		09/04/92 (INST# FINN2)	FB1-1, SD5-FB	ER1-1
			DAILY TUNE IN CONTROL:		
SB1-3-11R RE	94598 RE		ALL RRF50 > 0.05	FB1-1, SD5-FB	ER1-1
			%D < 25%; EXCEPT		
SB1-3-3	94604		PHENOL=25.9%, o1CLP22=29%,	FB1-1, SD5-FB	ER1-1
SB2-1-14	94673		NO2BZ=25.9%	FB2-1, SD5-FB	EB2-1
SB2-2-1	94666		09/11/92 (INST# FINN2)	FB2-1, SD5-FB	EB2-1
SB2-2-17	94669		DAILY TUNE IN CONTROL:	FB2-1, SD5-FB	EB2-1
			ALL RRF50 > 0.05		
			%D < 25%; EXCEPT		
SB2-2-17RE	94669 RE		DNP24=34.8%, PCP=28.8%	FB2-1, SD5-FB	EB2-1
			09/12/92 (INST# FINN2)		
			DAILY TUNE IN CONTROL:		
SB2-2-1R	94667		ALL RRF50 > 0.05	FB2-1, SD5-FB	EB2-1
			%D < 25%; EXCEPT		
			DNP24=33.8%, PCP=34.5%,		
			BTBZNATE=29%		
SB2-2-1R RE	94667 RE			FB2-1, SD5-FB	EB2-1
SB2-2-2	94668			FB2-1, SD5-FB	EB2-1
SB2-2-2RE	94668 RE			FB2-1, SD5-FB	EB2-1
SB2-3-1	94670			FB2-1, SD5-FB	EB2-1
SB2-3-16	94672			FB2-1, SD5-FB	EB2-1
SB2-3-1RE	94670 RE			FB2-1, SD5-FB	EB2-1
SB2-3-4	94671			FB2-1, SD5-FB	EB2-1
SB5-1-1	94674			FB5-1, SD5-FB	EB5-1
SB5-1-7	94675			FB5-1, SD5-FB	EB5-1
SB5-1-7RE	94675 RE			FB5-1, SD5-FB	EB5-1
SB1-3-11 MS	94597 MS			FB1-1, SD5-FB	ER1-1
SB1-3-11 MSD	94597 MSD			FB1-1, SD5-FB	ER1-1
WATERS					
SBLKW1	SBLKW1	05/28/92 (INST# FINN)	09/02/92 (INST# FINN)	NA	NA
ER1-1	94600	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	NA	NA
FB1-1	94601	ALL RRF > 0.05	ALL RRF50 > 0.05	NA	NA
		%RSD < 30%; EXCEPT	%D < 25%; EXCEPT		
		DBZD33=35.5%	TCP245=39.9%, DNT26=26.8%,		
			DNOP=30.4%		
			09/04/92 (INST# FINN)		
			DAILY TUNE IN CONTROL:		
			ALL RRF50 > 0.05		
			%D < 25%; EXCEPT		
			TCP245=38.1%		

Table G-14d. Semivolatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Significant Sample Results	Tentatively Identified Compounds	Data Validation Qualifiers
SOILS				
SBLKT1	SBLKT1	None Detected	9177 (6)	
SB1-1-3	94602	BIS2EHP=40J µg/kg	7060 (20)	DNP24=900UJ(CCV)/PCP=900UJ(CCV)
SB1-2-3	94603	None Detected	8870 (19)	DNP24=880UJ(CCV)/PCP=880UJ(CCV)
SB1-3-1	94596	None Detected	7911 (16)	o1CLP22=370UJ(CCV)
SB1-3-11	94597	BIS2EHP=71J µg/kg	9800 (20)	DNP24=940UJ(CCV)/PCP=940UJ(CCV)
SB1-3-11R	94598	None Detected	13600 (20)	o1CLP22=390UJ(CCV)/PYR,BTBZNATE,DBZD33,BZAA,BIS2EHP,CHRY,DNOP,BZBF, BZKF,BZAP,INP123,DBAHA,BZGHIP=UJ(IS)
SB1-3-11R RE	94598 RE	None Detected	13390 (20)	PHENOL=390UJ(CCV)/o1CLP22=390UJ(CCV)/NO2BZ=390UJ(CCV)/DNOP,BZBF,BZKF, BZAP,INP123,DBAHA,BZGHIP=UJ(IS)
SB1-3-3	94604	BIS2EHP=67J µg/kg	41820 (20)	DNP24=1100UJ(CCV)/PCP=1100UJ(CCV)
SB2-1-14	94673	None Detected	13730 (20)	DNP24=860UJ(CCV)/PCP=860UJ(CCV)
SB2-2-1	94666	NAPH=290J/MTNPH2=770 µg/kg	50910 (20)	DNP24=890UJ(CCV)/PCP=890UJ(CCV)
SB2-2-17	94669	None Detected	23060 (20)	DNP24=910UJ(CCV)/PCP=910UJ(CCV,IS)/DN46M,NNSPH,BPPE4,HCLBZ,PHAN,CAR, ANTH,DNBP,FLA,PYR,BTBZNATE,DBZD33,BZAA,BIS2EHP,CHRY,DNOP,BZBF,BZKF, BZAP,INP123,DBAHA,BZGHIP=UJ(IS)
SB2-2-17 RE	94669 RE	None Detected	20840 (20)	DNP24=910UJ(CCV)/PCP=910UJ(CCV,IS)/BTBZNATE=380UJ(CCV,IS)/DN46M,NNSPH, BPPE4,HCLBZ,PHAN,CAR,ANTH,DNBP,FLA,PYR,DBZD33,BZAA,BIS2EHP,CHRY, DNOP,BZBF,BZKF,BZAP,INP123,DBAHA,BZGHIP=UJ(IS)
SB2-2-1R	94667	NAPH=540J/MTNPH2=1600/PHAN=270J/FLA=240J/ PYR=250J µg/kg	129300 (20)	PHENOL=1400UJ(CCV,SR)/o1CLP22=1400UJ(CCV)/NO2BZ=1400UJ(CCV)/HCCP=UJ(IS)/ TCP246,TCP245,DNP24,NTPH4=UJ(SR,IS)/CNPH2,2NO2AN,DMPH,ACNPY,3NO2AN, ACNP=UJ(IS)/DBZFUR,DNT24,DNT26,DEPH,CPPE4,FL=UJ(IS)/CLPH2,MPH,4MPH, NTPH2,DMPH24,DCP24,C4M3PH=1400UJ(SR)/PCP=3500UJ(SR)
SB2-2-1R RE	94667 RE	NAPH=530J/MTNPH2=1600/PHAN=260J/FLA=250J/ PYR=270J µg/kg	131500 (20)	PHENOL=1400UJ(CCV)/o1CLP22=1400UJ(CCV)/NO2BZ=1400UJ(CCV)/HCCP,TCP246, TCP245,CNPH2,2NO2AN,ACNP,DNP24,NTPH4,DBZFUR,DNT24,DNT26,DEPH,CPPE4,FL, 4NO2AN,ACNPY,DMPH,3NO2AN=UJ(IS)
SB2-2-2	94668	ISOP=660J/NAPH=850J/MTNPH2=3200 µg/kg	169700 (20)	DNP24=5400UJ(CCV,IS)/PCP=5400UJ(CCV)/HCCP,TCP246,TCP245,CNPH2,2NO2AN, DMPH,ACNPY,3NO2AN,ACNP,NTPH4,DBZFUR,DNT24,DNT26,DEPH,CPPE4,FL, 4NO2AN=UJ(IS)
SB2-2-2 RE	94668 RE	NAPH=820J µg/kg	175000 (20)	DNP24=5400UJ(CCV,IS)/PCP=5400UJ(CCV)/BTBZNATE=2200UJ(CCV)/HCCP,TCP246, TCP245,CNPH2,2NO2AN,DMPH,ACNPY,3NO2AN,ACNP,NTPH4,DBZFUR,DNT24,DNT26, DEPH,CPPE4,FL,4NO2AN=UJ(IS)
SB2-3-1	94670	ISOP=830J µg/kg	180200 (20)	DNP24=6100UJ(CCV,IS)/PCP=6100UJ(CCV,IS)/DN46M,NNSPH,BPPE4,HCLBZ,PHAN,CAR, ANTH,DNBP,FLA,HCCP,TCP246,TCP245,CNPH2,2NO2AN,DMPH,ACNPY,3NO2AN,ACNP, NTPH4,DBZFUR,DNT24,DNT26,DEPH,CPPE4,FL,4NO2AN=UJ(IS)
SB2-3-16	94672	BIS2EHP=40J µg/kg	17330 (20)	DNP24=910UJ(CCV)/PCP=910UJ(CCV)
SB2-3-1 RE	94670 RE	None Detected	163000 (20)	DNP24=6100UJ(CCV,IS)/PCP=6100UJ(CCV,IS)/BTBZNATE=2500UJ(CCV)/DN46M,NNSPH, BPPE4,HCLBZ,PHAN,CAR,ANTH,DNBP,FLA,HCCP,TCP246,TCP245,CNPH2,2NO2AN, DMPH,ACNPY,3NO2AN,ACNP,NTPH4,DBZFUR,DNT24,DNT26,DEPH,CPPE4,FL, 4NO2AN=UJ(IS)
SB2-3-4	94671	None Detected	36298 (21)	PHENOL=370UJ(CCV)/o1CLP22=370UJ(CCV)/NO2BZ=370UJ(CCV)
SB5-1-1	94674	FLA=42J µg/kg	20549 (14)	PHENOL=370UJ(CCV)/o1CLP22=370UJ(CCV)/NO2BZ=370UJ(CCV)
SB5-1-7	94675	None Detected	8970 (20)	DNP24=880UJ(CCV)/PCP=880UJ(CCV)/DNOP,BZBF,BZAP,INP123,DBAHA, BZGHIP=UJ(IS)
SB5-1-7 RE	94675 RE	None Detected	8290 (20)	TCP245=880UJ(CCV)/DNT26=360UJ(CCV)/BTBZNATE=360UJ(CCV)/DNOP,BZBF,BZAP, INP123,DBAHA,BZGHIP=UJ(IS)
SB1-3-11 MS	94597 MS	Not Applicable	Data Not Provided	Not Applicable
SB1-3-11 MSD	94597 MSD	Not Applicable	Data Not Provided	Not Applicable
WATERS				
SBLKW1	SBLKW1	None Detected	0 (0)	
ER1-1	94600	None Detected	0 (0)	None Applied
FB1-1	94601	None Detected	0 (0)	None Applied

Table G–14e. Semivolatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Date Collected	Date Extracted	Date Analyzed	Semivolatile Surrogate Recovery	Semivolatile MS/MSD Analyses	Semivolatile Blank Analyses	Semivolatile Tuning/Mass Calibration	Semivolatile Internal Standards
WATERS									
SBLKX1	SBLKX1	NA	08/31/92	09/18/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR WATER SAMPLES	FIELD QC ONLY; NO MS/MSD REQUIRED	NO CONTAMINANT DETECTED, TIC TOTAL=0	INST# FIN2: ALL DFTPP TUNING AND MASS CALIBRATION CRITERIA WITHIN CONTROL LIMITS. 2 TUNES APPLY: (09/18, 19/92)	DCB, NPT, ANT, PHN, CRY, AND PRY: ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
EB4–1	95191	08/25/92	08/31/92	09/18/92					
ERBG–1	95193	08/25/92	08/31/92	09/19/92					
FB4–1	95192	08/25/92	08/31/92	09/18/92					
FBBG–1	95194	08/25/92	08/31/92	09/18/92					
SOILS									
SBLKT1	SBLKT1	NA	09/02/92	09/18/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES, EXCEPT: [SD2–1] NBZ=161% (120%), FBP=165% (115%), PHL=134% (113%), DCB=133% (130%)	[MW3–1–1] ALL RECOVERY AND DIFFERENCE VALUES WITHIN LIMITS EXCEPT RECOVERY: NNSPR=38% MSD(41%).	NO CONTAMINANT DETECTED, TIC TOTAL=86(1)	INST# FIN2: ALL DFTPP TUNING AND MASS CALIBRATION CRITERIA WITHIN CONTROL LIMITS. 3 TUNES APPLY: (09/18, 19,21/92)	DCB, NPT, ANT, PHN, CRY, AND PRY: ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
MW3–1–1	95266	08/26/92	09/02/92	09/21/92					
MW3–1–1R	95267	08/26/92	09/02/92	09/21/92					
SD2–1	95268	08/26/92	09/02/92	09/21/92					
SD2–1R	95269	08/26/92	09/02/92	09/19/92					
SD2–2	95270	08/26/92	09/02/92	09/19/92					
MW3–1–1 MS	95266 MS	08/26/92	09/02/92	09/21/92					
MW3–1–1 MSD	95266 MSD	08/26/92	09/02/92	09/21/92					
WATERS									
SBLKW1	SBLKW1	NA	10/01/92	10/27/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR WATER SAMPLES	[MWBG–2–1] ALL RECOVERY AND DIFFERENCE VALUES WITHIN LIMITS EXCEPT RECOVERIES: C4M3PH=100% MS(97%); NTPH4=100%,MS, 94% MSD(80%); DNT24=97% MS, 97% MSD(96%); AND PCP=110% MS, 114% MSD(103%).	NO CONTAMINANT DETECTED, TIC TOTAL=0	INST# FINN: ALL DFTPP TUNING AND MASS CALIBRATION CRITERIA WITHIN CONTROL LIMITS. 2 TUNES APPLY: (10/23,27/92)	DCB, NPT, ANT, PHN, CRY, AND PRY: ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
ERBG–2	97273	09/29/92	10/01/92	10/28/92					
MW4–1–1	97272	09/29/92	10/01/92	10/23/92					
MWBG–2–1	97271	09/29/92	10/01/92	10/27/92					
MWBG–2–1 MS	97271 MS	09/29/92	10/01/92	10/27/92					
MWBG–2–1 MSD	97271 MSD	09/29/92	10/01/92	10/27/92					
WATERS									
SBLKW2	SBLKW2	NA	10/05/92	10/28/92	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR WATER SAMPLES, EXCEPT: [MW1–1–1] TPH=14% (33%), [MW2–1–1] TPH=14% (33%), [MW3–1–1] TPH=27% (33%), [MWBG–1–1] TPH=22% (33%).	(SEE ANALYSES FOR [MWBG–2–1])	NO CONTAMINANT DETECTED, TIC TOTAL=0(1)	INST# FINN: ALL DFTPP TUNING AND MASS CALIBRATION CRITERIA WITHIN CONTROL LIMITS. 2 TUNES APPLY: (10/27,28/92)	DCB, NPT, ANT, PHN, CRY, AND PRY: ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
FBBA–1	97308	09/30/92	10/05/92	10/28/92					
FBCB–1	97305	10/01/92	10/05/92	10/27/92					
MW1–1–1	97310	09/30/92	10/05/92	10/28/92					
MW2–1–1	97306	10/01/92	10/05/92	10/28/92					
MW3–1–1	97311	09/30/92	10/05/92	10/28/92					
MW3–1–1R	97314	09/30/92	10/05/92	10/28/92					
MWBG–1–1	97309	09/30/92	10/05/92	10/28/92					

Table G–14e. Semivolatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Initial Calibration	Continuing Calibration	Field Blank Analysis	Equipment Blank Analysis
WATERS					
SBLKX1	SBLKX1	08/04/92 (INST# FINN2)	09/18/92 (INST# FINN2)	NA	NA
EB4–1	95191	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	NA	NA
ERBG–1	95193	ALL RRF > 0.05	ALL RRF50 > 0.05	NA	NA
FB4–1	95192	%RSD < 30%	%D < 25%; EXCEPT	NA	NA
FBBG–1	95194		PCP=30.5%, 2NO2AN=26.5%, DNP24=32.8%, NTPH4=35.4%, DN46M=25.3%, BTBZNATE=26.5%, BIS2EHP=30.2%, DNOP=25.6%	NA	NA
SOILS					
SBLKT1	SBLKT1		09/19/92 (INST# FINN2)	NA	NA
MW3–1–1	95266		DAILY TUNE IN CONTROL: ALL RRF50 > 0.05 %D < 25%; EXCEPT 2NO2AN=25.6%, NTPH4=51.8%	FB3–1, SD5–FB	EB3–1
MW3–1–1R	95267		09/21/92 (INST# FINN2) DAILY TUNE IN CONTROL: ALL RRF50 > 0.05 %D < 25%; EXCEPT	FB3–1, SD5–FB	EB3–1
SD2–1	95268		2NO2AN=26.5%, NTPH4=50.9%	FBBG–1, SD5–FB	ERBG–1
SD2–1R	95269			FBBG–1, SD5–FB	ERBG–1
SD2–2	95270			FBBG–1, SD5–FB	ERBG–1
MW3–1–1 MS	95266 MS			FB3–1, SD5–FB	EB3–1
MW3–1–1 MSD	95266 MSD			FB3–1, SD5–FB	EB3–1
WATERS					
SBLKW1	SBLKW1	05/28/92 (INST# FINN)	10/23/92 (INST# FINN)	NA	NA
ERBG–2	97273	DAILY TUNE IN CONTROL:	DAILY TUNE IN CONTROL:	NA	NA
MW4–1–1	97272	ALL RRF > 0.05	ALL RRF50 > 0.05	FBBA–1, FBCE–1	ERBG–2
MWBG–2–1	97271	%RSD < 30%; EXCEPT	%D < 25%; EXCEPT	FBBA–1, FBCE–1	ERBG–2
MWBG–2–1 MS	97271 MS	DBZD33=35.5%	PYR=31.4%, INP123=33.3%,	FBBA–1, FBCE–1	ERBG–2
MWBG–2–1 MSD	97271 MSD		BZGHIP=31.7%, o1CLP22=50.7%, NTPH4=72%	FBBA–1, FBCE–1	ERBG–2
			10/27/92 (INST# FINN)		
WATERS			DAILY TUNE IN CONTROL:		
SBLKW2	SBLKW2		ALL RRF50 > 0.05	NA	NA
FBBA–1	97308		%D < 25%; EXCEPT	NA	NA
FBCE–1	97395		DNOP=31.6%, BZKF=27.7%,	NA	NA
MW1–1–1	97310		INP123=27.2%, o1CLP22=31.3%,	FBBA–1, FBCE–1	ERBG–2
MW2–1–1	97396		HCCP=38.4%, NTPH4=68.6%,	FBBA–1, FBCE–1	ERBG–2
MW3–1–1	97311		DBZD33=59.7%	FBBA–1, FBCE–1	ERBG–2
MW3–1–1R	97314		10/28/92 (INST# FINN)	FBBA–1, FBCE–1	ERBG–2
MWBG–1–1	97309		DAILY TUNE IN CONTROL: ALL RRF50 > 0.05 %D < 25%; EXCEPT PYR=30.1%, DNOP=30.4%, BZGHIP=30.8%, o1CLP22=27.9%, HCCP=32.8%, DNP24=32.7%, NTPH4=79.7%, DBZD33=36.7%	FBBA–1, FBCE–1	ERBG–2

Table G-14e. Semivolatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Significant Sample Results	Tentatively Identified Compounds	Data Validation Qualifiers
WATERS				
SBLKX1	SBLKX1	None Detected	0 (0)	
EB4-1	95191	None Detected	29 (7)	None Applied
ERBG-1	95193	None Detected	21 (6)	None Applied
FB4-1	95192	None Detected	0 (0)	None Applied
FBBG-1	95194	None Detected	10 (2)	None Applied
SOILS				
SBLKT1	SBLKT1	None Detected	86 (1)	
MW3-1-1	95266	NNSPR=230J/PHAN=130J/FLA=320J/PYR=300J/ BZAA=140J/CHRY=190J/BIS2EHP=60J/ BZBF=220J/BZKF=200J/BZAP=160J/INP123=140J/ BZGHIP=110J µg/kg	3511 (20)	NTPH4=860UJ(CCV)
MW3-1-1R	95267	PHAN=210J/ANTH=37J/FLA=500/PYR=420/ BZAA=190J/CHRY=270J/BIS2EHP=60J/ BZBF=270J/BZKF=180J/BZAP=220J/INP123=230J/ BZGHIP=160J µg/kg	3641 (20)	NTPH4=840UJ(CCV)
SD2-1	95268	PHAN=22000/ANTH=990J/CAR=5300J/FLA=36000/ PYR=29000/BZAA=9100J/CHRY=22000/ BIS2EHP=3600J/BZBF=25000/BZKF=14000/ BZAP=15000/INP123=14000/BZGHIP=10000 µg/kg	188600 (20)	PHAN=22000J(SR)/ANTH=990J(SR)/CAR=5300J(SR)/FLA=36000J(SR,FD)/ PYR=29000J(SR,FD)/BZAA=9100J(SR)/CHRY=22000J(SR)/BIS2EHP=3600J(SR)/ BZBF=25000J(SR)/BZKF=14000J(SR)/BZAP=15000J(SR)/INP123=14000J(SR)/ BZGHIP=10000J(SR)/NTPH4=23000UJ(CCV,SR)/All other compounds=UJ(SR)
SD2-1R	95269	PHAN=360J/CAR=70J/FLA=600/PYR=540/ BZAA=200J/CHRY=370J/BIS2EHP=83J/ BZBF=350J/BZKF=280J/BZAP=180J/INP123=250J/ BZGHIP=220J µg/kg	8890 (20)	NTPH4=900UJ(CCV)/FLA=600J(FD)/PYR=540J(FD)
SD2-2	95270	PHAN=360J/FLA=850/PYR=850/BZAA=330J/ CHRY=640/BIS2EHP=140J/BZBF=620/BZKF=290J/ BZAP=310J/INP123=330J/BZGHIP=300J µg/kg	32350 (20)	NTPH4=1300UJ(CCV)
MW3-1-1 MS	95266 MS	Not Applicable	Data Not Provided	Not Applicable
MW3-1-1 MSD	95266 MSD	Not Applicable	Data Not Provided	Not Applicable
WATERS				
SBLKW1	SBLKW1	None Detected	0 (0)	
ERBG-2	97273	BIS2EHP=13 µg/l	22 (8)	o1CLP22=10UJ(CCV)/NTPH4=25UJ(CCV)
MW4-1-1	97272	BIS2EHP=1J µg/l	10 (1)	o1CLP22=10UJ(CCV)/NTPH4=25UJ(CCV)/BIS2EHP=10U(EB)
MWBG-2-1	97271	BIS2EHP=1J µg/l	4 (1)	NTPH4=25UJ(CCV)/DBZD33=10UJ(CCV)/BIS2EHP=10U(EB)
MWBG-2-1 MS	97271 MS	Not Applicable	Data Not Provided	Not Applicable
MWBG-2-1 MSD	97271 MSD	Not Applicable	Data Not Provided	Not Applicable
WATERS				
SBLKW2	SBLKW2	None Detected	2 (1)	
FBBA-1	97308	None Detected	0 (0)	NTPH4=28UJ(CCV)/DBZD33=11UJ(CCV)
FBCE-1	97395	None Detected	3 (1)	NTPH4=28UJ(CCV)/DBZD33=11UJ(CCV)
MW1-1-1	97310	None Detected	4 (1)	NTPH4=28UJ(CCV)
MW2-1-1	97396	None Detected	43 (10)	NTPH4=27UJ(CCV)/DBZD33=11UJ(CCV)
MW3-1-1	97311	None Detected	32 (5)	NTPH4=28UJ(CCV)
MW3-1-1R	97314	None Detected	18 (1)	NTPH4=27UJ(CCV)
MWBG-1-1	97309	None Detected	2 (1)	NTPH4=27UJ(CCV)/DBZD33=11UJ(CCV)

Table G-14f. Semivolatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Date Collected	Date Extracted	Date Analyzed	Semivolatile Surrogate Recovery	Semivolatile MS/MSD Analyses	Semivolatile Blank Analyses	Semivolatile Tuning/Mass Calibration	Semivolatile Internal Standards
WATER									
SBLKX1	SBLKX1	NA	05/26/93	06/01/93	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR WATER SAMPLES EXCEPT: [MW2-1-2] TPH=22% (33%), [P-4-1] TBP=124% (123%).		NO CONTAMINANT DETECTED, TIC TOTAL=0	INST# FIN2: ALL DFTPP TUNING AND MASS CALIBRATION CRITERIA WITHIN CONTROL LIMITS. 3 TUNES APPLY: (04/02/93; 06/01,02/93)	DCB, NPT, ANT, PHN, CRY, AND PRY: ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
EB2-2	9564	05/21/93	05/26/93	06/01/93					
EB3-2	9565	05/21/93	05/26/93	06/01/93					
FB2-2	9566	05/21/93	05/26/93	06/02/93					
FB3-2	9567	05/21/93	05/26/93	06/01/93					
MW1-1-2	9568	05/21/93	05/26/93	06/01/93					
MW2-1-2	9569	05/21/93	05/26/93	06/01/93					
MW2-2-1	9570	05/21/93	05/26/93	06/01/93					
MW3-1-2	9571	05/21/93	05/26/93	06/02/93					
MW4-1-2	9572	05/21/93	05/26/93	06/01/93					
MWBG-1-2	9573	05/21/93	05/26/93	06/01/93					
MWBG-2-2	9574	05/21/93	05/26/93	06/01/93					
P-4-1	9575	05/21/93	05/26/93	06/01/93					
P-4-1R	9576	05/21/93	05/26/93	06/02/93					
P-5-1	9577	05/21/93	05/26/93	06/02/93					

Table G–14f. Semivolatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Initial Calibration	Continuing Calibration	Field Blank Analysis	Equipment Blank Analysis
WATER					
SBLKX1	SBLKX1	04/02/93 (INST# FINN2) DAILY TUNE IN CONTROL: ALL RRF > 0.05 %RSD < 30%; EXCEPT 3NO2AN=34.3%, 4NO2AN=37% CAR=36.3%, DBZD33=42.6%	06/01/93 (INST# FINN2) DAILY TUNE IN CONTROL: ALL RRF50 > 0.05 %D < ±25%; EXCEPT HCLEA=–27.3%, HCBU=42.9%, 3NO2AN=29%,DNP24=37.8%, DN46M=26.4%, HCLBZ=26.4% PCP=35.4%, CAR=25.8%	NA	NA
EB2–2	9564			NA	NA
EB3–2	9565			NA	NA
FB2–2	9566			NA	NA
FB3–2	9567			NA	NA
MW1–1–2	9568		06/02/93 (INST# FINN2) DAILY TUNE IN CONTROL: ALL RRF50 > 0.05 %D < ±25%; EXCEPT o1CLP22=–61.8%, NNSPR=–26.1%, HCLEA=–28.6%, HCBU=27.6% HCCP=33.8%, DNP24=38.5%, PCP=30.4%	FB2–2; FB3–2	EB2–2; EB3–2
MW2–1–2	9569			FB2–2; FB3–2	EB2–2; EB3–2
MW2–2–1	9570			FB2–2; FB3–2	EB2–2; EB3–2
MW3–1–2	9571			FB2–2; FB3–2	EB2–2; EB3–2
MW4–1–2	9572			FB2–2; FB3–2	EB2–2; EB3–2
MWBG–1–2	9573			FB2–2; FB3–2	EB2–2; EB3–2
MWBG–2–2	9574			FB2–2; FB3–2	EB2–2; EB3–2
P–4–1	9575			FB2–2; FB3–2	EB2–2; EB3–2
P–4–1R	9576			FB2–2; FB3–2	EB2–2; EB3–2
P–5–1	9577			FB2–2; FB3–2	EB2–2; EB3–2

Table G-14f. Semivolatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Significant Sample Results	Tentatively Identified Compounds	Data Validation Qualifiers
WATER				
SBLKX1	SBLKX1	None Detected	(0)	
EB2-2	9564	None Detected	(0)	HCLEA=10UJ(CCV)/HCBU=10UJ(CCV)/3NO2AN=25UJ(CCV)/DNP24=25UJ(CCV)/ DN46M=25UJ(CCV)/HCLBZ=10UJ(CCV)/PCP=25UJ(CCV)/CAR=10UJ(CCV)
EB3-2	9565	None Detected	(0)	HCLEA=11UJ(CCV)/HCBU=11UJ(CCV)/3NO2AN=27UJ(CCV)/DNP24=27UJ(CCV)/ DN46M=27UJ(CCV)/HCLBZ=11UJ(CCV)/PCP=27UJ(CCV)/CAR=11UJ(CCV)
FB2-2	9566	None Detected	(0)	o1CLP22=20UJ(CCV)/NNSPR=20UJ(CCV)/HCLEA=20UJ(CCV)/HCBU=20UJ(CCV)/ HCCP=20UJ(CCV)/DNP24=50UJ(CCV)/PCP=50UJ(CCV)
FB3-2	9567	BIS2EHP=2J µg/L	5(2)	HCLEA=11UJ(CCV)/HCBU=11UJ(CCV)/3NO2AN=27UJ(CCV)/DNP24=27UJ(CCV)/ DN46M=27UJ(CCV)/HCLBZ=11UJ(CCV)/PCP=27UJ(CCV)/CAR=11UJ(CCV)
MW1-1-2	9568	None Detected	(0)	HCLEA=10UJ(CCV)/HCBU=10UJ(CCV)/3NO2AN=25UJ(CCV)/DNP24=25UJ(CCV)/ DN46M=25UJ(CCV)/HCLBZ=10UJ(CCV)/PCP=25UJ(CCV)/CAR=10UJ(CCV)
MW2-1-2	9569	None Detected	8243(10)	HCLEA=10UJ(CCV)/HCBU=10UJ(CCV)/3NO2AN=25UJ(CCV)/DNP24=25UJ(CCV)/ DN46M=25UJ(CCV)/HCLBZ=10UJ(CCV)/PCP=25UJ(CCV)/CAR=10UJ(CCV)
MW2-2-1	9570	None Detected	189(4)	HCLEA=10UJ(CCV)/HCBU=10UJ(CCV)/3NO2AN=26UJ(CCV)/DNP24=26UJ(CCV)/ DN46M=26UJ(CCV)/HCLBZ=10UJ(CCV)/PCP=26UJ(CCV)/CAR=10UJ(CCV)
MW3-1-2	9571	BIS2EHP=1J µg/L	9(3)	o1CLP22=11UJ(CCV)/NNSPR=11UJ(CCV)/HCLEA=11UJ(CCV)/HCBU=11UJ(CCV)/ HCCP=11UJ(CCV)/DNP24=28UJ(CCV)/PCP=28UJ(CCV)/BIS2EHP=11U(FB)
MW4-1-2	9572	None Detected	(0)	HCLEA=10UJ(CCV)/HCBU=10UJ(CCV)/3NO2AN=25UJ(CCV)/DNP24=25UJ(CCV)/ DN46M=25UJ(CCV)/HCLBZ=10UJ(CCV)/PCP=25UJ(CCV)/CAR=10UJ(CCV)
MWBG-1-2	9573	None Detected	(0)	HCLEA=11UJ(CCV)/HCBU=11UJ(CCV)/3NO2AN=27UJ(CCV)/DNP24=27UJ(CCV)/ DN46M=27UJ(CCV)/HCLBZ=11UJ(CCV)/PCP=27UJ(CCV)/CAR=11UJ(CCV)
MWBG-2-2	9574	BIS2EHP=6J µg/L	12(2)	HCLEA=10UJ(CCV)/HCBU=10UJ(CCV)/3NO2AN=26UJ(CCV)/DNP24=26UJ(CCV)/ DN46M=26UJ(CCV)/HCLBZ=10UJ(CCV)/PCP=26UJ(CCV)/CAR=10UJ(CCV)/BIS2EHP=10U(FB)
P-4-1	9575	None Detected	7(1)	HCLEA=10UJ(CCV)/HCBU=10UJ(CCV)/3NO2AN=25UJ(CCV)/DNP24=25UJ(CCV)/ DN46M=25UJ(CCV)/HCLBZ=10UJ(CCV)/PCP=25UJ(CCV)/CAR=10UJ(CCV)
P-4-1R	9576	None Detected	13(1)	o1CLP22=11UJ(CCV)/NNSPR=11UJ(CCV)/HCLEA=11UJ(CCV)/HCBU=11UJ(CCV)/ HCCP=11UJ(CCV)/DNP24=27UJ(CCV)/PCP=27UJ(CCV)
P-5-1	9577	None Detected	43(3)	o1CLP22=10UJ(CCV)/NNSPR=10UJ(CCV)/HCLEA=10UJ(CCV)/HCBU=10UJ(CCV)/ HCCP=10UJ(CCV)/DNP24=25UJ(CCV)/PCP=25UJ(CCV)

Table G-14g. Semivolatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Date Collected	Date Extracted	Date Analyzed	Semivolatile Surrogate Recovery	Semivolatile MS/MSD Analyses	Semivolatile Blank Analyses	Semivolatile Tuning/Mass Calibration	Semivolatile Internal Standards
SOIL									
SBLKT1	SBLKT1	NA	05/27/93	06/03/93	ALL SURROGATE RECOVERIES WITHIN CONTROL LIMITS FOR SOIL SAMPLES EXCEPT: SB3-5-1 TBP=133% (122%) SB3-5-2 TBP=130% (122%) SD3-2 TBP=129% (123%) SD3-2R TBP=128% (123%) SD2-6 DCB=19% (20%).	SB2-4-1 ALL RECOVERY VALUES WITHIN LIMITS,; EXCEPT RECOVERIES DNT24=91% MS(89%) PHENOL=99%MSD(90%), C4M3PH=104%MSD(103%); DNT24=105% MS(89%) ALL RPD VALUES WITHIN LIMITS EXCEPT: DCBZ14=28% (27%), ACNP=20% (19%)	CONTAMINANTS DETECTED IN SBLKT1, TIC TOTAL=1 CONTAMINANTS DETECTED IN SBLKT2, TIC TOTAL=1 NO CONTAMINANT DETECTED IN SBLKT3 TIC TOTAL=1	INST# FIN2: ALL DFTPP TUNING AND MASS CALIBRATION CRITERIA WITHIN CONTROL LIMITS. 4 TUNES APPLY: (04/02/93; 06/03,04,08/93)	DCB, NPT, ANT, PHN, CRY, AND PRY: ALL AREAS AND RETENTION TIMES WERE WITHIN CONTROL LIMITS AND WINDOWS, RESPECTIVELY.
SBLKT2	SBLKT2	NA	06/02/93	06/08/93					
SBLKT3	SBLKT3	NA	06/05/93	06/08/93					
SB2-4-1	9541	05/19/93	05/27/93	06/08/93					
SB2-4-1MS	9541MS	05/19/93	05/27/93	06/08/93					
SB2-4-1MSD	9541MSD	05/19/93	05/27/93	06/08/93					
SB2-4-2	9542	05/19/93	05/27/93	06/04/93					
SB2-5-1	9543	05/19/93	05/27/93	06/05/93					
SB2-5-2	9544	05/19/93	05/27/93	06/05/93					
SB3-5-1	9549	05/19/93	05/27/93	06/04/93					
SB3-5-2	9550	05/19/93	05/27/93	06/04/93					
SD2-3	9551	05/21/93	05/27/93	06/04/93					
SD2-4	9552	05/21/93	05/27/93	06/04/93					
SD2-5	9553	05/21/93	05/27/93	06/04/93					
SD2-6	9554	05/21/93	05/27/93	06/04/93					
SD3-1	9555	05/21/93	05/27/93	06/04/93					
SD3-2	9556	05/21/93	05/27/93	06/04/93					
SD3-2R	9557	05/21/93	05/27/93	06/04/93					
SB2-6-1	9545	05/20/93	06/02/93	06/08/93					
SB2-6-1R	9546	05/20/93	06/05/93	06/08/93					
SB3-4-1	9547	05/19/93	06/02/93	06/08/93					
SB3-4-2	9548	05/19/93	06/05/93	06/08/93					

