DRAFT FINAL
Environmental Baseline Survey Report

St. Louis Army Ammunition Plant St. Louis, Missouri

Volume II

March 17, 2000

Prepared for:

U.S. Army Aviation and Missile Command
Redstone Arsenal
Alabama

S00099732
SUPERFUND RECORDS

Please notify my office if the schedule presented is acceptable. Any questions or comments regarding the report should be directed to Ms. Valerie Shippers, 256-955-8830, or Mr. Whitt Walker, 256-955-6967.

Sincerely,

Keith Kirksey

for Jerry M. Hubbard
Director, Directorate of
Environment and Public Works

Enclosure

Copies Furnished:

Tetra Tech EM Inc., ATTN: Robert Foster, Tetra Tech Program Manager, 200 Randolph Drive, Suite 4700, Chicago, Illinois 60601 (without enclosure)

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INVESTIGATIVE PROCEDURES

(Seven Pages)

SAMPLING AND ANALYSIS METHODS

This appendix discusses the overall project objectives, sampling methods, quality assurance (QA) objectives, and analytical methods associated with the environmental baseline survey (EBS) at the St. Louis Army Ammunition Plant (SLAAP). References cited in this appendix are listed in Section 5.0.

1.0 OVERALL PROJECT OBJECTIVES

Tetra Tech EM Inc.'s (Tetra Tech) overall project objectives were to (1) collect soil samples representative of field conditions in the possible areas of environmental concern, (2) collect groundwater and surface-water samples representative of field conditions, (3) collect surface soil samples representative of field conditions,(4) collect destructive core samples representative of field conditions (5) collect air samples representative of field conditions, (6) determine the approximate extent of contamination in those areas considered to pose an environmental concern, and (7) compare the sample analytical results to applicable criteria and standards in order to identify any potential risks to human health or the environment. Analytical data will be validated by an independent company.

2.0 SAMPLING METHODS

Tetra Tech collected soil, groundwater, surface water, core samples, and air samples at SLAAP. Discussed below are the sample numbers used and the sample collection and field measurement procedures used.

2.1 SAMPLE NUMBERS

Tetra Tech's soil sample identification numbers consisted of a SLAAP building designation (1, 2, 3, and so on) followed by the "SB" (for soil boring) number, and the depth interval from which the sample was collected. For example, soil sample "1SB1,2-4" identifies a sample collected from 2 to 4 feet below ground surface (bgs) in soil boring in Building 1. Surface soil and wipe samples and were identified with a SLAAP building number followed by "SS" (for surface soil) and "SW" (for surface wipe). Concrete core samples were identified with the SLAAP building number followed by "CS" (for concrete core). Air samples were identified by pump number, location, and pump rate. For example, air sample 5835

J352LPM is an air sample collected at column J35 at a flow rate of 2 liters per minute. Groundwater and surface water samples were identified by monitoring well number or by the liquid containing object name. For example, sample number 2MW-1 was collected from monitoring well 2MW-1 and sample 3SUmp was collected from the sump in Building 3.

2.2 SAMPLE COLLECTION AND FIELD MEASUREMENT PROCEDURES

Tetra Tech's procedures for collecting samples depended on the types of samples collected and are described below. With the exception of the collection methodology used for samples for volatile organic compound (VOC) analysis, Tetra Tech's sampling procedures were consistent with the procedures described in the Chanute Air Force Base sampling and analysis plan prepared by Jacobs Engineering (Jacobs 1998). The procedures that Tetra Tech used for making field measurements associated with each sample type are also described below.

2.2.1 Lithologic Soil Sampling and Monitoring Well Installation

Tetra Tech completed and continuously sampled nine soil borings to define the lithology at SLAAP . The soil borings were advanced using American Society for Testing and Materials Method D-1586 and hollow stem augers. The soil borings were logged in the field by a Missouri registered geologist in accordance with the Unified Soil Classification System (USCS).

The soil borings were completed as monitoring wells. The monitoring wells were constructed of 2-inch inside diameter Schedule 40 polyvinyl chloride (PVC) 0.010-inch slotted screen and solid riser. The well was installed by placing the screen into the hollow stem auger at the desired depth. After the well screen and casing was in the ground, a filter pack consisting of clean #5 silica sand was installed around the screen to approximately 2 feet above the top of the screen. The screen and filter pack was sealed form the surface with a 2 foot layer of hydrated bentonite and the remaining annulus was backfilled with a Portland Type I grout. The monitoring wells were completed at the surface with 8-inch flush mounted manholes set in concrete. The monitoring wells were purged 24-hours after installation using a submersible pump. The purging was continued until a t least five well volumes were removed.

2.2.2 Analytical Soil Sampling

Tetra Tech advanced soil borings using direct-push methods in possible areas of environmental concern. The soil borings were completed using a truck-mounted Geoprobe equipped with decontaminated, 3- or 4-foot-long macro-samplers with dedicated polyvinyl chloride (PVC) liners. Each soil boring was continuously advanced to a specified depth or until the water table was reached. The soil samples were then retrieved from the macro-sampler and sliced longitudinally. After the sample interval exhibiting the highest headspace analysis result was determined, a second boring was advanced within 1-foot of the first soil boring to collect soil samples for laboratory analysis.

Headspace analysis was performed on a representative sample from each 2-foot interval by first placing the sample in a clean mason jar capped with aluminum foil. The headspace analysis was conducted by shaking the sample material in the jar and then piercing the aluminum foil septum with the tip of a photoionization detector (PID) probe. The headspace concentration was recorded in parts per million in the field boring log.

Soil samples for VOC analysis were collected with En-Core samplers from the soil boring interval exhibiting the highest headspace analysis result. If headspace analysis results did not indicate the presence of VOCs, the En-Core sampler containing soil collected from the interval bracketing the water table was submitted for laboratory analysis for VOCs.

Soil samples collected for semivolatile organic compounds (SVOC), metal, pesticide, explosives, nitroaromatics, perchlorates, phosphorous, and polychlorinated biphenyl (PCB) analyses were composited from the 2-foot soil boring core bracketing the sample with the highest headspace concentration from the interval bracketing the water table or from the interval most likely to be contaminated. The composite samples were collected by first placing the 2-foot soil boring core from which the sample was collected for laboratory VOC analysis into a decontaminated, stainless-steel bowl and mixing it thoroughly to homogenize the sample material. The homogenized samples were then placed in appropriate sample containers.

Each soil sample was labeled, placed on ice in a cooler, and shipped to TriMatrix Laboratories or Quanterra Laboratories under the appropriate chain-of-custody protocol for analysis. At the conclusion

of soil boring activities, each soil boring was backfilled with sample cuttings and bentonite chips. The location of each soil boring was recorded.

Information collected during the soil boring activities was recorded in the daily field log or in a bound notebook. The log includes information such as the date, time of sample collection, field activities performed, visitors to the site, sample numbers and sampling locations, progress made, problems encountered during sampling, and problem resolutions.

2.2.3 Groundwater Sampling

Tetra Tech sampled nine monitoring wells at SLAAP. Tetra Tech measured the following field parameters during well purging: pH, temperature, conductivity, and turbidity. All field measurements and volume calculations were recorded on sampling forms. Wells were not sampled until the turbicity of the purge water was less than 5 NTU.

2.2.4 Core Sampling

Tetra Tech collected core samples at SLAAP by using a hammer drill and a 1/2 inch drill bit to generate concrete material. The concrete material generated by the drill was captured and placed into 4-ounce glass jars for shipment to the laboratory.

2.2.5 Air Sampling

Tetra Tech collected six air samples in the Building 3 basement. Air samples were collected by pumping air at a known rate through air sampling media. Prior to air sample collection, the air sampling pumps were adjusted and calibrated to ensure that 2 liter per minute of air was pumped through polyurethane foam sample media. The pumps were allowed to collect sample over an approximate eight hour period. At the conclusion of air sampling, the sampling media was submitted to @Air Toxics Ltd., under the appropriat chain-of-custody protocol, for PCB and pesticide analysis using the Modified EPA Method TO-10.

3.0 QUALITY ASSURANCE OBJECTIVES

The primary QA objective for the project was to implement sampling, chain-of-custody, and laboratory procedures that would produce precise and accurate data that could be used for preliminary characterization of possible areas of environmental concern. The specific QA objectives for each analytical method used are described in the attachment to this document. All samples were analyzed in accordance with U.S. Environmental Protection Agency (U.S. EPA) SW-846 analytical methods identified in Section 4.0.

Tetra Tech collected matrix spike and matrix spike duplicate (MS/MSD) samples for quality control (QC) analysis. MS/MSD samples were collected at a frequency of one for each group of 20 or fewer investigative samples from each sample matrix. For each matrix and each analytical parameter, Tetra Tech collected one additional sample container for MS analysis and a second additional sample container for MSD analysis for every 20 samples.

Tetra Tech included a trip blank sample with each shipment of soil and groundwater samples. Trip blank samples were used to evaluate potential contamination during packaging, shipping, and storage of aqueous samples to be analyzed for VOCs. Tetra Tech also collected one equipment blank sample each day for each type of sampling performed. Equipment blank samples were designated using the letters "EQB" followed by the number of the month and the day. As an example, "EQB628" identifies an equipment blank sample collected on 28 Jun 99. In addition, field duplicates were collected at a frequency of one for each twenty investigative samples. Field duplicates were designated using the letters "DUP."