Table G–14g. Semivolatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Initial Calibration	Continuing Calibration	Field Blank Analysis	Equipment Blank Analysis
SOIL					
SBLKT1	SBLKT1	04/02/93 (INST# FINN2) DAILY TUNE IN CONTROL: ALL RRF > 0.05 %RSD < 30%; EXCEPT 3NO2AN=34.3%, 4NO2AN=37% CAR=36.3%, DBZD33=42.6%	06/03/93 (INST# FINN2) DAILY TUNE IN CONTROL: ALL RRF50 > 0.05 %D < ±25%; EXCEPT HCCP=29.8%	NA	NA
SBLKT2	SBLKT2			NA	NA
SBLKT3	SBLKT3			NA	NA
SB2–4–1	9541		06/04/93 (INST# FINN2) DAILY TUNE IN CONTROL: ALL RRF50 > 0.05 %D < ±25%; EXCEPT o1CLP22=–53.8%, HCCP=31.3% DNT26=39%, CAR=36.3% DBZD33=31.4%	FB2–2; FB3–2	EB2–2; EB3–2
SB2–4–1MS	9541MS			FB2–2; FB3–2	EB2–2; EB3–2
SB2–4–1MSD	9541MSD			FB2–2; FB3–2	EB2–2; EB3–2
SB2–4–2	9542			FB2–2; FB3–2	EB2–2; EB3–2
SB2–5–1	9543		06/08/93 (INST# FINN2) DAILY TUNE IN CONTROL: ALL RRF50 > 0.05 %D < ±25%; EXCEPT HCCP=30.3%, 3NO2AN=36.8% DNP24=27.3%, CAR=38.3%	FB2–2; FB3–2	EB2–2; EB3–2
SB2–5–2	9544			FB2–2; FB3–2	EB2–2; EB3–2
SB3–5–1	9549			FB2–2; FB3–2	EB2–2; EB3–2
SB3–5–2	9550			FB2–2; FB3–2	EB2–2; EB3–2
SD2–3	9551			FB2–2; FB3–2	EB2–2; EB3–2
SD2–4	9552			FB2–2; FB3–2	EB2–2; EB3–2
SD2–5	9553			FB2–2; FB3–2	EB2–2; EB3–2
SD2–6	9554			FB2–2; FB3–2	EB2–2; EB3–2
SD3–1	9555			FB2–2; FB3–2	EB2–2; EB3–2
SD3–2	9556			FB2–2; FB3–2	EB2–2; EB3–2
SD3–2R	9557			FB2–2; FB3–2	EB2–2; EB3–2
SB2–6–1	9545			FB2–2; FB3–2	EB2–2; EB3–2
SB2–6–1R	9546			FB2–2; FB3–2	EB2–2; EB3–2
SB3–4–1	9547			FB2–2; FB3–2	EB2–2; EB3–2
SB3–4–2	9548			FB2–2; FB3–2	EB2–2; EB3–2

Table G–14g. Semivolatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Significant Sample Results	Tentatively Identified Compounds	Data Validation Qualifiers
SOIL				
SBLKT1	SBLKT1	BIS2EHP=130J µg/kg	7800(1)	
SBLKT2	SBLKT2	BIS2EHP=93J µg/kg	15000(1)	
SBLKT3	SBLKT3	None Detected	8800(1)	
SB2–4–1	9541	BIS2EHP=45J µg/kg	44220(21)	o1CLP22=360UJ(CCV)/HCCP=360UJ(CCV)/DNT26=360UJ(CCV)/CAR=360UJ(CCV)/ DBZD33=360UJ(CCV)/BIS2EHP=360U(MB)
SB2–4–1MS	9541MS	BIS2EHP=94J µg/kg	Not Required	None Applied
SB2–4–1MSD	9541MSD	BIS2EHP=44J µg/kg	Not Required	None Applied
SB2–4–2	9542	BIS2EHP=53J µg/kg	30630(21)	o1CLP22=350UJ(CCV)/HCCP=350UJ(CCV)/DNT26=350UJ(CCV)/CAR=350UJ(CCV)/ DBZD33=350UJ(CCV)/BIS2EHP=350U(MB)
SB2–5–1	9543	BIS2EHP=43J µg/kg	21150(21)	o1CLP22=360UJ(CCV)/HCCP=360UJ(CCV)/DNT26=360UJ(CCV)/CAR=360UJ(CCV)/ DBZD33=360UJ(CCV)/BIS2EHP=360U(MB)
SB2–5–2	9544	BIS2EHP=110J µg/kg	29770(21)	o1CLP22=360UJ(CCV)/HCCP=360UJ(CCV)/DNT26=360UJ(CCV)/CAR=360UJ(CCV)/ DBZD33=360UJ(CCV)/BIS2EHP=360U(MB)
SB3–5–1	9549	NTNPH2=69J/FL=96J/PHAN=220J/FLA=380/ BIS2EHP=530B µg/kg	77550(20)	o1CLP22=370UJ(CCV)/HCCP=370UJ(CCV)/DNT26=370UJ(CCV)/CAR=370UJ(CCV)/ DBZD33=370UJ(CCV)/BIS2EHP=530U(MB)
SB3–5–2	9550	BIS2EHP=180JB µg/kg	31110(21)	o1CLP22=400UJ(CCV)/HCCP=400UJ(CCV)/DNT26=400UJ(CCV)/CAR=400UJ(CCV)/ DBZD33=400UJ(CCV)/BIS2EHP=400U(MB)
SD2–3	9551	PHAN=370J/CAR=170J/FLA=920/PYR=820/ BZAA=330J/CHRY=580/BIS2EHP=170BJ/BZBF=1000/ BZKF=380/BZAP=410/INP123=480/BZGHIP=350J µg/kg	22873(21)	o1CLP22=370UJ(CCV)/HCCP=370UJ(CCV)/DNT26=370UJ(CCV)/CAR=170J(CCV)/ DBZD33=370UJ(CCV)/BIS2EHP=370U(MB)
SD2–4	9552	FLA=53J/PYR=49J/BIS2EHP=69BJ/BZBF=65J µg/kg	14550(21)	o1CLP22=370UJ(CCV)/HCCP=370UJ(CCV)/DNT26=370UJ(CCV)/CAR=370UJ(CCV)/ DBZD33=370UJ(CCV)/BIS2EHP=370U(MB)
SD2–5	9553	FLA=68J/PYR=59J/BZBF=58J µg/kg	31714(21)	o1CLP22=420UJ(CCV)/HCCP=420UJ(CCV)/DNT26=420UJ(CCV)/CAR=420UJ(CCV)/ DBZD33=420UJ(CCV)
SD2–6	9554	PHAN=54J/FLA=120J/PYR=120J/CHRY=83J/ BIS2EHP=200BJ/BZBF=150J/BZAP=45J µg/kg	12290(20)	o1CLP22=370UJ(CCV)/HCCP=370UJ(CCV)/DNT26=370UJ(CCV)/CAR=370UJ(CCV)/ DBZD33=370UJ(CCV)/BIS2EHP=370U(MB)
SD3–1	9555	ACNPY=41J/PHAN=102J/FLA=297J/PYR=301J/BZAA=177J/ CHYR=214J/BIS2EHP=144BJ/BZBF=419/BZKF=153J/ BZAP=193J/INP123=274J/BZGHIP=211J µg/kg	168(20)	o1CLP22=390UJ(CCV)/HCCP=390UJ(CCV)/DNT26=390UJ(CCV)/CAR=390UJ(CCV)/ DBZD33=390UJ(CCV)/BIS2EHP=390U(MB)
SD3–2	9556	ACNPY=39J/PHAN=150J/CAR=44J/FLA=330J/PYR=330J/ BZAA=190J/CHYR=210J/BIS2EHP=140BJ/BZBF=330J/ BZKF=12J/BZAP=190J/INP123=210J/BZGHIP=190J µg/kg	33450(21)	HCCP=360UJ(CCV)/BIS2EHP=360U(MB)
SD3–2R	9557	PHAN=380/ANTH=52J/FLA=550/PYR=550/BZAA=220J/ CHYR=280J/BIS2EHP=310BJ/BZBF=410/BZKF=130J/ BZAP=250J/INP123=240J/BZGHIP=200J µg/kg	29207(21)	HCCP=360UJ(CCV)/BIS2EHP=360U(MB)
SB2–6–1	9545	BIS2EHP=430B µg/kg	22600(21)	HCCP=360UJ(CCV)/3NO2AN=880UJ(CCV)/DNP24=880UJ(CCV)/CAR=360UJ(CCV)/ BIS2EHP=430U(MB)
SB2–6–1R	9546	None Detected	11510(20)	HCCP=360UJ(EHT,CCV)/3NO2AN=870UJ(EHT,CCV)/DNP24=870UJ(EHT,CCV)/ CAR=360UJ(EHT,CCV)/All other compounds=UJ(EHT)
SB3–4–1	9547	MTNPH2=210J/PHAN=430/FLA=780/PYR=380J/ BZAA=200J/CHRY=94J/BIS2EHP=850B/DNOP=44J/ BZBF=240J/BZKF=190J/BZAP=170J/INP123=150J µg/kg	125500(20)	HCCP=410UJ(CCV)/3NO2AN=980UJ(CCV)/DNP24=980UJ(CCV)/CAR=410UJ(CCV)/ BIS2EHP=850U(MB)
SB3–4–2	9548	None Detected	23790(21)	HCCP=370UJ(EHT,CCV)/3NO2AN=890UJ(EHT,CCV)/DNP24=890UJ(EHT,CCV)/ CAR=370UJ(EHT,CCV)/All other compounds=UJ(EHT)

Footnotes to Tables G−14a,−14b,−14c,−14d,−14e,−14f,−14g. Semivolatile Organic Compound Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

Control limits for Water SVOC Surrogate Recovery
Nitrobenzene−d5 (NBZ): 35−114
2−Fluorobiphenyl (FBP): 43−116
Terphenyl−d14 (TPH): 33−141
Phenol−d5 (PHL): 10−110
2−Fluorophenol (2FP): 21−110
2,4,6−Tribromophenol (TBP): 10−123
2−Chlorophenol−d4 (2CP): 33−110 (advisory)
1,2−Dichlorobenzene−d4 (DCB): 16−110 (advisory)

Control Limits for Soil SVOC Surrogate Recovery
Nitrobenzene−d5 (NBZ): 23−120
2−Fluorobiphenyl (FBP): 30−115
Terphenyl−d14 (TPH): 18−137
Phenol−d5 (PHL): 24−113
2−Fluorophenol (2FP): 25−121
2,4,6−Tribromophenol (TBP): 19−122
2−Chlorophenol−d4 (2CP): 20−130 (advisory)
1,2−Dichlorobenzene−d4 (DCB): 20−130 (advisory)

Control Limits for Water SVOC MS/MSD Analyses
Phenol (PHENOL): 12−110, %RPD= 42
2−Chlorophenol (CLPH2): 27−123, %RPD= 40
1,4−Dichlorobenzene (DCBZ14): 36−97, %RPD= 28
N−Nitroso−di−n−propylamine (NNSPR): 41−116, %RPD= 38
1,2,4−Trichlorobenzene (TCB124): 39−98, %RPD= 28
4−Chloro−3−methylphenol (C4M3PH): 23−97, %RPD= 42
Acenaphthene (ACNP): 46−118, %RPD= 31
4−Nitrophenol (NTPH4): 10−80, %RPD= 50
2,4−Dinitrotoluene (DNT24): 24−96, %RPD= 38
Pentachlorophenol (PCP): 9−103, %RPD= 50
Pyrene (PYR): 26−127, %RPD= 31

Control Limits for Soil SVOC MS/MSD Analyses
Phenol (PHENOL): 26−90, %RPD= 35
2−Chlorophenol (CLPH2): 25−102, %RPD= 50
1,4−Dichlorobenzene (DCBZ14): 28−104, %RPD= 27
N−Nitroso−di−n−propylamine (NNSPR): 41−126, %RPD= 38
1,2,4−Trichlorobenzene (TCB124): 38−107, %RPD= 23
4−Chloro−3−methylphenol (C4M3PH): 26−103, %RPD= 33
Acenaphthene (ACNP): 31−137, %RPD= 19
4−Nitrophenol (NTPH4): 11−114, %RPD= 50
2,4−Dinitrotoluene (DNT24): 28−89, %RPD= 47
Pentachlorophenol (PCP): 17−109, %RPD= 47
Pyrene (PYR): 35−142, %RPD= 36

Tuning and mass calibration performed with decafluorotriphenylphosphine (DFTPP).

Semivolatile Internal Standard Area Summary Compounds:
1,4−Dichlorobenzene−d4 (DCB)
Naphthalene−d8 (NPT)
Acenaphthene−d10 (ANT)
Phenanthrene−d10 (PHN)
Chrysene−d12 (CRY)
Perylene−d12 (PRY)

NA−not analyzed

Significant sample result data qualifiers:
J − analyte present between the lower detection limit of the instrument and the lower quantitation limit.
D − analyte identified in an analysis at a secondary dilution factor.
E − analyte's concentration exceeds the calibration range of the instrument for this specific analysis.
B−analyte was found in the associated blank as well as in the sample.
TIC−Tentatively Identified Compounds (number of non−TCL compounds detected)

Data validation qualifiers:
U−not detected
J−estimated concentration
MB−method blank
EHT−extraction holding time
CCV−continuing calibration verification
FD−field duplicate
IS−internal standard
SR−surrogate recovery
EB−equipment blank

Footnotes to Tables G−14a,−14b,−14c,−14d,−14e,−14f,−14g. Semivolatile Organic Compound Data Validation
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

Abbreviations for SVOC Compounds

Phenol=PHENOL
bis(2−Chloroethyl)ether=b2CLE
2−Chlorophenol=CLPH2
1,3−Dichlorobenzene=DCBZ13
1,4−Dichlorobenzene=DCBZ14
1,2−Dichlorobenzene=DCBZ12
2−Methylphenol=MPH
2,2−oxibis−(1−Chloropropane)=o1CLP22
4−Methylphenol=4MPH
N−Nitroso−di−n−propylamine=NNSPR
Hexachloroethane=HCLEA
Nitrobenzene=NO2BZ
Isophorone=ISOP
2−Nitrophenol=NTPH2
2,4−Dimethylphenol=DMPH24
bis(2−Chloroethoxy)methane=BECEM
2,4−Dichlorophenol=DCP24
1,2,4−Trichlorobenzene=TCB124
Naphthalene=NAPH
4−Chloroaniline=4CLAN
Hexachlorobutadiene=HCBU
4−Chloro−3−methylphenol=C4M3PH
2−Methylnaphthalene=MTNPH2
Hexachlorocyclopentadiene=HCCP
2,4,6−Trichlorophenol=TCP246
2,4,5−Trichlorophenol=TCP245
2−Chloronaphthalene=CNPH2
2−Nitroaniline=2NO2AN
Dimethylphthalate=DMPH
Acenaphthylene=ACNPY
2,6−Dinitrotoluene=DNT26
3−Nitroaniline=3NO2AN
Acenaphthene=ACNP
2,4−Dinitrophenol=DNP24
4−Nitrophenol=NTPH4
Dibenzofuran=DBZFUR
2,4−Dinitrotoluene=DNT24
Diethylphthalate=DEPH
4−Chlorophenyl−phenylether=CPPE4
Fluorene=FL
4−Nitroaniline=4NO2AN
4,6−Dinitro−2−methylphenol=DN46M
N−Nitrosodiphenylamine=NNSPH
4−Bromophenyl−phenylether=BPPE4
Hexachlorobenzene=HCLBZ
Pentachlorophenol=PCP
Phenanthrene=PHAN
Anthracene=ANTH
Carbazole=CAR
Di−n−butylphthalate=DNBP
Fluoranthene=FLA
Pyrene=PYR
Butylbenzylphthalate=BTBZNATE
3,3'−Dichlorobenzidine=DBZD33
Benzo(a)anthracene=BZAA
Chrysene=CHRY
bis(2−Ethylhexyl)phthalate=BIS2EHP
Di−n−octyl phthalate=DNOP
Benzo(b)fluoranthene=BZBF
Benzo(k)fluoranthene=BZKF
Benzo(a)pyrene=BZAP
Indeno(1,2,3−cd)pyrene=INP123
Dibenz(a,h)anthracene=DBAHA
Benzo(g,h,i)perylene=BZGHIP

except for SD5-1, SD5-1DL, SD5-3, SD5-3R, SD5-5, and SD5-2, which were extracted 12 and 8 days beyond the applicable extraction holding time for soil samples. SB2-6-1R and SB3-4-2 were extracted 2 and 3 days beyond the applicable extraction holding time for soil samples, respectively. Two fields QC blanks (i.e., SD5-ER and SD5-FB), were extracted 1 day beyond the applicable extraction holding time for water samples. The analytical results for these samples were qualified to indicate the exceeded holding times (i.e., all undetected and detected results were presented in the comprehensive data presentation tables as "UJ[EHT]" and "J[EHT]," respectively).

Tuning and Mass Calibration Results—The first step in the calibration of the GC/MS system is the demonstration of satisfactory ionization and fragmentation of standard mass spectral tuning compounds. This was accomplished, in addition to a sensitivity check, using decafluorotriphenylphosphine (DFTPP) injected at a concentration near the IDL, as required by EPA Method 8270 and the March 1990 EPA CLP SOW protocol. This standard was analyzed every 12 hours to ensure that each GC/MS used to analyze samples collected during the Springfield ANGB SI was tuned correctly. Tuning and mass calibration requirements used to evaluate the acceptable instrument operation are described in EPA Method 8270 and the March 1990 EPA CLP SOW protocol. Based on an evaluation of the ionization and fragmentation criteria, in addition to the instrument tune frequency, all DFTPP tuning and mass calibration criteria requirements were met.

Initial Calibration Results—After the tuning and mass calibration criteria were verified and before samples were analyzed, calibration of each GC/MS used to analyze samples collected during the Springfield ANGB SI was established and validated by injecting EPA-traceable standards at five concentrations spanning the expected sample concentration range to determine instrument sensitivity and the linear range of each target compound. Initial calibration was conducted after the GC/MS tune criteria were met and before any samples were analyzed to determine the linearity and dynamic range of the response of the GS/MS system to the target compounds. Following the initial calibration, the average RRF and %RSD values for all SVOCs were evaluated to verify the validity of the initial calibration. Calibration criteria requirements (i.e., greater than 0.050 or less than 30 percent for RRFs and RSDs, respectively) for SVOC

analyses are described in the *Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses*. Based on an evaluation of the ICVs conducted for SVOC analyses, all RRF and %RSD values were met, except for 3,3'-dichlorobenzidine (i.e., %RSD = 35.5, %RSD = 35.1, %RSD = 42.6) in the ICVs conducted on May 28 and June 1, 1992 and April 2, 1993. 3-Nitroaniline (i.e., %RSD=34.3), 4-nitroaniline (i.e., %RSD=37), and carbazole (i.e., %RSD=36.3%) did not meet the required criterion in the ICV conducted on April 2, 1993. 3,3'-Dichlorobenzidine, 3-nitroaniline, 4-nitroaniline, and carbazole concentrations were not detected in the associated water and soil samples, and by eliminating either the high or low point of the curves, the %RSDs were restored (i.e., %RSD were less than ± 30%). Therefore, the impact of these ICV results is minimal, and as a result, no data validation qualifiers were applied.

Continuing Calibration Results—Every 12 hours, a CCV standard was analyzed. The continuing calibration was evaluated based on the magnitude of the RRFs and %D between the average RRF of each compound for the initial calibration and RRF of that compound in the continuing calibration standard. Minimum RRF and maximum %D criteria are presented in the *Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses*. Based on an evaluation of the continuing calibrations conducted for SVOC analyses, all criteria requirements were met, except for: di-n-octyl phthalate in the CCVs conducted on May 28; September 2, 4, 18, and October 27 and 28, 1992; 2,2-oxibis-(1-chloropropane) in the CCVs conducted on May 29, September 2, 4, 15, 16, 17, 21, 25, October 23, 27, 28, 1992, and June 2 and 4, 1993; hexachloroethane in the CCVs conducted on June 1 and 2, 1993; 2,6-dinitrotoluene in the CCVs conducted on May 29 and September 2, 4, 15, 25, 1992, and June 4, 1993; 3-nitroaniline in the CCVs conducted on June 1 and 8, 1992; 4-nitroaniline in the CCVs conducted on May 29 and September 15, 17, 18, 19, 21, 25, 1992; 4,6-dinitro-2-methyl phenol in the CCVs conducted on May 29, June 1 and 2, September 18, 1992, and June 1, 1993; 3,3'-dichlorobenzidine in the CCVs conducted on May 29, June 2, September 10, 14, 16, October 27 and 28, 1992, and June 4,1993; hexachlorocyclopentadiene in the CCVs conducted on June 1, October 27 and 28, 1992, and June 2, 3, 4, 8, 1993; 2,4-dinitrophenol in the CCVs conducted on June 1 and 2, August 20, September 10, 11, 12, 14, 16, 18, October 28, 1992, and June 1, 2, 8, 1993; pentachlorophenol in the CCVs conducted on June 1, September 3, 11,

12, 14, 18, 1992, and June 1 and 2, 1993; 2,4,5-trichlorophenol in the CCVs conducted on September 2, 3, 4, 10, 14, 1992; dimethylphthalate in the CCVs conducted on September 10 and 14, 1992; 4-nitrophenol in the CCVs conducted on August 20, September 15, 16, 17, 18, 19, 21, 25, and October 10, 27, 28, 1992; hexachlorobutadiene in the CCVs conducted on September 15, 1992 and June 1 and 2, 1993; di-n-butyl phthalate in the CCVs conducted on September 16, 17, 21, and 25, 1992; diethylphthalate in the CCVs conducted on September 17 and 21, 1992; N-nitroso-di-n-propylamine in the CCVs conducted on September 21 and 4, 1992, and June 2,1993; carbazole in the CCVs conducted on June 1, 3, and 8, 1993; phenol and nitrobenzene in the CCVs conducted on September 4, 1992; butylbenzylphthalate in the CCVs conducted on September 12 and 18, 1992; hexachlorobenzene in the CCV conducted on June 1, 1993; pyrene and benzo(g,h,i)perylene in the CCVs conducted on October 23 and 28, 1992; indeno(1,2,3-c,d)pyrene and benzo(k)fluoranthene in the CCVs conducted on October 23 and 27, 1992; and 2-nitroaniline in the CCVs conducted on September 15, 17, 21, and 25, 1992. As a result, the analytical results (hexachloroethane, 3-nitroaniline, 4,6-dinitro-2-methylphenol, hexachlorobenzene, pentachlorophenol, hexachlorocyclopentadiene, carbazole, n-nitrozo-di-n-propylamine, 3,3'-dichloro-benzidine, 2,4-dinitrophenol, 2,4,5-trichlorophenol, 2,6-dinitro-toluene, di-n-octylphthalate, dimethylphthalate, pentachlorophenol, 2,2-oxibis-[1-chloropropane], 2-nitroaniline, 4-nitro-phenol, hexachlorobutadiene, di-n-butylphthalate, diethylphthalate, phenol, nitrobenzene, butylbenzylphthalate, as required) for specific soil and groundwater samples were qualified (i.e., undetected values will be presented as "UJ[CCV]" and detected values will be presented as "J[CCV]" in the data presentation tables) to indicate the exceeded %D for the continuing calibration (i.e., greater than 50 percent). These results are presented in Tables G-14a through G14g.

Internal Standard Summaries—Six internal standards (i.e., 1,4-dichlorobenzene-d_4, naphthalene-d_8, acenaphthene-d_{10}, phenanthrene-d_{10}, chrysene-d_{12}, and perylene-d_{12}) were added to each sample immediately before analysis as indicators of instrumental operating variations. The concentrations of SVOCs detected were calculated with reference to the RF of the IS for each sample. IS area requirements are described in the March 1990 EPA CLP SOW. The IS areas and retention times were within the acceptable ranges in all analyses, except: acenaphthene-d_{10} in SB2-2-1R, SB2-2-1R RE, SB2-2-2, SB2-3-1, SB2-2-2RE, and SB2-3-1 RE;

phenanthrene-d_{10} in SB2-2-17, SB2-3-1, SB2-3-1RE, and SB2-2-17; crysene-d_{12} in SB1-3-11R, SB2-2-17, and SB2-2-17RE; and perylene-d_{12} in SB1-3-11R, SB1-3-11R RE, SB2-2-17, SB2-2-17RE, SB5-1-7, and SB5-1-7RE. As a result, the SVOCs that were quantitated based on the RF of those ISs were qualified (i.e., all undetected value will be presented as "UJ[IS]") to indicate that the IS areas were outside the appropriate limits. These results are resented in Table G-14d and in the data presentation tables in Appendix F.

System Monitoring Compounds (Surrogate Recoveries)—Eight deuterated compounds (i.e., nitrobenzene-d_5, 2-fluorobiphenyl, terphenyl, phenol-d_5, 2-fluorophenol, 2,4,6-tribromophenol, 2-chlorophenol-d_4, and 1,2-dichlorobenzene-d_4), not expected to be detected in the environmental media, were added to each sample immediately before analysis. The control limits for surrogate recoveries in soil and water samples are described in the March 1990 EPA CLP SOW.

Data validation qualifiers were applied only to those samples in which two or more surrogate recoveries were outside the appropriate control limits, including SD2-1 (nitrobenzene-d_5 [161 percent], 2-fluorobiphenyl [165 percent], phenol-d_5 [134 percent], and 1,2-dichlorobenzene-d_4 [133 percent]); MW3-1-8 and SB1-3-11R RE (2-fluorobiphenyl [26 percent]); SB1-3-11R RE (2-fluorobiphenyl [140 percent]); SB2-2-1R (phenol-d_5 [118 percent] and 2-fluorophenol [158 percent]); SB2-1-1R RE (2-fluorobiphenyl [155 percent]); MW1-1-1 and MW2-1-1 (terphenyl-d_{14} [14 percent]); and MW3-1-1 and MWBG-1-1 (terphenyl-d_{14} [27 and 22 percent, respectively]).

Based on an evaluation of the surrogate recoveries, all analytical results in SB2-2-1R and SD2-1 have been qualified (i.e., undetected values will be presented in the comprehensive data presentation tables as "UJ[SR]" and detected values will be presented in the comprehensive data presentation tables as "J[SR]") to indicate that the applicable surrogate recovery values were outside the appropriate control limits. No data validation qualifiers were applied to SB1-3-11R RE, SB2-1-1R RE, MW1-1-1, MW2-1-1, MW3-1-1, MWBG-1-1, MW2-1-2, P-4-1, SB3-5-1, SB3-5-2, SD3-2, SD3-2R, and SD2-6, since only one surrogate compound was outside the applicable control limits. All other surrogate recoveries were within the required control

limits. Tables G-15 and G-16 summarize the surrogate recovery results for soil/sediment and groundwater samples, respectively.

Method Blanks—One method blank analysis was conducted with each batch of environmental samples analyzed for SVOCs. Each method blank was evaluated for interferents that might potentially interfere with the accurate quantitation of a target compound. According to EPA CLP method blank criteria, a laboratory blank may not contain phthalate esters in concentrations 10 times greater than the CRQL or any other target compound in concentrations greater than the CRQL. Based on an evaluation of all method blanks analyzed for SVOCs using EPA Method 8270 and the March 1990 EPA CLP SOW, no interferents were detected, except for bis(2-ethylhexyl) phthalate in SBLKS1, SBLKW1, SBLKS2, SBLKT1, and SBLKT2. Bis(2-ethylhexyl)phthalate concentrations in SD5-1DL, SD5-4DL, SD5-5, SD5-FB, SD5-2, SB2-4-1, SB2-4-2, SB2-5-1, SB2-5-2, SB3-5-1, SB3-5-2, SD2-3, SD2-4, SD2-6, SD3-1, SD3-2, SD3-2R, SB2-6-1, and SB3-4-1 were qualified (i.e., "U[MB]") in the applicable comprehensive data presentation tables to indicate that the concentration reported did not exceed 10 times that detected in the associated method blanks. Therefore, bis(2-ethylhexyl) phthalate will not be considered a detected compound for risk assessment purposes.

Matrix Spike/Matrix Spike Duplicate Results—MS/MSD analyses were conducted to assess the accuracy and precision of the laboratory and to evaluate the matrix effect of the sample upon the analytical methodology based upon the percent recovery of each compound. Accuracy was expressed as the percent recovery of the spike compounds. Precision was expressed as the RPD of the concentrations of the spike compounds in the MS/MSD samples. The control limits for percent recoveries in soil and water samples are described in the March 1990 EPA CLP SOW. No action was taken based on percent recovery or RPD values. However, MS/MSDs were evaluated to verify that 1 MS/MSD analysis was conducted for each 20 environmental samples received by the laboratory (excluding dilutions and reanalyses conducted), that these analyses were conducted on environmental samples only, and that the recovery and difference results did not indicate systematic laboratory control problems.

Table G–15. SVOC Surrogate Recovery QC Summary: Soil, Surface Soil, and Sediment
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

PARAMETER	TOTAL NUMBER ANALYSES*	PERCENT RECOVERY RANGES	PERCENT RECOVERY CONTROL LIMITS	NUMBER WITHIN CONTROL LIMITS	NUMBER OUTSIDE CONTROL LIMITS
NITROBENZENE–d5	104	(30–161)	(23–120)	103	1
2–FLUROBIPHENYL	104	(26–165)	(30–115)	102	2
TERPHENYL–d14	104	(40–137)	(18–137)	104	0
PHENOL–d5	104	(28–134)	(24–113)	102	2
2–FLUOROPHENOL	104	(23–158)	(25–121)	100	4
2,4,6–TRIBROMOPHENOL	104	(24–133)	(19–122)	100	4
2–CHLOROPHENOL–d4	104	(27–109)	(20–130)	104	0
1,2–DICHLOROBENZENE–d4	104	(19–133)	(20–130)	102	2

** Soil and Sediment Samples (including reanalyses and dilutions), Matrix Spike, Matrix Spike Duplicate, and Method Blanks.*

Table G–16. SVOC Surrogate Recovery QC Summary: Groundwater
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

PARAMETER	TOTAL NUMBER ANALYSES*	PERCENT RECOVERY RANGES	PERCENT RECOVERY LIMITS	NUMBER WITHIN CONTROL LIMITS	NUMBER OUTSIDE CONTROL LIMITS
NITROBENZENE–d5	48	(48–113)	(35–114)	48	0
2–FLUROBIPHENYL	48	(49–96)	(43–116)	48	0
TERPHENYL–d14	48	(14–117)	(33–141)	43	5
PHENOL–d5	48	(32–103)	(10–110)	48	0
2–FLUOROPHENOL	48	(29–91)	(21–100)	48	0
2,4,6–TRIBROMOPHENOL	48	(50–124)	(10–123)	47	1
2–CHLOROPHENOL–d4	48	(50–105)	(33–110)	48	0
1,2–DICHLOROBENZENE–d4	48	(31–87)	(16–110)	48	0

** Groundwater Samples, Matrix Spike, Matrix Spike Duplicate, Method Blanks, Field Blanks, and Equipment Blanks.*

Six MS/MSD analyses were conducted using soil samples (i.e., SB2-1-1, SB1-1-6, SB3-2-1, SB1-3-11, MW-3-1-1, and SB2-4-1) and one MS/MSD analysis was conducted using groundwater samples (i.e., MW3-1-1) collected during the Springfield ANGB SI. All percent recovery values were within the control limits, except: 1,4-dichlorobenzene (27 percent), n-nitroso-di-n-propylamine (27 percent), and 1,2,4-trichlorobenzene (28 percent) and pyrene in SB1-1-6; pyrene (4 percent) in SB3-2-1; 2-chlorophenol (23 percent), 1,4-dichlorobenzene (6 and 12 percent), n-nitro-di-n-propylamine (26 and 41 percent), 1,2,4-trichlorobenzene (14 and 20 percent), and acenaphthene (23 percent) in SB1-3-11; n-nitro-di-n-propylamine (38 percent) in MW3-1-1; 4-chloro-3-methylphenol (100 percent), 4-nitrophenol (100 and 94 percent), 2,4-dinitrotoluene (97 percent), and pentachlorophenol (110 and 114 percent) in MWBG-2-1; and 2,4-dinitrotoluene (91 and 105 percent), phenol (99 percent), and 4-chloro-3-methylphenol (104 percent) in SB2-4-1. All RPD values were within the control limits, except: phenol (43 percent), 1,4-dichlorobenzene (54 percent), n-nitro-di-n-propylamine (48 percent), and 1,2,4-trichlorobenzene (49 percent) in SB1-1-6; pyrene (173 percent) in SB3-2-1; 2-chlorophenol (67 percent), 1,2,4-trichloro-benzene (35 percent), and acenaphthene (23 percent) in SB1-3-11; and 1,4-dichlorobenzene (28 percent) and acenaphthene (20 percent) in SB2-4-1. These results are not considered to have adversely impacted the environmental data quality, since the surrogate recoveries met CLP validation guideline criteria, and as a result, no data validation qualifiers were applied. Tables G-17 and G-18 summarize the MS/MSD results for soil/sediment and groundwater samples, respectively.

Significant Qualified Sample Results—Validated data are presented in the data summary tables in Section 3 of the SI report and in the data presentation tables in Appendix F. Data validation qualifiers have been added to selected analytical results due to holding times, continuing calibration verifications, system monitoring compounds, internal standards, and laboratory blanks results.

G.3.1.3 Gasoline Range, Diesel Fuel Range, and Heavy Oil Analyses (Modified EPA Method 8015 WTPH-D)

Sixty-six soil samples, 16 sediment samples, 17 groundwater samples, and 21 field QC blanks (i.e., field blanks and equipment blanks) were collected and analyzed by the

Table G-17. SVOC MS/MSD QC Summary: Soil, Surface Soil, and Sediment
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

	ACCURACY					PRECISION				
PARAMETER	MS/MSD TOTAL No. ANALYSES	PERCENT RECOVERY RANGES	%R CONTROL LIMITS	NUMBER WITHIN CONTROL LIMITS	NUMBER OUTSIDE CONTROL LIMITS	MSD TOTAL No. ANALYSES	RPD RANGE	RPD LIMIT	NUMBER WITHIN CONTROL LIMITS	NUMBER OUTSIDE CONTROL LIMITS
Phenol	12	(27-99)	(26-90)	11	1	6	(5-43)	35	5	1
2-Chlorophenol	12	(23-93)	(25-102)	11	1	6	(2-39)	50	6	0
1,4-Dichlorobenzene	12	(6-94)	(28-104)	9	3	6	(5-67)	27	4	3
N-Nitroso-di-n-propylamine	12	(26-100)	(41-126)	8	4	6	(4-48)	38	5	1
1,2,4-Trichlorobenzene	12	(14-96)	(28-107)	9	3	6	(1-49)	23	3	2
4-Chloro-3-methylphenol	12	(54-104)	(26-103)	11	1	6	(2-27)	33	5	0
Acenaphthene	12	(31-101)	(31-137)	12	0	6	(0-23)	19	4	2
4-Nitrophenol	12	(61-98)	(11-114)	12	0	6	(6-22)	50	6	0
2,4-Dinitrotoluene	12	(54-105)	(28-89)	10	2	6	(2-18)	47	6	0
Pentachlorophenol	12	(40-88)	(17-109)	12	0	6	(2-29)	47	6	0
Pyrene	12	(4-110)	(35-149)	10	2	6	(0-173)	36	5	1

Matrix Spike and Matrix Spike Duplicate Analyses Performed on Samples: SB2-1-1, SB1-1-6, SB3-2-1, SB1-3-11, MW3-1-1, and SB2-4-1.

Table G-18. SVOC MS/MSD QC Summary: Groundwater
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

	ACCURACY					PRECISION				
PARAMETER	MS/MSD TOTAL No. ANALYSES	PERCENT RECOVERY RANGES	%R CONTROL LIMITS	NUMBER WITHIN CONTROL LIMITS	NUMBER OUTSIDE CONTROL LIMITS	MSD TOTAL No. ANALYSES	RPD RANGE	RPD LIMIT	NUMBER WITHIN CONTROL LIMITS	NUMBER OUTSIDE CONTROL LIMITS
Phenol	2	(81-83)	(12-110)	2	0	1	2	42	1	0
2-Chlorophenol	2	(85-86)	(27-123)	2	0	1	1	40	1	0
1,4-Dichlorobenzene	2	73	(36-97)	2	0	1	0	28	1	0
N-Nitroso-di-n-propylamine	2	(84-85)	(41-116)	2	0	1	1	38	1	0
1,2,4-Trichlorobenzene	2	(76-77)	(39-98)	2	0	1	1	28	1	0
4-Chloro-3-methylphenol	2	(97-100)	(23-97)	1	1	1	3	42	1	0
Acenaphthene	2	(81-82)	(46-118)	2	0	1	1	31	1	0
4-Nitrophenol	2	(94-100)	(10-80)	0	2	1	6	50	1	0
2,4-Dinitrotoluene	2	97	(24-96)	0	2	1	0	38	1	0
Pentachlorophenol	2	(110-114)	(9-103)	0	2	1	4	50	1	0
Pyrene	2	(69-78)	(26-127)	2	0	1	12	31	1	0

Matrix Spike and Matrix Spike Duplicate Analyses Performed on Samples: MW3-1-1.

Weyerhaeuser Laboratory using modified EPA Method 8015 WTPH-D. Data quality was evaluated using the guidelines and control limits specified for holding times, instrument calibration method blanks, and MS/MSD analyses. The gasoline range, diesel fuel range, and heavy oil data validation worksheets are presented in Tables G-19a through G-19f.

Holding Times—Holding times were defined as the maximum amount of time allowed to elapse between the date and time of sample collection and the date and time the sample was extracted. Holding times were further defined as the maximum amount of time allowed to elapse between the date and time of the extraction and sample analysis. The Weyerhaeuser Laboratory was required to meet extraction holding times of 14 days for samples collected for gasoline range, diesel fuel range, and heavy oil, all analysis were required within 40 days after extraction. Based on an evaluation of all environmental samples and field QC blanks for gasoline range, diesel fuel range, and heavy oil. All holding time criteria, were met, except for SD5-1, SD5-2, SD5-3, SD5-4, SD5-5, SD5-3R, SD5-ER, SD5-FB, MW3-1-1, MW3-1-1R, SD2-1, SD2-1R, SD2-2, MW4-1-1S, MW4-1-4S, and MW4-1-5S. These samples were extracted beyond the applicable extraction holding time for soil samples as a result analytical results in these samples were qualified to indicate the exceeded extraction holding times (i.e., all undetected and detected results were presented in the comprehensive data tables as "UJ[EHT]" and "J[EHT]," respectively).

Initial Calibration Verification—Calibration of the GC used to analyze the samples collected during the Springfield ANGB SI was established and validated by injecting six standards. Following the initial calibration, the %RSD was evaluated to verify the validity of the initial calibrations. Initial calibration criteria requirements of ± 15 percent must be met, as required by EPA Method 8015 WTPH-D. Based on an evaluation of the initial calibrations conducted, all %RSD values were within the control limits.

Continuing Calibration Verification—A check of the calibration curve was conducted daily and every 10 samples. The values obtained for the CCV standard must be between ± 15 percent of the known values. All CCV criteria were met.

Table G-19a. Diesel Fuel Range and Heavy Oil Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Date Collected	Date Extracted	Date Analyzed	Laboratory Control Sample(LCS)	ACCURACY Matrix Spike	ACCURACY Blank Spike	PRECISION Matrix Spike Duplicate	PRECISION Blank Spike Duplicate	Blank Analysis
SOILS										
Soil Blank	None	NA	06/02/92	06/15/92	DATA NOT PROVIDED	DATA NOT PROVIDED	DATA NOT PROVIDED	DATA NOT PROVIDED	DATA NOT PROVIDED	NO CONTAMINANTS DETECTED
SD5-1	89650	05/06/92	06/02/92	06/15/92						
SD5-2	89651	05/06/92	06/02/92	06/04/92						
SD5-3	89652	05/06/92	06/02/92	06/04/92						
SD5-4	89653	05/06/92	06/02/92	06/04/92						
SD5-5	89654	05/06/92	06/02/92	06/04/92						
SD5-3R	89658	05/06/92	06/02/92	06/14/92						
WATERS										
Water Blank	None	NA	05/27/92	06/05/92	DATA NOT PROVIDED	DATA NOT PROVIDED	BLANK SPIKE RECOVERY VALUE WITHIN LIMITS (50-150%).	DATA NOT PROVIDED	BLANK SPIKE DUPLICATE RECOVERY VALUE WITHIN LIMITS (50-150%).	NO CONTAMINANTS DETECTED
SD5-ER	89655	05/06/92	05/27/92	06/05/92						
SD5-FB	89656	05/06/92	05/27/92	06/05/92						
WATERS										
Water Blank	None	NA	08/23/92	09/17/92	ALL WATER LCS AND LCS DUP PERCENT RECOVERIES WITHIN CONTROL LIMITS (50-150%)	DATA NOT PROVIDED	DATA NOT PROVIDED	DATA NOT PROVIDED	DATA NOT PROVIDED	NO CONTAMINANTS DETECTED
EB2-1	94677	08/16/92	08/23/92	09/17/92						
FB2-1	94678	08/16/92	08/23/92	09/17/92						
EB5-1	94808	08/18/92	08/23/92	09/17/92						
FB5-1	94809	08/18/92	08/23/92	09/17/92						
SOILS										
Soil Blank	None	NA	08/29/92	09/17/92	DATA NOT PROVIDED	SB2-1-1 RECOVERY VALUE WITHIN LIMITS (50-150%).	DATA NOT PROVIDED	SB2-1-1 RECOVERY VALUE WITHIN LIMITS (50-150%).	DATA NOT PROVIDED	NO CONTAMINANTS DETECTED
SB2-1-1	94799	08/15/92	08/29/92	09/17/92						
SB2-1-4	94800	08/15/92	08/29/92	09/17/92						
SB5-2-1	94801	08/18/92	08/29/92	09/17/92						
SB5-2-2	94802	08/18/92	08/29/92	09/17/92						
SB5-3-1	94803	08/18/92	08/29/92	09/17/92						
SB5-3-2	94804	08/18/92	08/29/92	09/17/92						
SB5-4-1	94805	08/18/92	08/29/92	09/17/92						
SB5-4-1R	94806	08/18/92	08/29/92	09/17/92						
SB5-4-2	94807	08/18/92	08/29/92	09/17/92						
SB2-1-1 MS	94799 MS	08/15/92	08/29/92	09/17/92						
SB2-1-1 MSD	94799 MSD	08/15/92	08/29/92	09/17/92						

Table G-19a. Diesel Fuel Range and Heavy Oil Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Calibration Data	Surrogate Recovery	Field Blank Analysis	Equipment Blank Analysis	Significant Sample Results	Data Validation Qualifiers
SOILS							
Soil Blank	None	ALL %RSD VALUES	DATA NOT	NA	NA	None Detected	None Applied
SD5-1	89650	WITHIN CONTROL	PROVIDED	SD5-FB	SD5-ER	Diesel Range=400 mg/kg	Diesel Range=400J(EHT)/Heavy Oil=2UJ(EHT)
SD5-2	89651	LIMITS (<25%)		SD5-FB	SD5-ER	Diesel Range=36 mg/kg	Diesel Range=36J(EHT)
						Heavy Oil Range=85 mg/kg	Heavy Oil Range=85J(EHT)
SD5-3	89652			SD5-FB	SD5-ER	Diesel Range=190 mg/kg	Diesel Range=190J(EHT, FD)/Heavy Oil=2J(EHT, FD)
SD5-4	89653			SD5-FB	SD5-ER	Diesel Range=120 mg/kg	Diesel Range=120J(EHT)
						Heavy Oil Range=260 mg/kg	Heavy Oil Range=260J(EHT)
SD5-5	89654			SD5-FB	SD5-ER	Diesel Range=44 mg/kg	Diesel Range=44J(EHT)
						Heavy Oil Range=320 mg/kg	Heavy Oil Range=320J(EHT)
SD5-3R	89658			SD5-FB	SD5-ER	Diesel Range=4 mg/kg	Diesel Range=4J(EHT, FD)
						Heavy Oil Range=16 mg/kg	Heavy Oil Range=16J(EHT, FD)
WATERS							
Water Blank	None		DATA NOT	NA	NA	None Detected	None Applied
SD5-ER	89655		PROVIDED	NA	NA	None Detected	Diesel Range=0.1UJ(EHT)/Heavy Oil=0.1UJ(EHT)
SD5-FB	89656			NA	NA	None Detected	Diesel Range=0.1UJ(EHT)/Heavy Oil=0.1UJ(EHT)
WATERS							
Water Blank	None	DATA NOT	ALL SURROGATE	NA	NA	None Detected	None Applied
EB2-1	94677	PROVIDED	RECOVERY	NA	NA	None Detected	None Applied
FB2-1	94678		VALUES WITHIN	NA	NA	None Detected	None Applied
EB5-1	94808		LIMITS (50-150%).	NA	NA	None Detected	None Applied
FB5-1	94809			NA	NA	None Detected	None Applied
SOILS							
Soil Blank	None	DATA NOT	ALL SURROGATE	NA	NA	None Detected	None Applied
SB2-1-1	94799	PROVIDED	RECOVERY	FB2-1, SD5-FB	EB2-1	Heavy Oil Range=13 mg/kg	None Applied
SB2-1-4	94800		VALUES WITHIN	FB2-1, SD5-FB	EB2-1	Diesel Range=4 mg/kg	None Applied
			LIMITS (50-150%).			Heavy Oil Range=25 mg/kg	None Applied
SB5-2-1	94801			FB5-1, SD5-FB	EB5-1	Diesel Range=42 mg/kg	None Applied
						Heavy Oil Range=18 mg/kg	None Applied
SB5-2-2	94802			FB5-1, SD5-FB	EB5-1	Diesel Range=79 mg/kg	None Applied
						Heavy Oil Range=34 mg/kg	None Applied
SB5-3-1	94803			FB5-1, SD5-FB	EB5-1	Heavy Oil Range=12 mg/kg	None Applied
SB5-3-2	94804			FB5-1, SD5-FB	EB5-1	Diesel Range=65 mg/kg	None Applied
						Heavy Oil Range=27 mg/kg	None Applied
SB5-4-1	94805			FB5-1, SD5-FB	EB5-1	Diesel Range=2 mg/kg	None Applied
						Heavy Oil Range=11 mg/kg	None Applied
SB5-4-1R	94806			FB5-1, SD5-FB	EB5-1	Diesel Range=4 mg/kg	None Applied
						Heavy Oil Range=13 mg/kg	None Applied
SB5-4-2	94807			FB5-1, SD5-FB	EB5-1	Diesel Range=36 mg/kg	None Applied
						Heavy Oil Range=13 mg/kg	None Applied
SB2-1-1 MS	94799 MS			FB2-1, SD5-FB	EB2-1	Not Applicable	None Applied
SB2-1-1 MSD	94799 MSD			FB2-1, SD5-FB	EB2-1	Not Applicable	None Applied

Table G-19b. Diesel Fuel Range and Heavy Oil Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Date Collected	Date Extracted	Date Analyzed	Laboratory Control Sample(LCS)	ACCURACY Matrix Spike	ACCURACY Blank Spike	PRECISION Matrix Spike Duplicate	PRECISION Blank Spike Duplicate	Blank Analysis
SOILS										
Method Blank	None	NA	08/17/92	09/12/92	DATA NOT PROVIDED	SB1-2-8 RECOVERY VALUE WITHIN LIMITS (50-150%).	DATA NOT PROVIDED	SB1-2-8 RECOVERY VALUE WITHIN LIMITS (50-150%).	DATA NOT PROVIDED	NO CONTAMINANTS DETECTED IN EITHER METHOD BLANK
Method Blank	None	NA	08/17/92	09/12/92						
SB1-2-8	94523	08/13/92	08/17/92	09/12/92						
SB1-1-1	94524	08/13/92	08/17/92	09/12/92						
SB1-2-1	94525	08/13/92	08/17/92	09/12/92						
MWBG1-1	94527	08/12/92	08/17/92	09/12/92						
SB4-1-2	94528	08/12/92	08/17/92	09/11/92						
SB4-2-1	94529	08/12/92	08/17/92	09/11/92						
SB4-1-1	94530	08/12/92	08/17/92	09/12/92						
SB4-2-2	94531	08/12/92	08/17/92	09/11/92						
SB1-1-6	94532	08/13/92	08/17/92	09/12/92						
SB4-3-1	94535	08/12/92	08/17/92	09/12/92						
SB4-3-1R	94536	08/12/92	08/17/92	09/11/92						
SB4-3-3	94537	08/12/92	08/17/92	09/12/92						
SB4-3-2	94538	08/12/92	08/17/92	09/12/92						
SB1-2-8 MS	94523 MS	08/13/92	08/17/92	09/12/92						
SB1-2-8 MSD	94523 MSD	08/13/92	08/17/92	09/12/92						

Table G-19b. Diesel Fuel Range and Heavy Oil Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Calibration Data	Surrogate Recovery	Field Blank Analysis	Equipment Blank Analysis	Significant Sample Results	Data Validation Qualifiers
SOILS							
Method Blank	None	DATA NOT	ALL SURROGATE	NA	NA	None Detected	None Applied
Method Blank	None	PROVIDED	RECOVERY	NA	NA	None Detected	None Applied
SB1-2-8	94523		VALUES WITHIN LIMITS (50-150%).	FB1-1, SD5-FB	ER1-1	Diesel Range=29 mg/kg	None Applied
						Heavy Oil Range=15 mg/kg	None Applied
SB1-1-1	94524			FB1-1, SD5-FB	ER1-1	None Detected	None Applied
SB1-2-1	94525			FB1-1, SD5-FB	ER1-1	Heavy Oil Range=6 mg/kg	None Applied
MWBG1-1	94527			FB1-1, SD5-FB	ER1-1	Diesel Range=7 mg/kg	None Applied
						Heavy Oil Range=14 mg/kg	None Applied
SB4-1-2	94528			FB1-1, SD5-FB	ER1-1	None Detected	None Applied
SB4-2-1	94529			FB1-1, SD5-FB	ER1-1	None Detected	None Applied
SB4-1-1	94530			FB1-1, SD5-FB	ER1-1	Diesel Range=42 mg/kg	None Applied
						Heavy Oil Range=77 mg/kg	None Applied
SB4-2-2	94531			FB1-1, SD5-FB	ER1-1	None Detected	None Applied
SB1-1-6	94532			FB1-1, SD5-FB	ER1-1	Diesel Range=57 mg/kg	None Applied
						Heavy Oil Range=55 mg/kg	None Applied
SB4-3-1	94535			FB1-1, SD5-FB	ER1-1	Diesel Range=15 mg/kg	Diesel Range=15J(FD)
						Heavy Oil Range=34 mg/kg	Heavy Oil Range=34J(FD)
SB4-3-1R	94536			FB1-1, SD5-FB	ER1-1	None Detected	None Applied
SB4-3-3	94537			FB1-1, SD5-FB	ER1-1	Diesel Range=10 mg/kg	None Applied
						Heavy Oil Range=15 mg/kg	None Applied
SB4-3-2	94538			FB1-1, SD5-FB	ER1-1	Diesel Range=26 mg/kg	None Applied
						Heavy Oil Range=59 mg/kg	None Applied
SB1-2-8 MS	94523 MS			FB1-1, SD5-FB	ER1-1	Not Applicable	None Applied
SB1-2-8 MSD	94523 MSD			FB1-1, SD5-FB	ER1-1	Not Applicable	None Applied

Table G-19c. Diesel Fuel Range and Heavy Oil Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Date Collected	Date Extracted	Date Analyzed	Laboratory Control Sample(LCS)	ACCURACY		PRECISION		Blank Analysis
						Matrix Spike	Blank Spike	Matrix Spike Duplicate	Blank Spike Duplicate	
WATERS										
Water Method Blank	None	NA	08/28/92	09/16/92	ALL WATER LCS PERCENT RECOVERIES WITHIN CONTROL LIMITS (50-150%)	DATA NOT PROVIDED	DATA NOT PROVIDED	DATA NOT PROVIDED	DATA NOT PROVIDED	NO CONTAMINANTS DETECTED
EB3-1	94908	08/19/92	08/28/92	09/16/92						
FB3-1	94909	08/19/92	08/28/92	09/17/92						
SOILS										
Soil Method Blank	None	NA	08/30/92	09/14/92	DATA NOT PROVIDED	SB3-1-1 RECOVERY VALUE WITHIN LIMITS (50-150%).	DATA NOT PROVIDED	SB3-1-1 RECOVERY VALUE WITHIN LIMITS (50-150%).	DATA NOT PROVIDED	NO CONTAMINANTS DETECTED
SB3-1-1	94911	08/19/92	08/30/92	09/14/92						
MWBG-2-1	94912	08/19/92	08/30/92	09/16/92						
MWBG-2-3	94913	08/19/92	08/30/92	09/16/92						
MWBG-2-3R	94914	08/19/92	08/30/92	09/16/92						
SB3-1-8	94972	08/20/92	08/30/92	09/14/92						
SB3-2-1	94973	08/20/92	08/30/92	09/14/92						
SB3-2-4	94974	08/20/92	08/30/92	09/14/92						
SB3-2-7	94975	08/20/92	08/30/92	09/14/92						
SB3-3-1	94976	08/20/92	08/30/92	09/14/92						
SB3-3-8	94977	08/20/92	08/30/92	09/14/92						
MW3-1-1a	95031	08/21/92	08/30/92	09/13/92						
MW3-1-8	95032	08/21/92	08/30/92	09/13/92						
SB3-1-1 MS	94911 MS	08/19/92	08/30/92	09/14/92						
SB3-1-1 MSD	94911 MSD	08/19/92	08/30/92	09/14/92						
SOILS										
Soil Method Blank	None	NA	08/27/92	09/14/92	ALL SOIL LCS PERCENT RECOVERIES WITHIN CONTROL LIMITS (50-150%)	SB1-3-1 RECOVERY VALUE WITHIN LIMITS (50-150%).	DATA NOT PROVIDED	SB1-3-1 RECOVERY VALUE WITHIN LIMITS (50-150%).	DATA NOT PROVIDED	NO CONTAMINANTS DETECTED
SB1-3-1	94596	08/14/92	08/27/92	09/14/92						
SB1-3-11	94597	08/14/92	08/27/92	09/14/92						
SB1-3-11R	94598	08/14/92	08/27/92	09/14/92						
SB1-1-3	94602	08/13/92	08/27/92	09/14/92						
SB1-2-3	94603	08/13/92	08/27/92	09/14/92						
SB1-3-3	94604	08/14/92	08/27/92	09/14/92						
SB2-2-1	94666	08/16/92	08/27/92	09/14/92						
SB2-2-1R	94667	08/16/92	08/27/92	09/14/92						
SB2-2-2	94668	08/16/92	08/27/92	09/14/92						
SB2-2-17	94669	08/16/92	08/27/92	09/14/92						
SB2-3-1	94670	08/17/92	08/27/92	09/14/92						
SB2-3-4	94671	08/17/92	08/27/92	09/14/92						
SB2-3-16	94672	08/17/92	08/27/92	09/14/92						
SB2-1-14	94673	08/15/92	08/27/92	09/14/92						
SB5-1-1	94674	08/17/92	08/27/92	09/14/92						
SB5-1-7	94675	08/17/92	08/27/92	09/14/92						
SB1-3-1 MS	94596 MS	08/14/92	08/27/92	09/14/92						
SB1-3-1 MSD	94596 MSD	08/14/92	08/27/92	09/14/92						
WATERS										
Water Method Blank	None	NA	08/21/92	09/15/92	ALL WATER LCS AND LCS DUP PERCENT RECOVERIES WITHIN CONTROL LIMITS (50-150%)	DATA NOT PROVIDED	DATA NOT PROVIDED	DATA NOT PROVIDED	DATA NOT PROVIDED	NO CONTAMINANTS DETECTED
ER1-1	94600	08/14/92	08/21/92	09/15/92						
FB1-1	94601	08/14/92	08/21/92	09/16/92						

Table G-19c. Diesel Fuel Range and Heavy Oil Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Calibration Data	Surrogate Recovery	Field Blank Analysis	Equipment Blank Analysis	Significant Sample Results	Data Validation Qualifiers
WATERS							
Water Method Blank	None	DATA NOT PROVIDED	ALL SURROGATE RECOVERY VALUES WITHIN LIMITS (50-150%).	NA	NA	None Detected	None Applied
EB3-1	94908			NA	NA	None Detected	None Applied
FB3-1	94909			NA	NA	None Detected	None Applied
SOILS							
Soil Method Blank	None	DATA NOT PROVIDED	ALL SURROGATE RECOVERY VALUES WITHIN LIMITS (50-150%).	NA	NA	None Detected	None Applied
SB3-1-1	94911			FB3-1, SD5-FB	EB3-1	Heavy Oil Range=53 mg/kg	None Applied
MWBG-2-1	94912			FB3-1, SD5-FB	EB3-1	Heavy Oil Range=2 mg/kg	None Applied
MWBG-2-3	94913			FB3-1, SD5-FB	EB3-1	Diesel Range=39 mg/kg	Diesel Range=39J(FD)
						Heavy Oil Range=97 mg/kg	Heavy Oil Range=97J(FD)
MWBG-2-3R	94914			FB3-1, SD5-FB	EB3-1	Diesel Range=4 mg/kg	Diesel Range=4J(FD)
						Heavy Oil Range=2 mg/kg	Heavy Oil Range=2J(FD)
SB3-1-8	94972			FB3-1, SD5-FB	EB3-1	Diesel Range=29 mg/kg	None Applied
SB3-2-1	94973			FB3-1, SD5-FB	EB3-1	Diesel Range=3 mg/kg	None Applied
SB3-2-4	94974			FB3-1, SD5-FB	EB3-1	Diesel Range=220 mg/kg	None Applied
						Heavy Oil Range=230 mg/kg	None Applied
SB3-2-7	94975			FB3-1, SD5-FB	EB3-1	Diesel Range=21 mg/kg	None Applied
SB3-3-1	94976			FB3-1, SD5-FB	EB3-1	None Detected	None Applied
SB3-3-8	94977			FB3-1, SD5-FB	EB3-1	Diesel Range=5 mg/kg	None Applied
						Heavy Oil Range=3 mg/kg	None Applied
MW3-1-1a	95031			FB3-1, SD5-FB	EB3-1	Diesel Range=28 mg/kg	None Applied
MW3-1-8	95032			FB3-1, SD5-FB	EB3-1	Diesel Range=12 mg/kg	None Applied
						Heavy Oil Range=7 mg/kg	None Applied
SB3-1-1 MS	94911 MS			FB3-1, SD5-FB	EB3-1	Not Applicable	None Applied
SB3-1-1 MSD	94911 MSD			FB3-1, SD5-FB	EB3-1	Not Applicable	None Applied
SOILS							
Soil Method Blank	None	DATA NOT PROVIDED	ALL SURROGATE RECOVERY VALUES WITHIN LIMITS (50-150%).	NA	NA	None Detected	None Applied
SB1-3-1	94596			FB1-1, SD5-FB	ER1-1	None Detected	None Applied
SB1-3-11	94597			FB1-1, SD5-FB	ER1-1	Diesel Range=14 mg/kg	Diesel Range=14J(FD)
						Heavy Oil Range=11 mg/kg	Heavy Oil Range=11J(FD)
SB1-3-11R	94598			FB1-1, SD5-FB	ER1-1	Diesel Range=43 mg/kg	Diesel Range=43J(FD)
						Heavy Oil Range=22 mg/kg	Heavy Oil Range=22J(FD)
SB1-1-3	94602			FB1-1, SD5-FB	ER1-1	None Detected	None Applied
SB1-2-3	94603			FB1-1, SD5-FB	ER1-1	Diesel Range=3 mg/kg	None Applied
						Heavy Oil Range=3 mg/kg	None Applied
SB1-3-3	94604			FB1-1, SD5-FB	ER1-1	Heavy Oil Range=4 mg/kg	None Applied
SB2-2-1	94666			FB2-1, SD5-FB	EB2-1	Diesel Range=135 mg/kg	Diesel Range=135J(FD)
SB2-2-1R	94667			FB2-1, SD5-FB	EB2-1	Diesel Range=830 mg/kg	Diesel Range=830J(FD)
SB2-2-2	94668			FB2-1, SD5-FB	EB2-1	Diesel Range=640 mg/kg	None Applied
SB2-2-17	94669			FB2-1, SD5-FB	EB2-1	Diesel Range=91 mg/kg	None Applied
SB2-3-1	94670			FB2-1, SD5-FB	EB2-1	Diesel Range=750 mg/kg	None Applied
SB2-3-4	94671			FB2-1, SD5-FB	EB2-1	Diesel Range=37 mg/kg	None Applied
SB2-3-16	94672			FB2-1, SD5-FB	EB2-1	Diesel Range=35 mg/kg	None Applied
						Heavy Oil Range=10 mg/kg	None Applied
SB2-1-14	94673			FB2-1, SD5-FB	EB2-1	Diesel Range=48 mg/kg	None Applied
						Heavy Oil Range=15 mg/kg	None Applied
SB5-1-1	94674			FB5-1, SD5-FB	EB5-1	Diesel Range=8 mg/kg	None Applied
						Heavy Oil Range=5 mg/kg	None Applied
SB5-1-7	94675			FB5-1, SD5-FB	EB5-1	Diesel Range=48 mg/kg	None Applied
						Heavy Oil Range=13 mg/kg	None Applied
SB1-3-1 MS	94596 MS			FB1-1, SD5-FB	ER1-1	Not Applicable	None Applied
SB1-3-1 MSD	94596 MSD			FB1-1, SD5-FB	ER1-1	Not Applicable	None Applied
WATERS							
Water Method Blank	None	DATA NOT PROVIDED	ALL SURROGATE RECOVERY VALUES WITHIN LIMITS (50-150%).	NA	NA	None Detected	None Applied
ER1-1	94600			NA	NA	None Detected	None Applied
FB1-1	94601			NA	NA	None Detected	None Applied

Table G–19d. Diesel Fuel Range and Heavy Oil Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Date Collected	Date Extracted	Date Analyzed	Laboratory Control Sample(LCS)	ACCURACY Matrix Spike	ACCURACY Blank Spike	PRECISION Matrix Spike Duplicate	PRECISION Blank Spike Duplicate	Blank Analysis
WATERS										
Method Blank	None	NA	08/31/92	09/17/92	ALL WATER LCS PERCENT RECOVERIES WITHIN CONTROL LIMITS (50–150%)	DATA NOT PROVIDED	DATA NOT PROVIDED	DATA NOT PROVIDED	DATA NOT PROVIDED	NO CONTAMINANTS DETECTED
EB4–1	95191	08/25/92	08/31/92	09/17/92						
FB4–1	95192	08/25/92	08/31/92	09/19/92						
ERBG–1	95193	08/25/92	08/31/92	09/19/92						
FBBG–1	95194	08/25/92	08/31/92	09/19/92						
SOILS										
MW3–1–1	95266	08/26/92	09/11/92	09/19/92	DATA NOT PROVIDED	[MW4–1–5S] RECOVERY VALUE WITHIN LIMITS (50–150%).	DATA NOT PROVIDED	[MW4–1–5S] RECOVERY VALUE WITHIN LIMITS (50–150%).	DATA NOT PROVIDED	DATA NOT PROVIDED
MW3–1–1R	95267	08/26/92	09/11/92	09/19/92						
SD2–1	95268	08/26/92	09/11/92	09/19/92						
SD2–1R	95269	08/26/92	09/11/92	09/19/92						
SD2–2	95270	08/26/92	09/22/92	09/28/92						
MW4–1–1S	95273	08/26/92	09/11/92	09/19/92						
MW4–1–4S	95274	08/26/92	09/11/92	09/19/92						
MW4–1–5S	95275	08/26/92	09/11/92	09/19/92						
MW4–1–5S MS	95275 MS	08/26/92	09/11/92	09/19/92						
MW4–1–5S MSD	95275 MSD	08/26/92	09/11/92	09/19/92						
WATERS										
Method Blank	None	NA	10/06/92	10/20/92	ALL WATER LCS PERCENT RECOVERIES WITHIN CONTROL LIMITS (50–150%)	[MW4–1–1] RECOVERY VALUE WITHIN LIMITS (50–150%).	DATA NOT PROVIDED	[MW4–1–1] RECOVERY VALUE WITHIN LIMITS (50–150%).	DATA NOT PROVIDED	NO CONTAMINANTS DETECTED IN EITHER METHOD BLANK
Method Blank	None	NA	10/06/92	10/20/92						
MWBG–2–1	97271	09/29/92	10/06/92	10/20/92						
MW4–1–1	97272	09/29/92	10/01/92	10/20/92						
ERBG–2	97273	09/29/92	10/01/92	10/20/92						
FBBA–1	97308	09/30/92	10/06/92	10/21/92						
MWBG–1–1	97309	09/30/92	10/06/92	10/20/92						
MW1–1–1	97310	09/30/92	10/06/92	10/21/92						
MW3–1–1	97311	09/30/92	10/06/92	10/21/92						
MW3–1–1R	97314	09/30/92	10/06/92	10/21/92						
FBCE–1	97395	10/01/92	10/06/92	10/21/92						
MW2–1–1	97396	10/01/92	10/06/92	10/21/92						
MW4–1–1 MS	97272 MS	09/29/92	10/01/92	10/20/92						
MW4–1–1 MSD	97272 MSD	09/29/92	10/01/92	10/20/92						

Table G-19d. Diesel Fuel Range and Heavy Oil Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Calibration Data	Surrogate Recovery	Field Blank Analysis	Equipment Blank Analysis	Significant Sample Results	Data Validation Qualifiers
WATERS							
Method Blank	None	DATA NOT	ALL SURROGATE	NA	NA	None Detected	None Applied
EB4-1	95191	PROVIDED	RECOVERY	NA	NA	None Detected	None Applied
FB4-1	95192		VALUES WITHIN	NA	NA	None Detected	None Applied
ERBG-1	95193		LIMITS (50-150%).	NA	NA	None Detected	None Applied
FBBG-1	95194			NA	NA	None Detected	None Applied
SOILS							
MW3-1-1	95266	DATA NOT	ALL SURROGATE	FB3-1, SD5-FB	EB3-1	Heavy Oil Range=23 mg/kg	Diesel Range=3UJ(EHT)/Heavy Oil Range=23J(EHT)
MW3-1-1R	95267	PROVIDED	RECOVERY	FB3-1, SD5-FB	EB3-1	Heavy Oil Range=35 mg/kg	Diesel Range=3UJ(EHT)/Heavy Oil Range=35J(EHT)
SD2-1	95268		VALUES WITHIN LIMITS (50-150%),	FBBG-1, SD5-FB	ERBG-1	Diesel Fuel Range=180 mg/kg Heavy Oil Range=640 mg/kg	Diesel Fuel Range=180J(EHT, FD) Heavy Oil Range=640J(EHT, FD)
SD2-1R	95269		EXCEPT:	FBBG-1, SD5-FB	ERBG-1	Heavy Oil Range=5 mg/kg	Diesel Range=3UJ(EHT)/Heavy Oil Range=5J(EHT, FD)
SD2-2	95270		MW4-1-5S MS	FBBG-1, SD5-FB	ERBG-1	Heavy Oil Range=43 mg/kg	Diesel Range =3UJ(EHT)/Heavy Oil Range=43J(EHT)
MW4-1-1S	95273		(151%).	FB4-1, SD5-FB	EB4-1	None Detected	Diesel Range=3UJ(EHT)/Heavy Oil Range=3UJ(EHT)
MW4-1-4S	95274			FB4-1, SD5-FB	EB4-1	Heavy Oil Range=4 mg/kg	Diesel Range=3UJ(EHT)/Heavy Oil Range=4J(EHT)
MW4-1-5S	95275			FB4-1, SD5-FB	EB4-1	Heavy Oil Range=13 mg/kg	Diesel Range=3UJ(EHT)/Heavy Oil Range=13J(EHT)
MW4-1-5S MS	95275 MS			FB4-1, SD5-FB	EB4-1	Not Applicable	None Applied
MW4-1-5S MSD	95275 MSD			FB4-1, SD5-FB	EB4-1	Not Applicable	None Applied
WATERS							
Method Blank	None	DATA NOT	ALL SURROGATE	NA	NA	None Detected	None Applied
Method Blank	None	PROVIDED	RECOVERY	NA	NA	None Detected	None Applied
MWBG-2-1	97271		VALUES WITHIN	FBBA-1, FBCE-1	ERBG-2	None Detected	None Applied
MW4-1-1	97272		LIMITS (50-150%).	FBBA-1, FBCE-1	ERBG-2	None Detected	None Applied
ERBG-2	97273			NA	NA	None Detected	None Applied
FBBA-1	97308			NA	NA	None Detected	None Applied
MWBG-1-1	97309			FBBA-1, FBCE-1	ERBG-2	None Detected	None Applied
MW1-1-1	97310			FBBA-1, FBCE-1	ERBG-2	None Detected	None Applied
MW3-1-1	97311			FBBA-1, FBCE-1	ERBG-2	None Detected	None Applied
MW3-1-1R	97314			FBBA-1, FBCE-1	ERBG-2	None Detected	None Applied
FBCE-1	97395			NA	NA	None Detected	None Applied
MW2-1-1	97396			FBBA-1, FBCE-1	ERBG-2	Diesel Range=0.3 mg/l	None Applied
MW4-1-1 MS	97272 MS			FBBA-1, FBCE-1	ERBG-2	Not Applicable	None Applied
MW4-1-1 MSD	97272 MSD			FBBA-1, FBCE-1	ERBG-2	Not Applicable	None Applied

Table G-19e. Gasoline Range and Diesel Fuel Range Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Date Collected	Date Extracted	Date Analyzed	Laboratory Control Sample(LCS)	ACCURACY Matrix Spike	ACCURACY Blank Spike	PRECISION Matrix Spike Duplicate	PRECISION Blank Spike Duplicate	Blank Analysis
WATERS										
Method Blank	None	NA	NA	05/24/93	DATA NOT PROVIDED	MW3-1-2 RECOVERY VALUE WITHIN LIMITS (50-150%).	DATA NOT PROVIDED	MW3-1-2 RECOVERY VALUE WITHIN LIMITS (50-150%).	DATA NOT PROVIDED	NO CONTAMINANTS DETECTED
EB2-2	9564	05/21/93	NA	05/24/93						
EB3-2	9565	05/21/93	NA	05/24/93						
FB2-2	9566	05/21/93	NA	05/25/93						
FB3-2	9567	05/21/93	NA	05/25/93						
MW1-1-2	9568	05/21/93	NA	05/25/93						
MW2-1-2	9569	05/21/93	NA	05/25/93						
MW2-2-1	9570	05/21/93	NA	05/25/93						
MW3-1-2	9571	05/21/93	NA	05/25/93						
MW4-1-2	9572	05/21/93	NA	05/25/93						
MWBG-1-2	9573	05/21/93	NA	05/26/93						
MWBG-2-2	9574	05/21/93	NA	05/26/93						
P-4-1	9575	05/21/93	NA	05/26/93						
P-4-1R	9576	05/21/93	NA	05/26/93						
P-5-1	9577	05/21/93	NA	05/26/93						
MW-3-1-2MS	9571MS	05/21/93	NA	05/25/93						
MW-3-1-2MSD	9571MSD	05/21/93	NA	05/25/93						
WATERS										
Method Blank	None	NA	05/26/93	06/16/93	ALL WATER LCS PERCENT RECOVERIES WITHIN CONTROL LIMITS (50-150%)	EB2-2 RECOVERY VALUE WITHIN LIMITS (50-150%).	SEE LCS RESULTS	EB2-2 RECOVERY VALUE WITHIN LIMITS (50-150%).	DATA NOT PROVIDED	NO CONTAMINANTS DETECTED
Method Blank	None	NA	05/26/93	06/16/93						
EB2-2	9564	05/21/93	05/26/93	06/16/93						
EB3-2	9565	05/21/93	05/26/93	06/16/93						
FB2-2	9566	05/21/93	05/26/93	06/16/93						
FB3-2	9567	05/21/93	05/26/93	06/16/93						
MW1-1-2	9568	05/21/93	05/26/93	06/17/93						
MW2-1-2	9569	05/21/93	05/26/93	06/17/93						
MW2-2-1	9570	05/21/93	05/26/93	06/17/93						
MW3-1-2	9571	05/21/93	05/26/93	06/17/93						
MW4-1-2	9572	05/21/93	05/26/93	06/17/93						
MWBG-1-2	9573	05/21/93	05/26/93	06/17/93						
MWBG-2-2	9574	05/21/93	05/26/93	06/17/93						
P-4-1	9575	05/21/93	05/26/93	06/17/93						
P-4-1R	9576	05/21/93	05/26/93	06/17/93						
P-5-1	9577	05/21/93	05/26/93	06/17/93						
EB2-2MS	9564MS	05/21/93	05/26/93	06/17/93						
EB2-2MSD	9564MSD	05/21/93	05/26/93	06/17/93						
SOILS										
Method Blank	None	NA	NA	06/05/93	ALL SOIL LCS PERCENT RECOVERIES WITHIN CONTROL LIMITS (50-150%)	SD2-4 RECOVERY VALUE WITHIN LIMITS (50-150%).	SEE LCS RESULTS	SD2-4 RECOVERY VALUE WITHIN LIMITS (50-150%).	DATA NOT PROVIDED	NO CONTAMINANTS DETECTED
Method Blank	None	NA	NA	06/05/93						
SB2-4-1	9541	05/19/93	05/25/93	06/05/93						
SB2-4-2	9542	05/19/93	05/25/93	06/05/93						
SB2-5-1	9543	05/19/93	05/25/93	06/07/93						
SB2-5-2	9544	05/19/93	05/25/93	06/07/93						
SB2-6-1	9545	05/20/93	05/25/93	06/07/93						
SB2-6-1R	9546	05/20/93	05/25/93	06/07/93						
SB3-4-1	9547	05/19/93	05/25/93	06/08/93						
SB3-4-2	9548	05/19/93	05/25/93	06/08/93						
SB3-5-1	9549	05/19/93	05/25/93	06/08/93						
SB3-5-2	9550	05/19/93	05/25/93	06/08/93						
SD2-3	9551	05/21/93	05/25/93	06/08/93						
SD2-4	9552	05/21/93	05/25/93	06/08/93						
SD2-5	9553	05/21/93	05/25/93	06/08/93						
SD2-6	9554	05/21/93	05/25/93	06/08/93						
SD3-1	9555	05/21/93	05/25/93	06/08/93						
SD3-2	9556	05/21/93	05/25/93	06/08/93						
SD3-2R	9557	05/21/93	05/25/93	06/08/93						
SD2-4MS	9552MS	05/21/93	05/25/93	06/08/93						
SD2-4MSD	9552MSD	05/21/93	05/25/93	06/08/93						