4.0 ANALYTICAL SW-846 METHODS

Table 1 lists the SW-846 methods used by the commercial laboratory to analyze samples collected at CMPSC. Project-specific requirements for each analytical method are contained in the Request for Analytical Services forms in Attachment A to this appendix.

TABLE 1

SAMPLE ANALYTICAL METHODS FOR SLAAP EBS

Parameter	Matrix	SW-846 Analytical Method[a]
VOCs	Water	8260B
	Sediment and soil	8260B (5035)
SVOCs	Water, sediment, and soil	8270C
PCBs	Oil, water, sediment, and soil	8082
	Air	Modified TO-10
Organochlorine Pesticides	Water, sediment, and soil	8081A
	Air	Modifies TO-10
Metals	Water, sediment, and soil	6020, 6010, and 7470A
Nitoraromatics	Water and soil	8330
Nitrate-Nitrogen	Water and soil	9056
Phosphorous	Soil	6020
	Water	SM4500-P
Perchlorates	Water and soil	DOHS-IC[b]

Note: a = U.S. EPA 1996
b = California Department of Health Services method - presence of perchlorate on ion chromatograph

5.0 REFERENCES

Jacobs Engineering (Jacobs). 1998. "Appendix B to the Field Sampling Plan, Chanute Air Force Base, Basewide Sampling and Analysis Plan." January.

Science Applications International Corporation (SAIC). 1999. "Field Sampling Plan, Remedial Investigation and Feasibility Study, Savanna Army Depot Activity, Savanna, Illinois." January.

U.S. Environmental Protection Agency (U.S. EPA). 1996. "Test Methods for Evaluating Solid Waste." Volumes 1A through 1C, SW-846, Third Edition. Final Update III. Office of Solid Waste and Emergency Response. Washington, DC. December.

APPENDIX H
BORING LOGS

(Twelve Pages)

St. Louis Army Ammunition Plant
St. Louis, Missouri

LOG OF BOREHOLE

Boring Number: **SWMW-1**

Depth (ft bgs)	Soil Symbol	USCS Classification	Sample Interval	Moist	Soil Description	Remarks
1		OL	2'	DRY	Humus	2-3-4-5 (0-2') 2.5 Penetrometer
2					Brown very fine grained silt with clay	
3			18"			2-3-5-5 (2-4') 2.2 Penetrometer
4		ML/CL		DRY	Light yellowish brown very fine grained clayey silt, low plasticity - no odor	
5			2'			2-3-3-4 (4-6') 2.0 Penetrometer
6				SLIGHTLY DAMP		
7		ML/CL	2'		Reddish yellow very fine grained clayey silt, medium to high plasticity	3-2-3-4 (6-8') 1.0 Penetrometer
8				DAMP		
9			2'			3-2-3-4 (8-10') 1.75 Penetrometer
10						
11		ML/CL	2'	DAMP	Light yellowish brown very fine grained, medium plasticity	1-1-2-3 (10-12') 1.5 Penetrometer
12						
13			2'			1-2-2-3 (12-14') 1.25 Penetrometer
14				MOIST		
15			2'			1-3-3-10 (14-16') 1.75 Penetrometer
16				WET		
17		GP	2'		Gravel, sand and chert nodules, coarse, poorly graded	3-7-6-8 (16-18') 1.70 Penetrometer
18				DAMP		
19		CL	2'		Light reddish brown very fine grained weathered shale with clay, medium to high plasticity	8-3-6-10 (18-20') 2.0 Penetrometer
20						
21			2'			5-13-14-25 (20-22') >4.5 Penetrometer
22		CL		DRY	Pale olive very fine grained weathered shale with clay (soapy surface) non-plastic	
23			2'			5-5-15-26 (22-24') >4.5 Penetrometer
24						
25			2'			12-20-23-23 (24-26') >4.5 Penetrometer
26		CL		DRY	Yellow very fine grained weathered shale with clay	
27			2'			6-11-24-36 (26-28') >4.5 Penetrometer
28		CL		DRY	Light gray very fine grained silty weathered shale	
29			2'			9-16-22-50 (28-30') >4.5 Penetrometer
30						

DRILLING DATE: 9 JUL 99
DRILLING CO.: Dale Meyer
DRILLING METHOD:CME-75, 4" HSA & 2' Split Spoon Continuous Sampler
BOREHOLE DEPTH: 33' bgs
TOTAL DEPTH: 33' 20.5" bgs
LOGGED BY: Robert Hill II
CLIENT:AMCOM
PROJECT NO.:G0011-0054KRP02

Tetra Tech EM Inc.
200 East Randolph Drive
Suite 4700
Chicago, IL 60601
312-856-8700

St. Louis Army Ammunition Plant
St. Louis, Missouri

LOG OF BOREHOLE

Boring Number: **SWMW-1**

Depth (ft bgs)	Soil Symbol	USCS Classification	Sample Interval	Moist	Soil Description	Remarks
31		CL	2'	DRY		16-32-71-156 (30-32')
32					Dark gray very fine grained silty weathered shale, iron oxides present (spoon refusal)	>4.5 Penetrometer
33			10.5"			13-73-79-110/2.5' (32-34')
34						
35						
36					End of Boring	
37						
38						
39						
40						
41						
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60						

DRILLING DATE: 9 JUL 99
DRILLING CO.: Dale Meyer
DRILLING METHOD:CME-75, 4" HSA & 2' Split Spoon Continuous Sampler
BOREHOLE DEPTH: 33' bgs
TOTAL DEPTH: 33' 20.5" bgs
LOGGED BY: Robert Hill II
CLIENT:AMCOM
PROJECT NO.:G0011-0054KRP02

Tetra Tech EM Inc.
200 East Randolph Drive
Suite 4700
Chicago, IL 60601
312-856-8700

St. Louis Army Ammunition Plant
St. Louis, Missouri

LOG OF BOREHOLE

Boring Number: **SWMW-2**

Depth (ft bgs)	Soil Symbol	USCS Classification	Sample Interval	Moist	Soil Description	Remarks
1			18"		Bituminous Asphalt	4.5" Asphalt
2		GP		SLIGHTLY DAMP	Concrete	10" Concrete 6" Gravel
3			1'		Gravel	5-4-3-3 (2-4') 0.5 Penetrometer
4		ML		DAMP	Yellowish brown very fine grained clayey silt, soft, medium plasticity	
5			2'			2-2-3-3 (4-6') 1.25 Penetrometer
6						
7			2'	DAMP		2-3-3-6 (6-8') 2.0 Penetrometer
8						
9		ML/CL	2'			3-3-4-6 (8-10') 2.0 Penetrometer
10					Light yellowish brown very fine grained clayey silt, low to medium plasticity, firm	
11			2'	DAMP		2-4-7-8 (10-12') 3.3 Penetrometer
12						
13			2'			2-4-2-7 (12-14') 2.25 Penetrometer
14						
15			2'	SLIGHTLY DAMP MOIST		3-4-7-9 (14-16') 4.25 Penetrometer
16		CL/ML			Light gray and iron oxides present	
17			2'			3-6-9-10 (16-18') >4.5 Penetrometer
18						
19			2'	DAMP		3-5-9-10 (18-20') 4.5 Penetrometer
20		GP				
21			6"		Gravel, chert and sand, poorly graded, yellow-brown	6-14-11-17 (20-22') >0.5 Penetrometer
22				DRY	Light reddish brown very fine grained weathered shale with clay	
23		CL	2'			3-7-12-20 (22-24')
24						
25					End of Boring	
26						
27						
28						
29						
30						

DRILLING DATE: 9 JUL 99
DRILLING CO.: Dale Meyer
DRILLING METHOD:CME-75, 4" HSA & 2' Split Spoon Continuous Sampler
BOREHOLE DEPTH: 21' bgs
TOTAL DEPTH: 24.0' bgs
LOGGED BY: Robert Hill II
CLIENT:AMCOM
PROJECT NO.:G0011-0054KRP02

Tetra Tech EM Inc.
200 East Randolph Drive
Suite 4700
Chicago, IL 60601
312-856-8700

St. Louis Army Ammunition Plant
St. Louis, Missouri

LOG OF BOREHOLE

Boring Number: **SWMW-3**

Depth (ft bgs)	Soil Symbol	USCS Classification	Sample Interval	Moist	Soil Description	Remarks
1		GP		DRY	Concrete	7" Concrete
					Gravel	5" Gravel
2			2'	SLIGHTLY		2-3-3-4 (1-3')
3					Brown very fine grained clayey silt	2.0 Penetrometer
4			2'		Black with glass fragments, odorous, clayey silt	3-3-4-6 (3-5') 3.25 Penetrometer
5		CL/ML		DAMP		
6			1'			3-2-2-3 (5-7') 0.75 Penetrometer
7					Light yellowish brown very fine grained clayey silt, no odor	
8			2'	MOIST		2-2-4-5 (7-9') 2.5 Penetrometer
9						
10			2'		Yellowish brown very fine grained clayey silt, low plasticity, no odor	2-4-6-8 (9-11') 2.75 Penetrometer
11		ML/CL				
12			2'	DAMP		3-5-9-11 (11-13') 4.5 Penetrometer
13						
14			2'			3-6-8-10 (13-15') 4.0 Penetrometer
15					Light yellowish brown very fine grained clayey silt	
16			2'			3-4-7-9 (15-17') 3.75 Penetrometer
17		ML/CL		SLIGHTLY DAMP		
18			2'			2-4-6-8 (17-19') 2.0 Penetrometer
19						
20			2'			3-4-4-9 (19-21') 4.0 Penetrometer
21						
22		ML/CL	2'	DRY	Yellowish brown very fine grained clayey silt	2-5-7-9 (21-23') 3.75 Penetrometer
23						
24					End of Boring	
25						
26						
27						
28						
29						
30						