Table G-19e. Gasoline Range and Diesel Fuel Range Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Calibration Data	Surrogate Recovery	Field Blank Analysis	Equipment Blank Analysis	Significant Sample Results	Data Validation Qualifiers
WATERS							
Method Blank	None	ALL %RSD and %D	ALL SURROGATE	NA	NA	None Detected	None Applied
EB2-2	9564	VALUES WITHIN	RECOVERY	NA	NA	None Detected	None Applied
EB3-2	9565	CONTROL LIMITS	VALUES WITHIN	NA	NA	None Detected	None Applied
FB2-2	9566	(<25%)	LIMITS (50-150%).	NA	NA	None Detected	None Applied
FB3-2	9567			NA	NA	None Detected	None Applied
MW1-1-2	9568			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
MW2-1-2	9569			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
MW2-2-1	9570			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
MW3-1-2	9571			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
MW4-1-2	9572			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
MWBG-1-2	9573			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
MWBG-2-2	9574			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
P-4-1	9575			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
P-4-1R	9576			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
P-5-1	9577			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
MW-3-1-2MS	9571MS			FB2-2,FB3-2	EB2-2,EB3-2	Not Applicable	None Applied
MW-3-1-2MSD	9571MSD			FB2-2,FB3-2	EB2-2,EB3-2	Not Applicable	None Applied
WATERS							
Method Blank	None	ALL %RSD and %D	ALL SURROGATE	NA	NA	None Detected	None Applied
Method Blank	None	VALUES WITHIN	RECOVERY	NA	NA	None Detected	None Applied
EB2-2	9564	CONTROL LIMITS	VALUES WITHIN	NA	NA	None Detected	None Applied
FB3-2	9565	(<25%)	LIMITS (50-150%).	NA	NA	None Detected	None Applied
FB2-2	9566			NA	NA	None Detected	None Applied
FB3-2	9567			NA	NA	None Detected	None Applied
MW1-1-2	9568			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
MW2-1-2	9569			FB2-2,FB3-2	EB2-2,EB3-2	Diesel Fuel Range=0.42ug/mL	None Applied
MW2-2-1	9570			FB2-2,FB3-2	EB2-2,EB3-2	Diesel Fuel Range=0.50ug/mL	None Applied
MW3-1-2	9571			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
MW4-1-2	9572			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
MWBG-1-2	9573			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
MWBG-2-2	9574			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
P-4-1	9575			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
P-4-1R	9576			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
P-5-1	9577			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
EB2-2MS	9564MS			NA	NA	Not Applicable	None Applied
EB2-2MSD	9564MSD			NA	NA	Not Applicable	None Applied
SOILS							
Method Blank	None	ALL %RSD and %D	ALL SURROGATE	NA	NA	None Detected	None Applied
Method Blank	None	VALUES WITHIN	RECOVERY	NA	NA	None Detected	None Applied
SB2-4-1	9541	CONTROL LIMITS	VALUES WITHIN	FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
SB2-4-2	9542	(<25%)	LIMITS (50-150%).	FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
SB2-5-1	9543			FB2-2,FB3-2	EB2-2,EB3-2	Gasoline Range=6.8ug/g	None Applied
SB2-5-2	9544			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
SB2-6-1	9545			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
SB2-6-1R	9546			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
SB3-4-1	9547			FB2-2,FB3-2	EB2-2,EB3-2	Gasoline Range=310ug/g	None Applied
SB3-4-2	9548			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
SB3-5-1	9549			FB2-2,FB3-2	EB2-2,EB3-2	Gasoline Range=84ug/g	None Applied
SB3-5-2	9550			FB2-2,FB3-2	EB2-2,EB3-2	Gasoline Range=8.7ug/g	None Applied
SD2-3	9551			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
SD2-4	9552			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
SD2-5	9553			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
SD2-6	9554			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
SD3-1	9555			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
SD3-2	9556			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
SD3-2R	9557			FB2-2,FB3-2	EB2-2,EB3-2	None Detected	None Applied
SD2-4MS	9552MS			FB2-2,FB3-2	EB2-2,EB3-2	Not Applicable	None Applied
SD2-4MSD	9552MSD			FB2-2,FB3-2	EB2-2,EB3-2	Not Applicable	None Applied

Table G-19f. Diesel Fuel Range and Heavy Oil Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Date Collected	Date Extracted	Date Analyzed	Laboratory Control Sample(LCS)	ACCURACY Matrix Spike	Blank Spike	PRECISION Matrix Spike Duplicate	Blank Spike Duplicate	Blank Analysis
SOILS										
Method Blank	None	NA	NA	06/18/93	ALL SOIL LCS PERCENT RECOVERIES WITHIN CONTROL LIMITS (50-150%)	[SB2-4-1] RECOVERY VALUE WITHIN LIMITS (50-150%).	SEE LCS RESULTS	[SB2-4-1] RECOVERY VALUE WITHIN LIMITS (50-150%).	DATA NOT PROVIDED	NO CONTAMINANTS DETECTED
Method Blank	None	NA	NA	06/18/93						
SB2-4-1	9541	05/19/93	05/29/93	06/18/93						
SB2-4-2	9542	05/19/93	05/29/93	06/18/93						
SB2-5-1	9543	05/19/93	05/29/93	06/18/93						
SB2-5-2	9544	05/19/93	05/29/93	06/18/93						
SB2-6-1	9545	05/20/93	05/29/93	06/18/93						
SB2-6-1R	9546	05/20/93	05/29/93	06/18/93						
SB3-4-1	9547	05/19/93	05/29/93	06/18/93						
SB3-4-2	9548	05/19/93	05/29/93	06/18/93						
SB3-5-1	9549	05/19/93	05/29/93	06/18/93						
SB3-5-2	9550	05/19/93	05/29/93	06/18/93						
SD2-3	9551	05/21/93	05/29/93	06/18/93						
SD2-4	9552	05/21/93	05/29/93	06/18/93						
SD2-5	9553	05/21/93	05/29/93	06/18/93						
SD2-6	9554	05/21/93	05/29/93	06/18/93						
SD3-1	9555	05/21/93	05/29/93	06/18/93						
SD3-2	9556	05/21/93	05/29/93	06/18/93						
SD3-2R	9557	05/21/93	05/29/93	06/18/93						
SD2-4MS	9552MS	05/21/93	05/29/93	06/18/93						
SD2-4MSD	9552MSD	05/21/93	05/29/93	06/18/93						

Table G-19f. Diesel Fuel Range and Heavy Oil Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Calibration Data	Surrogate Recovery	Field Blank Analysis	Equipment Blank Analysis	Significant Sample Results	Data Validation Qualifiers
SOILS							
Method Blank	None	ALL %RSD and %D	ALL SURROGATE	NA	NA	None Detected	None Aplied
Method Blank	None	VALUES WITHIN	RECOVERY	NA	NA	None Detected	None Aplied
SB2-4-1	9541	CONTROL LIMITS (<25%)	VALUES WITHIN LIMITS (50-150%).	FB2-2,FB3-2	EB2-2,EB3-2	Diesel Fuel Range=16ug/g Heavy Oil Range=7ug/g	None Aplied None Aplied
SB2-4-2	9542		ALL SURROGATE	FB2-2,FB3-2	EB2-2,EB3-2	Diesel Fuel Range=23ug/g Heavy Oil Range=23ug/g	None Aplied None Aplied
SB2-5-1	9543			FB2-2,FB3-2	EB2-2,EB3-2	Diesel Fuel Range=4ug/g Heavy Oil Range=9ug/g	None Aplied None Aplied
SB2-5-2	9544			FB2-2,FB3-2	EB2-2,EB3-2	Diesel Fuel Range=28ug/g Heavy Oil Range=25ug/g	None Aplied None Aplied
SB2-6-1	9545			FB2-2,FB3-2	EB2-2,EB3-2	Diesel Fuel Range=31ug/g Heavy Oil Range=35ug/g	Diesel Fuel Range=31J(FD) Heavy Oil Range=35J(FD)
SB2-6-1R	9546			FB2-2,FB3-2	EB2-2,EB3-2	Diesel Fuel Range=62ug/g Heavy Oil Range=63ug/g	Diesel Fuel Range=62J(FD) Heavy Oil Range=63J(FD)
SB3-4-1	9547			FB2-2,FB3-2	EB2-2,EB3-2	Diesel Fuel Range=530ug/g Heavy Oil Range=390ug/g	None Aplied None Aplied
SB3-4-2	9548			FB2-2,FB3-2	EB2-2,EB3-2	Diesel Fuel Range=19ug/g Heavy Oil Range=18ug/g	None Aplied None Aplied
SB3-5-1	9549			FB2-2,FB3-2	EB2-2,EB3-2	Diesel Fuel Range=670ug/g Heavy Oil Range=440ug/g	None Aplied None Aplied
SB3-5-2	9550			FB2-2,FB3-2	EB2-2,EB3-2	Diesel Fuel Range=86ug/g Heavy Oil Range=77ug/g	None Aplied None Aplied
SD2-3	9551			FB2-2,FB3-2	EB2-2,EB3-2	Heavy Oil Range=63ug/g	None Aplied
SD2-4	9552			FB2-2,FB3-2	EB2-2,EB3-2	Diesel Fuel Range=3ug/g Heavy Oil Range=10ug/g	None Aplied None Aplied
SD2-5	9553			FB2-2,FB3-2	EB2-2,EB3-2	Heavy Oil Range=85ug/g	None Aplied
SD2-6	9554			FB2-2,FB3-2	EB2-2,EB3-2	Heavy Oil Range=70ug/g	None Aplied
SD3-1	9555			FB2-2,FB3-2	EB2-2,EB3-2	Diesel Fuel Range=37ug/g Heavy Oil Range=160ug/g	None Aplied None Aplied
SD3-2	9556			FB2-2,FB3-2	EB2-2,EB3-2	Diesel Fuel Range=24ug/g Heavy Oil Range=120ug/g	None Aplied None Aplied
SD3-2R	9557			FB2-2,FB3-2	EB2-2,EB3-2	Diesel Fuel Range=23ug/g Heavy Oil Range=99ug/g	None Aplied None Aplied
SD2-4MS	9552MS			FB2-2,FB3-2	EB2-2,EB3-2	Not Applicable	None Aplied
SD2-4MSD	9552MSD			FB2-2,FB3-2	EB2-2,EB3-2	Not Applicable	None Aplied

Footnotes to Tables G-19. Gasoline Range, Diesel Fuel Range and Heavy Oil Data Validation Worksheets
178th Tactical Fighter Group Springfield ANGB, Springfield, Ohio

NA – Not Applicable

Control Limits for LCS Analyses:

%R: 50–150%

Control Limits for Water Fuels MS/MSD Analyses:

R%: 50–150%

Control Limits for Soil Fuels MS/MSD Analyses:

R%: 50–150%

Control Limits for Water Fuels Blank/Blank Spike Analyses:

R%: 50–150%

Control Limits for Soil Fuels Blank/Blank Spike Analyses:

R%: 50–150%

Control Limits for Water and Soil Fuels Surrogate Recovery Analyses:

R%: 50–150%

Surrogate Recoveries—Two compounds (i.e., trifluorotoluene and bromofluorobenzene) were added to each calibration standard, environmental sample, and laboratory and field QC sample immediately before analysis. All surrogate recoveries were within the control limits (i.e., 50 to 150 percent).

Method Blanks—One blank was extracted and analyzed with each batch of samples collected during the Springfield ANGB SI for gasoline range, diesel fuel range, and heavy oil. Based on an evaluation of all method blanks analyzed, no contaminants were detected.

Matrix Spike/Matrix Spike Duplicate Results—MS/MSD analyses were conducted to assess the accuracy and precision of the laboratory and to evaluate the matrix effect of the sample upon the analytical methodology based upon the percent recovery of the spike compounds. One MS/MSD analysis was required for each set of 20 samples of a similar matrix.

Six MS/MSD analyses were conducted using soil samples (i.e., SB2-1-1, SB1-2-8, SB3-1-1, SB1-3-1, MW4-1-5S, and SD2-4). All recoveries were within the control limits of 50 and 150 percent.

Two MS/MSD analyses was conducted using groundwater samples (i.e., MW4-1-1 and MW3-1-2). All percent recoveries were within the control limits of 50 and 150 percent. Tables G-20 and G-21 summarize the MS/MSD results for soil/sediment and groundwater samples, respectively.

G.3.2 Inorganic Analyses

Soil and sediment samples, groundwater samples, and field QC blanks (i.e., field and equipment blanks) collected during the Springfield ANGB SI were submitted to the Weyerhaeuser Laboratory for priority pollutant metals analyses. Ten groundwater samples (i.e., MW2-1-2, MW1-1-2, MW3-1-2, P-4-1, P-4-1R, P-5-1, MWBG-1-2, MWBG-2-2, MW4-1-2, and MW2-2-1) were analyzed for total and dissolved metals. A data quality assessment is presented in the following subsections.

Table G-20. Diesel Fuel Range and Gasoline Range MS/MSD QC Summary: Soil, Surface Soil, and Sediment
178th Tactical Fighter Group, Springfild ANGB, Springfield, Ohio

ACCURACY					
PARAMETER	MS/MSD TOTAL No. ANALYSES	PERCENT RECOVERY RANGES	%R CONTROL LIMITS	NUMBER WITHIN CONTROL LIMITS	NUMBER OUTSIDE CONTROL LIMITS
DIESEL FUEL	12	(73-137)	(50-150)	12	0
GASOLINE RANGE	2	(81-98)	(50-150)	2	0

Diesel Fuel Range:
Matrix Spike and Matrix Spike Duplicate Performed on Samples: SB2-1-1, SB1-2-8, SB3-1-1, SB1-3-1, MW4-1-5, and SD2-4.

Gasoline Range:
Matrix Spike and Matrix Spike Duplicate Performed on Sample: SD2-4.

Table G – 21. Disel Fuel Range and Gasoline Range MS/MSD QC Summary: Groundwater
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

ACCURACY					
PARAMETER	MS/MSD TOTAL No. ANALYSES	PERCENT RECOVERY RANGES	%R CONTROL LIMITS	NUMBER WITHIN CONTROL LIMITS	NUMBER OUTSIDE CONTROL LIMITS
DIESEL FUEL	2	97	(50 – 150)	2	0
GASOLINE RANGE	2	(116 – 124)	(50 – 150)	2	0

Diesel Fuel Range:
Matrix Spike and Matrix Spike Duplicate Performed on Samples: MW4 – 1 – 1 and MW3 – 1 – 2.

Gasoline Range:
Matrix Spike and Matrix Spike Duplicate Performed on Sample: MW3 – 1 – 2.

G.3.2.1 Priority Pollutant Metals

Sixty-six soil samples, 16 sediment samples, 17 groundwater samples, and 21 field QC blanks (i.e., equipment blanks and field blanks) were collected and analyzed by the Weyerhaeuser Laboratory using the EPA document *Test Methods For Evaluating Solid Waste, Physical/Chemical Methods, SW-846*, Third Edition and the March 1990 EPA CLP SOW. All environmental samples and field QC samples collected for antimony (SW 3005/7041), arsenic (SW 3050/7060), lead (SW 3050/7421 and 3020/7421), selenium (SW 3050/7740), and thallium (SW 3050/3020/7841) analyses were analyzed using GFAA. Environmental samples and field QC samples collected for mercury (SW 7470 and SW 7471) analyses were analyzed using cold vapor generation and the remainder of the metals were analyzed using ICAP spectroscopy (SW 3005/6010 and SW 3050/6010). Data quality was evaluated using the guidelines and control limits specified for holding times, initial and continuing calibration verification, method blanks, interference check sample analysis, spiked sample analysis, duplicate sample analysis, LCS analysis, serial dilution analysis, and furnace atomic absorption results. The data validation worksheets are presented in Tables G-22a through G-22i.

Holding Times—Holding times were defined as the maximum amount of time allowed to elapse between the date and time of sample collection and the date and time the sample was analyzed. The Weyerhaeuser Laboratory was required to meet analysis holding times (for both soil and water samples) of 28 days for mercury and 6 months for all other priority pollutant metals. Based on an evaluation of all environmental samples and QC blanks analyzed, all holding time criteria were met, except for mercury in sample MWBG1-2. As a result, the Weyerhaeuser Laboratory did not analyze for mercury in MWBG1-2.

Initial Calibration Verification—Calibration of the ICAP was established and validated by injecting a blank and at least one standard to establish an analytical curve. Calibration of the GFAA was established and validated by injecting a blank and at least three standards (one of which must be at the CRDL) to establish the analytical curve. Five standards were analyzed to establish the mercury calibration curve. Following the initial calibration, percent recovery values were evaluated to verify the validity of the calibration. Priority pollutant metals calibration criteria requirements include 80 to 120 percent for mercury and 90 to 110 percent

Table G-22a. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Sampling Dates	Preparation Dates	Analysis Dates	Initial Calibration (ICV)	Continuing Calibration (CCV)	BLANKS		
							Initial Calibration Blank (ICB)	Continuing Calibration Blank (CCB)	Preparation Blank (PB)
WATERS									
PBW	PBW	NA	06/01,02/92	06/05/92-06/18/92	ALL ICV %Rs WITHIN CONTROL LIMITS (Hg=80-120, ALL OTHER METALS=90-110)	ALL CCV %Rs WITHIN CONTROL LIMITS (Hg=80-120, ALL OTHER METALS=90-110)	NO CONTAMINANTS DETECTED IN THE INITIAL CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL.	NO CONTAMINANTS DETECTED IN THE CONTINUING CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL.	NO CONTAMINANTS DETECTED IN THE PREPARATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL.
SD5-ER	89655	05/06/92	06/01,02/92	06/05/92-06/18/92					
SD5-FB	89656	05/06/92	06/01,02/92	06/05/92-06/18/92					
SOILS									
PBS	PBS	NA	06/01,02/92	06/05/92-06/18/92	ALL ICV %Rs WITHIN CONTROL LIMITS (Hg=80-120, ALL OTHER METALS=90-110)	ALL CCV %Rs WITHIN CONTROL LIMITS (Hg=80-120, ALL OTHER METALS=90-110)	NO CONTAMINANTS DETECTED IN THE INITIAL CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL.	NO CONTAMINANTS DETECTED IN THE CONTINUING CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL.	NO CONTAMINANTS DETECTED IN THE PREPARATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL.
SD5-1	89650	05/06/92	06/01,02/92	06/05/92-06/18/92					
SD5-1S	89650S	05/06/92	06/01,02/92	06/05/92-06/18/92					
SD5-1D	89650D	05/06/92	06/01,02/92	06/05/92-06/18/92				*CCB2: Se=1.0B µg/l	*PBS: Zn=0.252B mg/kg
SD5-2	89651	05/06/92	06/01,02/92	06/05/92-06/18/92					
SD5-3	89652	05/06/92	06/01,02/92	06/05/92-06/18/92					
SD5-4	89653	05/06/92	06/01,02/92	06/05/92-06/18/92					
SD5-5	89654	05/06/92	06/01,02/92	06/05/92-06/18/92					
SD5-3R	89658	05/06/92	06/01,02/92	06/05/92-06/18/92					
WATERS									
PW	PBW	NA	09/03,13/92	09/08-25/92	ALL ICV %Rs WITHIN CONTROL LIMITS (Hg=80-120, ALL OTHER METALS=90-110)	ALL CCV %Rs WITHIN CONTROL LIMITS (Hg=80-120, ALL OTHER METALS=90-110)	NO CONTAMINANTS DETECTED IN THE INITIAL CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *ICB2:Se=1.4B µg/l *ICB4:Se=1.6B µg/l	NO CONTAMINANTS DETECTED IN THE CONTINUING CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *CCV2:Pb=1B µg/l *CCV3:Ni=-16.8B µg/l *CCV5:Ni=-10.3 µg/l	NO CONTAMINANTS DETECTED IN THE PREPARATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *PBW:Cd=2.230B/Cr=4.631B µg/l
EB2-1	94677	08/16/92	09/03,13/92	09/08-25/92					
FB2-1	94678	08/16/92	09/03,13/92	09/08-25/92					
EB5-1	94808	08/18/92	09/03,13/92	09/08-25/92					
FB5-1	94809	08/18/92	09/03,13/92	09/08-25/92					
SOILS									
PBS	PBS	NA	09/03,13/92	09/08-25/92	ALL ICV %Rs WITHIN CONTROL LIMITS (Hg=80-120, ALL OTHER METALS=90-110)	ALL CCV %Rs WITHIN CONTROL LIMITS (Hg=80-120, ALL OTHER METALS=90-110)	NO CONTAMINANTS DETECTED IN THE INITIAL CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *ICB2:Se=1.4B µg/l *ICB4:Se=1.6B µg/l	NO CONTAMINANTS DETECTED IN THE CONTINUING CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *CCV2:Pb=1B µg/l *CCV3:Ni=-16.8B µg/l *CCV5:Ni=-10.3 µg/l	NO CONTAMINANTS DETECTED IN THE PREPARATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *PBW:Cd=2.230B/Cr=4.631B µg/l
SB2-1-1	94679	08/18/92	09/03,13/92	09/08-25/92					
SB2-1-1S	94679S	08/18/92	09/03,13/92	09/08-25/92					
SB2-1-1D	94679D	08/18/92	09/03,13/92	09/08-25/92					
SB2-1-4	94800	08/18/92	09/03,13/92	09/08-25/92					
SB5-2-1	94801	08/18/92	09/03,13/92	09/08-25/92					
SB5-2-2	94802	08/18/92	09/03,13/92	09/08-25/92					
SB5-3-1	94803	08/18/92	09/03,13/92	09/08-25/92					
SB5-3-2	94804	08/18/92	09/03,13/92	09/08-25/92					
SB5-4-1	94805	08/18/92	09/03,13/92	09/08-25/92					
SB5-4-1R	94806	08/18/92	09/03,13/92	09/08-25/92					
SB5-4-2	94807	08/18/92	09/03,13/92	09/08-25/92					

Table G-22a. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	ICP/ICS Initial	ICP/ICS Final	ACCURACY Spike Sample	PRECISION Duplicate Sample	Laboratory Control Sample (LCS)
WATERS						
PBW	PBW	ALL %Rs WERE BETWEEN 80-120% FOR ALL ELEMENTS	ALL %Rs WERE BETWEEN 80-120% FOR ALL ELEMENTS	FIELD QC ONLY; NO MATRIX SPIKE REQUIRED	FIELD QC ONLY; NO LABORATORY DUPLICATE REQUIRED	ALL LCS %Rs WITHIN CONTROL LIMITS (80-120%) FOR ALL ELEMENTS
SD5-ER	89655					
SD5-FB	89656					
SOILS						
PBS	PBS	ALL %Rs WERE BETWEEN 80-120% FOR ALL ELEMENTS	ALL %Rs WERE BETWEEN 80-120% FOR ALL ELEMENTS	SD5-1 ALL SPIKE SAMPLE RECOVERIES WITHIN CONTROL LIMITS (75-125%) EXCEPT: Sb=43.9%/Cd=70.7%/ Se=53.7%/Zn=19.4%	SD5-1 ALL RPDs WITHIN CONTROL LIMITS FOR SAMPLE AND DUPLICATE CONCENTRATIONS GREATER THAN 5X THE CRDL (≤ 35 %) AND WITHIN CONTROL LIMIT OF (±)2XCRDL FOR SAMPLE OR DUPLICATE CONCENTRATIONS LESS THAN 5X THE CRDL.	ALL SOLID LCS WERE WITHIN THEIR SPECIFIED CONTROL LIMITS.
SD5-1	89650					
SD5-1S	89650S					
SD5-1D	89650D					
SD5-2	89651					
SD5-3	89652					
SD5-4	89653					
SD5-5	89654					
SD5-3R	89658					
WATERS						
PW	PBW	ALL %Rs WERE BETWEEN 80-120% FOR ALL ELEMENTS	ALL %Rs WERE BETWEEN 80-120% FOR ALL ELEMENTS	FIELD QC: NO SPIKE ANALYSIS REQUIRED	FIELD QC: NO LABORATORY DUPLICATE ANALYSIS REQUIRED	ALL LCS %Rs WITHIN CONTROL LIMITS (80-120%) FOR ALL ELEMENTS
EB2-1	94677					
FB2-1	94678					
EB5-1	94808					
FB5-1	94809					
SOILS						
PBS	PBS	ALL %Rs WERE BETWEEN 80-120% FOR ALL ELEMENTS	ALL %Rs WERE BETWEEN 80-120% FOR ALL ELEMENTS	SB2-1-1 ALL SPIKE SAMPLE RECOVERIES WITHIN CONTROL LIMITS (75-125%) EXCEPT:Sb=31.2%; As=245.4%; Se=56.8% AND Tl=68.2%	SB2-1-1 ALL RPDs WITHIN CONTROL LIMITS FOR SAMPLE AND DUPLICATE CONCENTRATIONS GREATER THAN 5X THE CRDL (≤ 35 %) AND WITHIN CONTROL LIMIT OF (±)2XCRDL FOR SAMPLE OR DUPLICATE CONCENTRATIONS LESS THAN 5X THE CRDL EXCEPT:As	ALL SOLID LCS WERE WITHIN THEIR SPECIFIED CONTROL LIMITS.
SB2-1-1	94679					
SB2-1-1S	94679S					
SB2-1-1D	94679D					
SB2-1-4	94800					
SB5-2-1	94801					
SB5-2-2	94802					
SB5-3-1	94803					
SB5-3-2	94804					
SB5-4-1	94805					
SB5-4-1R	94806					
SB5-4-2	94807					

Table G–22a. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Serial Dilution Analyses	Field Duplicate Sample	Field Blank Results	Equipment Blank Results
WATERS					
PBW	PBW	FIELD QC ONLY;	NA	NA	NA
SD5–ER	89655	NO SERIAL DILUTION	NA	NA	NA
SD5–FB	89656	ANALYSIS REQUIRED	NA	NA	NA
SOILS					
PBS	PBS	SD5–1	SD5–3/SD5–3R	NA	NA
SD5–1	89650	ALL DIFFERENCES ARE WITHIN 10% OF THE ORIGINAL SAMPLE	ALL RPDs WITHIN CONTROL LIMITS FOR SAMPLE AND	SD5–FB	SD5–ER
SD5–1S	89650S	EXCEPT FOR Cr(17.1%) AND Zn(21.4%).	DUPLICATE CONCENTRATIONS GREATER THAN 5X THE CRDL	SD5–FB	SD5–ER
SD5–1D	89650D		(≤ 50 %) EXCEPT:Cr(RPD=76%)AND Pb(RPD=94%) AND WITHIN	SD5–FB	SD5–ER
SD5–2	89651		LIMIT OF (±)4XCRDL FOR SAMPLE OR DUPLICATE CONCENTRATIONS	SD5–FB	SD5–ER
SD5–3	89652		LESS THAN 5X THE CRDL.	SD5–FB	SD5–ER
SD5–4	89653			SD5–FB	SD5–ER
SD5–5	89654			SD5–FB	SD5–ER
SD5–3R	89658			SD5–FB	SD5–ER
WATERS					
PW	PBW	FIELD QC ONLY;		NA	NA
EB2–1	94677	NO SERIAL DILUTION		NA	NA
FB2–1	94678	ANALYSIS REQUIRED		NA	NA
EB5–1	94808			NA	NA
FB5–1	94809			NA	NA
SOILS					
PBS	PBS	ALL DIFFERENCES ARE WITHIN	SB5–4–1/SB5–4–1R	NA	NA
SB2–1–1	94679	10% OF THE ORIGINAL SAMPLE ELEMENTS;	ALL RPDs WITHIN CONTROL LIMITS FOR SAMPLE AND	FB2–1, SD:	EB2–1
SB2–1–1S	94679S	EXCEPT:Zn=25.9%	DUPLICATE CONCENTRATIONS GREATER THAN 5X THE CRDL	FB2–1, SD:	EB2–1
SB2–1–1D	94679D		(≤ 50 %)AND WITHIN LIMIT	FB2–1, SD:	EB2–1
SB2–1–4	94800		OF (±)4XCRDL FOR SAMPLE OR DUPLICATE CONCENTRATIONS	FB2–1, SD:	EB2–1
SB5–2–1	94801		LESS THAN 5X THE CRDL.	FB5–1, SD:	EB5–1
SB5–2–2	94802			FB5–1, SD:	EB5–1
SB5–3–1	94803			FB5–1, SD:	EB5–1
SB5–3–2	94804			FB5–1, SD:	EB5–1
SB5–4–1	94805			FB5–1, SD:	EB5–1
SB5–4–1R	94806			FB5–1, SD:	EB5–1
SB5–4–2	94807			FB5–1, SD:	EB5–1

Table G–22a. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Significant Sample Results	Data Validation Qualifiers
WATERS			
PBW	PBW	None Detected	None Applied
SD5–ER	89655	SB=3.0U ug/l	None Applied
SD5–FB	89656	Sb=3.0U ug/l/Zn=2.9B ug/l	None Applied
SOILS			
PBS	PBS	Zn=0.252B mg/kg	None Applied
SD5–1	89650	Sb=0.52BN/As=8.5/Be=0.47B/Cd=10.1N/Cr=126E/Cu=37.2/ Pb=268*/Hg=0.09B/Ni=22.3/Se=0.21BNW/Tl=0.23B/Zn=198EN mg/kg	Sb=0.52J(N)/Cd=10.1J(N)/Cr=126J(E)/Se=0.21UJ(MB,N,W)/Zn=189J(N,E)
SD5–1S	89650S	Sb=27.1/As=14.7/Be=5.96/Cd=14.4/Cr=133/Cu=63/Pb=637/ Hg=0.59/Ni=72.40/Se=0.87/Ag=0.87/Tl=5.8/Zn=209.43 mg/kg	None Applied
SD5–1D	89650D	Sb=0.72/As=9.8/Be=0.47B/Cd=11.3/Cr=132/Cu=40.8/Pb=333*/ Hg=0.08B/Ni=19.6/Se=0.23B/Tl=0.23B/Zn=188 mg/kg	None Applied
SD5–2	89651	Sb=0.46BNW/As=9.5/Be=0.48B/Cd=3.2N/Cr=37.0E/Cu=25.2/ Pb=41.2*/Ni=18.6/Se=0.13BNW/Tl=0.25B/Zn=122EN mg/kg	Sb=0.46J(N)/Cd=3.2J(N)/Cr=37J(E,FD)/Pb=42.1J(FD)/Se=0.13UJ(MB,N,W)/Zn=122J(N,E)
SD5–3	89652	Sb=0.35BN/As=5.9/Be=0.26B/Cd=2.9N/Cr=18.8E/Cu=13.4/Pb=24.8*/ Ni=7.7/Se=0.12BNW/Tl=0.17B/Zn=224EN mg/kg	Sb=0.35J(N)/Cd=2.9J(N)/Cr=18.8J(E,FD)/Pb=24.8J(FD)/Se=0.12UJ(MB,N,W)/Zn=224J(N,E)
SD5–4	89653	Sb=0.77NS/As=7.2/Be=0.50B/Cd=21.0N/Cr=122E/Cu=48.6/Pb=256*/ Hg=0.10B/Ni=19.4/Se=0.44BNW/Tl=0.18B/Zn=643EN mg/kg	Sb=0.77J(N)/Cd=21J(N)/Cr=122J(E,FD)/Pb=256J(FD)/Se=0.44UJ(MB,N,W)/Zn=643J(N,E)
SD5–5	89654	SB=0.39BN/As=9.1/Be=0.46B/Cd=0.34BN/Cr=15.1E/Cu=18.2/ Pb=14.4*/Ni=17.4/Se=0.10UNW/Tl=0.20B/Zn=64.8EN mg/kg	Sb=0.39J(N)/Cd=0.34J(N)/Cr=15.1J(E,FD)/Pb=14.4J(FD)/Se=0.10UJ(N,W)/Zn=64.8J(N,E)
SD5–3R	89658	Sb=0.47BN/As=9.0/Be=0.37B/Cd=5.6N/Cr=42.0E/Cu=18.3/Pb=68.9*/ Ni=12.9/Se=0.19BNW/Tl=0.16B/Zn=236EN mg/kg	Sb=0.47J(N)/Cd=5.6J(N)/Cr=42J(E,FD)/Pb=68.9J(FD)/Se=0.19UJ(MB,N,W)/Zn=236J(N,E)
WATERS			
PW	PBW	Cd=2.230B/Cr=4.631B µg/l	
EB2–1	94677	As=1.5UW/Cd=3.4B/Cr=4.1B/Cu=29.4/Se=1.4UW µg/l	As=1.5UJ(W)/Cd=3.4U(MB)/Cr=4.1U(MB)/Se=1.4UJ(W)
FB2–1	94678	Cu=12.3B/Pb=1.9B/Se=1.9B/Tl=1.9UW/Zn=6.1B µg/l	Tl=1.9UJ(W)
EB5–1	94808	As=1.5UW/Se=1.4UW µg/l	As=1.5UJ(W)/Se=1.4UJ(W)
FB5–1	94809	Cd=2.1B/Cr=4.5B µg/l	Cd=2.1U(MB)/Cr=4.5U(MB)
SOILS			
PBS	PBS	None Detected	
SB2–1–1	94679	Sb=0.20BN/As=8.5NS*/Be=0.32B/Cd=1.2/Cr=13.2N*/Cu=13.9/ Pb=31.8*/Ni=8.2/Se=0.26BN/Ag=1.5/Tl=0.25BNW/Zn=38.3E mg/kg	Sb=0.2UJ(N,W)/As=8.5J(*)/Cr=13.2J(N)/Se=0.26UJ(MB,N)/Tl=0.25J(N,W)/Zn=38.3J(E)
SB2–1–1S	94679S	Sb=16.45B/As=19.50/Be=4.86/Cd=5.37/Cr=25.78/Cu=39.59/ Pb=40.88/Hg=0.48/Ni=50.37/Se=0.90/Ag=6.14/Tl=4.09/Zn=83.38 mg/kg	None Applied
SB2–1–1D	94679D	None Detected	None Applied
SB2–1–4	94800	Sb=0.20UN/As=7.2N*/Be=0.27B/Cr=7.5N*/Cu=14.7/Pb=8.5*/ Ni=15.8/Se=0.15UNW/Ag=1.5/Tl=0.26BN/Zn=45.9E mg/kg	Sb=0.2UJ(N)/As=7.2J(*)/Cr=7.5J(N)/Se=0.15UJ(N,W)/Tl=0.26J(N)/Zn=45.9J(E)
SB5–2–1	94801	Sb=0.23UN/As=9.1NS*/Be=0.46B/Cr=10.8N*/Cu=18/ Pb=9.2*/Ni=17.3/Se=0.16UNW/Ag=1.6/Tl=0.42BN/Zn=53.5E mg/kg	Sb=0.23UJ(N)/As=9.1J(*)/Cr=10.8J(N)/Se=0.16UJ(N,W)/Tl=0.42J(N)/Zn=53.5J(E)
SB5–2–2	94802	Sb=0.22BN/As=11.9NS*/Be=0.21B/Cr=4.7N*/Cu=29.7/ Pb=9.4*/Ni=46.5/Se=0.11UNW/Ag=2.9/Tl=0.420N/Zn=37.5E mg/kg	Sb=0.22J(N)/As=11.9J(*)/Cr=4.7J(N)/Se=0.11UJ(N,W)/Tl=0.40J(N)/Zn=37.5J(E)
SB5–3–1	94803	Sb=0.17UN/As=9.7N*/Be=0.53/Cr=12.5N*/Cu=18.7/ Pb=17.2*/Ni=20/Se=0.13UNW/Ag=1.5/Tl=0.36BN/Zn=60.1E mg/kg	Sb=0.17UJ(N)/As=9.7J(*)/Cr=12.5J(N)/Se=0.13UJ(N,W)/Tl=0.36J(N)/Zn=60.1J(E)
SB5–3–2	94804	Sb=0.18UN/As=6.4N*/Be=0.23B/Cd=0.24B/Cr=15.2N*/Cu=15.2/ Pb=9.1S*/Ni=11.6/Se=0.14UNW/Ag=1.5/Tl=0.31BN/Zn=41E mg/kg	Sb=0.18UJ(N)/As=6.4J(*)/Cr=6J(N)/Se=0.14UJ(N,W)/Tl=0.31J(N)/Zn=41J(E)
SB5–4–1	94805	Sb=0.16UN/As=8.7NS*/Be=0.29B/Cr=7.3N*/Cu=13.8/Pb=9.1*/ Ni=15.5/Se=0.13UNW/Ag=1.6/Tl=0.34BN/Zn=43.8E mg/kg	Sb=0.16UJ(N)/As=8.7J(*)/Cr=7.3J(N)/Se=0.13UJ(N,W)/Tl=0.34J(N)/Zn=43.8J(E)
SB5–4–1R	94806	Sb=0.16BN/As=10.4NS*/Be=0.33B/Cr=7.4N*/Cu=17.1/Pb=10.5S*/ Ni=16/Se=0.62UNW/Ag=1.8/Tl=0.23BNW/Zn=46.8E mg/kg	Sb=0.16J(N)/As=10.4J(*)/Cr=7.4J(N)/Se=0.62UJ(N,W)/Tl=0.23J(N)/Zn=46.8J(E)
SB5–4–2	94807	Sb=0.20UN/As=4.4N*/Be=0.19B/Cr=8.7N*/Cu=10.7/Pb=7.6S*/ Ni=11.5/Se=0.15UNW/Ag=1.5/Tl=0.20UN/Zn=35E mg/kg	Sb=0.20J(N)/As=4.4J(*)/Cr=8.7J(N)/Se=0.15UJ(N,W)/Tl=0.20UJ(N)/Zn=35J(E)