DRILLING DATE: 12 JUL 99
DRILLING CO.: Dale Meyer
DRILLING METHOD:CME-75, 4" HSA & 2' Split Spoon Continuous Sampler
BOREHOLE DEPTH: 21.2' bgs
TOTAL DEPTH: 23.2' bgs
LOGGED BY: Robert Hill II
CLIENT:AMCOM
PROJECT NO.:G0011-0054KRP02

Tetra Tech EM Inc.
200 East Randolph Drive
Suite 4700
Chicago, IL 60601
312-856-8700

St. Louis Army Ammunition Plant
St. Louis, Missouri

LOG OF BOREHOLE

Boring Number: **SWMW-4**

Depth (ft bgs)	Soil Symbol	USCS Classification	Sample Interval	Moist	Soil Description	Remarks
1		OL	1'	DAMP	Humus	3-2-2-8 (0-2') 0.5 Penetrometer
2		GP			Brown fine grained clayey silt with roots (soft)	
3			1'		Large gravel	1-2-5-1 (2-4') 0.75 Penetrometer
4						
5			1'	DRY	Brown fine grained clayey silt, low plasticity (soft/firm) (no odor)	2-3-3-3 (4-6') 0.5 Penetrometer
6				DAMP		
7			2'			1-3-5-3 (6-8') 2.25 Penetrometer
8		ML/CL		MOIST		
9			2'	DAMP	Greenish gray clayey silt with strong petroleum odor	1-3-3-5 (8-10') 1.25 Penetrometer
10						
11			2'		Light yellowish brown very fine grained clayey silt, low plasticity, high dry strength (firm) (no odor)	2-3-4-6 (10-12') 2.0 Penetrometer
12				SLIGHTLY DAMP		
13			2'			2-3-5-6 (12-14') 2.25 Penetrometer
14		CL/ML				
15			2'		Black striations (no odor)	3-6-9-11 (14-16') 4.0 Penetrometer
16						
17			2'	DAMP		3-5-7-9 (16-18') 2.5 Penetrometer
18					Light yellowish brown clayey silt, very firm, no odor, medium plasticity	
19			2'			4-6-8 (18-20') 2.25 Penetrometer
20						
21			2'			3-4-6-8 (20-22') 2.75 Penetrometer
22		ML/CL			Light grayish brown clayey silt	
23			2'	SLIGHTLY DAMP		3-5-8-10 (22-24') 3.5 Penetrometer
24						
25			2'		Yellowish brown clayey silt	4-7-10-12 (24-26') 4.25 Penetrometer
26						
27		GP	NA		Chert nodules and gravel	
28						
29					End of Boring	
30						

DRILLING DATE: 12 JUL 99
DRILLING CO.: Dale Meyer
DRILLING METHOD:CME-75, 4" HSA & 2' Split Spoon Continuous Sampler
BOREHOLE DEPTH: 26' bgs
TOTAL DEPTH: 27.5' bgs
LOGGED BY: Robert Hill II
CLIENT:AMCOM
PROJECT NO.:G0011-0054KRP02

Tetra Tech EM Inc.
200 East Randolph Drive
Suite 4700
Chicago, IL 60601
312-856-8700

St. Louis Army Ammunition Plant
St. Louis, Missouri

LOG OF BOREHOLE

Boring Number: **SWMW-5**

Depth (ft bgs)	Soil Symbol	USCS Classification	Sample Interval	Moist	Soil Description	Remarks
1				DRY	Bituminous humus	5-7-3-4 (0-2') 1.0 Penetrometer
2		GP			Concrete	
3			20"	DRY	Gravel with sand	6-9-5-5 (2-4') 1.15 Penetrometer
4					Light yellowish brown very fine grained clayey silt, low plasticity, firm, no odor	
5		ML/CL	2'			2-2-3-3 (4-6') 0.8 Penetrometer
6						
7			2'	DAMP	Visible water noted in soil sample core center	2-2-2-3 (6-8') 1.0 Penetrometer
8				MOIST		
9			2'	DAMP		1-2-2-3 (8-10') 0.75 Penetrometer
10					Soil very slightly damp, soft	
11			2'			1-2-3-5 (10-12') 2.5 Penetrometer
12				DRY		
13			2'	DAMP		1-3-4-5 (12-14') 2.75 Penetrometer
14					Soil less damp, firm	
15		ML/CL	2'			10-4-5-6 (14-16') 1.0 Penetrometer
16						
17			2'	DRY		2-3-5-6 (16-18') 2.2 Penetrometer
18						
19			2'			3-5-6-8 (18-20') 3.6 Penetrometer
20		ML/CL				
21			2'		Grayish brown very fine grained	3-6-8-12 (20-22') 4.25 Penetrometer
22				DRY	Light yellowish brown very fine grained, very firm, medium plasticity (no odor)	
23		ML/CL	2'			2-5-7-9 (22-24') 3.5 Penetrometer
24						
25		ML/CL	2'	DRY	Light grayish brown clayey silt, very fine grained, low plasticity	2-5-7-10 (24-26') 2.9 Penetrometer
26						
27		GP	2'	DRY	Gravel, sand with chert nodules, brown, crumbly	2-15-23-25 (26-28') 3.6 Penetrometer
28		CL			Light reddish brown weathered shale with clay	
29			2'			3-7-12-18 (28-30') 3.1 Penetrometer
30		CL		DRY	Pale olive weathered shale with clay	

DRILLING DATE: 8 JUL 99
DRILLING CO.: Dale Meyer
DRILLING METHOD:CME-75, 4" HSA & 2' Split Spoon Continuous Sampler
BOREHOLE DEPTH: 36' bgs
TOTAL DEPTH: 37.75' bgs
LOGGED BY: Robert Hill II
CLIENT:AMCOM
PROJECT NO.:G0011-0054KRP02

Tetra Tech EM Inc.
200 East Randolph Drive
Suite 4700
Chicago, IL 60601
312-856-8700

St. Louis Army Ammunition Plant
St. Louis, Missouri

LOG OF BOREHOLE

Boring Number: **SWMW-5**

Depth (ft bgs)	Soil Symbol	USCS Classification	Sample Interval	Moist	Soil Description	Remarks
31		CL	2'		Yellow very fine grain weathered shale	2-5-20-20 (30-32') >4.5 Penetrometer
32						
33			2'		Light gray very fine grained silty weathered shale, very firm to hard, non plastic, high dry strength (soapy surface)	10-24-32-72 (32-34') >4.5 Penetrometer
34		CL		DRY		
35			2'			13-28-54-125 (34-36') 24.0 Penetrometer
36						
37			20"		Dark gray silty shale	9-30-148-50/.75" (36-38')
38					End of Boring	
39						
40						
41						
42						
43						
44						
45						
46						
47						
48						
49						
50						
51						
52						
53						
54						
55						
56						
57						
58						
59						
60						

DRILLING DATE: 8 JUL 99
DRILLING CO.: Dale Meyer
DRILLING METHOD:CME-75, 4" HSA & 2' Split Spoon Continuous Sampler
BOREHOLE DEPTH: 36' bgs
TOTAL DEPTH: 37.75' bgs
LOGGED BY: Robert Hill II
CLIENT:AMCOM
PROJECT NO.:G0011-0054KRP02

Tetra Tech EM Inc.
200 East Randolph Drive
Suite 4700
Chicago IL 60601
312-856-8700

St. Louis Army Ammunition Plant
St. Louis, Missouri

LOG OF BOREHOLE

Boring Number: **SWMW-6**

Depth (ft bgs)	Soil Symbol	USCS Classification	Sample Interval	Moist	Soil Description	Remarks
1		GP			Bituminous asphalt	4" Asphalt
					Gravel	7" Gravel-1" Gravel/sand
2		ML/CL	2'	DAMP	Light yellowish brown very fine grained clayey silt	3-4-4-5 (1-3') 0.80 Penetrometer
3						
4			2'			2-3-2-3 (3-5') 1.0 Penetrometer
5				VERY DAMP MOIST		
6			2'		Yellowish brwon very fine grained clayey silt, medium to high plasticity (no odor)	2-3-3-3 (5-7') 1.25 Penetrometer
7		ML/CL				
8			2'			2-4-4-5 (7-9') 1.0 Penetrometer
9						
10			2'	DAMP		2-3-4-5 (9-11') 2.0 Penetrometer
11						
12		ML/CL	2'		Light yellowish brown very fine grained clayey silt, medium plasticity, no odor	2-3-5-6 (11-13') 1.75 Penetrometer
13				SLIGHTLY DAMP		
14			2'			2-3-5-6 (13-15') 2.0 Penetrometer
15						
16			2'			2-10-21-24 (15-17') 2.75 Penetrometer
17		GP			Chert and gravel, coarse grained, poorly graded	
18			2'			3-6-12-11 (17-19')
19		CL			Light reddish brown very fine grained weathered shale with clay	
20			2'			4-10-16-20 (19-21')
21						
22					End of Boring	
23						
24						
25						
26						
27						
28						
29						
30						