Table G-22b. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Sampling Dates	Preparation Dates	Analysis Dates	Initial Calibration (ICV)	Continuing Calibration (CCV)	BLANKS		
							Initial Calibration Blank (ICB)	Continuing Calibration Blank (CCB)	Preparation Blank (PB)
SOILS									
PBS	PBS	NA	09/03,09/92	09/08-11/92	ALL ICV %Rs WITHIN CONTROL LIMITS (Hg=80-120, ALL OTHER METALS=90-110)	ALL CCV %Rs WITHIN CONTROL LIMITS (Hg=80-120, ALL OTHER METALS=90-110)	NO CONTAMINANTS DETECTED IN THE INITIAL CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *ICB1:Ni=-11.4B µg/l	NO CONTAMINANTS DETECTED IN THE CONTINUING CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *CCB3: Se=0.8B µg/l	NO CONTAMINANTS DETECTED IN THE PREPARATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *PBS: Ag=-0.583B µg/l
SB1-2-8	94523	08/13/92	09/03,09/92	09/08-11/92					
SB1-2-8S	94523S	08/13/92	09/03,09/92	09/08-11/92					
SB1-2-8D	94523D	08/13/92	09/03,09/92	09/08-11/92					
SB1-1-1	94524	08/13/92	09/03,09/92	09/08-11/92					
SB1-2-1	94525	08/13/92	09/03,09/92	09/08-11/92					
MWBG1-1	94527	08/12/92	09/03,09/92	09/08-11/92					
SB4-1-2	94528	08/12/92	09/03,09/92	09/08-11/92					
SB4-2-1	94529	08/12/92	09/03,09/92	09/08-11/92					
SB4-1-1	94530	08/12/92	09/03,09/92	09/08-11/92					
SB4-2-2	94531	08/12/92	09/03,09/92	09/08-11/92					
SB1-1-6	94532	08/13/92	09/03,09/92	09/08-11/92					
SB4-3-1	94535	08/12/92	09/03,09/92	09/08-11/92					
SB4-3-1R	94536	08/12/92	09/03,09/92	09/08-11/92					
SB4-3-3	94537	08/12/92	09/03,09/92	09/08-11/92					
SB4-3-2	94538	08/12/92	09/03,09/92	09/08-11/92					

Table G-22b. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	ICP/ICS Initial	ICP/ICS Final	ACCURACY Spike Sample	PRECISION Duplicate Sample	Laboratory Control Sample (LCS)
SOILS						
PBS	PBS	ALL %Rs WERE BETWEEN 80-120% FOR ALL ELEMENTS	ALL %Rs WERE BETWEEN 80-120% FOR ALL ELEMENTS	SB1-2-8 ALL SPIKE SAMPLE RECOVERIES WITHIN CONTROL LIMITS (75-125%) EXCEPT:Sb=33.8%; Se=45.1% Tl=51.2%	SB1-2-8 ALL RPDs WITHIN CONTROL LIMITS FOR SAMPLE AND DUPLICATE CONCENTRATIONS GREATER THAN 5X THE CRDL (≤ 35 %) AND WITHIN CONTROL LIMIT OF (±)2XCRDL FOR SAMPLE OR DUPLICATE CONCENTRATIONS LESS THAN 5X THE CRDL	ALL SOLID LCS WERE WITHIN THEIR SPECIFIED CONTROL LIMITS.
SB1-2-8	94523					
SB1-2-8S	94523S					
SB1-2-8D	94523D					
SB1-1-1	94524					
SB1-2-1	94525					
MWBG1-1	94527					
SB4-1-2	94528					
SB4-2-1	94529					
SB4-1-1	94530					
SB4-2-2	94531					
SB1-1-6	94532					
SB4-3-1	94535					
SB4-3-1R	94536					
SB4-3-3	94537					
SB4-3-2	94538					

Table G–22b. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Serial Dilution Analyses	Field Duplicate Sample	Field Blank Results	Equipment Blank Results
SOILS					
PBS	PBS	ALL DIFFERENCES ARE WITHIN	SB4–3–1/SB4–3–1R	NA	NA
SB1–2–8	94523	10% OF THE ORIGINAL SAMPLE ELEMENTS;	ALL RPDs WITHIN CONTROL LIMITS FOR SAMPLE AND	FB1–1, SD5–FB	ER1–1
SB1–2–8S	94523S	EXCEPT:Zn=16.9%	DUPLICATE CONCENTRATIONS GREATER THAN 5X THE CRDL	FB1–1, SD5–FB	ER1–1
SB1–2–8D	94523D		($\leq$ 50 %) AND WITHIN LIMIT OF (±)4XCRDL FOR SAMPLE	FB1–1, SD5–FB	ER1–1
SB1–1–1	94524		OR DUPLICATE CONCENTRATIONS LESS THAN 5X THE CRDL.	FB1–1, SD5–FB	ER1–1
SB1–2–1	94525			FB1–1, SD5–FB	ER1–1
MWBG1–1	94527			FB1–1, SD5–FB	ER1–1
SB4–1–2	94528			FB1–1, SD5–FB	ER1–1
SB4–2–1	94529			FB1–1, SD5–FB	ER1–1
SB4–1–1	94530			FB1–1, SD5–FB	ER1–1
SB4–2–2	94531			FB1–1, SD5–FB	ER1–1
SB1–1–6	94532			FB1–1, SD5–FB	ER1–1
SB4–3–1	94535			FB1–1, SD5–FB	ER1–1
SB4–3–1R	94536			FB1–1, SD5–FB	ER1–1
SB4–3–3	94537			FB1–1, SD5–FB	ER1–1
SB4–3–2	94538			FB1–1, SD5–FB	ER1–1

Table G-22b. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Significant Sample Results	Data Validation Qualifiers
SOILS			
PBS	PBS	Ag=-0.583 mg/kg	
SB1-2-8	94523	Sb=0.19UN/As=6.1/Be=0.13B/Cr=4.3/Cu=10.4/Pb=5.4S/ Ni=10/Se=0.08UNW/Ag=1.1/Tl=0.11BNW/Zn=44.6E mg/kg	Sb=0.19UJ(N)/Se=0.08UJ(N,W)/Ag=1.1U(MB)/Tl=0.11J(N,W)/Zn=44.6J(E)
SB1-2-8S	94523S	Sb=16.96B/As=11.39/Be=4.61/Cd=4.08/Cr=21.86/Cu=32.45/Pb=7.61/ Hg=0.47/Ni=52.12/Se=0.5/Ag=5.48/Tl=2.96/Zn=82.74 mg/kg	None Applicable
SB1-2-8D	94523D	Sb=1.03B/As=5.28/Be=0.12B/Cr=4.51/Cu=11.34/Pb=5.23/ Ni=7.53/Ag=1.15/Tl=0.11/Zn=42.21 mg/kg	None Applicable
SB1-1-1	94524	Sb=0.21BN/As=6.2/Be=0.31B/Cr=7.7/Cu=8.5/Pb=11.3/ Ni=8.2/Se=0.08BNW/Tl=0.13BN/Zn=27.4E mg/kg	Sb=0.21J(N,W)/Se=0.08J(N,W)/Tl=0.13J(N)/Zn=27.4J(E)
SB1-2-1	94525	Sb=0.19BN/As=4.8/Be=0.29B/Cr=7.4/Cu=16.1/Pb=6.1S/ Ni=12.4/Se=0.26UEN/Tl=0.26UNW/Zn=42.3E mg/kg	Sb=0.19J(N,W)/Se=R(W)/Ag=1.3U(MB)/Tl=0.26UJ(N,W)/Zn=42.3J(E)
MWBG1-1	94527	Sb=0.15UN/As=7/Be=0.27B/Cd=0.3B/Cr=6.4/Cu=12.4/Pb=8.2/ Ni=13.1/Se=0.06UNW/Ag=1.6/Tl=0.30UNW/Zn=43.9E mg/kg	Sb=0.15UJ(N)/Se=0.06UJ(N,W)/Ag=1.6U(MB)/Tl=0.30UJ(N,W)/Zn=43.9J(E)
SB4-1-2	94528	Be=0.48/Cr=10.3/Cu=14.9/Pb=21.4/Ni=13.6/Ag=0.79B/Zn=52E mg/kg	Ag=0.79U(MB)/Zn=52J(E)
SB4-2-1	94529	Be=0.99/Cr=19.3/Cu=26.2/Pb=17.7/Ni=34.5/Ag=1.3/Zn=70.1E mg/kg	Ag=1.3U(MB)/Zn=70.1J(E)
SB4-1-1	94530	Be=0.34B/Cd=0.31B/Cr=7.3/Cu=10.3/Pb=16.9/Ni=9.6/Ag=1.2/ Zn=33.7E mg/kg	Ag=1.2U(MB)/Zn=33.7J(E)
SB4-2-2	94531	Be=0.83/Cr=19.3/Cu=40.6/Pb=17.4/Ni=36.6/Ag=1.1B/ Zn=73.7E mg/kg	Ag=1.1U(MB)/Zn=73.7J(E)
SB1-1-6	94532	Sb=0.31BN/As=12.6/Be=0.14B/Cr=4.1/Cu=14.2/Pb=8.5/ Ni=10.6/Se=0.08UNW/Ag=1.3/Tl=0.11BNW/Zn=72.6E mg/kg	Sb=0.31J(N,W)/Se=0.08UJ(N,W)/Ag=1.3U(MB)/Tl=0.11J(N,W)/Zn=72.6J(E)
SB4-3-1	94535	Be=0.63/Cr=12.1/Cu=19.2/Pb=19.5/Ni=12.8/Ag=0.66B/ Zn=44.5E mg/kg	Ag=0.66U(MB)/Zn=44.5J(E)
SB4-3-1R	94536	Be=0.60/Cr=14.3/Cu=15.5/Pb=17.7/Ni=14.3/Ag=0.5B/ Zn=41.3E mg/kg	Ag=0.5U(MB)/Zn=41.3J(E)
SB4-3-3	94537	Be=0.79/Cr=16.3/Cu=19.5/Pb=22.7/Ni=23.8/Ag=0.93B/ Zn=59.6E mg/kg	Ag=0.93U(MB)/Zn=59.6J(E)
SB4-3-2	94538	Be=0.71/Cr=18.1/Cu=18.3/Pb=15.2/Ni=16.9/Ag=0.65B/ Zn=52.3E mg/kg	Ag=0.65U(MB)/Zn=52.3J(E)

Table G–22c. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Sampling Dates	Preparation Dates	Analysis Dates	Initial Calibration (ICV)	Continuing Calibration (CCV)	BLANKS		
							Initial Calibration Blank (ICB)	Continuing Calibration Blank (CCB)	Preparation Blank (PB)
WATERS									
PBW	PBW	NA	08/27,09/13/92	08/29–09/15/92	ALL ICV %Rs WITHIN CONTROL LIMITS (Hg=80–120, ALL OTHER METALS=90–110)	ALL CCV %Rs WITHIN CONTROL LIMITS (Hg=80–120, ALL OTHER METALS=90–110)	NO CONTAMINANTS DETECTED IN THE INITIAL CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *ICB1:Ag=5B/Tl=–0.8B µg/l *ICB2:Se=1.4B µg/l	NO CONTAMINANTS DETECTED IN THE CONTINUING CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *CCB1: Cd=2.1B/Ag=5.5B µg/l *CCB2: Se=–1.6B/Ag=4.2B µg/l *CCB3: Se=–1.6B/Ag=5.7B µg/l *CCB4: Se=–1.7B/Ag=6.6B µg/l *CCB5: Se=–2.1B/Ag=4.2B µg/l *CCB5: Se=–2.6B µg/l	NO CONTAMINANTS DETECTED IN THE PREPARATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL.
ER1–1	94600	08/14/92	08/27,09/13/92	08/29–09/15/92					
FB1–1	94601	08/14/92	08/27,09/13/92	08/29–09/15/92					
SOILS									
PBS	PBS	NA	08/27,09/13/92	08/29–09/15/92					
SB1–3–1	94596	08/14/92	08/27,09/13/92	08/29–09/15/92					
				08/29–09/15/92					
SB1–3–1S	94596S	08/14/92	08/27,09/13/92	08/29–09/15/92					
				08/29–09/15/92					
SB1–3–1D	94596D	08/14/92	08/27,09/13/92	08/29–09/15/92					
				08/29–09/15/92					
SB1–3–11	94597	08/14/92	08/27,09/13/92	08/29–09/15/92					
				08/29–09/15/92					
SB1–3–11R	94598	08/14/92	08/27,09/13/92	08/29–09/15/92					
				08/29–09/15/92					
SB1–1–3	94602	08/13/92	08/27,09/13/92	08/29–09/15/92					
				08/29–09/15/92					
SB1–2–3	94603	08/13/92	08/27,09/13/92	08/29–09/15/92					
				08/29–09/15/92					
SB1–3–3	94604	08/14/92	08/27,09/13/92	08/29–09/15/92					
				08/29–09/15/92					
SB2–2–1	94666	08/16/92	08/27,09/13/92	08/29–09/15/92					
				08/29–09/15/92					
SB2–2–1R	94667	08/16/92	08/27,09/13/92	08/29–09/15/92					
				08/29–09/15/92					
SB2–2–2	94668	08/16/92	08/27,09/13/92	08/29–09/15/92					
				08/29–09/15/92					
SB2–2–17	94669	08/16/92	08/27,09/13/92	08/29–09/15/92					
				08/29–09/15/92					
SB2–3–1	94670	08/17/92	08/27,09/13/92	08/29–09/15/92					
				08/29–09/15/92					
SB2–3–4	94671	08/17/92	08/27,09/13/92	08/29–09/15/92					
				08/29–09/15/92					
SB2–3–16	94672	08/17/92	08/27,09/13/92	08/29–09/15/92					
				08/29–09/15/92					
SB2–1–14	94673	08/15/92	08/27,09/13/92	08/29–09/15/92					
				08/29–09/15/92					
SB5–1–1	94674	08/17/92	08/27,09/13/92	08/29–09/15/92					
				08/29–09/15/92					
SB5–1–7	94675	08/17/92	08/27,09/13/92	09/29–09/15/92					

Table G–22c. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	ICP/ICS Initial	ICP/ICS Final	ACCURACY Spike Sample	PRECISION Duplicate Sample	Laboratory Control Sample (LCS)
WATERS						
PBW ER1–1 FB1–1	PBW 94600 94601	ALL %Rs WERE BETWEEN 80–120% FOR ALL ELEMENTS	ALL %Rs WERE BETWEEN 80–120% FOR ALL ELEMENTS	FIELD QC: NO SPIKE ANALYSIS REQUIRED	FIELD QC: NO LABORATORY DUPLICATE ANALYSIS REQUIRED	ALL LCS %Rs WITHIN CONTROL LIMITS (80–120%) FOR ALL ELEMENTS
SOILS						
PBS	PBS			SB1–3–1	SB1–3–1	ALL SOLID LCS WERE WITHIN THEIR SPECIFIED CONTROL LIMITS.
SB1–3–1	94596			ALL SPIKE SAMPLE RECOVERIES WITHIN CONTROL LIMITS (75–125%) EXCEPT:Sb=27.8%; As=56.8% Se=47.2%	ALL RPDs WITHIN CONTROL LIMITS FOR SAMPLE AND DUPLICATE CONCENTRATIONS GREATER THAN 5X THE CRDL (≤ 35 %) AND WITHIN CONTROL LIMIT OF (±)2XCRDL FOR SAMPLE OR DUPLICATE CONCENTRATIONS LESS THAN 5X THE CRDL	
SB1–3–1S	94596S					
SB1–3–1D	94596D					
SB1–3–11	94597					
SB1–3–11R	94598					
SB1–1–3	94602					
SB1–2–3	94603					
SB1–3–3	94604					
SB2–2–1	94666					
SB2–2–1R	94667					
SB2–2–2	94668					
SB2–2–17	94669					
SB2–3–1	94670					
SB2–3–4	94671					
SB2–3–16	94672					
SB2–1–14	94673					
SB5–1–1	94674					
SB5–1–7	94675					

Table G-22c. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Serial Dilution Analyses	Field Duplicate Sample	Field Blank Results	Equipment Blank Results
WATERS					
PBW	PBW	FIELD QC ONLY;		NA	NA
ER1-1	94600	NO SERIAL DILUTION		NA	NA
FB1-1	94601	ANALYSIS REQUIRED		NA	NA
SOILS					
PBS	PBS	ALL DIFFERENCES ARE WITHIN	SB1-3-11/SB1-3-11R	NA	NA
SB1-3-1	94596	10% OF THE ORIGINAL SAMPLE	SB2-2-1/SB2-2-1R	FB1-1, SD5-FB	ER1-1
		ELEMENTS;	ALL RPDs WITHIN CONTROL		
SB1-3-1S	94596S	EXCEPT:Zn=18.3%	LIMITS FOR SAMPLE AND DUPLICATE CONCENTRATIONS	FB1-1, SD5-FB	ER1-1
SB1-3-1D	94596D		GREATER THAN 5X THE CRDL	FB1-1, SD5-FB	ER1-1
			(≤ 50 %)AND WITHIN LIMIT		
SB1-3-11	94597		OF (±)4XCRDL FOR SAMPLE OR DUPLICATE CONCENTRATIONS	FB1-1, SD5-FB	ER1-1
SB1-3-11R	94598		LESS THAN 5X THE CRDL.	FB1-1, SD5-FB	ER1-1
SB1-1-3	94602			FB1-1, SD5-FB	ER1-1
SB1-2-3	94603			FB1-1, SD5-FB	ER1-1
SB1-3-3	94604			FB1-1, SD5-FB	ER1-1
SB2-2-1	94666			FB2-1, SD5-FB	EB2-1
SB2-2-1R	94667			FB2-1, SD5-FB	EB2-1
SB2-2-2	94668			FB2-1, SD5-FB	EB2-1
SB2-2-17	94669			FB2-1, SD5-FB	EB2-1
SB2-3-1	94670			FB2-1, SD5-FB	EB2-1
SB2-3-4	94671			FB2-1, SD5-FB	EB2-1
SB2-3-16	94672			FB2-1, SD5-FB	EB2-1
SB2-1-14	94673			FB2-1, SD5-FB	EB2-1
SB5-1-1	94674			FB5-1, SD5-FB	EB5-1
SB5-1-7	94675			FB5-1, SD5-FB	EB5-1

Table G-22c. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Significant Sample Results	Data Validation Qualifiers
WATERS			
PBW	PBW	None Detected	
ER1-1	94600	Cu=54.6/Se=1.4UW µg/l	Se=1.4UJ(W)
FB1-1	94601	Ni=10.6B/Se=1.4UW µg/l	Se=1.4UJ(W)
SOILS			
PBS	PBS	None Detected	
SB1-3-1	94596	Sb=0.24BN/As=12.2N*/Be=0.59/Cr=15.4/Cu=19.6/Pb=15.1/ Ni=22/Se=0.13UNW/Ag=1.1/Tl=0.35B/Zn=54.4E mg/kg	Sb=0.24J(N,r)/As=12.2J(N)/Se=0.13UJ(NW)/Ag=1.1U(MB)/Zn=54.4J(E)
SB1-3-1S	94596S	Sb=16.17B/As=14.54/Be=6.08/Cd=5.12/Cr=36.86/Cu=46.27/Pb=16.21/ Hg=0.6/Ni=77.72/Se=0.49/Ag=6.49/Tl=4.56/Zn=106.56 mg/kg	None Applied
SB1-3-1D	94596D	Sb=0.23B/As=13.12/Be=0.62/Cr=17.45/Cu=20.6/Pb=15.38/ Ni=22.3/Ag=1.17/Tl=0.31B/Zn=57.66 mg/kg	None Applied
SB1-3-11	94597	Sb=0.24BN/As=9.4N*/Be=0.57/Cr=14.6/Cu=26.8/Pb=12.6/ Ni=23.9/Se=0.12UNW/Ag=1.6/Tl=0.28B/Zn=85.8E mg/kg	Sb=0.24J(N,r)/As=9.4J(N)/Se=0.12UJ(N,W)/Ag=1.6U(MB)/Zn=85.8J(E)
SB1-3-11R	94598	Sb=0.23UN/As=3.7N*/Be=0.27B/Cr=9/Cu=23/Pb=11.2/ Ni=17.7/Se=0.13UNW/Ag=1.1/Tl=0.32B/Zn=81.7E mg/kg	Sb=R(N)/As=3.7J(N)/Se=0.13UJ(N,W)/Ag=1.1U(MB)/Zn=81.7J(E)
SB1-1-3	94602	Sb=0.22BN/As=6.1N*/Be=0.27B/Cr=7.2/Cu=16.7/Pb=6.3/ Ni=14.1/Se=0.11UNW/Ag=1.9/Tl=0.12BW/Zn=46.7E mg/kg	Sb=0.22J(N,r)/As=6.1J(N)/Se=0.11UJ(N,W)/Ag=1.9U(MB)/Tl=0.12J(W)/Zn=46.7J(E)
SB1-2-3	94603	Sb=0.29BN/As=6.8N*/Be=0.28B/Cr=7/Cu=16.2/Pb=7.2/ Ni=12.5/Se=0.15UNW/Ag=2/Tl=0.21BW/Zn=44.4E mg/kg	Sb=0.29J(N,r)/As=6.8J(N)/Se=0.15UJ(N,W)/Ag=2U(MB)/Tl=0.21J(W)/Zn=44.4J(E)
SB1-3-3	94604	Sb=0.28BN/As=6.4N*/Be=0.71/Cr=18.4/Cu=22.2/Pb=23.9/ Ni=18.8/Se=0.18UNW/Ag=1.2B/Tl=0.29BW/Zn=81.4E mg/kg	Sb=0.28J(N,r)/As=6.4J(N)/Se=0.18UJ(N,W)/Ag=1.2U(MB)/Tl=0.29J(W)/Zn=81.4J(E)
SB2-2-1	94666	Sb=0.28BN/As=6.8N*/Be=0.28B/Cr=7/Cu=12.5/Pb=7.6/ Ni=14.4/Se=0.12UNW/Ag=2B/Tl=0.17BW/Zn=42.2E mg/kg	Sb=0.28J(N,r)/As=6.8J(N)/Se=0.12UJ(N,W)/Ag=2U(MB)/Tl=0.17J(W)/Zn=42.2J(E)
SB2-2-1R	94667	Sb=0.20UN/As=8.4N*/Be=0.34B/Cr=9.1/Cu=19.5/Pb=7.5/ Ni=20.5/Se=0.13UNW/Ag=2.1/Tl=0.16BW/Zn=52.3E mg/kg	Sb=R(N)/As=8.4J(N)/Se=0.13UJ(N,W)/Ag=2.1U(MB)/Tl=0.16J(W)/Zn=52.3J(E)
SB2-2-2	94668	Sb=0.22UN/As=8.8N*/Be=0.21B/Cr=5.2/Cu=9.7/Pb=9.7/ Ni=8.8/Se=0.13UNW/Ag=2.3/Tl=0.08BW/Zn=38E mg/kg	Sb=R(N)/As=8.8J(N)/Se=0.13UJ(N,W)/Ag=2.3U(MB)/Tl=0.08J(W)/Zn=38J(E)
SB2-2-17	94669	Sb=0.39BN/As=9N*/Be=0.38B/Cd=0.19B/Cr=8.1/Cu=25.8/Pb=10.7/ Ni=20.6/Se=0.22BNW/Ag=2.2/Tl=0.27BW/Zn=65.4E mg/kg	Sb=0.39J(N,r)/As=9J(N)/Cd=0.19U(MB)/Se=0.22UJ(MB,N,W)/Ag=2.3U(MB)/Tl=0.27J(W)/ Zn=65.4J(E)
SB2-3-1	94670	Sb=0.20UN/As=8.8N*/Be=0.28B/Cr=7.2/Cu=13.1/Pb=7.8/ Ni=14.2/Se=0.15UNW/Ag=2/Tl=0.13BW/Zn=43.3E mg/kg	Sb=R(N)/As=8.8J(N)/Se=0.15UJ(N,W)/Ag=2U(MB)/Tl=0.13J(W)/Zn=43.3J(E)
SB2-3-4	94671	Sb=0.19UN+/As=6.2N*/Be=0.17B/Cr=6.8/Cu=13.6/Pb=7.4/ Ni=12.9/Se=0.15UNW/Ag=2.1/Tl=0.18BW/Zn=51.5E mg/kg	Sb=R(N)/As=6.2J(N)/Se=0.15UJ(N,W)/Ag=2.1U(MB)/Tl=0.18J(W)/Zn=51.5J(E)
SB2-3-16	94672	Sb=0.20BN/As=5.5N*/Be=0.15B/Cr=3.8/Cu=15.4/Pb=4.6/ Ni=9.9/Se=0.15UNW/Ag=1.8/Tl=0.17B/Zn=36E mg/kg	Sb=0.2J(N,r)/As=5.5J(N)/Se=0.15UJ(N,W)/Ag=1.8U(MB)/Zn=36J(E)
SB2-1-14	94673	Sb=0.24BNW/As=4.3N*/Be=0.32B/Cr=8.1/Cu=23.7/Pb=6.6/ Ni=18.7/Se=0.14UNW/Ag=1.8/Tl=0.17B/Zn=47.1E mg/kg	Sb=0.24J(N,W,r)/As=4.3J(N)/Se=0.14UJ(N,W)/Ag=1.8U(MB)/Zn=47.1J(E)
SB5-1-1	94674	Sb=0.32BNW/As=6.7N*/Be=0.29B/Cr=7.4/Cu=13.3/Pb=8.2/ Ni=12/Se=0.12UNW/Ag=1.9/Tl=0.21BW/Zn=45.6E mg/kg	Sb=0.32J(N,W,r)/As=6.7J(N)/Se=0.12UJ(N,W)/Ag=1.9U(MB)/Tl=0.21J(W)/Zn=45.6J(E)
SB5-1-7	94675	Sb=0.21BNW/As=9N*/Be=0.20B/Cd=0.31B/Cr=5.7/Cu=16.4/Pb=6.7/ Ni=18.4/Se=0.13UNW/Ag=1.7/Tl=0.21BW/Zn=124E mg/kg	Sb=0.21J(N,W,r)/As=9J(N)/Cd=0.31U(MB)/Se=0.13UJ(N,W)/Ag=1.7U(MB)/Tl=0.21J(W)/ Zn=124J(E)

Table G-22d. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Sampling Dates	Preparation Dates	Analysis Dates	Initial Calibration (ICV)	Continuing Calibration (CCV)	BLANKS		
							Initial Calibration Blank (ICB)	Continuing Calibration Blank (CCB)	Preparation Blank (PB)
WATERS									
PBW	PBW	NA	09/14, 16/92	09/16/92-10/05/92	ALL ICV %Rs WITHIN CONTROL LIMITS (Hg=80-120, ALL OTHER METALS=90-110)	ALL CCV %Rs WITHIN CONTROL LIMITS (Hg=80-120, ALL OTHER METALS=90-110)	NO CONTAMINANTS DETECTED IN THE INITIAL CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *ICB1: Sb=2.9B µg/l *ICB3: Se=2.0B µg/l	NO CONTAMINANTS DETECTED IN THE CONTINUING CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *CCB1: Sb=-3.1B µg/l *CCB3: Ag=6.6B µg/l *CCB4: Ag=0.7B/Ag=4.7B µg/l *CCB5: Tl=-0.7B µg/l *CCB6: Tl=-2.4B µg/l *CCB6: Se=1.7B µg/l *CCB8: Ni=-10.3B µg/l *CCB7: Ag=4.2B µg/l	NO INTERFERENCE DETECTED IN THE PREPARATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *PBS: Pb=0.050B/Ag=-0.345B mg/kg
EB3-1	94908	08/19/92	09/14, 16/92	09/16/92-10/05/92					
FB3-1	94909	08/19/92	09/14, 16/92	09/16/92-10/05/92					
SOILS									
PBS	PBS	NA	09/14, 16/92	09/16/92-10/05/92					
SB3-1-1	94911	08/19/92	09/14, 16/92	09/16/92-10/05/92					
SB3-1-1S	94911S	08/19/92	09/14, 16/92	09/16/92-10/05/92					
SB3-1-1D	94911D	08/19/92	09/14, 16/92	09/16/92-10/05/92					
MWBG-2-1	94912	08/19/92	09/14, 16/92	09/16/92-10/05/92					
MWBG-2-3	94913	08/19/92	09/14, 16/92	09/16/92-10/05/92					
MWBG-2-3R	94914	08/19/92	09/14, 16/92	09/16/92-10/05/92					
SB3-1-8	94972	08/20/92	09/14, 16/92	09/16/92-10/05/92					
SB3-2-1	94973	08/20/92	09/14, 16/92	09/16/92-10/05/92					
SB3-2-4	94974	08/20/92	09/14, 16/92	09/16/92-10/05/92					
SB3-2-7	94975	08/20/92	09/14, 16/92	09/16/92-10/05/92					
SB3-3-1	94976	08/20/92	09/14, 16/92	09/16/92-10/05/92					
SB3-3-8	94977	08/20/92	09/14, 16/92	09/16/92-10/05/92					
MW3-1-1a	95081	08/21/92	09/14, 16/92	09/16/92-10/05/92					
MW3-1-8	95082	08/21/92	09/14, 16/92	09/16/92-10/05/92					

Table G–22d. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	ICP/ICS Initial	ICP/ICS Final	ACCURACY Spike Sample	PRECISION Duplicate Sample	Laboratory Control Sample (LCS)
WATERS						
PBW	PBW	ALL %Rs WERE BETWEEN 80–120% FOR ALL ELEMENTS	ALL %Rs WERE BETWEEN 80–120% FOR ALL ELEMENTS	FIELD QC ONLY; NO MATRIX SPIKE REQUIRED	FIELD QC ONLY; NO LABORATORY DUPLICATE REQUIRED	ALL LCS %Rs WITHIN CONTROL LIMITS (80–120%) FOR ALL ELEMENTS
EB3–1	94908					
FB3–1	94909					
SOILS						
PBS	PBS			SB3–1–1 ALL SPIKE SAMPLE RECOVERIES WITHIN CONTROL LIMITS (75–125%) EXCEPT: Sb=18.4%/As=71.6%/ Se=34.1%	SB3–1–1 ALL RPDs WITHIN CONTROL LIMITS FOR SAMPLE AND DUPLICATE CONCENTRATIONS GREATER THAN 5X THE CRDL (≤ 35 %) AND WITHIN CONTROL LIMIT OF (±)2XCRDL FOR SAMPLE OR DUPLICATE CONCENTRATIONS LESS THAN 5X THE CRDL.	ALL SOLID LCS WERE WITHIN THEIR SPECIFIED CONTROL LIMITS.
SB3–1–1	94911					
SB3–1–1S	94911S					
SB3–1–1D	94911D					
MWBG–2–1	94912					
MWBG–2–3	94913					
MWBG–2–3R	94914					
SB3–1–8	94972					
SB3–2–1	94973					
SB3–2–4	94974					
SB3–2–7	94975					
SB3–3–1	94976					
SB3–3–8	94977					
MW3–1–1a	95031					
MW3–1–8	95032					

Table G-22d. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Serial Dilution Analyses	Field Duplicate Sample	Field Blank Results	Equipment Blank Results
WATERS					
PBW	PBW	FIELD QC ONLY;	NA	NA	NA
EB3-1	94908	NO SERIAL DILUTION	NA	NA	NA
FB3-1	94909	ANALYSIS REQUIRED	NA	NA	NA
SOILS					
PBS	PBS	SB3-1-1	MWBG-2-3/MWBG-2-3R	NA	NA
SB3-1-1	94911	ALL DIFFERENCES ARE WITHIN 10% OF THE ORIGINAL SAMPLE EXCEPT FOR Zn(17.5%).	ALL RPDs WITHIN CONTROL LIMITS FOR SAMPLE AND DUPLICATE CONCENTRATIONS GREATER THAN 5X THE CRDL ($\leq$ 50 %) AND WITHIN LIMIT OF (±)4XCRDL FOR SAMPLE OR DUPLICATE CONCENTRATIONS LESS THAN 5X THE CRDL.	FB3-1, SD5-FB	EB3-1
SB3-1-1S	94911S			FB3-1, SD5-FB	EB3-1
SB3-1-1D	94911D			FB3-1, SD5-FB	EB3-1
MWBG-2-1	94912			FB3-1, SD5-FB	EB3-1
MWBG-2-3	94913			FB3-1, SD5-FB	EB3-1
MWBG-2-3R	94914			FB3-1, SD5-FB	EB3-1
SB3-1-8	94972			FB3-1, SD5-FB	EB3-1
SB3-2-1	94973			FB3-1, SD5-FB	EB3-1
SB3-2-4	94974			FB3-1, SD5-FB	EB3-1
SB3-2-7	94975			FB3-1, SD5-FB	EB3-1
SB3-3-1	94976			FB3-1, SD5-FB	EB3-1
SB3-3-8	94977			FB3-1, SD5-FB	EB3-1
MW3-1-1a	95031			FB3-1, SD5-FB	EB3-1
MW3-1-8	95032			FB3-1, SD5-FB	EB3-1

Table G-22d. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Significant Sample Results	Data Validation Qualifiers
WATERS			
PBW	PBW	None Detected	None Applied
EB3-1	94908	Cu=8.6B/Pb=0.80B/Zn=4.6B ug/l	None Applied
FB3-1	94909	None Detected	None Applied
SOILS			
PBS	PBS	Pb=0.050B/Ag=-0.345B mg/kg	None Applied
SB3-1-1	94911	Sb=0.14UNW/As=11N*/Be=0.47B/Cr=27.3/Cu=23.7/ Pb=44.5/Ni=24.3/Se=0.15UNW/Ag=2.1/Tl=0.29B/Zn=106E mg/kg	Sb=R(N)/As=11J(N)/Se=0.15UJ(N,W)/Ag=2.1U(MB)/Tl=0.29U(MB)/Zn=106J(E)
SB3-1-1S	94911S	Sb=8.03B/As=13.87/Be=4.33/Cd=3.7/Cr=44.18/Cu=43.65/Pb=43.29/ Hg=0.56/Ni=65.16/Se=0.34B/Ag=6.11/Tl=4.83/Zn=148.68 mg/kg	None Applied
SB3-1-1D	94911D	Sb=0.24B/As=9.38/Be=0.44B/Cd=0.23/Cr=29.05/Cu=22.35/ Pb=43.47/Ni=23.32/Ag=2.58/Tl=0.26B/Zn=107.83 mg/kg	None Applied
MWBG-2-1	94912	Sb=0.13UN/As=6.1N*/Be=0.53B/Cr=13.5/Cu=11.7/ Pb=15.3/Ni=13/Se=0.13UNW/Ag=0.97/Tl=0.17B/Zn=39.1E mg/kg	Sb=R(N)/As=6.1J(N)/Se=0.13UJ(N,W)/Ag=0.97U(MB)/Tl=0.17U(MB)/Zn=39.1J(E)
MWBG-2-3	94913	Sb=0.16BN/As=5.7N*/Be=0.37B/Cr=8.8/Cu=21.7/ Pb=7.4/Ni=21.7/Se=0.13UNW/Ag=2.8B/Tl=0.18BW/Zn=46.7E mg/kg	Sb=R(N)/As=5.7J(N)/Se=0.13UJ(N,W)/Ag=2.8U(MB)/Tl=0.18UJ(MB,W)/Zn=46.7J(E)
MWBG-2-3R	94914	Sb=0.13BN/As=3.8N*/Be=0.33B/Cr=7.6/Cu=13.6/ Pb=5.7/Ni=13/Se=0.16BNW/Ag=3B/Tl=0.14BW/Zn=39.7E mg/kg	Sb=R(N)/As=3.8J(N)/Se=0.16UJ(MB,N,W)/Ag=3U(MB)/Tl=0.14UJ(MB,W)/Zn=39.7J(E)
SB3-1-8	94972	Sb=0.11UN/As=4.3N*/Be=0.29B/Cr=7.2/Cu=11.5/ Pb=6.3S/Ni=12.2B/Se=0.14UN/Ag=3.2B/Tl=0.10BW/Zn=41.8E mg/kg	Sb=R(N)/As=4.3J(N)/Se=0.14UJ(N,W)/Ag=3.2U(MB)/Tl=0.10UJ(MB,W)/Zn=41.8J(E)
SB3-2-1	94973	Sb=0.10UN/As=6.1N*/Be=0.43B/Cr=9.5/Cu=59.2/Pb=8.1/ Ni=20.7/Se=0.11UN/Ag=3B/Tl=0.14BW/Zn=312E mg/kg	Sb=R(N)/As=6.1J(N)/Se=0.11UJ(N,W)/Ag=3U(MB)/Tl=0.14UJ(MB,W)/Zn=312J(E)
SB3-2-4	94974	Sb=0.22BN/As=13.4N*/Be=0.38B/Cd=0.68/Cr=19.6/Cu=19.9/Pb=25.8/ Hg=0.12/Ni=14.9/Se=0.13UNW/Ag=16.4/Tl=0.14BW/Zn=78.6E mg/kg	Sb=R(N)/As=13.4J(N)/Se=0.13UJ(N,W)/Tl=0.14UJ(MB,W)/Zn=78.6J(E)
SB3-2-7	94975	Sb=0.13BN/As=2.4N*/Be=0.29B/Cr=7.9/Cu=12.7/Pb=6.8S/ Ni=14.6B/Se=0.17BNW/Ag=3.2B/Tl=0.11BW/Zn=40.9E mg/kg	Sb=R(N)/As=2.4J(N)/Se=0.17UJ(MB,N,W)/Tl=0.11UJ(MB,W)/Zn=40.9J(E)
SB3-3-1	94976	Sb=0.22BN/As=8.7N*/Be=0.36B/Cd=0.28B/Cr=17/Cu=22.4/Pb=33.5/ Ni=20.2/Se=0.14UNW/Ag=2.2B/Tl=0.19BW/Zn=86.7E mg/kg	Sb=R(N)/As=8.7J(N)/Se=0.14UJ(N,W)/Ag=2.2U(MB)/Tl=0.19UJ(MB,W)/Zn=86.7J(E)
SB3-3-8	94977	Sb=0.18BN/As=3.2N*/Be=0.23B/Cr=4.9B/Cu=8.2B/Pb=5.6S/ Se=0.15UN/Ag=3.6B/Tl=0.08UW/Zn=35.4E mg/kg	Sb=R(N)/As=3.2J(N)/Se=0.15UJ(N)/Tl=0.08UJ(W)/Zn=35.4J(E)
MW3-1-1a	95031	Sb=0.14UN/As=7.7N*/Be=0.34B/Cr=16/Cu=17.6/Pb=22.2S/ Ni=17.6/Se=0.12UNW/Ag=2.5/Tl=0.16BW/Zn=68.9E mg/kg	Sb=R(N)/As=7.7J(N)/Se=0.12UJ(N,W)/Ag=2.5U(MB)/Tl=0.16UJ(MB,W)/Zn=68.9J(E)
MW3-1-8	95032	Sb=0.12UN/As=5.2N*/Be=0.33B/Cr=9.5/Cu=13.3/Pb=8.3/ Ni=10.3B/Se=0.11UNW/Ag=3.5/Zn=53E mg/kg	Sb=R(N)/As=5.2J(N)/Se=0.11UJ(N,W)/Zn=53J(E)

Table G-22e. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Sampling Dates	Preparation Dates	Analysis Dates	Initial Calibration (ICV)	Continuing Calibration (CCV)	BLANKS		
							Initial Calibration Blank (ICB)	Continuing Calibration Blank (CCB)	Preparation Blank (PB)
WATERS									
PBW	PBW	NA	09/17, 21, 22/92	09/20/92-10/08/92	ALL ICV %Rs WITHIN CONTROL LIMITS (Hg=80-120, ALL OTHER METALS=90-110)	ALL CCV %Rs WITHIN CONTROL LIMITS (Hg=80-120, ALL OTHER METALS=90-110)	NO CONTAMINANTS DETECTED IN THE INITIAL CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *ICB1: Pb=1.1B µg/l *ICB1: Ag=9.0B µg/l *ICB2: Pb=0.5B µg/l	NO CONTAMINANTS DETECTED IN THE CONTINUING CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *CCB1: Pb=0.6B µg/l *CCB1: Ag=6.6B µg/l *CCB4: Pb=0.6B µg/l *CCB3: Pb=1.3B µg/l *CCB4: Cr=-4.5B/Pb=1.3B µg/l *CCB8: As=-2.2B µg/l	NO CONTAMINANTS DETECTED IN THE PREPARATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *PBW: Pb=0.7B/Ag=3.402B µg/l *PBS: Pb=0.05B/Ag=-0.698B mg/kg
EB4-1	95191	08/25/92	09/17, 21, 22/92	09/20/92-10/08/92					
FB4-1	95192	08/25/92	09/17, 21, 22/92	09/20/92-10/08/92					
ERBG-1	95193	08/25/92	09/17, 21, 22/92	09/20/92-10/08/92					
FBBG-1	95194	08/25/92	09/17, 21, 22/92	09/20/92-10/08/92					
SOILS									
PBS	PBS	NA	09/17, 21, 22/92	09/20/92-10/08/92					
MW3-1-1	95266	08/26/92	09/17, 21, 22/92	09/20/92-10/08/92					
MW3-1-1S	95266S	08/26/92	09/17, 21, 22/92	09/20/92-10/08/92					
MW3-1-1D	95266D	08/26/92	09/17, 21, 22/92	09/20/92-10/08/92					
MW3-1-1R	95267	08/26/92	09/17, 21, 22/92	09/20/92-10/08/92					
SD2-1	95268	08/26/92	09/17, 21, 22/92	09/20/92-10/08/92					
SD2-1R	95269	08/26/92	09/17, 21, 22/92	09/20/92-10/08/92					
SD2-2	95270	08/26/92	09/17, 21, 22/92	09/20/92-10/08/92					
MW4-1-1S	95273	08/26/92	09/17, 21, 22/92	09/20/92-10/08/92					
MW4-1-4S	95274	08/26/92	09/17, 21, 22/92	09/20/92-10/08/92					
MW4-1-5S	95275	08/26/92	09/17, 21, 22/92	09/20/92-10/08/92					
WATERS									
PBW	PBW	NA	10/19, 20/92	10/20/92-11/06/92	ALL ICV %Rs WITHIN CONTROL LIMITS (Hg=80-120, ALL OTHER METALS=90-110)	ALL CCV %Rs WITHIN CONTROL LIMITS (Hg=80-120, ALL OTHER METALS=90-110)	NO CONTAMINANTS DETECTED IN THE INITIAL CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *ICB1: As=0.7B µg/l *ICB1: Cd=-3B µg/l	NO CONTAMINANTS DETECTED IN THE CONTINUING CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *CCB1: Cd=-2.3B µg/l *CCB2: Cd=-2.2B/Pb=-0.7B/Ag=-4.2B µg/l *CCB3: Cd=-4.1B/Ag=6.2B µg/l *CCB4: Be=-0.3B/Ag=6.5B µg/l *CCB5: Pb=1.1B µg/l	NO CONTAMINANTS DETECTED IN THE PREPARATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *PBW: Ag=-5.858B/Zn=3.27B µg/l
FBCE-1	97395	10/01/92	10/19, 20/92	10/20/92-11/06/92					
FBBA-1	97308	09/30/92	10/19, 20/92	10/20/92-11/06/92					
ERBG-2	97273	09/29/92	10/19, 20/92	10/20/92-11/06/92					
MWBG-2-1	97271	09/29/92	10/19, 20/92	10/20/92-11/06/92					
MW4-1-1	97272	09/29/92	10/19, 20/92	10/20/92-11/06/92					
MWBG-1-1	97309	09/30/92	10/19, 20/92	10/20/92-11/06/92					
MW1-1-1	97310	09/30/92	10/19, 20/92	10/20/92-11/06/92					
MW3-1-1	97311	09/30/92	10/19, 20/92	10/20/92-11/06/92					
MW3-1-1S	97311S	09/30/92	10/19, 20/92	10/20/92-11/06/92					
MW3-1-1D	97311D	09/30/92	10/19, 20/92	10/20/92-11/06/92					
MW3-1-1R	97314	09/30/92	10/19, 20/92	10/20/92-11/06/92					
MW2-1-1	97396	10/01/92	10/19, 20/92	10/20/92-11/06/92					

Table G-22e. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	ICP/ICS Initial	ICP/ICS Final	ACCURACY Spike Sample	PRECISION Duplicate Sample	Laboratory Control Sample (LCS)
WATERS						
PBW	PBW	ALL %Rs WERE BETWEEN 80-120% FOR ALL ELEMENTS	ALL %Rs WERE BETWEEN 80-120% FOR ALL ELEMENTS	FIELD QC ONLY; NO MATRIX SPIKE REQUIRED	FIELD QC ONLY; NO LABORATORY DUPLICATE REQUIRED	ALL LCS %Rs WITHIN CONTROL LIMITS (80-120%) FOR ALL ELEMENTS
EB4-1	95191					
FB4-1	95192					
ERBG-1	95193					
FBBG-1	95194					
SOILS						
PBS	PBS			MW3-1-1 ALL SPIKE SAMPLE RECOVERIES WITHIN CONTROL LIMITS (75-125%) EXCEPT: Sb=28.6%/As=39.9%/ Cr=202.1%/Se=15.9%/Zn=55.3%	MW3-1-1 ALL RPDs WITHIN CONTROL LIMITS FOR SAMPLE AND DUPLICATE CONCENTRATIONS GREATER THAN 5X THE CRDL (≤ 35 %) AND WITHIN CONTROL LIMIT OF (±)2XCRDL FOR SAMPLE OR DUPLICATE CONCENTRATIONS LESS THAN 5X THE CRDL EXCEPT: As AND Pb.	ALL SOLID LCS WERE WITHIN THEIR SPECIFIED CONTROL LIMITS.
MW3-1-1	95266					
MW3-1-1S	95266S					
MW3-1-1D	95266D					
MW3-1-1R	95267					
SD2-1	95268					
SD2-1R	95269					
SD2-2	95270					
MW4-1-1S	95273					
MW4-1-4S	95274					
MW4-1-5S	95275					
WATERS						
PBW	PBW	ALL %Rs WERE BETWEEN 80-120% FOR ALL ELEMENTS	ALL %Rs WERE BETWEEN 80-120% FOR ALL ELEMENTS	MW3-1-1 ALL SPIKE SAMPLE RECOVERIES WITHIN CONTROL LIMITS (75-125%) EXCEPT: Sb=12.6%/Se=0.0%/ Tl=62.8%	MW3-1-1 ALL RPDs WITHIN CONTROL LIMITS FOR SAMPLE AND DUPLICATE CONCENTRATIONS GREATER THAN 5X THE CRDL (≤ 20 %) AND WITHIN CONTROL LIMIT OF (±)CRDL FOR SAMPLE OR DUPLICATE CONCENTRATIONS LESS THAN 5X THE CRDL EXCEPT: Pb.	ALL LCS %Rs WITHIN CONTROL LIMITS (80-120%) FOR ALL ELEMENTS
FBCE-1	97395					
FBBA-1	97308					
ERBG-2	97273					
MWBG-2-1	97271					
MW4-1-1	97272					
MWBG-1-1	97309					
MW1-1-1	97310					
MW3-1-1	97311					
MW3-1-1S	97311S					
MW3-1-1D	97311D					
MW3-1-1R	97314					
MW2-1-1	97396					

Table G-22e. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Serial Dilution Analyses	Field Duplicate Sample	Field Blank Results	Equipment Blank Results
WATERS					
PBW	PBW	FIELD QC ONLY;	NA	NA	NA
EB4-1	95191	NO SERIAL DILUTION	NA	NA	NA
FB4-1	95192	ANALYSIS REQUIRED	NA	NA	NA
ERBG-1	95193		NA	NA	NA
FBBG-1	95194		NA	NA	NA
SOILS					
PBS	PBS	MW3-1-1	MW3-1-1/MW3-1-1R	NA	NA
MW3-1-1	95266	ALL DIFFERENCES ARE WITHIN 10% OF THE ORIGINAL SAMPLE	SD2-1/SD2-1R ALL RPDs WITHIN CONTROL	FB3-1, SD5-FB	EB3-1
MW3-1-1S	95266S	EXCEPT FOR Zn(18.9%).	LIMITS FOR SAMPLE AND DUPLICATE CONCENTRATIONS	FB3-1, SD5-FB	EB3-1
MW3-1-1D	95266D		GREATER THAN 5X THE CRDL (≤ 50 %) EXCEPT: Cr=144.8%/	FB3-1, SD5-FB	EB3-1
MW3-1-1R	95267		Cu=81.2%/Ag=54.5%/Zn=145.8% IN SD2-1/SD2-1R	FB3-1, SD5-FB	EB3-1
SD2-1	95268		LIMIT OF (±)4XCRDL FOR SAMPLE OR DUPLICATE CONCENTRATIONS	FBBG-1, SD5-FB	ERBG-1
SD2-1R	95269		LESS THAN 5X THE CRDL.	FBBG-1, SD5-FB	ERBG-1
SD2-2	95270			FBBG-1, SD5-FB	ERBG-1
MW4-1-1S	95273			FB4-1, SD5-FB	EB4-1
MW4-1-4S	95274			FB4-1, SD5-FB	EB4-1
MW4-1-5S	95275			FB4-1, SD5-FB	EB4-1
WATERS					
PBW	PBW	MW3-1-1	NA	NA	NA
FBCE-1	97395	ALL DIFFERENCES ARE WITHIN 10% OF THE ORIGINAL SAMPLE	NA	NA	NA
FBBA-1	97308	EXCEPT FOR Zn(20.3%).	NA	NA	NA
ERBG-2	97273		NA	NA	NA
MWBG-2-1	97271		MW3-1-1/MW3-1-1R ALL RPDs WITHIN CONTROL	FBBA-1,FBCE-1	ERBG-2
MW4-1-1	97272		LIMITS FOR SAMPLE AND DUPLICATE CONCENTRATIONS	FBBA-1,FBCE-1	ERBG-2
MWBG-1-1	97309		GREATER THAN 5X THE CRDL (≤ 50 %) EXCEPT: Pb=56%/Zn=66%	FBBA-1,FBCE-1	ERBG-2
MW1-1-1	97310		LIMIT OF (±)2XCRDL FOR SAMPLE OR DUPLICATE CONCENTRATIONS	FBBA-1,FBCE-1	ERBG-2
MW3-1-1	97311		LESS THAN 5X THE CRDL EXCEPT: As, Be, Cr, Cu, AND Ni	FBBA-1,FBCE-1	ERBG-2
MW3-1-1S	97311S			FBBA-1,FBCE-1	ERBG-2
MW3-1-1D	97311D			FBBA-1,FBCE-1	ERBG-2
MW3-1-1R	97314			FBBA-1,FBCE-1	ERBG-2
MW2-1-1	97396			FBBA-1,FBCE-1	ERBG-2

Table G-22e. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Significant Sample Results	Data Validation Qualifiers
WATERS			
PBW	PBW	Pb=0.7B/Ag=3.402B ug/l	None Applied
EB4-1	95191	Pb=1.2B/Ag=3.6B/Zn=36.3 ug/l	Pb=1.2U(MB)/Ag=3.6U(MB)
FB4-1	95192	Cd=2.4B/Pb=0.5B/Zn=10B ug/l	Pb=0.5U(MB)
ERBG-1	95193	Pb=1.3B/Se=1.4UW ug/l	Pb=1.3U(MB)/Se=1.4UJ(W)
FBBG-1	95194	Pb=1.1B/Zn=5.6B µg/l	Pb=1.1U(MB)
SOILS			
PBS	PBS	Pb=0.05B/Ag=-0.698B mg/kg	None Applied
MW3-1-1	95266	Sb=0.19UN/As=10.6NS*/Be=0.33B/Cr=14.8N/Cu=16.8/ Pb=21.7*/Ni=17.6/Se=0.15UNW/Ag=1.6/Tl=0.23B/Zn=70.2NE mg/kg	Sb=R(N)/As=10.6J(N,*)/Cr=14.8J(N)/ Se=R(N)/Ag=1.6U(MB)/Zn=70.2J(N,E)
MW3-1-1S	95266S	Sb=14.21B/As=12.12/Be=4.45/Cd=3.76/Cr=54.9/Cu=38.1/Pb=24.31/ Hg=0.45/Ni=70.59/Se=0.16B/Ag=5.64/Tl=4.48/Zn=97.6 mg/kg	None Applied
MW3-1-1D	95266D	Sb=0.21B/As=7.23/Be=0.33B/Cr=15.88/Cu=17.04/Pb=16.08/ Ni=21.11/Ag=1.73/Zn=84.41 mg/kg	None Applied
MW3-1-1R	95267	Sb=0.20UN/As=10.1N*/Be=0.29B/Cr=9.6N/Cu=13.9/ Pb=17.5*/Ni=11.8/Se=0.12UNW/Ag=1.3/Tl=0.23B/Zn=57.9NE mg/kg	Sb=R(N)/As=10.1J(N,*)/Cr=9.6J(N)/ Se=R(N)/Ag=1.3U(MB)/Zn=57.9J(N,E)
SD2-1	95268	Sb=0.94BN/As=5.4N*/Be=0.39B/Cd=3.3/Cr=41.9N/Cu=27.7/Pb=154*/ Hg=0.22/Ni=19/Se=0.16UNW/Ag=2.1/Tl=0.22UW/Zn=284NE mg/kg	Sb=0.94J(N)/As=5.4J(N,*)/Cr=41.9J(N,FD)/Cu=27.7J(FD)/ Se=R(N)/Ag=2.1U(MB)/Tl=0.22J(W)/Zn=284J(N,E,FD)
SD2-1R	95269	Sb=0.19UNW/As=8.6N*/Be=0.25B/Cr=6.7N/Cu=11.7/Pb=106*/ Ni=11.5/Se=0.11UNW/Ag=1.2/Tl=0.19B/Zn=44.5NE mg/kg	Sb=R(N)/As=8.6J(N,*)/Cr=6.7J(N,FD)/Cu=11.7J(FD)/ Se=R(N)/Ag=1.2U(MB)/Zn=44.5J(N,E,FD)
SD2-2	95270	Sb=0.43BN/As=10.6NS*/Be=0.30B/Cd=0.38B/Cr=6.8N/Cu=13.4/ Pb=13.6*/Ni=10.7/Se=0.12UNW/Ag=1.1/Tl=0.22B/Zn=56.2NE mg/kg	Sb=0.43J(N)/As=10.6J(N,*)/Cr=6.8J(N)/ Se=R(N)/Ag=1.1U(MB)/Zn=56.2J(N,E)
MW4-1-1S	95273	Be=0.53/Cr=11.4N/Cu=20.3/Pb=19*/Ni=22.5/Ag=1.3/ Zn=72.9NE mg/kg	Cr=11.4J(N)/Pb=19J(*)/Ag=1.3U(MB)/Zn=72.9J(N,E)
MW4-1-4S	95274	Be=0.27B/Cr=7.6N/Cu=15.3/Pb=8.3*/Ni=15.1/Ag=1.2/ Zn=48.1NE mg/kg	Cr=7.6J(N)/Pb=8.3J(*)/Ag=1.2U(MB)/Zn=48.1J(N,E)
MW4-1-5S	95275	Be=0.14B/Cr=3.8N/Cu=11.9/Pb=4.8*/Ni=7/Ag=1/ Zn=34.4NE mg/kg	Cr=3.8J(N)/Pb=4.8J(*)/Ag=1U(MB)/Zn=34.4J(N,E)
WATERS			
PBW	PBW	As=-5.86B/Zn=3.27B µg/l	None Applied
FBCE-1	97395	Sb=1.2UN/As=0.7U/Be=0.3U/Cd=2.1U/Cr=2.9U/Cu=9.1B/Pb=4.1*/ Hg=0.1U/Ni=12.9U/Se=1.4UN/Ag=3.8U/Tl=1.4UN/Zn=522E µg/l	Sb=R(N)/Pb=4.1U(MB)/Se=R(N)/Tl=1.4UJ(N)/Zn=522J(E)
FBBA-1	97308	Sb=1.2UN/As=0.7U/Be=0.3U/Cd=2.1U/Cr=2.9U/Cu=3.4U/Pb=0.5U*/ Hg=0.1U/Ni=12.9U/Se=1.4UN/Ag=3.8U/Tl=1.4UN/Zn=4.2E µg/l	Sb=R(N)/Se=R(N)/Tl=1.4UJ(N)/Zn=4.2U(MB)
ERBG-2	97273	Sb=2.1BN/As=0.7U/Be=0.3U/Cd=2.1U/Cr=2.9U/Cu=3.4U/Pb=0.8*/ Hg=0.1U/Ni=12.9U/Se=1.4UN/Ag=3.8U/Tl=1.4UNW/Zn=5.9E µg/l	Sb=2.1J(N)/Pb=0.8U(MB)/Se=R(N)/Tl=1.4UJ(N,W)/Zn=5.9U(MB)
MWBG-2-1	97271	Sb=1.4BN/As=4B/Be=0.3U/Cd=2.1U/Cr=9.1B/Cu=11.6B/Pb=4.1*/ Hg=0.1U/Ni=12.9U/Se=1.4UN/Ag=3.8U/Tl=1.4UN/Zn=39.7E µg/l	Sb=1.4J(N)/Cu=11.6U(FB)/Pb=4.1U(MB)/Se=R(N)/Tl=1.4UJ(N)/Zn=39.7U(FB)
MW4-1-1	97272	Be=0.3U/Cd=2.1U/Cr=7.3B/Cu=13.4B/Pb=4.3*/ Ni=20.7B/Ag=3.8U/Zn=50.3E µg/l	Cu=13.4U(FB)/Pb=4.3U(MB)/Zn=50.3U(FB)
MWBG-1-1	97309	Sb=1.2UN/As=16.2/Be=0.57B/Cd=2.1U/Cr=23.1/Cu=34.4/Pb=16.6*/ Hg=0.1U/Ni=28.2B/Se=1.4UNW/Ag=3.8U/Tl=1.4UN/Zn=132E µg/l	Sb=R(N)/Cu=34.4U(FB)/Pb=16.6U(FD)/Se=R(N)/Tl=1.4UJ(N)/Zn=132U(FB)
MW1-1-1	97310	Sb=1.2UN/As=2.6B/Be=0.3U/Cd=2.1U/Cr=4.9B/Cu=9.5B/Pb=1.6B*/ Hg=0.1U/Ni=12.9U/Se=1.4UN/Ag=3.8U/Tl=1.4UN/Zn=24.5E µg/l	Sb=R(N)/As=2.6U(MB)/Cu=9.5U(FB)/Pb=1.6U(MB)/Se=R(N)/Tl=1.4UJ(N)/Zn=24.5U(FB)
MW3-1-1	97311	Sb=1.3BN/As=62.4/Be=3.3B/Cd=2.1U/Cr=90.6/Cu=152/Pb=59.2*/ Hg=0.1U/Ni=170/Se=14UN/Ag=10.5/Tl=14UN/Zn=570E µg/l	Sb=1.3J(N)/As=62.4J(FD)/Be=3.3J(FD)/Cr=90.6J(FD)/Cu=152J(FD)/Pb=59.2J(*,FD)/ Ni=170J(FD)/Se=R(N)/Tl=1.4UJ(N)/Zn=570U(FB)
MW3-1-1S	97311S	Sb=64.5/As=95/Be=47.98/Cd=38.49/Cr=263.85/Cu=380.62/Pb=78.4/ Hg=1.18/Ni=588.57/Se=14U/Ag=58.19/Tl=31.4/Zn=1008 µg/l	None Applied
MW3-1-1D	97311D	Sb=1.4B/As=64.4/Be=3.04B/Cd=2.1U/Cr=86.87/Cu=149.64/Pb=110.33/ Hg=0.1U/Ni=162.11/Se=14UN/Ag=10.22/Tl=14UN/Zn=557.11 µg/l	None Applied
MW3-1-1R	97314	Sb=1.2UN/As=30.9/Be=1.4B/Cd=2.1U/Cr=45.3/Cu=71.6/Pb=33.3*/ Hg=0.1U/Ni=83.9/Se=1.4UNW/Ag=11.1/Tl=1.4UNW/Zn=287E µg/l	Sb=R(N)/As=30.9J(FD)/Be=1.4J(FD)/Cr=45.3J(FD)/Cu=71.6J(FD)/Pb=33.3J(*,+,FD)/ Ni=83.9J(FD)/Se=R(N)/Tl=1.4UJ(N,W)/Zn=287U(FB)
MW2-1-1	97396	Sb=1.9BN/As=78/Be=4.2B/Cd=2.1U/Cr=251/Cu=259/Pb=197S*/ Hg=0.1U/Ni=238/Se=14UN/Ag=19.5/Tl=14UNW/Zn=1130E µg/l	Sb=1.9J(N)/Pb=197J(*)/Se=R(N)/Tl=14UJ(N,W)/Zn=1130U(FB)

Table G-22f. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Sampling Dates	Preparation Dates	Analysis Dates	Initial Calibration (ICV)	Continuing Calibration (CCV)	BLANKS		
							Initial Calibration Blank (ICB)	Continuing Calibration Blank (CCB)	Preparation Blank (PB)
SOIL									
PBS		NA	02/01/93	02/02, 03/93	ALL ICV %Rs WITHIN CONTROL LIMITS (METALS=90-110)	ALL CCV %Rs WITHIN CONTROL LIMITS (METALS=90-110)	NO CONTAMINANTS DETECTED IN THE INITIAL CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *ICB1: Se=1.3B µg/l	NO CONTAMINANTS DETECTED IN THE CONTINUING CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *CCB1: Be=0.2B µg/l *CCB2: Be=0.2B/Cu=3.1B µg/l *CCB3: Be=0.2B µg/l	NO CONTAMINANTS DETECTED IN THE PREPARATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *PBS: Cu=0.312B/Zn=0.414B mg/kg
MWBG1-2	03077	08/12/92	02/01/93	02/02, 03/93					
MWBG1-2S	03077S	08/12/92	02/01/93	02/02, 03/93					
MWBG1-2D	03077D	08/12/92	02/01/93	02/02, 03/93					

Table G–22f. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	ICP/ICS Initial	ICP/ICS Final	ACCURACY Spike Sample	PRECISION Duplicate Sample	Laboratory Control Sample (LCS)
SOIL						
PBS		ALL %Rs WERE BETWEEN 80–120% FOR ALL ELEMENTS	ALL %Rs WERE BETWEEN 80–120% FOR ALL ELEMENTS	MWBG1–2 ALL SPIKE SAMPLE RECOVERIES WITHIN CONTROL LIMITS (75–125%) EXCEPT: Sb=28.8%/Se=24.1%/ Tl=47%	MWBG1–2 ALL RPDs WITHIN CONTROL LIMITS FOR SAMPLE AND DUPLICATE CONCENTRATIONS GREATER THAN 5X THE CRDL (≤ 35 %) AND WITHIN CONTROL LIMIT OF (±)2xCRDL FOR SAMPLE OR DUPLICATE CONCENTRATIONS LESS THAN 5X THE CRDL	ALL SOLID LCS WERE WITHIN THEIR SPECIFIED CONTROL LIMITS.
MWBG1–2	03077					
MWBG1–2S	03077S					
MWBG1–2D	03077D					

Table G-22f. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Serial Dilution Analyses	Field Duplicate Sample	Field Blank Results	Equipment Blank Results
SOIL					
PBS		MWBG1-2 ALL DIFFERENCES ARE WITHIN 10% OF THE ORIGINAL SAMPLE EXCEPT FOR Zn(21.8%).	NA	FB1-1, SD5-FB	ER1-1
MWBG1-2	03077				
MWBG1-2S	03077S				
MWBG1-2D	03077D				

Table G-22f. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Significant Sample Results	Data Validation Qualifiers
SOIL			
PBS		Cu=0.312B/Zn=0.414B mg/kg	
MWBG1-2	03077	Sb=0.12UNW/As=6.8/Be=3.2B/Cd=0.39U/Cr=8.4/Cu=16.9/Pb=8.7S*/ Ni=11.6/Se=0.8UN/Ag=0.32U/Tl=0.16BNW/Zn=38.8E mg/kg	Sb=R(N)/Cu=19.6U(EB)/Pb=33.3J(*)/Se=R(N)/Tl=0.16J(N,W)/Zn=38.8J(E)
MWBG1-2S	03077S	Sb=12.37/As=11.2/Be=4.28/Cr=25.9/Cu=38.97/Pb=8.63/Ni=47.65/ Se=0.2093/Ag=3.93/Tl=2.21/Zn=84.84 mg/kg	
MWBG1-2D	03077D	Sb=0.14U/As=7.24/Be=0.39B/Cd=0.43U/Cr=10.26/Cu=18.12/Pb=7.1/ Ni=10.1/Se=0.73U/Ag=0.35U/Tl=0.16B/Zn=45.22 mg/kg	

Table G-22g. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Sampling Dates	Preparation Dates	Analysis Dates	Initial Calibration (ICV)	Continuing Calibration (CCV)	BLANKS		
							Initial Calibration Blank (ICB)	Continuing Calibration Blank (CCB)	Preparation Blank (PB)
WATERS *(Total Metals)*									
PBW	PBW	NA	06/11,16/93	06/11/93-06/25/93	ALL ICV %Rs WITHIN CONTROL LIMITS (Hg=80-120, ALL OTHER METALS=90-110)	ALL CCV %Rs WITHIN CONTROL LIMITS (Hg=80-120, ALL OTHER METALS=90-110)	NO CONTAMINANTS DETECTED IN THE INITIAL CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL.	NO CONTAMINANTS DETECTED IN THE CONTINUING CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL.	NO CONTAMINANTS DETECTED IN THE PREPARATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL.
EB2-2	09564	05/21/93	06/11,16/93	06/11/93-06/25/93					
EB3-2	09565	05/21/93	06/11,16/93	06/11/93-06/25/93			*ICB: Cr=3.2B/Cu=4.5B µg/l	*CCB1: Cu=4.5B µg/l *CCB2: Sb=0.7B/Cu=4.5B/Zn=9.5B/Pb=-0.5B µg/L *CCB4: Cu=3.0B/Zn=3.1B µg/l *CCB6: Sb=-0.7B/Se=1.1B µg/l *CCB7: Se=1.5B µg/l *CCB9: Sb=-0.6B µg/l	*PBW: Cu=4.45B/Pb=0.5B Zn=2.886B µg/l
FB2-2	09566	05/21/93	06/11,16/93	06/11/93-06/25/93					
FB3-2	09567	05/21/93	06/11,16/93	06/11/93-06/25/93					
MW1-1-2	09568	05/21/93	06/11,16/93	06/11/93-06/25/93					
MW1-1-2S	09568S	05/21/93	06/11,16/93	06/11/93-06/25/93					
MW1-1-2D	09568D	05/21/93	06/11,16/93	06/11/93-06/25/93					
MW2-1-2	09569	05/21/93	06/11,16/93	06/11/93-06/25/93					
MW2-2-1	09570	05/21/93	06/11,16/93	06/11/93-06/25/93					
MW3-1-2	09571	05/21/93	06/11,16/93	06/11/93-06/25/93					
MW4-1-2	09572	05/21/93	06/11,16/93	06/11/93-06/25/93					
MWBG-1-2	09573	05/21/93	06/11,16/93	06/11/93-06/25/93					
MWBG-2-2	09574	05/21/93	06/11,16/93	06/11/93-06/25/93					
P-4-1	09575	05/21/93	06/11,16/93	06/11/93-06/25/93					
P-4-1R	09576	05/21/93	06/11,16/93	06/11/93-06/25/93					
P-5-1	09577	05/21/93	06/11,16/93	06/11/93-06/25/93					

Table G–22g. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	ICP/ICS Initial	ICP/ICS Final	ACCURACY Spike Sample	PRECISION Duplicate Sample	Laboratory Control Sample (LCS)
WATERS *(Total Metals)*						
PBW	PBW	ALL %Rs WERE BETWEEN 80–120% FOR ALL ELEMENTS	ALL %Rs WERE BETWEEN 80–120% FOR ALL ELEMENTS	MW1–1–2 ALL SPIKE SAMPLE RECOVERIES WITHIN CONTROL LIMITS (75–125%) EXCEPT: Sb=46.9%/As=15.2%/ Se=18%/Ag=67.5%	MW1–1–2 ALL RPDs WITHIN CONTROL LIMITS FOR SAMPLE AND DUPLICATE CONCENTRATIONS GREATER THAN 5X THE CRDL (≤ 20 %) AND WITHIN CONTROL LIMIT OF (±)CRDL FOR SAMPLE OR DUPLICATE CONCENTRATIONS LESS THAN 5X THE CRDL.	ALL LCS %Rs WITHIN CONTROL LIMITS (80–120%) FOR ALL ELEMENTS
EB2–2	09564					
EB3–2	09565					
FB2–2	09566					
FB3–2	09567					
MW1–1–2	09568					
MW1–1–2S	09568S					
MW1–1–2D	09568D					
MW2–1–2	09569					
MW2–2–1	09570					
MW3–1–2	09571					
MW4–1–2	09572					
MWBG–1–2	09573					
MWBG–2–2	09574					
P–4–1	09575					
P–4–1R	09576					
P–5–1	09577					

Table G–22g. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Serial Dilution Analyses	Field Duplicate Sample	Field Blank Results	Equipment Blank Results
WATERS *(Total Metals)*					
PBW	PBW	MW1–1–2	P–4–1/P–4–1R	NA	NA
EB2–2	09564	ALL DIFFERENCES ARE WITHIN 10% OF THE ORIGINAL SAMPLE EXCEPT:Zn=17.6%	ALL RPDs WITHIN CONTROL LIMITS FOR SAMPLE AND DUPLICATE CONCENTRATIONS GREATER THAN 5X THE CRDL (≤ 50 %) AND WITHIN LIMIT OF (±)2XCRDL FOR SAMPLE OR DUPLICATE CONCENTRATIONS LESS THAN 5X THE CRDL	NA	NA
EB3–2	09565			NA	NA
FB2–2	09566			NA	NA
FB3–2	09567			NA	NA
MW1–1–2	09568			FB2–2; FB3–2	EB2–2; EB3–2
MW1–1–2S	09568S			FB2–2; FB3–2	EB2–2; EB3–2
MW1–1–2D	09568D			FB2–2; FB3–2	EB2–2; EB3–2
MW2–1–2	09569			FB2–2; FB3–2	EB2–2; EB3–2
MW2–2–1	09570			FB2–2; FB3–2	EB2–2; EB3–2
MW3–1–2	09571			FB2–2; FB3–2	EB2–2; EB3–2
MW4–1–2	09572			FB2–2; FB3–2	EB2–2; EB3–2
MWBG–1–2	09573			FB2–2; FB3–2	EB2–2; EB3–2
MWBG–2–2	09574			FB2–2; FB3–2	EB2–2; EB3–2
P–4–1	09575			FB2–2; FB3–2	EB2–2; EB3–2
P–4–1R	09576			FB2–2; FB3–2	EB2–2; EB3–2
P–5–1	09577			FB2–2; FB3–2	EB2–2; EB3–2