DRILLING DATE: 12 JUL 99
DRILLING CO.: Dale Meyer
DRILLING METHOD:CME-75, 4" HSA & 2' Split Spoon Continuous Sampler
BOREHOLE DEPTH: 19.0' bgs
TOTAL DEPTH: 21.0' bgs
LOGGED BY: Robert Hill II
CLIENT:AMCOM
PROJECT NO.:G0011-0054KRP02

Tetra Tech EM Inc.
200 East Randolph Drive
Suite 4700
Chicago, IL 60601
312-856-8700

St. Louis Army Ammunition Plant
St. Louis, Missouri

LOG OF BOREHOLE

Boring Number: **2MW-1**

Depth (ft bgs)	Soil Symbol	USCS Classification	Sample Interval	Moist	Soil Description	P.I.D.	Remarks
1							9.5' Concrete
			1'	DRY	Gravel with sand, light gray and coarse well-graded.		6-6 (0-2')
2		GW					No penetrometer reading
3			0			11ppm	6-10-10-5 (2-4)
4							No penetrometer reading
				DAMP	Brown, very fine grain, clayey silt (no odor) Soft.		3-3-3-4 (4-6')
5			2'			8ppm	1.5 Penetrometer
6							1-2-3-3 (6-8)
				VERY DAMP			
7			2'			8ppm	1.5 Penetrometer
8		ML/CL		MOIST			2-3-4-5 (8-10)
9			2'			7.5ppm	2.0 Penetrometer
				WET	Pale yellowish brown, very fine grain, clayey silt (no odor) Firm		
10							2-3-3-4 (10-12)
11			2'			6ppm	2.25 Penetrometer
12							4-8-19-30 (12-14)
					Chert with gravel.		
13			2'			5.5ppm	>4.5 Penetrometer
14							6-18-35-36 (14-16)
15			2'		Reddish brown weathered shale with clay, non-plastic	4ppm	>4.5 Penetrometer
16		CL					6-22-52-100 (16-18)
				DRY			
17			2'			1ppm	
18							10-18-36-60 18-20)
19			2'		Pale olive fine grain weathered shale with clay	0ppm	
20							
21					End of Boring		
22							
23							
24							
25							
26							
27							
28							
29							
30							

DRILLING DATE: 13 JUL 99
DRILLING METHOD:CME-75, 4" HSA & 2' Split Spoon Continuous Sampler
BOREHOLE DEPTH: 18' bgs
TOTAL DEPTH: 20' bgs
LOGGED BY: Robert Hill II
CLIENT:AMCOM
PROJECT NO.:G0011-0054KRP02

DRILLING CO.: Dale Meyer

Tetra Tech EM Inc.
200 East Randolph Drive
Suite 4700
Chicago, IL 60601
312-856-8700

St. Louis Army Ammunition Plant
St. Louis, Missouri

LOG OF BOREHOLE

Boring Number: **SWMW-7**

Depth (ft bgs)	Soil Symbol	USCS Classification	Sample Interval	Moist	Soil Description	Remarks
			0		Bituminous Asphalt	3"Ashpalt/3" gravel
1						1-3-2-2 (0.5-2.5)
2			2'	DRY		1.75 Penetrometer
3		ML/CL	2'		Light, yellowish-brown clayey silt very fine grained, medium plasticity, medium dry strength	1-2-1-2 (2.5-4.5) 2.5 Penetrometer
4						1-1-1-2 (4.5-6.5)
5			2'			
6						
7			2'	DAMP/ MOIST	Grayish-brown clayey silt	1-1-2-2 (6.5-8.5)
8						
9			15"			2-2-3-2 (8.5-10.5) 0.75 Penetrometer
10						
11		ML/CL	22"	DRY	Light yellowish brown very fine grained clayey silt medium plasticity (crumbly and dry).	(10.5-12.5) 1-2-4-5
12						
13			2'			1-2-3-4 (12.5-14.5) 1.0 Penetrometer
14						
15			23"			1-8-17-17 (14.5-16.5) 2.0 Penetrometer
16		GP			Very coarse grain sand, gravel and chert	
17			2'	MOIST		2-5-9-14 (16.5-18.5) 2.5 Penetrometer
18		CL			Light reddish-brown very fine grained, non-plastic, high dry strengt weathered shale or clay	
19			2'	DRY		4-8-11-17 (18.5-20.5) 3.0 Penetrometer
20						
21		CL	2'	DRY	Light reddish brown very fine grained weathered shale or clayey shale.	5-13-23-28 (20.5-22.5)
22						
23		CL	2'	DRY	Pale olive very fine grained weathered shale or clayey shale.	8-14-15-15 (22.5-24.5)
24						
25		CL	2'	DRY	Yellow very fine grain silty weathered shale or clayey shale.	6-9-12-15 (24.5-26.5) 74.5 Penetrometer
26						
27			2'			4-22-22-37 (26.5-28.5)
28						
29		CL	22"	DRY	Light gray very fine grained silty weathered shale with clay. High dry strength.	15-27-53-107 (28.5-30.5) >4.5 Penetrometer
30						

DRILLING DATE: 7 JUL 99
DRILLING CO.: Dale Meyer
DRILLING METHOD:CME-75, 4" HSA & 2' Split Spoon Continuous Sampler
BOREHOLE DEPTH: 32' bgs
TOTAL DEPTH: 34.5' bgs
LOGGED BY: Robert Hill II
CLIENT:AMCOM
PROJECT NO.:G0011-0054KRP02

Tetra Tech EM Inc.
200 East Randolph Drive
Suite 4700
Chicago, IL 60601
312-856-8700

St. Louis Army Ammunition Plant
St. Louis, Missouri

LOG OF BOREHOLE

Boring Number: **SWMW-7**

Depth (ft bgs)	Soil Symbol	USCS Classification	Sample Interval	Moist	Soil Description	Remarks
			22"			
31			2'			13-24-52-119 (30.5-32.5)
32						
33						14-48-170120/1.5 (32.5-34.5)
34		CL/ML	2'		Dark grey very fine grained silty shale.	>4.5 Penetrometer
35					End of Boring	
36						
37						
38						
39						
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60						

DRILLING DATE: 7 JUL 99
DRILLING CO.: Dale Meyer
DRILLING METHOD:CME-75, 4" HSA & 2' Split Spoon Continuous Sampler
BOREHOLE DEPTH: 32' bgs
TOTAL DEPTH: 34.5' bgs
LOGGED BY: Robert Hill II
CLIENT:AMCOM
PROJECT NO.:G0011-0054KRP02

Tetra Tech EM Inc.
200 East Randolph Drive
Suite 4700
Chicago, IL 60601
312-856-8700

St. Louis Army Ammunition Plant
St. Louis, Missouri

LOG OF BOREHOLE

Boring Number: **10MW-1**

Depth (ft bgs)	Soil Symbol	USCS Classification	Sample Interval	Moist	Soil Description	P.I.D.	Remarks
1			17"	DRY			2-2-4 (0-2)
2		ML/CL		DAMP	Yellowish brown very fine grain clayey silt (no odor)	19.5ppm	4.5 Penetrometer
3			18"			24.5ppm	1-2-3-4 (2-4) >4.5 Penetrometer
4				MOIST/ WET			2-3-4-5 (4-6)
5			2'		Light yellowish brown very fine grained clayey silt (no odor).	18.2ppm	2.25 Penetrometer
6							1-2-3-3 (6-8)
7			2'	DAMP		22.4ppm	2.5 Penetrometer
8							2-3-3-3 (8-10)
9			2'	MOIST		22.9ppm	2.20 Penetrometer
10							1-2-2-3 (10-12)
11			2'			13.8ppm	2.5 Penetrometer
12		ML/CL		DAMP			1-3-3-5 (12-14)
13			2'			18.5ppm	1.25 Penetrometer
14				DAMP			2-2-3-5 (14-16)
15			2'			18.3ppm	3.5 Penetrometer
16							(16-18)
17			2'			17.5ppm	3.25 Penetrometer
18				DAMP			2-3-3-5 (18-20)
19			2'	SLIGHTLY DAMP		16.9ppm	3.0 Penetrometer
20							
21					Chert		
22					End of Boring		
23							
24							
25							
26							
27							
28							
29							
30							

DRILLING DATE: 13 JUL 99
DRILLING METHOD:CME-75, 4" HSA
BOREHOLE DEPTH: 18' bgs
TOTAL DEPTH: 21' bgs
LOGGED BY: Robert Hill II
CLIENT:AMCOM
PROJECT NO.:G0011-0054KRP02

DRILLING CO.: Dale Meyer
& 2' Split Spoon Continuous Sampler

Tetra Tech EM Inc.
200 East Randolph Drive
Suite 4700
Chicago, IL 60601
312-856-8700

APPENDIX I
ANALYTICAL RESULTS

(353 Sheets)

August 16, 1999

Tetra Tech EM, Inc.
Attn: Michael Barlage
200 E. Randolph
Suite 4700
Chicago, IL 60601

RE: St. Louis Army Ammunition
G0011-0054KFW02

Dear Mr. Michael Barlage:

Enclosed is a copy of your laboratory summary report for submittal **35109-1.** This submittal was completely received on July 19, 1999. All analyses have been validated and comply with our Quality Control program statistics unless otherwise noted.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Gerald L. Holycross
Project Chemist

Enclosure

000001

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Individual sample results relate only to the sample tested.
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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples
Sample: 2MW-1

Submittal Number 35109- 1
Date Sampled: 07/13/99 Time: 16:46
Date Received: 07/14/99 Time: 09:20
Analysis Date: 07/27/99
Lab Sample No: 227040
Batch No: 145251

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	**0.033**		0.010
71-43-2	Benzene	<0.010		0.010
75-27-4	Dichlorobromomethane	<0.010		0.010
75-25-2	Bromoform	<0.010		0.010
74-83-9	Bromomethane	<0.010		0.010
78-93-3	Methyl Ethyl Ketone	<0.010		0.010
75-15-0	Carbon Disulfide	<0.010		0.010
56-23-5	Carbon Tetrachloride	<0.010		0.010
108-90-7	Chlorobenzene	<0.010		0.010
75-00-3	Chloroethane	<0.010		0.010
67-66-3	Chloroform	<0.010		0.010
74-87-3	Chloromethane	<0.010		0.010
124-48-1	Chlorodibromomethane	<0.010		0.010
95-50-1	1,2-Dichlorobenzene	<0.010		0.010
541-73-1	1,3-Dichlorobenzene	<0.010		0.010
106-46-7	1,4-Dichlorobenzene	<0.010		0.010
75-34-3	1,1-Dichloroethane	<0.010		0.010
107-06-2	1,2-Dichloroethane	<0.010		0.010
156-60-5	trans-1,2-Dichloroethene	<0.010		0.010
156-59-2	cis-1,2-Dichloroethene	<0.010		0.010
75-35-4	1,1-Dichloroethylene	<0.010		0.010
78-87-5	1,2-Dichloropropane	<0.010		0.010
10061-01-5	cis-1,3-Dichloropropene	<0.010		0.010
10061-02-6	trans-1,3-Dichloropropene	<0.010		0.010
100-41-4	Ethylbenzene	<0.010		0.010
591-78-6	2-Hexanone	<0.010		0.010
108-10-1	4-Methyl-2-Pentanone	<0.010		0.010
75-09-2	Methylene Chloride	<0.010		0.010
100-42-5	Styrene	<0.010		0.010
79-34-5	1,1,2,2-Tetrachloroethane	<0.010		0.010
127-18-4	Tetrachloroethene	<0.010		0.010
71-55-6	1,1,1-Trichloroethane	<0.010		0.010
79-00-5	1,1,2-Trichloroethane	<0.010		0.010
79-01-6	Trichloroethene	<0.010		0.010
108-88-3	Toluene	<0.010		0.010

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Individual sample results relate only to the sample tested.
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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples
Sample: 2MW-1

Submittal Number 35109- 1
Date Sampled: 07/13/99 Time: 16:46
Date Received: 07/14/99 Time: 09:20
Analysis Date: 07/27/99
Lab Sample No: 227040
Batch No: 145251

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<0.010		0.010
1330-20-7	Xylene (Total)	<0.010		0.010

000003

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TriMatrix Laboratories Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples

Submittal Number: 35109- 1
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		2MW-1	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227040				
E-1047	Percent Solids	90				%

Sampled by: R. Hill
Date Sampled: 07/13/99
Time Sampled: 16:46
Date Received: 07/14/99
Time Received: 09:20

000004

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples
Sample: 2MW-1
(#1-#2)

Submittal Number 35109- 1
Date Sampled: 07/13/99 Time: 16:44
Date Received: 07/14/99 Time: 09:20
Analysis Date: 07/28/99
Lab Sample No: 227041
Batch No: 145033

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<0.33		0.33
208-96-8	Acenaphthylene	<0.33		0.33
120-12-7	Anthracene	<0.33		0.33
56-55-3	Benzo (a) Anthracene	<0.33		0.33
50-32-8	Benzo (a) Pyrene	<0.33		0.33
205-99-2	Benzo (b) Fluoranthene	<0.33		0.33
207-08-9	Benzo (k) Fluoranthene	<0.33		0.33
191-24-2	Benzo (g,h,i,) Perylene	<0.33		0.33
111-91-1	Bis (2-Chloroethoxy)-Methane	<0.33		0.33
111-44-4	Bis (2-Chloroethyl) Ether	<0.33		0.33
108-60-1	Bis (2-Chloroisopropyl)-Ether	<0.33		0.33
117-81-7	Bis (2-ethylhexyl)-Phthalate	<0.33		0.33
101-55-3	4-Bromophenyl Phenylether	<0.33		0.33
85-68-7	Butyl Benzyl Phthalate	<0.33		0.33
86-74-8	Carbazole	<0.33		0.33
59-50-7	4-Chloro-3-Methylphenol	<0.33		0.33
106-47-8	4-Chloroaniline	<0.33		0.33
91-58-7	2-Chloronaphthalene	<0.33		0.33
95-57-8	2-Chlorophenol	<0.33		0.33
7005-72-3	4-Chlorophenylphenyl-Ether	<0.33		0.33
218-01-9	Chrysene	<0.33		0.33
84-74-2	Di-n-Butylphthalate	<0.33		0.33
117-84-0	Di-n-Octylphthalate	<0.33		0.33
53-70-3	Dibenzo (a,h) Anthracene	<0.33		0.33
132-64-9	Dibenzofuran	<0.33		0.33
95-50-1	1,2-Dichlorobenzene	<0.33		0.33
541-73-1	1,3-Dichlorobenzene	<0.33		0.33
106-46-7	1,4-Dichlorobenzene	<0.33		0.33
91-94-1	3,3'-Dichlorobenzidine	<0.33		0.33
120-83-2	2,4-Dichlorophenol	<0.33		0.33
84-66-2	Diethylphthalate	<0.33		0.33

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TriMatrix Laboratories, Inc.

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples
Sample: 2MW-1
(#1-#2)

Submittal Number 35109- 1
Date Sampled: 07/13/99 Time: 16:44
Date Received: 07/14/99 Time: 09:20
Analysis Date: 07/28/99
Lab Sample No: 227041
Batch No: 145033

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
131-11-3	Dimethylphthalate	<0.33		0.33
105-67-9	2,4-Dimethylphenol	<0.33		0.33
534-52-1	4,6-Dinitro-2-Methylphenol	<0.83		0.83
51-28-5	2,4-Dinitrophenol	<0.83		0.83
121-14-2	2,4-Dinitrotoluene	<0.33		0.33
606-20-2	2,6-Dinitrotoluene	<0.33		0.33
206-44-0	Fluoranthene	<0.33		0.33
86-73-7	Fluorene	<0.33		0.33
118-74-1	Hexachlorobenzene	<0.33		0.33
87-68-3	Hexachlorobutadiene	<0.33		0.33
77-47-4	Hexachlorocyclopentadiene	<0.33		0.33
67-72-1	Hexachloroethane	<0.33		0.33
193-39-5	Indeno (1,2,3-cd) Pyrene	<0.33		0.33
78-59-1	Isophorone	<0.33		0.33
91-57-6	2-Methylnaphthalene	<0.33		0.33
95-48-7	2-Methylphenol	<0.33		0.33
106-44-5	4-Methylphenol	<0.33		0.33
621-64-7	N-Nitrosodi-n-Propylamine	<0.33		0.33
86-30-6	N-Nitroso-di-Phenylamine	<0.33		0.33
91-20-3	Naphthalene	<0.33		0.33
88-74-4	2-Nitroaniline	<0.83		0.83
99-09-2	3-Nitroaniline	<0.83		0.83
100-01-6	4-Nitroaniline	<0.83		0.83
98-95-3	Nitrobenzene	<0.33		0.33
88-75-5	2-Nitrophenol	<0.33		0.33
100-02-7	4-Nitrophenol	<0.33		0.33
87-86-5	Pentachlorophenol	<0.33		0.33
85-01-8	Phenanthrene	<0.33		0.33
108-95-2	Phenol	<0.33		0.33
129-00-0	Pyrene	<0.33		0.33
120-82-1	1,2,4-Trichlorobenzene	<0.33		0.33
95-95-4	2,4,5-Trichlorophenol	<0.33		0.33
88-06-2	2,4,6-Trichlorophenol	<0.33		0.33

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples

Submittal Number: 35109- 1
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		2MW-1 (#1-#2)	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227041				
E-1047	Percent Solids	80				%

Sampled by: R. Hill
Date Sampled: 07/13/99
Time Sampled: 16:44
Date Received: 07/14/99
Time Received: 09:20

000007

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples
Sample: 2MW-1
(#3-#4)

Submittal Number 35109- 1
Date Sampled: 07/13/99 Time: 16:42
Date Received: 07/14/99 Time: 09:20
Analysis Date: 07/28/99
Lab Sample No: 227042
Batch No: 145033