Table G-22g. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Significant Sample Results	Data Validation Qualifiers
WATERS *(Total Metals)*			
PBW	PBW	Cu=4.45B/Pb=0.5B/Zn=2.886B µg/l	
EB2-2	09564	Sb=0.7BN/As=0.6UN/Se=1.1UN/Ag=2.9UN/Zn=3.6BE µg/l	Sb=0.7UJ(MB,N)/As=R(N)/Se=R(N)/Ag=2.9UJ(N)/Zn=3.6U(MB)
EB3-2	09565	Sb=0.6UN/As=0.6UN/Cu=8.2B/Pb=0.7B/Se=1.1UN/Ag=2.9UN/ Zn=5.6BE µg/L	Sb=0.6UJ(N)/As=R(N)/Cu=8.2U(MB)/Pb=0.7U(MB)/Se=R(N)/Ag=2.9UJ(N)/Zn=5.6U(MB)
FB2-2	09566	Sb=0.6UN/As=0.6UN/Cu=4.5B/Se=1.1UN/Ag=2.9UN/Zn=3.1BE µg/L	Sb=0.6UJ(N)/As=R(N)/Cu=4.5U(MB)/Se=R(N)/Ag=2.9UJ(N)/Zn=3.1U(MB)
FB3-2	09567	Sb=0.6UN/As=0.6UN/Cu=8.9B/Se=1.1UN/Ag=2.9UN/Zn=4.4BE µg/L	Sb=0.6UJ(N)/As=R(N)/Cu=8.9U(MB)/Se=R(N)/Ag=2.9UJ(N)/Zn=4.4U(MB)
MW1-1-2	09568	Sb=1.4BN/As=3.5BN/Be=1.6B/Cr=61.2/Cu=90.1/Pb=31.8/ Ni=110/Se=1.1UN/Ag=2.9UN/Zn=490E µg/L	Sb=1.4J(N)/As=R(N)/Se=R(N)/Ag=2.9UJ(N)/Zn=490J(E)
MW1-1-2S	09568S	Sb=236.0B/As=9.6B/Be=49.73/Cd=52.23/Cr=246.36/Cu=331.19/Pb=52.4/ Hg=1.14/Ni=553.54/Se=1.8B/Ag=33.73/Tl=38/Zn=967.85 µg/L	None Applicable
MW1-1-2D	09568D	Sb=1.1B/As=3B/Be=1.82B/Cd=3.7U/Cr=62.5/Cu=90/Pb=32.3/ Hg=0.1U/Ni=85.15/Se=5.5U/Ag=2.9U/Tl=1.4U/Zn=499.52 µg/L	None Applicable
MW2-1-2	09569	Sb=3BNW/As=11.6N/Be=1.6B/Cr=99.9/Cu=90.3/Pb=54.1S/ Ni=82.4/Se=1.1UN/Ag=2.9UN/Tl=1.4UW/Zn=536E µg/L	Sb=3J(N,W)/As=11.6J(N)/Se=R(N)/Ag=2.9UJ(N)/Tl=1.4UJ(W)/Zn=536J(E)
MW2-2-1	09570	Sb=0.6UN/As=3.4BN/Be=10.3/Cr=348/Cu=584/Pb=121/ Ni=562/Se=5.5UNW/Ag=4BN/Zn=1460E µg/L	Sb=0.6UJ(N)/As=3.4J(N)/Se=R(N)/Ag=4J(N)/Zn=1460J(E)
MW3-1-2	09571	Sb=1.9BNW/As=2.3BN/Be=2.6B/Cr=84.4/Cu=124/Pb=62.4S/ Ni=128/Se=5.5UNW/Ag=2.9UN/Tl=1.4UW/Zn=428E µg/L	Sb=1.9J(N,W)/As=2.3J(N)/Se=R(N)/Ag=2.9UJ(N)/Tl=1.4UJ(W)/Zn=428J(E)
MW4-1-2	09572	Sb=2.2BNW/As=2.9BN/Be=4.1B/Cd=10.9/Cr=127/Cu=212/Pb=69/ Hg=0.16B/Ni=216/Se=5.5UNW/Ag=3.6BN/Tl=1.9BW/Zn=709E µg/L	Sb=2.2J(N,W)/As=2.9J(N)/Se=R(N)/Ag=3.6J(N)/Tl=1.9J(W)/Zn=709J(E)
MWBG-1-2	09573	Sb=1.5BNW/As=2.8BN/Be=2.6B/Cr=78.6/Cu=109/Pb=55S/ Ni=133/Se=5.5UNW/Ag=3.3BN/Zn=511E µg/L	Sb=1.5J(N,W)/As=2.8J(N)/Se=R(N)/Ag=3.3J(N)/Zn=511J(E)
MWBG-2-2	09574	Sb=1BN/As=6BN/Be=0.46B/Cr=18.1/Cu=24.5B/Pb=9.8S/ Ni=30.1B/Se=1.1UNW/Ag=2.9UN/Zn=97.1E µg/L	Sb=1J(N)/As=6J(N)/Se=R(N)/Ag=2.9UJ(N)/Zn=97.1J(E)
P-4-1	09575	Sb=0.8BN/As=5.1BN/Be=0.82B/Cr=25.3/Cu=38.8/Pb=14/ Ni=23B/Se=1.1UNW/Ag=2.9UN/Zn=157E µg/L	Sb=0.8J(N)/As=5.1J(N)/Se=R(N)/Ag=2.9UJ(N)/Zn=157J(E)
P-4-1R	09576	Sb=0.9BN/As=4.7BN/Be=0.63B/Cr=22.6/Cu=38.8/Pb=16.6/ Ni=20.3B/Se=1.1UNW/Ag=2.9UN/Zn=156E µg/L	Sb=0.9J(N)/As=4.7J(N)/Se=R(N)/Ag=2.9UJ(N)/Zn=156J(E)
P-5-1	09577	Sb=1.2BNW/As=0.6UNS/Be=4.2B/Cr=150/Cu=210/Pb=104/ Hg=0.16B/Ni=247/Se=5.5UNW/Ag=3.1BN/Tl=1.7BW/Zn=763E µg/L	Sb=1.2J(N,W)/As=R(N)/Se=R(N)/Ag=3.1J(N)/Tl=1.7UJ(W)/Zn=763J(E)

Table G–22h. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Sampling Dates	Preparation Dates	Analysis Dates	Initial Calibration (ICV)	Continuing Calibration (CCV)	BLANKS		
							Initial Calibration Blank (ICB)	Continuing Calibration Blank (CCB)	Preparation Blank (PB)
WATERS *(Dissolved Metals)*									
PBW	PBW	NA	06/08,16/93	06/16/93–06/25/93	ALL ICV %Rs WITHIN CONTROL LIMITS (Hg=80–120, ALL OTHER METALS=90–110)	ALL CCV %Rs WITHIN CONTROL LIMITS (Hg=80–120, ALL OTHER METALS=90–110)	NO CONTAMINANTS DETECTED IN THE INITIAL CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *ICB: Se=1.2B µg/l	NO CONTAMINANTS DETECTED IN THE CONTINUING CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *CCB2: Se=0.9B/Zn=9.5B µg/l *CCB3: Se=0.9B µg/l	NO CONTAMINANTS DETECTED IN THE PREPARATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *PBS: Zn=2.355B µg/L
EB2–2	09580	05/21/93	06/08,16/93	06/16/93–06/25/93					
EB3–2	09581	05/21/93	06/08,16/93	06/16/93–06/25/93					
FB2–2	09582	05/21/93	06/08,16/93	06/16/93–06/25/93					
FB3–2	09583	05/21/93	06/08,16/93	06/16/93–06/25/93					
MW1–1–2	09584	05/21/93	06/08,16/93	06/16/93–06/25/93					
MW1–1–2S	09584S	05/21/93	06/08,16/93	06/16/93–07/01/93					
MW1–1–2D	09584D	05/21/93	06/08,16/93	06/16/93–06/25/93					
MW2–1–2	09585	05/21/93	06/08,16/93	06/16/93–07/01/93					
MW2–2–1	09586	05/21/93	06/08,16/93	06/16/93–07/01/93					
MW3–1–2	09587	05/21/93	06/08,16/93	06/16/93–07/01/93					
MW4–1–2	09588	05/21/93	06/08,16/93	06/16/93–07/01/93					
MWBG–1–2	09589	05/21/93	06/08,16/93	06/16/93–07/01/93					
MWBG–2–2	09590	05/21/93	06/08,16/93	06/16/93–07/01/93					
P–4–1	09591	05/21/93	06/08,16/93	06/16/93–07/01/93					
P–4–1R	09592	05/21/93	06/08,16/93	06/16/93–07/01/93					
P–5–1	09593	05/21/93	06/08,16/93	06/16/93–07/01/93					

Table G–22h. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	ICP/ICS Initial	ICP/ICS Final	ACCURACY Spike Sample	PRECISION Duplicate Sample	Laboratory Control Sample (LCS)
WATERS *(Dissolved Metals)*						
PBW	PBW	ALL %Rs WERE BETWEEN 80–120% FOR ALL ELEMENTS	ALL %Rs WERE BETWEEN 80–120% FOR ALL ELEMENTS	MW1–1–2 ALL SPIKE SAMPLE RECOVERIES WITHIN CONTROL LIMITS (75–125%) EXCEPT: Ag=67.6%	MW1–1–2 ALL RPDs WITHIN CONTROL LIMITS FOR SAMPLE AND DUPLICATE CONCENTRATIONS GREATER THAN 5X THE CRDL (≤ 20 %) AND WITHIN CONTROL LIMIT OF (±)CRDL FOR SAMPLE OR DUPLICATE CONCENTRATIONS LESS THAN 5X THE CRDL.	ALL LCS %Rs WITHIN CONTROL LIMITS (80–120%) FOR ALL ELEMENTS
EB2–2	09580					
EB3–2	09581					
FB2–2	09582					
FB3–2	09583					
MW1–1–2	09584					
MW1–1–2S	09584S					
MW1–1–2D	09584D					
MW2–1–2	09585					
MW2–2–1	09586					
MW3–1–2	09587					
MW4–1–2	09588					
MWBG–1–2	09589					
MWBG–2–2	09590					
P–4–1	09591					
P–4–1R	09592					
P–5–1	09593					

Table G–22h. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Serial Dilution Analyses	Field Duplicate Sample	Field Blank Results	Equipment Blank Results
WATERS *(Dissolved Metals)*					
PBW	PBW	MW1–1–2	P–4–1/P–4–1R	NA	NA
EB2–2	09580	ALL DIFFERENCES ARE WITHIN 10% OF THE ORIGINAL SAMPLE	ALL RPDs WITHIN CONTROL LIMITS FOR SAMPLE AND DUPLICATE CONCENTRATIONS GREATER THAN 5X THE CRDL (≤ 30 %) AND WITHIN LIMIT OF (±)2XCRDL FOR SAMPLE OR DUPLICATE CONCENTRATIONS LESS THAN 5X THE CRDL	NA	NA
EB3–2	09581			NA	NA
FB2–2	09582			NA	NA
FB3–2	09583			NA	NA
MW1–1–2	09584			FB2–2; FB3–2	EB2–2; EB3–2
MW1–1–2S	09584S			FB2–2; FB3–2	EB2–2; EB3–2
MW1–1–2D	09584D			FB2–2; FB3–2	EB2–2; EB3–2
MW2–1–2	09585			FB2–2; FB3–2	EB2–2; EB3–2
MW2–2–1	09586			FB2–2; FB3–2	EB2–2; EB3–2
MW3–1–2	09587			FB2–2; FB3–2	EB2–2; EB3–2
MW4–1–2	09588			FB2–2; FB3–2	EB2–2; EB3–2
MWBG–1–2	09589			FB2–2; FB3–2	EB2–2; EB3–2
MWBG–2–2	09590			FB2–2; FB3–2	EB2–2; EB3–2
P–4–1	09591			FB2–2; FB3–2	EB2–2; EB3–2
P–4–1R	09592			FB2–2; FB3–2	EB2–2; EB3–2
P–5–1	09593			FB2–2; FB3–2	EB2–2; EB3–2

Table G–22h. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Significant Sample Results	Data Validation Qualifiers
WATERS *(Dissolved Metals)*			
PBW	PBW	Zn=2.355B µg/l	
EB2–2	09580	Be=0.66B/Cu=5.3B/Se=1.3B/Ag=2.9UN/Zn=3.3B µg/l	Se=1.3U(MB)/Ag=2.9UJ(N)/Zn=3.3U(MB)
EB3–2	09581	Pb=1.3B/Se=1.0B/Ag=2.9UN µg/l	Se=1U(MB)/Ag=2.9UJ(N)
FB2–2	09582	Se=1.1B/Ag=2.9UN/Zn=2.8B µg/l	Se=1.1U(MB)/Ag=2.9UJ(N)/Zn=2.8U(MB)
FB3–2	09583	Pb=0.8B/Ag=2.9UN/Zn=2.6B µg/l	Ag=2.9UJ(N)/Zn=2.6U(MB)
MW1–1–2	09584	Pb=1.5BW/Se=1.6B/Ag=2.9UN/Zn=10.8B µg/l	Pb=1.5UJ(EB,W)/Se=1.6U(MB)/Ag=2.9UJ(N)/Zn=10.9U(MB)
MW1–1–2S	09584S	Sb=418.00/As=42.1/Be=51.58/Cd=50.86/Cr=205.18/Cu=251.73/Pb=22.5/ Hg=0.99/Ni=526.63/Se=10.8/Ag=33.78/Tl=44.7/Zn=526.5 µg/L	None Applicable
MW1–1–2D	09584D	Sb=0.9U/As=0.6U/Be=0.3U/Cd=3.7U/Cr=2.8U/Cu=2.7U/Pb=0.5U/ Hg=0.1U/Ni=19.8U/Se=1.4B/Ag=2.9U/Tl=1.4U/Zn=11.85 µg/L	None Applicable
MW2–1–2	09585	As=1.5B/Se=1.4BW/Ag=2.9UN/TL=1.4UW/Zn=54.1 µg/l	Se=1.4UJ(MB,W)/Ag=2.9UJ(N)/Tl=1.4UJ(W)
MW2–2–1	09586	Sb=1.2B/As=2.1BW/Se=1.1B/Ag=2.9UN/TL=1.4UW/Zn=18.5B µg/l	As=2.1J(W)/Pb=0.5UJ(W)/Se=1.1U(MB)/Ag=2.9UJ(N)/tL=1.4UJ(W)/Zn=18.5U(MB)
MW3–1–2	09587	As=0.6UW/Pb=0.7B/Se=1.3B/Ag=2.9UN/TL=1.4UW/Zn=8.5B µg/l	As=0.6UJ(W)/Pb=0.7U(EB)/Se=1.3U(MB)/Ag=2.9UJ(N)/Tl=1.4J(W)/Zn=8.5U(MB)
MW4–1–2	09588	Sb=0.9UW/As=0.6UW/Pb=0.5B/Se=1.1B/Ag=2.9UN/Zn=6.8B µg/l	Sb=0.9UJ(W)/As=0.6UJ(W)/Pb=0.5U(EB)/Se=1.1U(MB)/Ag=2.9UJ(N)/Zn=6.8U(MB)
MWBG–1–2	09589	Sb=0.9B/As=0.6UW/Pb=0.6B/Se=0.9B/Ag=2.9UN/Zn=10.1B µg/l	As=0.6UJ(W)/Pb=0.6U(EB)/Se=0.9U(MB)/Ag=2.9UJ(N)/Zn=10.1U(MB)
MWBG–2–2	09590	Sb=1.2B/As=0.6UW/Cu=5.3B/Ag=2.9UN/Zn=5.8B µg/l	As=0.6UJ(W)/Cu=5.3U(FB)/Ag=2.9UJ(N)/Zn=5.8U(MB)
P–4–1	09591	Sb=1B/As=0.6UW/Pb=0.6B/Ag=2.9UN/Zn=7.6B µg/l	As=0.6UJ(W)/Pb=0.6U(EB)/Ag=2.9UJ(N)/Zn=7.6U(MB)
P–4–1R	09592	Sb=2.9B/As=0.6UW/Pb=13.1/Ag=2.9UN/Zn=6.4B µg/l	As=0.6UJ(W)/Ag=2.9UJ(N)/Zn=6.4U(MB)
P–5–1	09593	Sb=1.4B/As=0.6UW/Se=1.1B/Ag=2.9UN/Zn=17.6B µg/l	As=0.6UJ(W)/Se=1.1U(MB)/Ag=2.9UJ(N)/Zn=17.6U(MB)

Table G-22i. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

SAIC Sample Number	Laboratory Identification Number	Sampling Dates	Preparation Dates	Analysis Dates	Initial Calibration (ICV)	Continuing Calibration (CCV)	BLANKS		
							Initial Calibration Blank (ICB)	Continuing Calibration Blank (CCB)	Preparation Blank (PB)
SOIL									
PBS	PBS	NA	06/11,17/93	06/11/93-06/25/93	ALL ICV %Rs WITHIN CONTROL LIMITS (Hg=80-120, ALL OTHER METALS=90-110)	ALL CCV %Rs WITHIN CONTROL LIMITS (Hg=80-120, ALL OTHER METALS=90-110)	NO CONTAMINANTS DETECTED IN THE INITIAL CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *ICB: As=1.1B µg/l	NO CONTAMINANTS DETECTED IN THE CONTINUING CALIBRATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *CCB2: As=-1.3B µg/l *CCB3: Zn=1.9B µg/l *CCB4: Be=0.5B µg/l *CCB5: As=-1.3B µg/l *CCB7: Se=-1.4B µg/l *CCB8: Se=-1.7B µg/l *CCB10: Sb=0.7B/As=1.1B µg/l	NO CONTAMINANTS DETECTED IN THE PREPARATION BLANKS AT CONCENTRATION GREATER THAN THE CLP CRDL. *PBS: As=-0.220B/Cu=1.032B/ Se=-0.280B/Zn=0.651B mg/kg
SB2-4-1	09541	05/19/93	06/11,17/93	06/11/93-06/28/93					
SB2-4-1S	09541S	05/19/93	06/11,17/93	06/11/93-06/25/93					
SB2-4-1D	09541D	05/19/93	06/11,17/93	06/11/93-06/28/93					
SB2-4-2	09542	05/19/93	06/11,17/93	06/11/93-06/28/93					
SB2-5-1	09543	05/19/93	06/11,17/93	06/11/93-06/25/93					
SB2-5-2	09544	05/19/93	06/11,17/93	06/11/93-06/28/93					
SB2-6-1	09545	05/20/93	06/11,17/93	06/11/93-06/25/93					
SB2-6-1R	09546	05/20/93	06/11,17/93	06/11/93-06/25/93					
SB3-4-1	09547	05/19/93	06/11,17/93	06/11/93-06/25/93					
SB3-4-2	09548	05/19/93	06/11,17/93	06/11/93-06/28/93					
SB3-5-1	09549	05/19/93	06/11,17/93	06/11/93-06/25/93					
SB3-5-2	09550	05/19/93	06/11,17/93	06/11/93-06/28/93					
SD2-3	09551	05/21/93	06/11,17/93	06/11/93-06/28/93					
SD2-4	09552	05/21/93	06/11,17/93	06/11/93-06/25/93					
SD2-5	09553	05/21/93	06/11,17/93	06/11/93-06/25/93					
SD2-6	09554	05/21/93	06/11,17/93	06/11/93-06/25/93					
SD3-1	09555	05/21/93	06/11,17/93	06/11/93-06/25/93					
SD3-2	09556	05/21/93	06/11,17/93	06/11/93-06/25/93					
SD3-2R	09557	05/21/93	06/11,17/93	06/11/93-06/25/93					

Table G-22i. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	ICP/ICS Initial	ICP/ICS Final	ACCURACY Spike Sample	PRECISION Duplicate Sample	Laboratory Control Sample (LCS)
SOIL						
PBS	PBS	ALL %Rs WERE BETWEEN 80-120% FOR ALL ELEMENTS	ALL %Rs WERE BETWEEN 80-120% FOR ALL ELEMENTS	SB2-4-1 ALL SPIKE SAMPLE RECOVERIES WITHIN CONTROL LIMITS (75-125%) EXCEPT: Sb=33%/As=128.5%/ Pb=141.3%	SB2-4-1 ALL RPDs WITHIN CONTROL LIMITS FOR SAMPLE AND DUPLICATE CONCENTRATIONS GREATER THAN 5X THE CRDL (≤ 35 %) AND WITHIN CONTROL LIMIT OF (±)2XCRDL FOR SAMPLE OR DUPLICATE CONCENTRATIONS LESS THAN 5X THE CRDL.	ALL LCS VALUES WITHIN SPECIFIED WINDOWS FOR ALL ELEMENTS
SB2-4-1	09541					
SB2-4-1S	09541S					
SB2-4-1D	09541D					
SB2-4-2	09542					
SB2-5-1	09543					
SB2-5-2	09544					
SB2-6-1	09545					
SB2-6-1R	09546					
SB3-4-1	09547					
SB3-4-2	09548					
SB3-5-1	09549					
SB3-5-2	09550					
SD2-3	09551					
SD2-4	09552					
SD2-5	09553					
SD2-6	09554					
SD3-1	09555					
SD3-2	09556					
SD3-2R	09557					

Table G-22i. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Serial Dilution Analyses	Field Duplicate Sample	Field Blank Results	Equipment Blank Results
SOIL					
PBS	PBS	SB2-4-1 ALL DIFFERENCES ARE WITHIN 10% OF THE ORIGINAL SAMPLE EXCEPT: Zn=33.2%	SB2-6-1/SB2-6-1R SD3-2/SD3-2R ALL RPDs WITHIN CONTROL LIMITS FOR SAMPLE AND DUPLICATE CONCENTRATIONS GREATER THAN 5X THE CRDL (≤ 50 %) AND WITHIN LIMIT OF (±)2XCRDL FOR SAMPLE OR DUPLICATE CONCENTRATIONS LESS THAN 5X THE CRDL	NA	NA
SB2-4-1	09541			FB2-2; FB3-2	EB2-2; EB3-2
SB2-4-1S	09541S			FB2-2; FB3-2	EB2-2; EB3-2
SB2-4-1D	09541D			FB2-2; FB3-2	EB2-2; EB3-2
SB2-4-2	09542			FB2-2; FB3-2	EB2-2; EB3-2
SB2-5-1	09543			FB2-2; FB3-2	EB2-2; EB3-2
SB2-5-2	09544			FB2-2; FB3-2	EB2-2; EB3-2
SB2-6-1	09545			FB2-2; FB3-2	EB2-2; EB3-2
SB2-6-1R	09546			FB2-2; FB3-2	EB2-2; EB3-2
SB3-4-1	09547			FB2-2; FB3-2	EB2-2; EB3-2
SB3-4-2	09548			FB2-2; FB3-2	EB2-2; EB3-2
SB3-5-1	09549			FB2-2; FB3-2	EB2-2; EB3-2
SB3-5-2	09550			FB2-2; FB3-2	EB2-2; EB3-2
SD2-3	09551			FB2-2; FB3-2	EB2-2; EB3-2
SD2-4	09552			FB2-2; FB3-2	EB2-2; EB3-2
SD2-5	09553			FB2-2; FB3-2	EB2-2; EB3-2
SD2-6	09554			FB2-2; FB3-2	EB2-2; EB3-2
SD3-1	09555			FB2-2; FB3-2	EB2-2; EB3-2
SD3-2	09556			FB2-2; FB3-2	EB2-2; EB3-2
SD3-2R	09557			FB2-2; FB3-2	EB2-2; EB3-2

Table G–22i. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio (Continued)

SAIC Sample Number	Laboratory Identification Number	Significant Sample Results	Data Validation Qualifiers
SOIL			
PBS	PBS	As=−0.220B/Cu=1.032B/Se=−0.280B/Zn=0.651B mg/kg	
SB2–4–1	09541	Sb=0.1UNW/As=5.9NS/Be=0.29B/Cd=0.57U/Cr=8.5/Cu=14.4/Pb=7.1N*/ Hg=0.04U/Ni=13.7/Se=0.15UW/Ag=0.45U/Tl=0.24U/Zn=36.9E mg/kg	Sb=0.1UJ(N,W)/As=5.9J(N)/Be=0.29U(MB)/Pb=7.1J(N)/Se=0.15UJ(W)/Zn=36.9J(E)
SB2–4–1S	09541S	Sb=25.57/As=13.65/Be=7.00/Cd=7.04/Cr=34.12/Cu=49.66/Pb=11.45/ Hg=0.0.52/Ni=82.13/Se=1.44/Ag=7.24/Tl=6.3/Zn=103.4 mg/kg	None Applicable
SB2–4–1D	09541D	Sb=0.13B/As=6.06/Be=2.29B/Cd=0.57U/Cr=8.08/Cu=16.93/Pb=7.98/ Hg=0.046U/Ni=12.71/Se=0.14U/Ag=0.45U/Tl=0.22U/Zn=39.48 mg/kg	None Applicable
SB2–4–2	09542	Sb=0.1UN/As=5.6NS/Be=0.35B/Cd=0.55U/Cr=10/Cu=16.4/Pb=8.7N*/ Hg=0.05U/Ni=16.4/Se=0.26B/Ag=0.43U/Tl=0.23UW/Zn=37E mg/kg	Sb=0.1UJ(N)/As=5.6J(N)/Be=0.35U(MB)/Pb=8.7J(N)/Zn=37J(E)
SB2–5–1	09543	Sb=0.12UNW/As=10.6N/Be=0.38B/Cd=0.62U/Cr=10.5/Cu=16.7/Pb=12.9N*/ Hg=0.05U/Ni=20.8/Se=0.17U/Ag=0.49U/Tl=0.27UW/Zn=61.5E mg/kg	Sb=0.12UJ(N,W)/As=10.6J(N)/Be=0.38U(MB)/Pb=12.9J(N)/Tl=0.27UJ(W)/Zn=61.5J(E)
SB2–5–2	09544	Sb=0.1UNW/As=5.1NS/Be=0.28B/Cd=0.6U/Cr=9.6/Cu=14/Pb=7.7N*/ Hg=0.04U/Ni=13.1/Se=0.15B/Ag=0.47U/Tl=0.23U/Zn=32E mg/kg	Sb=0.1UJ(N,W)/As=5.1J(N)/Be=0.28U(MB)/Pb=7.7J(N)/Zn=32J(E)
SB2–6–1	09545	Sb=0.09UNW/As=3.4N/Be=0.3B/Cd=0.64U/Cr=9.1/Cu=14.2/Pb=7.3N*/ Hg=0.05U/Ni=12.3/Se=0.14UW/Ag=0.5U/Tl=0.22U/Zn=35.9E mg/kg	Sb=0.09UJ(N,W)/As=3.4J(N)/Be=0.30U(MB)/Pb=7.3J(N)/Se=0.14UJ(W)/Zn=35.9J(E)
SB2–6–1R	09546	Sb=0.09UNW/As=3N/Be=0.33B/Cd=0.59U/Cr=8.7/Cu=12.6/Pb=6.3N*/ Hg=0.04U/Ni=15.4/Se=0.14U/Ag=0.47U/Tl=0.27BW/Zn=37.5E mg/kg	Sb=0.09UJ(N,W)/As=3J(N)/Be=0.33U(MB)/Pb=6.3J(N)/Tl=0.27J(W)/Zn=37.5J(E)
SB3–4–1	09547	Sb=0.16BNW/As=3.6N/Be=0.23B/Cd=0.61U/Cr=35.5/Cu=16.1/Pb=47.4N*/ Hg=0.05U/Ni=14.7/Se=0.18B/Ag=2.7/Tl=0.22U/Zn=88.4E mg/kg	Sb=0.16J(N,W)/As=3.6J(N)/Be=0.23U(MB)/Pb=47.4J(N)/Zn=88.4J(E)
SB3–4–2	09548	Sb=0.1UNW/As=5.7NS/Be=0.31B/Cd=0.65U/Cr=8.2/Cu=12.2/Pb=7.5N*/ Hg=0.05U/Ni=16.3/Se=0.16U/Ag=0.51U/Tl=0.33BW/Zn=32.4E mg/kg	Sb=0.1UJ(N,W)/As=5.7J(N)/Be=0.31U(MB)/Pb=7.5J(N)/Tl=0.33J(W)/Zn=32.4J(E)
SB3–5–1	09549	Sb=0.1UNW/As=3.2N/Be=0.16B/Cd=0.60U/Cr=35.1/Cu=13.5/Pb=11.7N*/ Hg=0.05U/Ni=7.1/Se=0.15U/Ag=6.7/Tl=0.24U/Zn=45.6E mg/kg	Sb=0.1UJ(N,W)/As=3.2J(N)/Be=0 16U(MB)/Pb=11.7J(N)/Zn=45.6J(E)
SB3–5–2	09550	Sb=0.09UNW/As=5.6NS/Be=0.27B/Cd=0.58U/Cr=8/Cu=13.4/Pb=7.5N*/ Hg=0.05U/Ni=15.9/Se=0.14UW/Ag=0.46U/Tl=0.22UW/Zn=52E mg/kg	Sb=0.09UJ(N,W)/As=5.6J(N)/Be=0.27U(MB)/Pb=7.5J(N)/Se=0.14UJ(W)/Tl=0.22UJ(W)/Zn=52J(E)
SD2–3	09551	Sb=0.64BNW/As=21.5NS/Be=0.27B/Cd=0.59B/Cr=8.1/Cu=9.9/Pb=19.3N*/ Hg=0.05U/Ni=9/Se=0.15UW/Ag=0.46U/Tl=0.29BW/Zn=34.2E mg/kg	Sb=0.64J(N,W)/As=21.5J(N)/Be=0.27U(MB)/Pb=19.3J(N)/Se=0.15UJ(W)/Tl=0.29J(W)/Zn=34.2J(E)
SD2–4	09552	Sb=0.1BNW/As=9.7N/Be=0.52B/Cd=0.62U/Cr=13.4/Cu=21/Pb=12.4N*/ Hg=0.05U/Ni=24.5/Se=0.16UW/Ag=0.49U/Tl=0.24UW/Zn=53E mg/kg	Sb=0.10UJ(MB,N,W)/As=9.7J(N)/Pb=12.4J(N)/Se=0.16UJ(W)/Tl=0.24J(W)/Zn=53J(E)
SD2–5	09553	Sb=0.11UNW/As=6.3N/Be=0.72B/Cd=1.2/Cr=19.1/Cu=19.9/Pb=14.6N*/ Hg=0.06U/Ni=18.2/Se=0.16UW/Ag=0.48U/Tl=0.25U/Zn=59E mg/kg	Sb=0.11UJ(N,W)/As=6.3J(N)/Pb=14.6J(N)/Se=0.16UJ(W)/Zn=59J(E)
SD2–6	09554	Sb=0.1UNW/As=3.6N/Be=0.23B/Cd=0.59U/Cr=6.8/Cu=7.3/Pb=12.5N*/ Hg=0.05U/Ni=6.3/Se=0.15U/Ag=0.46U/Tl=0.230UW/Zn=22.6E mg/kg	Sb=0.10UJ(N,W)/As=3.6J(N)/Be=0.23U(MB)/Pb=12.5J(N)/Tl=0.23UJ(W)/Zn=22.6J(E)
SD3–1	09555	Sb=0.21BNW/As=11.3NS/Be=0.55B/Cd=1.5/Cr=121/Cu=48.7/Pb=126N*/ Hg=0.5/Ni=61.5/Se=0.25BW/Ag=5.3/Tl=0.4BW/Zn=343E mg/kg	Sb=0.21J(N,W)/As=11.3J(N)/Pb=126J(N)/Se=0.25J(W)/Tl=0.4J(W)/Zn=343J(E)
SD3–2	09556	Sb=0.09UNW/As=6.7N/Be=0.34B/Cd=0.61U/Cr=17.3/Cu=15.2/Pb=21.3N*/ Hg=0.04U/Ni=13.7/Se=0.14UW/Ag=0.66B/Tl=0.22BW/Zn=65.1E mg/kg	Sb=0.09UJ(N,W)/As=6.7J(N)/Be=0.34U(MB)/Pb=21.3J(N)/Se=0.14UJ(W)/Tl=0.22J(W)/Zn=65.1J(E)
SD3–2R	09557	Sb=0.15BNW/As=7.2N/Be=0.4B/Cd=0.55U/Cr=20.3/Cu=18.6/Pb=17.7N*/ Hg=0.04U/Ni=13.8/Se=0.15UW/Ag=0.61B/Tl=0.23UW/Zn=75.5E mg/kg	Sb=0.15J(N,W)/As=7.2J(N)/Pb=17.7J(N)/Se=0.15UJ(W)/Tl=0.23UJ(W)/Zn=75.5J(E)

Footnotes to Table G–22a throught G–22i. Priority Pollutant Metals Data Validation Worksheets
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

Control limits for continuing calibrations:
Percent recoveries (%R) must be greater than 90.0% and less than 110.0% for all metals except mercury (80–120 %R)
Control limits for ICP interference check sample (ICS) are 80–120 percent recoveries for all elements.
Spike sample control limits are 75–125% for all elements for analytes detected greater than 10x the method detection limit.
RPD control limits for sample and duplicate values greater than 5XCRDL : 20 percent (water) and 35 percent (soil).
±CRDL control limit for sample or duplicate values less than 5XCRDL : ±CRDL (water) and ±2XCRDL (soil).
Laboratory control sample (LCS) control limits are 80–120 percent recovery.
* – Duplicate analysis outside control limits.
E – Concentration was estimated due to serial dilution results.
B – Concentration is greater than or equal to the instrument detection limit (IDL), but less than the contract required detection limit (CRDL).
N – Spiked sample recovery outside control limits.
S – The reported value was determined by the method of standard additions (MSA).
U – Analyte was analyzed but not detected.
M – Duplicate injection precision not met.
W – Post–digestion spike for furnace AA analysis is outside control limits (85–115%), while sampling absorbance is less than 50% of the spike absorbance.
+ – Correlation coefficient for MSA is less than 0.995.
r – Calibration curve correlation coefficient is less than 0.995.
MB–Method Blank
EB–Equipment Blank
FB–Field Blank
FD–Field Duplicate

for all other elements, as required by the March 1990 EPA CLP SOW. Based on an evaluation of the initial calibrations conducted, all percent recovery values were within control limits.

The calibration curve correlation coefficient for antimony analyzed on September 12, 1992 was less than 0.995. As a result, antimony analytical results in SB1-3-1, SB1-3-11, SB1-1-3, SB1-2-3, SB1-3-3, SB2-2-1, SB2-2-17, SB2-3-16, SB2-1-14, SB5-1-1, and SB5-1-7 have been estimated (i.e., "J[r]"). These results are presented in Table G-22c and the data presentation tables in Appendix F.

Continuing Calibration Verification—To ensure calibration accuracy during each analysis run, a CCV standards was analyzed at a frequency of 10 percent and every 2 hours during an analytical run. Following the standard analysis, percent recovery values were calculated for each element to verify that the initial calibration remained acceptable. Priority pollutant metals CCV criteria requirements include 80 to 120 percent for mercury and 90 to 110 percent for all other elements, as required by the March 1990 EPA CLP SOW. Based on an evaluation of the continuing calibrations conducted, all percent recovery values were within control limits.

Method Blanks—One method blank analysis was conducted with each batch of environmental samples analyzed for priority pollutant metals. Each method blank was evaluated for contaminants that might potentially interfere with the accurate quantitation of a target element. According to EPA CLP criteria, a laboratory blank may not contain any target element concentration greater than the absolute CRDL value. Based on an evaluation of all method blanks (i.e., initial, continuing, and preparation) analyzed by the Weyerhaeuser Laboratory, no contaminants were detected in concentrations exceeding the absolute CRDL value. However, numerous contaminants (i.e., antimony, arsenic, cadmium, copper, lead, nickel, silver, selenium, thallium and zinc) were detected at concentrations greater than the instrument detection limit (IDL) and less than the CRDL in many laboratory blanks. All elements detected in the laboratory method blanks are presented in Tables G-22a through G-22i.

Data validation qualifiers (i.e., "U[MB]") will be applied to all elements detected in the environmental samples in concentrations less than five times that detected in an associated

laboratory method blank. These results are presented in Tables G-22a through G-22i and in the data presentation tables in Appendix F.

Interference Check Sample (ICS) Analysis—To verify ICAP interelement and background correction factors, one ICS was analyzed at the beginning and end of each sample analysis sequence, or twice during one 8-hour work period, whichever was more frequent. Each element in the ICS solution analysis must be recovered within 20 percent of the true concentration of that element in the solution. ICS criteria requirements are described in the March 1990 EPA CLP SOW. Based on an evaluation of the ICS analyses conducted for priority pollutant metals analyzed, all recovery criteria were within control limits.

Spiked Sample Analysis—Spiked sample analyses were conducted to assess the accuracy of the laboratory and to evaluate the matrix effect of the sample on the analytical methodology based upon the percent recovery of each element. Accuracy was expressed as the percent recovery of the spiked compounds. The control limits for percent recoveries in soil and water samples are described in the March 1990 EPA CLP SOW. Spiked samples were evaluated to verify that 1 spiked sample analysis was conducted for each 20 environmental samples received by the laboratory (excluding dilutions and reanalyses conducted), that these analyses were conducted on environmental samples only, and that the recovery results did not indicate systematic laboratory control problems. Tables G-23 and G-24 summarize the matrix spike results for soil and sediment and groundwater samples, respectively.