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<0.33		0.33
208-96-8	Acenaphthylene	<0.33		0.33
120-12-7	Anthracene	<0.33		0.33
56-55-3	Benzo (a) Anthracene	<0.33		0.33
50-32-8	Benzo (a) Pyrene	<0.33		0.33
205-99-2	Benzo (b) Fluoranthene	<0.33		0.33
207-08-9	Benzo (k) Fluoranthene	<0.33		0.33
191-24-2	Benzo (g,h,i,) Perylene	<0.33		0.33
111-91-1	Bis (2-Chloroethoxy)-Methane	<0.33		0.33
111-44-4	Bis (2-Chloroethyl) Ether	<0.33		0.33
108-60-1	Bis (2-Chloroisopropyl)-Ether	<0.33		0.33
117-81-7	Bis (2-ethylhexyl)-Phthalate	<0.33		0.33
101-55-3	4-Bromophenyl Phenylether	<0.33		0.33
85-68-7	Butyl Benzyl Phthalate	<0.33		0.33
86-74-8	Carbazole	<0.33		0.33
59-50-7	4-Chloro-3-Methylphenol	<0.33		0.33
106-47-8	4-Chloroaniline	<0.33		0.33
91-58-7	2-Chloronaphthalene	<0.33		0.33
95-57-8	2-Chlorophenol	<0.33		0.33
7005-72-3	4-Chlorophenylphenyl-Ether	<0.33		0.33
218-01-9	Chrysene	<0.33		0.33
84-74-2	Di-n-Butylphthalate	<0.33		0.33
117-84-0	Di-n-Octylphthalate	<0.33		0.33
53-70-3	Dibenzo (a,h) Anthracene	<0.33		0.33
132-64-9	Dibenzofuran	<0.33		0.33
95-50-1	1,2-Dichlorobenzene	<0.33		0.33
541-73-1	1,3-Dichlorobenzene	<0.33		0.33
106-46-7	1,4-Dichlorobenzene	<0.33		0.33
91-94-1	3,3'-Dichlorobenzidine	<0.33		0.33
120-83-2	2,4-Dichlorophenol	<0.33		0.33
84-66-2	Diethylphthalate	<0.33		0.33

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples
Sample: 2MW-1
(#3-#4)

Submittal Number 35109- 1
Date Sampled: 07/13/99 Time: 16:42
Date Received: 07/14/99 Time: 09:20
Analysis Date: 07/28/99
Lab Sample No: 227042
Batch No: 145033

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
131-11-3	Dimethylphthalate	<0.33		0.33
105-67-9	2,4-Dimethylphenol	<0.33		0.33
534-52-1	4,6-Dinitro-2-Methylphenol	<0.83		0.83
51-28-5	2,4-Dinitrophenol	<0.83		0.83
121-14-2	2,4-Dinitrotoluene	<0.33		0.33
606-20-2	2,6-Dinitrotoluene	<0.33		0.33
206-44-0	Fluoranthene	<0.33		0.33
86-73-7	Fluorene	<0.33		0.33
118-74-1	Hexachlorobenzene	<0.33		0.33
87-68-3	Hexachlorobutadiene	<0.33		0.33
77-47-4	Hexachlorocyclopentadiene	<0.33		0.33
67-72-1	Hexachloroethane	<0.33		0.33
193-39-5	Indeno (1,2,3-cd) Pyrene	<0.33		0.33
78-59-1	Isophorone	<0.33		0.33
91-57-6	2-Methylnaphthalene	<0.33		0.33
95-48-7	2-Methylphenol	<0.33		0.33
106-44-5	4-Methylphenol	<0.33		0.33
621-64-7	N-Nitrosodi-n-Propylamine	<0.33		0.33
86-30-6	N-Nitroso-di-Phenylamine	<0.33		0.33
91-20-3	Naphthalene	<0.33		0.33
88-74-4	2-Nitroaniline	<0.83		0.83
99-09-2	3-Nitroaniline	<0.83		0.83
100-01-6	4-Nitroaniline	<0.83		0.83
98-95-3	Nitrobenzene	<0.33		0.33
88-75-5	2-Nitrophenol	<0.33		0.33
100-02-7	4-Nitrophenol	<0.33		0.33
87-86-5	Pentachlorophenol	<0.33		0.33
85-01-8	Phenanthrene	<0.33		0.33
108-95-2	Phenol	<0.33		0.33
129-00-0	Pyrene	<0.33		0.33
120-82-1	1,2,4-Trichlorobenzene	<0.33		0.33
95-95-4	2,4,5-Trichlorophenol	<0.33		0.33
88-06-2	2,4,6-Trichlorophenol	<0.33		0.33

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TriMatrix Laboratories, Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples

Submittal Number: 35109- 1
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		2MW-1 (#3-#4)	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227042				
E-1047	Percent Solids	77				%

Sampled by: R. Hill
Date Sampled: 07/13/99
Time Sampled: 16:42
Date Received: 07/14/99
Time Received: 09:20

000010

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TriMatrix Laboratories, Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples
Sample: Trip Blank

Submittal Number 35109- 1
Date Sampled: 07/13/99 Time: 16:35
Date Received: 07/14/99 Time: 09:20
Analysis Date: 07/23/99
Lab Sample No: 227043
Batch No: 144918

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<5.0		5.0
71-43-2	Benzene	<1.0		1.0
75-27-4	Dichlorobromomethane	<1.0		1.0
75-25-2	Bromoform	<1.0		1.0
74-83-9	Bromomethane	<1.0		1.0
78-93-3	Methyl Ethyl Ketone	**6.6**		5.0
75-15-0	Carbon Disulfide	<1.0		1.0
56-23-5	Carbon Tetrachloride	<1.0		1.0
108-90-7	Chlorobenzene	<1.0		1.0
75-00-3	Chloroethane	<1.0		1.0
67-66-3	Chloroform	<1.0		1.0
74-87-3	Chloromethane	<1.0		1.0
124-48-1	Chlorodibromomethane	<1.0		1.0
95-50-1	1,2-Dichlorobenzene	<1.0		1.0
541-73-1	1,3-Dichlorobenzene	<1.0		1.0
106-46-7	1,4-Dichlorobenzene	<1.0		1.0
75-34-3	1,1-Dichloroethane	<1.0		1.0
107-06-2	1,2-Dichloroethane	<1.0		1.0
156-59-2	cis-1,2-Dichloroethene	<1.0		1.0
156-60-5	trans-1,2-Dichloroethene	<1.0		1.0
75-35-4	1,1-Dichloroethylene	<1.0		1.0
78-87-5	1,2-Dichloropropane	<1.0		1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0		1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0		1.0
100-41-4	Ethylbenzene	<1.0		1.0
591-78-6	2-Hexanone	<5.0		5.0
108-10-1	4-Methyl-2-Pentanone	<5.0		5.0
75-09-2	Methylene Chloride	<2.0		2.0
100-42-5	Styrene	<1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0		1.0
127-18-4	Tetrachloroethene	<1.0		1.0
71-55-6	1,1,1-Trichloroethane	<1.0		1.0
79-00-5	1,1,2-Trichloroethane	<1.0		1.0
79-01-6	Trichloroethene	<1.0		1.0
108-88-3	Toluene	<1.0		1.0

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TriMatrix Laboratories, Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples
Sample: Trip Blank

Submittal Number 35109- 1
Date Sampled: 07/13/99 Time: 16:35
Date Received: 07/14/99 Time: 09:20
Analysis Date: 07/23/99
Lab Sample No: 227043
Batch No: 144918

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<1.0		1.0
1330-20-7	Xylene (Total)	<1.0		1.0

000012

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples
Sample: EQB-713

Submittal Number 35109- 1
Date Sampled: 07/13/99 Time: 13:46
Date Received: 07/14/99 Time: 09:20
Analysis Date: 07/22/99
Lab Sample No: 227044
Batch No: 144752

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<5.0		5.0
208-96-8	Acenaphthylene	<5.0		5.0
120-12-7	Anthracene	<5.0		5.0
56-55-3	Benzo (a) Anthracene	<5.0		5.0
50-32-8	Benzo (a) Pyrene	<5.0		5.0
205-99-2	Benzo (b) Fluoranthene	<5.0		5.0
207-08-9	Benzo (k) Fluoranthene	<5.0		5.0
191-24-2	Benzo (g,h,i,) Perylene	<5.0		5.0
111-91-1	Bis (2-Chloroethoxy)-Methane	<5.0		5.0
111-44-4	Bis (2-Chloroethyl) Ether	<5.0		5.0
108-60-1	Bis (2-Chloroisopropyl)-Ether	<5.0		5.0
117-81-7	Bis (2-ethylhexyl)-Phthalate	<5.0		5.0
101-55-3	4-Bromophenyl Phenylether	<5.0		5.0
85-68-7	Butyl Benzyl Phthalate	<5.0		5.0
59-50-7	4-Chloro-3-Methylphenol	<5.0		5.0
106-47-8	4-Chloroaniline	<5.0		5.0
91-58-7	2-Chloronaphthalene	<5.0		5.0
95-57-8	2-Chlorophenol	<5.0		5.0
7005-72-3	4-Chlorophenylphenyl-Ether	<5.0		5.0
218-01-9	Chrysene	<5.0		5.0
84-74-2	Di-n-Butylphthalate	<5.0		5.0
117-84-0	Di-n-Octylphthalate	<5.0		5.0
53-70-3	Dibenzo (a,h) Anthracene	<5.0		5.0
132-64-9	Dibenzofuran	<5.0		5.0
95-50-1	1,2-Dichlorobenzene	<5.0		5.0
541-73-1	1,3-Dichlorobenzene	<5.0		5.0
106-46-7	1,4-Dichlorobenzene	<5.0		5.0
91-94-1	3,3'-Dichlorobenzidine	<5.0		5.0
120-83-2	2,4-Dichlorophenol	<5.0		5.0
84-66-2	Diethylphthalate	<5.0		5.0
131-11-3	Dimethylphthalate	<5.0		5.0

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples
Sample: EQB-713

Submittal Number 35109- 1
Date Sampled: 07/13/99 Time: 13:46
Date Received: 07/14/99 Time: 09:20
Analysis Date: 07/22/99
Lab Sample No: 227044
Batch No: 144752

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
105-67-9	2,4-Dimethylphenol	<5.0		5.0
534-52-1	4,6-Dinitro-2-Methylphenol	<20		20
51-28-5	2,4-Dinitrophenol	<20		20
121-14-2	2,4-Dinitrotoluene	<5.0		5.0
606-20-2	2,6-Dinitrotoluene	<5.0		5.0
206-44-0	Fluoranthene	<5.0		5.0
86-73-7	Fluorene	<5.0		5.0
118-74-1	Hexachlorobenzene	<5.0		5.0
87-68-3	Hexachlorobutadiene	<5.0		5.0
77-47-4	Hexachlorocyclopentadiene	<5.0		5.0
67-72-1	Hexachloroethane	<5.0		5.0
193-39-5	Indeno (1,2,3-cd) Pyrene	<5.0		5.0
78-59-1	Isophorone	<5.0		5.0
91-57-6	2-Methylnaphthalene	<5.0		5.0
95-48-7	2-Methylphenol	<5.0		5.0
106-44-5	4-Methylphenol	<5.0		5.0
621-64-7	N-Nitrosodi-n-Propylamine	<5.0		5.0
86-30-6	N-Nitroso-di-Phenylamine	<5.0		5.0
91-20-3	Naphthalene	<5.0		5.0
88-74-4	2-Nitroaniline	<20		20
99-09-2	3-Nitroaniline	<20		20
100-01-6	4-Nitroaniline	<20		20
98-95-3	Nitrobenzene	<5.0		5.0
88-75-5	2-Nitrophenol	<5.0		5.0
100-02-7	4-Nitrophenol	<20		20
87-86-5	Pentachlorophenol	<20		20
85-01-8	Phenanthrene	<5.0		5.0
108-95-2	Phenol	<5.0		5.0
129-00-0	Pyrene	<5.0		5.0
120-82-1	1,2,4-Trichlorobenzene	<5.0		5.0
95-95-4	2,4,5-Trichlorophenol	<20		20
88-06-2	2,4,6-Trichlorophenol	<5.0		5.0
86-74-8	Carbazole	<10		10

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TriMatrix Laboratories Inc

PCBS IN WATER
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples
Sample: EQB-713

Submittal Number 35109- 1
Date Sampled: 07/13/99 Time: 13:46
Date Received: 07/14/99 Time: 09:20
Analysis Date: 07/22/99
Lab Sample No: 227044
Batch No: 144900

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.20		0.20
11104-28-2	PCB-1221	<0.40		0.40
11141-16-5	PCB-1232	<0.20		0.20
53469-21-9	PCB-1242	<0.20		0.20
12672-29-6	PCB-1248	<0.20		0.20
11097-69-1	PCB-1254	<0.20		0.20
11096-82-5	PCB-1260	<0.20		0.20
-----	PCB-1262	<0.20		0.20
-----	PCB-1268	<0.20		0.20

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TriMatrix Laboratories, Inc.

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples
Sample: EQB713-4

Submittal Number 35109- 1
Date Sampled: 07/13/99 Time: 13:10
Date Received: 07/14/99 Time: 09:20
Analysis Date: 07/27/99
Lab Sample No: 227045
Batch No: 145251

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<5.0		5.0
71-43-2	Benzene	<1.0		1.0
75-27-4	Dichlorobromomethane	<1.0		1.0
75-25-2	Bromoform	<1.0		1.0
74-83-9	Bromomethane	<1.0		1.0
78-93-3	Methyl Ethyl Ketone	<5.0		5.0
75-15-0	Carbon Disulfide	<1.0		1.0
56-23-5	Carbon Tetrachloride	<1.0		1.0
108-90-7	Chlorobenzene	<1.0		1.0
75-00-3	Chloroethane	<1.0		1.0
67-66-3	Chloroform	<1.0		1.0
74-87-3	Chloromethane	<1.0		1.0
124-48-1	Chlorodibromomethane	<1.0		1.0
95-50-1	1,2-Dichlorobenzene	<1.0		1.0
541-73-1	1,3-Dichlorobenzene	<1.0		1.0
106-46-7	1,4-Dichlorobenzene	<1.0		1.0
75-34-3	1,1-Dichloroethane	<1.0		1.0
107-06-2	1,2-Dichloroethane	<1.0		1.0
156-59-2	cis-1,2-Dichloroethene	<1.0		1.0
156-60-5	trans-1,2-Dichloroethene	<1.0		1.0
75-35-4	1,1-Dichloroethylene	<1.0		1.0
78-87-5	1,2-Dichloropropane	<1.0		1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0		1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0		1.0
100-41-4	Ethylbenzene	<1.0		1.0
591-78-6	2-Hexanone	<5.0		5.0
108-10-1	4-Methyl-2-Pentanone	<5.0		5.0
75-09-2	Methylene Chloride	<2.0		2.0
100-42-5	Styrene	<1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0		1.0
127-18-4	Tetrachloroethene	<1.0		1.0
71-55-6	1,1,1-Trichloroethane	<1.0		1.0
79-00-5	1,1,2-Trichloroethane	<1.0		1.0
79-01-6	Trichloroethene	<1.0		1.0
108-88-3	Toluene	<1.0		1.0

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TriMatrix Laboratories, Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples
Sample: EQB713-4

Submittal Number 35109- 1
Date Sampled: 07/13/99 Time: 13:10
Date Received: 07/14/99 Time: 09:20
Analysis Date: 07/27/99
Lab Sample No: 227045
Batch No: 145251

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<1.0		1.0
1330-20-7	Xylene (Total)	<1.0		1.0

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples

Submittal Number: 35109- 1
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		10MW-1	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227046				
E-1047	Percent Solids	90				%

Sampled by: R. Hill
Date Sampled: 07/13/99
Time Sampled: 16:55
Date Received: 07/14/99
Time Received: 09:20

000018

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples
Sample: 10MW-1

Submittal Number 35109- 1
Date Sampled: 07/13/99 Time: 16:55
Date Received: 07/14/99 Time: 09:20
Analysis Date: 07/28/99
Lab Sample No: 227046
Batch No: 145033

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<0.33		0.33
208-96-8	Acenaphthylene	<0.33		0.33
120-12-7	Anthracene	<0.33		0.33
56-55-3	Benzo (a) Anthracene	<0.33		0.33
50-32-8	Benzo (a) Pyrene	<0.33		0.33
205-99-2	Benzo (b) Fluoranthene	<0.33		0.33
207-08-9	Benzo (k) Fluoranthene	<0.33		0.33
191-24-2	Benzo (g,h,i,) Perylene	<0.33		0.33
111-91-1	Bis (2-Chloroethoxy)-Methane	<0.33		0.33
111-44-4	Bis (2-Chloroethyl) Ether	<0.33		0.33
108-60-1	Bis (2-Chloroisopropyl)-Ether	<0.33		0.33
117-81-7	Bis (2-ethylhexyl)-Phthalate	<0.33		0.33
101-55-3	4-Bromophenyl Phenylether	<0.33		0.33
85-68-7	Butyl Benzyl Phthalate	<0.33		0.33
86-74-8	Carbazole	<0.33		0.33
59-50-7	4-Chloro-3-Methylphenol	<0.33		0.33
106-47-8	4-Chloroaniline	<0.33		0.33
91-58-7	2-Chloronaphthalene	<0.33		0.33
95-57-8	2-Chlorophenol	<0.33		0.33
7005-72-3	4-Chlorophenylphenyl-Ether	<0.33		0.33
218-01-9	Chrysene	<0.33		0.33
84-74-2	Di-n-Butylphthalate	<0.33		0.33
117-84-0	Di-n-Octylphthalate	<0.33		0.33
53-70-3	Dibenzo (a,h) Anthracene	<0.33		0.33
132-64-9	Dibenzofuran	<0.33		0.33
95-50-1	1,2-Dichlorobenzene	<0.33		0.33
541-73-1	1,3-Dichlorobenzene	<0.33		0.33
106-46-7	1,4-Dichlorobenzene	<0.33		0.33
91-94-1	3,3'-Dichlorobenzidine	<0.33		0.33
120-83-2	2,4-Dichlorophenol	<0.33		0.33
84-66-2	Diethylphthalate	<0.33		0.33

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples
Sample: 10MW-1

Submittal Number 35109- 1
Date Sampled: 07/13/99 Time: 16:55
Date Received: 07/14/99 Time: 09:20
Analysis Date: 07/28/99
Lab Sample No: 227046
Batch No: 145033