Eight spiked samples analyses (i.e., SD5-1, SB2-1-1, SB1-2-8, SB1-3-1, SB3-1-1, MW3-1-1, MWBG1-2, and SB2-4-1) were conducted using soil samples collected during the Springfield ANGB SI. All percent recoveries were within control limits, except: antimony (43.9 percent), cadmium (70.7 percent), selenium (53.7 percent), and zinc (19.4 percent) in SD5-1; antimony (31.2 percent), arsenic (245.4 percent), selenium (56.8 percent), and thallium (68.2 percent) in SB2-1-1; antimony (33.8 percent), selenium (45.1 percent), and thallium (51.2 percent) in SB1-2-8; antimony (27.8 percent), arsenic (56.8 percent), and selenium (47.2 percent) in SB1-3-1; antimony (18.4 percent), arsenic (71.6 percent), and selenium (34.1 percent) in SB3-1-1; selenium (15.9 percent) and zinc (55.3 percent) in MW3-1-1;

Table G-23. Priority Pollutant Metals Matrix Spike and Laboratory Duplicate QC Summary: Soil, Surface Soil, and Sediment
178th Tactical Fighter Group, Springfild ANGB, Springfield, Ohio

	ACCURACY					PRECISION				
PARAMETER	MATRIX SPIKE TOTAL No. ANALYSES	PERCENT RECOVERY RANGES	%R CONTROL LIMITS	NUMBER WITHIN CONTROL LIMITS	NUMBER OUTSIDE CONTROL LIMITS	LAB. DUPLICATE TOTAL No. ANALYSES	RANGE RPD	RPD LIMITS	NUMBER WITHIN CONTROL LIMITS	NUMBER OUTSIDE CONTROL LIMITS
Antimony	8	(18.4-43.9)	(75-125)	0	8	7	(2.8-200)	35	8	0
Arsenic	8	(39.9-245.4)	(75-125)	3	5	7	(5.8-95.9)	35	6	2
Beryllium	8	(82.8-95.7)	(75-125)	8	0	7	(0.7-19.5)	35	8	0
Cadmium	8	(70.7-96)	(75-125)	7	1	7	(11.6-200)	35	8	0
Chromium	8	(30.2-202.1)	(75-125)	7	1	7	(4.6-33.1)	35	8	0
Copper	8	(85.6-98.7)	(75-125)	8	0	7	(0.0-9.3)	35	8	0
Lead	8	(-59.5-999)	(75-125)	7	1	7	(1.8-29.7)	35	6	2
Mercury	7	(100.1-124.3)	(75-125)	7	0	6	(0-13.3)	35	7	0
Nickel	8	(77.5-106.7)	(75-125)	8	0	7	(1.2-30.7)	35	8	0
Selenium	8	(15.9-92.9)	(75-125)	1	7	7	(7.2-200)	35	8	0
Silver	8	(77.8-97.6)	(75-125)	8	0	7	(1.2-19.7)	35	8	0
Thallium	8	(47-90.6)	(75-125)	5	3	7	(1.5-200)	35	8	0
Zinc	8	(19.4-99.1)	(75-125)	6	2	7	(1.6-18.4)	35	8	0

Matrix Spike and Laboratory Duplicate Performed on Samples: SD5-1, SB2-1-1, SB1-2-8, SB1-3-1, SB3-1-1, MW3-1-1, MWBG1-2, and SB2-4-1.

Table G-24. Priority Pollutant Metals Matrix Spike and Laboratory Duplicate QC Summary:Groundwater
178th Tactical Fighter Group, Springfield ANGB, Springfield, Ohio

	ACCURACY					PRECISION				
PARAMETER	MATRIX SPIKE TOTAL No. ANALYSES	PERCENT RECOVERY	%R CONTROL LIMITS	NUMBER WITHIN CONTROL LIMITS	NUMBER OUTSIDE CONTROL LIMITS	LAB. DUPLICATE TOTAL No. ANALYSES	RANGE RPD	RPD LIMITS	NUMBER WITHIN CONTROL LIMITS	NUMBER OUTSIDE CONTROL LIMITS
Antimony	3	(12.6-83.4)	(75-125)	1	2	3	(7.4-24)	20	3	0
Arsenic	3	(15.2-102.5)	(75-125)	2	1	3	(3.2-15.4)	20	3	0
Beryllium	3	(89.4-103.2)	(75-125)	3	0	3	97.6-12.3)	20	3	0
Cadmium	3	(77.0-104.5)	(75-125)	3	0	3	NC	20	3	0
Chromium	3	(86.6-102.6)	(75-125)	3	0	3	(2.2-4.3)	20	3	0
Copper	3	(91.6-100.7)	(75-125)	3	0	3	(0.1-1.3)	20	3	0
Lead	3	(96.0-105)	(75-125)	3	0	3	(1.6-200)	20	2	1
Mercury	3	(99-118)	(75-125)	3	0	3	NC	20	3	0
Nickel	3	(83.8-105.3)	(75-125)	3	0	3	(2.5-25.3)	20	3	0
Selenium	3	(0.0-92.0)	(75-125)	1	2	3	(13.3)	20	3	0
Silver	3	(67.5-95.4)	(75-125)	1	2	3	2.6	20	3	0
Thallium	3	(62.8-89.4)	(75-125)	2	1	3	NC	20	3	0
Zinc	3	(87.5-103.1)	(75-125)	3	0	3	(2-9.5)	20	3	0

Matrix Spike and Duplicate Analyses Performed on Samples: MW3-1-1, MW1-1-2(dissolved metals), and MW1-1-2(total metals).

NC-Not Calculable (Sample and Duplicate results Non-Detected).

antimony (28.8 percent), selenium (24.1 percent), and thallium (47 percent) in MWBG1-2; and antimony (33 percent), arsenic (132.4 percent), and lead (141.3 percent) in SB2-4-1.

Undetected results for antimony and selenium in selected samples have been rejected (i.e., all undetected results were presented in the data presentation tables as "R[N]") to indicate that the percent recovery in the associated spike sample analysis was less than 30 percent. Antimony, arsenic, cadmium, chromium, lead, selenium, thallium, and zinc results in selected soil and sediment samples have been estimated (i.e., all undetected results and detected values were presented in the data presentation tables as "UJ[N]" and "J[N]," respectively) to indicate that the percent recovery in the associated matrix spike analysis was less than 75 percent, but greater than 30 percent. Arsenic and chromium results in selected samples have been estimated (i.e., all detected results were presented in the data presentation tables as "J[N]") to indicate that the percent recovery for spiked sample analysis was greater than 125 percent. These results are presented in Tables G-22a through G-22i and in the data presentation tables in Appendix F.

Three spiked sample analyses (i.e., MW3-1-1, MW1-1-2 [dissolved metals], and MW1-1-2 [total metals]) were conducted using groundwater samples collected during the Springfield ANGB SI. All recovery values were within the control limits, except: antimony (12.6 percent), selenium (0.0 percent), and thallium (62.8 percent) in MW3-1-1; silver (67.6 percent) in MW1-1-2 (dissolved metals); and antimony (46.9 percent), arsenic (15.2 percent), selenium (18 percent), and silver (67.5 percent) in MW1-1-2 (total metals). Undetected results for antimony, arsenic, and selenium in selected samples have been rejected (i.e., all undetected results were presented as "R[N]," and all antimony and arsenic positive results are presented in the data presentation tables as "J[N]") to indicate that the percent recoveries for spiked sample analysis were less than 30 percent. Thallium and silver results in all groundwater samples have been estimated (i.e., undetected results were presented as "UJ[N]" and detected results were presented as "J[N]") to indicate that the percent recoveries for spike analysis were outside the appropriate control limits. These results are presented in Tables G-22e, G-22g, and G-22h, and in the data presentation tables in Appendix F.

Duplicate Sample Analyses—Duplicate samples were analyzed and the RPD value of each detected element was calculated. Precision was expressed as the RPD of the detected compounds. Duplicate samples were evaluated to verify that 1 duplicate sample analysis was conducted for each 20 environmental samples received by the laboratory, that these analyses were conducted on environmental samples only, and that the difference in results did not indicate systematic laboratory control problems. Precision was expressed as the RPD of the concentrations of the elements detected in the duplicate samples. Duplicate soil and sediment and groundwater sample results are summarized in Tables G-23 and G-24, respectively.

Eight duplicate sample analyses (i.e., SD5-1, SB2-1-1, SB1-2-8, SB1-3-1, SB3-1-1, MWBG1-2, MW3-1-1, and SB2-4-1) were conducted using soil samples collected during the Springfield ANGB SI. All RPD values were within control limits for sample and duplicate results greater than five times the CRDL. The ± 2 times CRDL criterion was not met for arsenic in SB2-1-1 and MW3-1-1 and lead in MW3-1-1. As a result, data validation qualifiers (i.e., presented as "J[*]") were applied to the arsenic and lead concentrations detected in all samples associated with these duplicate samples. These results are presented in Tables G-22a through G-22e and in the data presentation tables in Appendix F.

Three duplicate analysis (i.e., MW3-1-1, MW1-1-2 [total metals], and MW1-1-2 [dissolved metals])) were conducted using groundwater samples collected during the Springfield ANGB SI. All RPD values were within the control limits. The ± 2 times CRDL criterion was not met for lead in MW3-1-1. Data validation qualifiers (i.e., all positive values were presented in the data presentation tables as "J[*]") have been applied to indicate that the duplicate analysis results were outside the control limits. Therefore, all lead concentrations detected in the environmental samples associated with the MW3-1-1 duplicate sample were estimated. These results are presented in Table G-22e and in the data presentation tables in Appendix F.

Laboratory Check Sample (LCS) Analysis—As required by the March 1990 EPA CLP SOW and DOE/HWP-65/R1, one LCS analysis was conducted with each batch of soil and groundwater samples analyzed by the Weyerhaeuser Laboratory. The recovery results of each LCS analyzed with the groundwater samples were evaluated against an 80 to 120 percent control

limit for all elements. The recovery results of each solid LCS analyzed with the soil and sediment samples were evaluated against the control limits established by EPA. Based on an evaluation of all LCS analyses, the percent recoveries of all spike compounds were within acceptable limits.

Graphite Furnace Atomic Absorption (GFAA) Results—Antimony, arsenic, lead, selenium, and thallium were analyzed using GFAA techniques. Data quality was evaluated using the guidelines and control limits specified for the analytical spike and standard addition analyses. The control limits for percent recovery of the analytical compound and the requirements for method of standard additions are described in the March 1990 EPA CLP SOW.

Based on an evaluation of the analytical spike results, all percent recovery values were within the control limits, except antimony, arsenic, lead, selenium, and thallium in numerous samples; therefore, all results have been estimated (i.e., undetected and detected values were presented in the data presentation tables as "UJ[W]" and "J[W]," respectively) to indicate that the analytical spike results were outside the control limits. These results are presented in Tables G-22a through G-22i and in the data presentation tables in Appendix F.

Based on an evaluation of the method of standard additions analysis results, all correlation coefficients met the acceptance criteria, except lead in MW3-1-1R. As a result, data validation qualifiers (i.e., "J[+]") have been applied to indicate that the standard addition correlation coefficient was less than the lower control limit. These results are presented in Table G-22e and in the data presentation tables in Appendix F.

Serial Dilution Results—Serial dilution analyses were conducted to evaluate the influence of interference effect based upon the difference of each element analyzed by ICAP. The control limits for percent difference in soil and water samples are described in the March 1990 EPA CLP SOW.

Eight serial dilution analyses (i.e., SD5-1, SB2-1-1, SB1-2-8, SB-1-3-1, SB3-1-1, MW3-1-1, MWBG1-2, and SB2-4-1) were conducted using soil samples collected during the

Springfield ANGB SI. All difference values were within control limits, except chromium (17.1 percent) in SD5-1, and zinc in SD5-1 (21.4 percent), SB2-1-1 (25.9 percent), SB1-2-8 (16.9 percent), SB1-3-1 (18.3 percent), SB3-1-1 (17.5 percent), MW3-1-1 (18.9 percent), MWBG1-2 (21.8 percent), and SB2-4-1 (33.2 percent). Data validation qualifiers (i.e., "J[E]") were applied to the zinc detected values in all soil and sediment samples analyzed with those samples analyzed by serial dilution.

Three serial dilution analysis (i.e., MW3-1-1, MW1-1-2 [total metals], and MW1-1-2 [dissolved metals]) were conducted using groundwater samples collected during the Springfield ANGB SI. All difference values were within control limits, except zinc in MW3-1-1 (20.3 percent) and MW1-1-2 (total metals [17.6 percent]). Data validation qualifiers (i.e., "J[E]") were applied to the zinc detected values in all groundwater samples analyzed with the sample analyzed by serial dilution.

Significant Qualified Sample Results—Data validation qualifiers are presented in the data summary tables in Section 3 of the SI report text and in the data presentation tables in Appendix F. These qualifiers were applied to selected analytical results (i.e., total metals and dissolved metals) due to laboratory blanks, matrix spike, laboratory duplicate, serial dilution, and furnace atomic absorption results.

G.4 TENTATIVELY IDENTIFIED COMPOUNDS

G.4.1 Introduction

The organic chemical analysis methods specified by the February EPA CLP SOW provides for the specific determination of only 126 organic compounds. Up to 30 nontarget compounds (i.e., 10 VOCs and 20 SVOCs) that cannot be identified as CLP target volatile or semivolatile compounds were reported per sample. The identification of any other chemicals amenable to GC/MS analysis depends upon them being reported as tentatively identified compounds (TICs). TICs are nontarget compounds found during a GC/MS run, which are identified by comparison of the mass spectra of non-TCL peaks in the GC/MS chromatogram to the approximately 50,000 mass spectra in the NIST/EPA/MSDC mass spectral library. It is rare that a compound can be tentatively identified with confidence when the only information

available is the mass spectrum and the computer library matches. Because no actual chemical standards are routinely used to confirm the identity of the TICs, both the identity and concentrations of reported TICs are less accurate than they are for the target compounds. The identification becomes important when the TICs are only indicators of potential contamination at IRP sites were fuel spills occurred or fire training activities were conducted.

The following is an analysis of the TICs detected during the Site Investigation (SI) conducted for the 178th Tactical Fighter Group of the Ohio Air National Guard (ANGB) at the Springfield-Beckley Municipal Airport, located at Springfield, Ohio. The available TIC data were evaluated to determine their contribution to soil, sediment, and groundwater composition in the area. This analysis is based on the identification that was assigned to each TIC by the laboratory. The laboratory identification (i.e., unknown, 4-hydroxy-4-methyl-2-pentanone) for each TIC was placed in one of the following six categories: laboratory and extraction artifacts, petroleum or petroleum degradation products, other, unknown, naturally occurring organic compounds, and polycyclic aromatic hydrocarbon (PAH). The TICs, after being placed in these categories, were then evaluated based on these classifications and site history to determine if the TICs could be naturally occurring or site related contamination, and if it would be possible to use this information for a quantitative risk assessment.

G.4.2 Site Specific TIC Evaluation

The following sections summarize those VOC and SVOC TICs that have been detected, and interpret the potential origin of these compounds. The results of this evaluation are presented on a site by site basis including the background soils and upgradient groundwater. The results of the TIC evaluation are presented by site in Section 3 and on the tables in Appendix F.

G.4.2.1 Background Data

The only VOC TICs detected were in soil sample MWBG-2-3. Two VOC TICs which were identified as alkyl benzene (i.e., 1-ethyl-4-methyl-benzene and 1,2,4-trimethyl-benzene) were placed in the petroleum or petroleum degradation products category. Two VOC TICs, 4H-pyran-4-one-2,6-dimethyl and ethyl ester acid, were placed in the other category. They may

have been introduced through contamination either during field sampling or laboratory preparation and analysis. SVOC TICs detected in the background samples include straight-chain alkanes or branched alkanes series, and several other compounds which have been detected infrequently. 9-Hexadecanoic acid and hexadecanoic acid concentrations from the August 1992 and May 1993 sampling appear to show a consistent distribution in the area. These SVOC TICs were identified in MWBG1-1 (240J μg/L and 160J μg/L, respectively), MWBG1-2 (83J μg/L and 110J μg/L, respectively), SD3-1 (18 μg/L hexadecanoic acid), SD3-2 (360J μg/L hexadecanoic acid), SD3-2R (270J μg/L hexadecanoic acid), SB5-4-1 (hexadecanoic acid) and SB5-3-1. Various organic chemicals occur naturally in soil (Dragun 1988), including various monocyclic acids. Hexadecanoic acid and 9-hexadecanoic acid occur naturally in soil, but can also be found in petroleum or petroleum degradation products. 9-Hexadecanoic acid and hexadecanoic acid are treated as representative of background conditions at Springfield ANGB. Therefore, when they were identified in soil samples collected from the Springfield ANGB sites, they were placed in the naturally occurring organic compounds category if detected at levels below those of the background samples. Hexanedionic acid, mono(2-ethylhexyl)ester detected in SD3-2R was placed in other category. 4-Hydroxy-4-methyl-2-pentanone was detected in all background samples. This compound is an aldol reaction product of acetone used in the analytical procedure and in the cleaning of laboratory equipment. Therefore, this SVOC TIC is considered a laboratory artifact. 4-Hydroxy-4-methyl-2-pentanone was considered nondetected in SD3-1 because the detected concentration was lower than that detected in the associated method blank. Eleven SVOC TICs identified as straight-chain alkanes or branched alkanes (i.e., pentatriacontane, 2,6,10,14-tetramethyl-heptadecane, hexadecane, heptadecane, pentacosane, octocosane, 2-methyl-nonane, tetradecane, 2,3,7-trimethyl-decane, 5-propyl-tridecane, and 2,7,10-trimethyl-dodecane) were placed in the petroleum or petroleum degradation product category. Iron-tricarbonyl [N-(phenyl]) identified in MWBG-2-3 and 1,4-hexadiene-3,3,5-trimethyl detected in SB5-4-2R were classified as a petroleum degradation product. The source of contamination with this compound may be automobile exhaust. Ci70 D12-Chrysene was identified in MWBG1-1 and was placed in the PAH category. Benzene, 1-chloro-3-isocyana identified in SD3-1 was placed in the petroleum or petroleum degradation product category. No further detection of this compound has been observed in any of the samples. Two amide compounds (i.e., nonanamide and dodecanamide) were classified as other, as the source of this

contamination does not appear to be petroleum related materials. The remainder of the TICs were identified as unknown and are possibly naturally occurring in soil or are of anthropogenic origin. They also could be a result of contamination during sampling or analysis activities. However, little can be interpreted from these detections of unknown compounds. Further study may resolve the identification of these unknown compounds.

Groundwater samples from two background/upgradient monitoring wells were collected. No VOC TICs were detected. Detection of SVOC TICs in the area appear to be sporadic for SVOC nontarget compounds. Two SVOC TICs were identified as methylated ketone (i.e., 4,5-dimethyl-2-hepten-3-01) in MWBG-1-1 and amide (i.e., 4-diamine-1,3,5-triazine-2) in MWBG-2-1 and MWBG-2-2. These were placed in the other category. Hexanoic acid-6-amino detected in MWBG-2-2, P4-1, P4-1R, and P5-1 were categorized as naturally occurring organic compounds. Identification of these compounds is performed by use of a library of compounds and retention times which are stored in software associated with the instrument used for analysis. Identification of these compounds therefore, is dependent on the software recognizing the potential retention times and the instrument operator who is given discretion as to whether to identify the compound or not. The potential for error exist in this process, and is the compounds are actually found more often and not identified. TIC concentrations and their retention times are summarized in Section 3.3 and on the tables in Appendix F.

G.4.2.2 Site 1-Fire Training Area 1

The only VOC detected in soil samples collected at Site 1 was a TIC which was identified in SB1-3-11 (i.e., trichlorofluoro-methane). This TIC is considered a laboratory artifact and is not site related. Two-hundred-eighteen SVOC TICs were detected in soil samples collected at Site 1 - FTA-1. Twenty-one of 218 SVOC TICs were identified as straight-chain alkanes or branched alkanes (i.e., 2,3,7 trimethyl-octane, 2,7,10-trimethyl-dodecane, 2,6,10,14-tetramethyl-heptadecane, 2,6,10,14-tetramethyl-pentadecane, octacosane, 2-methyl-nonane, tetradecane, hexadecane, docosane, 7-methyl-tridecane, 2,6,11-trimethyl-dodecane, 5-propyl-tridecane, nonacosane, octadecane, pentacosane, hexacosane, heptacosane, heptadecane, 2,6,10-trimethyl-hexadecane, eicosane, and 2,6,10,15-tetramethyl-hexadecane). These SVOC TICs were classified as petroleum or petroleum degradation products. 1,4,6-Trimethyl-naphthalene and

4-fluoro-1,1'-biphenyl detected in SB1-1-1 and 2,3-dimethyl-naphthalene detected in SB1-1-1 and SB1-2-8 were placed in the PAH category. 1-Methyl-hexadecanoic acid was categorized as a petroleum or petroleum degradation products. The straight-chain alkanes, branched alkanes, and PAH compounds are believed to be fuel and petroleum related compounds used in fire training activities. 4-Hydroxy-4-methyl-2-pentanone, which was detected in all soil samples at this site, is an aldol reaction product of acetone. Acetone is used in the analytical procedures and in the cleaning of laboratory equipment. Therefore, this TIC is considered a laboratory artifact. Trichloroeicosyl-silane identified in SB1-2-8 was placed in the laboratory and extraction artifacts category. Dodecanamide was tentatively identified in SB1-1-3, SB1-1-6, SB1-2-1, SB1-2-3, SB1-3-1, and SB1-3-11R, nonanamide was in SB1-2-1 and SB1-2-3, (Z)-9-octadecanamide was in SB1-2-1, and D:B-friedo-B'A'-neogammacer was in SB1-3-3. These were all classified in the other category, because the source of contamination did not appear to be petroleum related materials. Hexadecanoic acid, known as palmitic acid, was detected in SB1-3-1 at a concentration of 170 μg/kg, which is below the level detected in the background samples, and as a result, was placed in the naturally occurring organic compounds category. The remainder of the SVOC TICs were generally identified as unknown and could be possibly naturally occurring in soil, site related contamination, or of anthropogenic origin. They also can be a result of contamination during sampling or analysis activities.

Two groundwater samples (MW1-1-1 and MW1-1-2) were collected at Site 1 - FTA-1. No VOC TICs were identified. One SVOC TIC classified as unknown was detected in MW1-1-1. TIC concentrations and their retention times are summarized in Section 3.5 and on the tables in Appendix F.

G.4.2.3 Site 2-Fire Training Area 2

VOC and SVOC TICs were detected in many soil and sediment samples collected at Site 2 - FTA-2. The majority of the VOC TICs detections are relatively low concentrations and most were identified as straight-chain alkanes or branched alkanes (e.g., 3,5-dimethyl-heptane, 2,5-dimethyl-octane, decane, undecane) and alkyl benzenes (e.g., trimethyl-benzene, propyl-benzene, and 1,3,5-trimethyl-benzene). Three VOC TICs were identified as cycloalkanes (i.e., methyl cyclohexane, ethyl cyclohexane, and 1-ethyl-3-methyl cyclopentane). The VOC

TICs identified as straight-chain alkanes, branched alkanes, cycloalkanes, and dialkyl benzene were placed in the petroleum or petroleum degradation products category. Some VOC TICs have been sporadically detected, and these exceptions are discussed further. 2,4,4-Trimethyl-1-pentene detected in SD2-1 and 2-pentanone-3-methyl detected in SB2-6-1R also were classified as petroleum degradation products. Hexamethylcyclotrisiloxane detected in SB2-2-1, hexane in SB2-3-1, and cyclohexane methanol in SB2-2-2 are considered common laboratory contaminants and, therefore, were placed in the laboratory and extraction artifacts category. 2,6-Dimethyl-1,6-octadiene, 2-methyldecalin, 2-pyrazoline-1-carboxamide, and hexanal are in the other category. Butanol, formic acid butylester, butanol 2-ethyl detected in SB2-4-1 also were placed in the other category. These detected VOC TICs are probably introduced through laboratory or field contamination. Eight VOC TICs were identified by the Weyerhaeuser Laboratory as unknown (i.e., cycloalkanes [SB2-51], alkanes [SB2-6-1], and ketone [SB2-4-1, SB2-6-1 and SB2-6-1R]). The detection of these TIC are sporadic and inconsistent, so no conclusions could be made regarding the possibility that observed VOC TIC detections are due to site or possibly cross contamination. As a result, they were placed in the unknown category.

SVOC TICs were detected in all soil and sediment samples collected at Site 2 - FTA-2. The majority of the SVOC TICs identified in soil samples collected at Site 2 -FTA-2 were straight-chain alkanes or branched alkanes (e.g., tetradecane, hexadecane, octadecane, pentacosane, 2,6-dimethyl-dodecane, 3,8-dimethyl undecane, and 2,4,6-trimethyl-octane). Five SVOC TICs were identified as alkyl benzene (i.e., 1-ethyl-3-methyl-benzene, 1,2,2,5-tetra-methyl-benzene, 1,2,3,5-tetramethyl-benzene, 4-ethyl-1,2-dimethyl-benzene, 4-1,1,3,3-tetra-methyl-phenol, and 1,1-dimethylethyl-benzene). 7-Hexadecanoic acid methyl, 9-hexadecanoic acid methyl were detected in SD2-2, hexanedioic acid mono(2-ethylhexyl)ester in SB2-6-1, and dodecanoic acid in SB2-4-1. These SVOC TICs were classified as petroleum or petroleum degradation products. Hexadecanoic acid and octadecanoic acid detected in SD2-1R and SD2-2 and iron tricarbonyl[N-(phenyl]) detected in SB2-1-1 also were placed in the petroleum or petroleum degradation products category. Eight SVOC TICs were categorized as PAH (i.e., 1,4-methanonaphthalene, Ci D10-phenanthrene, 1-methyl-naphthalene, 9,10-anthracenedione, benz[A])anthracene-7,12-dione, benzo[J]fluoranthrene, 9,10-phenanthrenedione, and benzo[E]pyrene). Three amides (i.e., nonanamide, dodecanamide, and

dodecamine, N,N-bis[2-hydroxylethyl]) detected in SB2-1-14, SB2-2-1, SB2-3-4, and SB2-5-1 were placed in the other category. The sporadic nature of detections for these amides may indicate a heterogeneous source. In the other category were placed 2-butanone-4-chloro-4,4' identified in SB2-1-4, 2-methyl-4-cyclopentanone detected in SB2-2-2, SB2-2-2 (reanalysis), and SB2-3-1 (reanalysis), and benzeneacetic acid, alpha in SB2-4-1. Benzaldehyde detected in SB2-3-4 hexanal detected in SD2-1, and 4-penten-2-OL detected in SD2-5 also were classified as other. 4-Hydroxy-4-methyl-2-pentanone, identified in SB2-1-1, SB2-1-4, SB2-3-3, SB2-4-1, SB2-4-2, SB2-5-1, SB2-5-2, SB2-6-1, SD2-3, SD2-4, and SD2-5 is considered a laboratory artifact. This compound was considered nondetected in SD2-6, since the concentration is less than that detected in the associated method blank. 4-Hydroxy-4-methyl-2-pentanone is an aldol reaction product of acetone common to SVOC analyses. (3β,24S)-Stigmast-5-En-3-O1 detected in SD2-1, SD2-2, and SD2-5 and (3β,22E)-stigmasta-5,22-dien-3-O1 detected in SD2-2 were placed in the laboratory and extraction artifacts category. These two compounds can be found in soy bean oil and this is probably the source of the contamination in the samples. The Laboratory may have used vegetable oil instead of corn oil in the gel permeation chromatography extract cleanup procedure. D-Friedoolean-14-En-3-One detected in SD2-6 was placed in the other category. Hexadecanoic acid and 9-hexadecanoic acid in SB2-1-1 and hexadecanoic acid in SD2-3 were detected at concentrations below those detected in the background samples. As a result, hexadecanoic acid and 9-hexadecanoic acid in SB2-1-1 and SD2-3 were placed in the naturally occurring organic compounds category. The remainder of SVOC TICs were identified as unknown and possibly naturally occurring in soil or are of anthropogenic origin. They also could be a result of contamination during sampling or analysis activities. However, little can be interpreted from these detections of unknown compounds. Further study may resolve the identification of these unknown compounds.

No VOC TICs were detected in the groundwater sample (i.e., MW2-1-1, MW2-1-2, MW2-2-1, and P-5-1) collected at Site 2 - FTA-2. Nineteen unknown SVOC TICs were detected in the groundwater samples. Benzothizole detected in MW2-1-1, ethanol 2-(butoxyethoxy) detected in MW2-1-2 and MW2-2-1, and butane 1,1'[oxibis(2,1-ethyl) detected in MW2-1-2 were placed in the other category. In the same category were placed hexanoic acid 6-amino detected in MW2-2-1. Because of the sporadic and inconsistent nature of these results,

no consistent trend can be established for groundwater samples and therefore, most positive results are interpreted as isolated laboratory, field, or cross contamination problems.

TIC concentrations and their retention times are summarized in Section 3.6 and on the tables in Appendix F.

G.2.4.4 Site 3 Fire Training Area 3

VOC TICs were detected in seven soil samples (i.e., SB3-2-1, SB3-2-4, SB3-2-7, SB3-4-1, SB3-4-2, SB3-5-1, and SB3-5-2) collected from Site 3 soil borings. Eighteen of 44 VOC TICs identified as cycloalkanes (e.g., 2-methylbutyl-cyclopentane, 1,1-dimethyl-cyclohexane) were detected in SB3-2-4 and SB3-2-7. Many nontarget VOC were identified as branched alkanes (e.g., octane 4-methyl, octane 3-methyl-octane, 2,6-dimethyl, 4-methyl-nonane, undecane 5,6-dimethyl, 6-methylundecane, decane-4-methyl, decane 2,5,6-trimethyl). One VOC TIC was identified as dialkyl benzene (i.e., 1-ethyl-2-ethyl-benzene). Two alcohols were detected in SB3-4-1 (i.e., nonacosanol) and SB3-5-2 (i.e., 1-heptacosanol). These VOC TICs identified as cycloalkanes, branched alkanes, dialkyl benzene, and alcohols may be petroleum material used in fire training activities. Therefore, they were placed in the petroleum or petroleum degradation products category. 1-Hexene,3,3,5-trimethyl detected in SB3-5-1 was classified as petroleum or petroleum degradation products. Octamethylcyclotetrasiloxane and hexane detected in SB3-2-1 and SB3-4-2, respectively, are considered common laboratory contaminants; therefore, they were placed in the laboratory and extraction artifacts category. One VOC TIC was identified by the laboratory as unknown; therefore, this nontarget VOC was placed in the unknown category.

SVOC nontarget compounds were detected in every samples collected from Site 3 soil borings. Fifty-seven of 296 SVOC TICs identified as straight-chain alkanes or branched alkanes (e.g., 4,6 dimethyl-dodecane, 5-propyl-tridecane, pentacosane, octacosane, dodecane 4,7-dimethyl, heptane 5-ethyl-2-methyl) were placed in the petroleum or petroleum degradation products category. One cyclic ketone (i.e., cyclopentanone,2-methyl) detected in SB3-4-1 was categorized as a petroleum or petroleum degradation products. Eighteen TICs placed in the PAH category (e.g., benzo[J]fluoranthrene, 11H-benzo[A]fluorene, benzo[B]naptho[2,3-D]furan)

were detected in soil samples collected from Site 3. Releases of PAHs due to Base activities may include combustion fuel-related products (including automobile exhaust) or improper disposal of used motor oil. 2-Methyl-octadecanoic acid, 1,2-benzenedicarboxylic acid, hexadecanoic acid, phenol 4-(1,1,3,3-tetramethyl), phenol 4-(2,2,3,3,-tetramethyl), phenol nonyl-2-nonylphenol, and 1-hexene 3,5,5,-trimethyl detected in selected samples were placed in the petroleum or petroleum degradation products category. The source of the contamination with these nontarget SVOC may be petroleum products used in fire training activities. Hexadecanoic acid detected in SB3-3-1 at a concentration below that detected in the background samples is considered to be naturally occurring in the environmental media and was, therefore, placed in the naturally occurring organic compounds category. Phosphoric acid 2-ethylhexyl detected in SB3-5-1 and SB3-5-2 were placed in the other category. The detection of this compound is sporadic and inconsistent, so no conclusion could be made regarding the possibility that observed phosphoric acid 2-ethylhexyl are due to the site or possibly cross contamination. 4-Hydroxy-4-methyl-2-pentanone was found in many soil samples collected from Site 3. As discussed previously, this is an aldol reaction product common to SVOC analyses, and as a result, is considered a laboratory artifact. 4-Hydroxy-4-methyl-2-pentanone concentrations in SB3-4-1 and SB3-5-1 were less than that detected in the associated method blank and as a result, this TIC was considered nondetected in SB3-4-1 and SB3-5-1. The remaining compounds were identified as "unknown." No conclusions could be made regarding the possibility that observed SVOC TIC detections are due to site or possibly cross contamination. Therefore, they were placed in the unknown category.

Five groundwater samples were collected at Site 3-FTA-3. Hexanoic acid 6-amino was identified by the Weyerhaeuser Laboratory as a VOC TIC and SVOC TIC in P-4-1 and P-4-1R. This TIC was placed in the naturally occurring category. 2-Methyl-octadecanoic acid was placed in the petroleum or petroleum degradation products category. 2-Propanol-1-(2-methoxy-1-M) and 2,5,8,10,14,17-hexaoxaoctade were placed in the other category. Three nontarget SVOC detected in MW3-1-1 and MW3-1-2 were classified as unknown. 4-Hydroxy-4-methyl-2-pentanone in MW3-1-2 was classified as laboratory and extraction artifacts.

TIC concentrations and their retention times are summarized in Section 3.7 and on the tables in Appendix F.

G.2.4.5 Site 4 -Pol Storage Area 161

Eleven nontarget VOCs were identified in only one sample (i.e., SB4-3-3) collected from Site 4. All VOC TICs were identified as branched alkanes or cycloalkanes (e.g., 2,4-dimethyl-hexane, 1-ethyl-2-methyl-cyclohexane, 4-methyl-octane). They were placed in the petroleum or petroleum degradation products category. The source of the contamination may be related to the JP-4 fuel spill. No SVOC analyses were conducted on the soil samples collected at Site 4.

Two groundwater samples were collected from the downgradient monitoring well (MW4-1). One SVOC TIC identified as carboxylic acid (i.e., decanoic acid) was placed in the petroleum or petroleum degradation products category.

TIC concentrations and their retention times are summarized in Section 3.8 and on the tables in Appendix F.

G.2.4.6 Site 5-Ramp Drainage Ditch

Only one VOC TIC was identified in the soil samples collected from Site 5. Dimethoxy-methane identified in SB5-1-1 was placed in the petroleum or petroleum degradation products category. Two-hundred-ninety-nine SVOC TICs were detected in the soil and sediment samples collected from Site 5. Sixty-two nontarget SVOC compounds were identified by the laboratory as straight-chain alkanes or branched alkanes (e.g., octacosane, nonacosane, pentatriacosane, 2,7,10-trimethyl-dodecane, 7-hexyl-eicosane). They are believed to be petroleum or petroleum degradation products. Iron-tricarbonyl[N-(phenol]) detected in SB5-2-2 also was placed in the petroleum or petroleum degradation products category. Twenty-nine SVOC TICs were categorized as PAHs (e.g., 1-ethylidene-1H-indene, 2,3-dimethyl-naphthalene, 2-phenyl-naphthalene, benzo[J]fluoranthrene). The contamination with these nontarget PAHs detected in sediment samples collected from Site 5 may have been caused by the runoff from the aircraft parking area and adjacent road. 1-Heptadecene detected in SD5-3, hexadecanoic acid detected

in SD5-3, SD5-3R, SD5-4, and 1,4-hexadiene-3,3,5-trimethyl detected in SB5-4-2R were placed in the petroleum or petroleum degradation products category. Hexadecanoic acid in SB5-3-1 and SB5-4-1 and 9-hexadecanoic acid in SD5-3 and SB5-3-1 were detected at concentrations below those of the background samples. Therefore, they are considered naturally occurring organic compounds. Two amides (i.e., nonanamide and dodecanamide) detected in SB5-1-1, and 3,3,5-trimethyl-1,4-hexadiene were placed in the other category. The source of the contamination does not appear to be petroleum materials. The remainder of the SVOC TICs were identified by the laboratory as unknown and are possibly naturally occurring organic compounds or are from of anthropogenic origin. They also could be a result of contamination during sampling or analysis activities. Further study may resolve the identification of these unknown compounds. 4-Hydroxy-4-methyl-2-pentanone detected in many soil samples is a common laboratory artifact of the analytical procedure and not site-related.

The TIC concentrations and their retention times are summarized in Section 3.9 and on the tables in Appendix F.