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
131-11-3	Dimethylphthalate	<0.33		0.33
105-67-9	2,4-Dimethylphenol	<0.33		0.33
534-52-1	4,6-Dinitro-2-Methylphenol	<0.83		0.83
51-28-5	2,4-Dinitrophenol	<0.83		0.83
121-14-2	2,4-Dinitrotoluene	<0.33		0.33
606-20-2	2,6-Dinitrotoluene	<0.33		0.33
206-44-0	Fluoranthene	<0.33		0.33
86-73-7	Fluorene	<0.33		0.33
118-74-1	Hexachlorobenzene	<0.33		0.33
87-68-3	Hexachlorobutadiene	<0.33		0.33
77-47-4	Hexachlorocyclopentadiene	<0.33		0.33
67-72-1	Hexachloroethane	<0.33		0.33
193-39-5	Indeno (1,2,3-cd) Pyrene	<0.33		0.33
78-59-1	Isophorone	<0.33		0.33
91-57-6	2-Methylnaphthalene	<0.33		0.33
95-48-7	2-Methylphenol	<0.33		0.33
106-44-5	4-Methylphenol	<0.33		0.33
621-64-7	N-Nitrosodi-n-Propylamine	<0.33		0.33
86-30-6	N-Nitroso-di-Phenylamine	<0.33		0.33
91-20-3	Naphthalene	<0.33		0.33
88-74-4	2-Nitroaniline	<0.83		0.83
99-09-2	3-Nitroaniline	<0.83		0.83
100-01-6	4-Nitroaniline	<0.83		0.83
98-95-3	Nitrobenzene	<0.33		0.33
88-75-5	2-Nitrophenol	<0.33		0.33
100-02-7	4-Nitrophenol	<0.33		0.33
87-86-5	Pentachlorophenol	<0.33		0.33
85-01-8	Phenanthrene	<0.33		0.33
108-95-2	Phenol	<0.33		0.33
129-00-0	Pyrene	<0.33		0.33
120-82-1	1,2,4-Trichlorobenzene	<0.33		0.33
95-95-4	2,4,5-Trichlorophenol	<0.33		0.33
88-06-2	2,4,6-Trichlorophenol	<0.33		0.33

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TriMatrix Laboratories Inc.

PCBS IN SOIL
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples
Sample: 10MW-1

Submittal Number 35109- 1
Date Sampled: 07/13/99 Time: 16:55
Date Received: 07/14/99 Time: 09:20
Analysis Date: 07/28/99
Lab Sample No: 227046
Batch No: 145056

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.33		0.33
11104-28-2	PCB-1221	<0.33		0.33
11141-16-5	PCB-1232	<0.33		0.33
53469-21-9	PCB-1242	<0.33		0.33
12672-29-6	PCB-1248	<0.33		0.33
11097-69-1	PCB-1254	<0.33		0.33
11096-82-5	PCB-1260	<0.33		0.33
-----	PCB-1262	<0.33		0.33
-----	PCB-1268	<0.33		0.33

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TriMatrix Laboratories, Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples

Submittal Number: 35109- 1
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		10MW-1	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227047				
E-1047	Percent Solids	80				%

Sampled by: R. Hill
Date Sampled: 07/13/99
Time Sampled: 13:13
Date Received: 07/14/99
Time Received: 09:20

000022

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TriMatrix Laboratories Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples

Submittal Number: 35109- 1
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		Duplicate	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227048				
E-1047	Percent Solids	79				%

Sampled by: R. Hill
Date Sampled: 07/13/99
Time Sampled: 13:22
Date Received: 07/14/99
Time Received: 09:20

000023

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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples
Sample: 10MW-1

Submittal Number 35109- 1
Date Sampled: 07/13/99 Time: 13:13
Date Received: 07/14/99 Time: 09:20
Analysis Date: 07/27/99
Lab Sample No: 227047
Batch No: 145251

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	**0.050**		0.010
71-43-2	Benzene	<0.010		0.010
75-27-4	Dichlorobromomethane	<0.010		0.010
75-25-2	Bromoform	<0.010		0.010
74-83-9	Bromomethane	<0.010		0.010
78-93-3	Methyl Ethyl Ketone	<0.010		0.010
75-15-0	Carbon Disulfide	<0.010		0.010
56-23-5	Carbon Tetrachloride	<0.010		0.010
108-90-7	Chlorobenzene	<0.010		0.010
75-00-3	Chloroethane	<0.010		0.010
67-66-3	Chloroform	<0.010		0.010
74-87-3	Chloromethane	<0.010		0.010
124-48-1	Chlorodibromomethane	<0.010		0.010
95-50-1	1,2-Dichlorobenzene	<0.010		0.010
541-73-1	1,3-Dichlorobenzene	<0.010		0.010
106-46-7	1,4-Dichlorobenzene	<0.010		0.010
75-34-3	1,1-Dichloroethane	<0.010		0.010
107-06-2	1,2-Dichloroethane	<0.010		0.010
156-60-5	trans-1,2-Dichloroethene	<0.010		0.010
156-59-2	cis-1,2-Dichloroethene	<0.010		0.010
75-35-4	1,1-Dichloroethylene	<0.010		0.010
78-87-5	1,2-Dichloropropane	<0.010		0.010
10061-01-5	cis-1,3-Dichloropropene	<0.010		0.010
10061-02-6	trans-1,3-Dichloropropene	<0.010		0.010
100-41-4	Ethylbenzene	<0.010		0.010
591-78-6	2-Hexanone	<0.010		0.010
108-10-1	4-Methyl-2-Pentanone	<0.010		0.010
75-09-2	Methylene Chloride	<0.010		0.010
100-42-5	Styrene	<0.010		0.010
79-34-5	1,1,2,2-Tetrachloroethane	<0.010		0.010
127-18-4	Tetrachloroethene	<0.010		0.010
71-55-6	1,1,1-Trichloroethane	<0.010		0.010
79-00-5	1,1,2-Trichloroethane	<0.010		0.010
79-01-6	Trichloroethene	<0.010		0.010
108-88-3	Toluene	<0.010		0.010

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TriMatrix Laboratories, Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples
Sample: 10MW-1

Submittal Number 35109- 1
Date Sampled: 07/13/99 Time: 13:13
Date Received: 07/14/99 Time: 09:20
Analysis Date: 07/27/99
Lab Sample No: 227047
Batch No: 145251

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<0.010		0.010
1330-20-7	Xylene (Total)	<0.010		0.010

000025

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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples
Sample: Duplicate

Submittal Number 35109- 1
Date Sampled: 07/13/99 Time: 13:22
Date Received: 07/14/99 Time: 09:20
Analysis Date: 07/27/99
Lab Sample No: 227048
Batch No: 145251

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	**0.044**		0.010
71-43-2	Benzene	<0.010		0.010
75-27-4	Dichlorobromomethane	<0.010		0.010
75-25-2	Bromoform	<0.010		0.010
74-83-9	Bromomethane	<0.010		0.010
78-93-3	Methyl Ethyl Ketone	<0.010		0.010
75-15-0	Carbon Disulfide	<0.010		0.010
56-23-5	Carbon Tetrachloride	<0.010		0.010
108-90-7	Chlorobenzene	<0.010		0.010
75-00-3	Chloroethane	<0.010		0.010
67-66-3	Chloroform	<0.010		0.010
74-87-3	Chloromethane	<0.010		0.010
124-48-1	Chlorodibromomethane	<0.010		0.010
95-50-1	1,2-Dichlorobenzene	<0.010		0.010
541-73-1	1,3-Dichlorobenzene	<0.010		0.010
106-46-7	1,4-Dichlorobenzene	<0.010		0.010
75-34-3	1,1-Dichloroethane	<0.010		0.010
107-06-2	1,2-Dichloroethane	<0.010		0.010
156-60-5	trans-1,2-Dichloroethene	<0.010		0.010
156-59-2	cis-1,2-Dichloroethene	<0.010		0.010
75-35-4	1,1-Dichloroethylene	<0.010		0.010
78-87-5	1,2-Dichloropropane	<0.010		0.010
10061-01-5	cis-1,3-Dichloropropene	<0.010		0.010
10061-02-6	trans-1,3-Dichloropropene	<0.010		0.010
100-41-4	Ethylbenzene	<0.010		0.010
591-78-6	2-Hexanone	<0.010		0.010
108-10-1	4-Methyl-2-Pentanone	<0.010		0.010
75-09-2	Methylene Chloride	<0.010		0.010
100-42-5	Styrene	<0.010		0.010
79-34-5	1,1,2,2-Tetrachloroethane	<0.010		0.010
127-18-4	Tetrachloroethene	<0.010		0.010
71-55-6	1,1,1-Trichloroethane	<0.010		0.010
79-00-5	1,1,2-Trichloroethane	<0.010		0.010
79-01-6	Trichloroethene	<0.010		0.010
108-88-3	Toluene	<0.010		0.010

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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 13, 1999 Samples
Sample: Duplicate

Submittal Number 35109- 1
Date Sampled: 07/13/99 Time: 13:22
Date Received: 07/14/99 Time: 09:20
Analysis Date: 07/27/99
Lab Sample No: 227048
Batch No: 145251

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<0.010		0.010
1330-20-7	Xylene (Total)	<0.010		0.010

000027

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35109- 1

STATEMENT OF DATA QUALIFICATIONS

All analyses have been validated and comply with our Quality Control Program. No qualifications required.

Note: This document is included as a part of the analytical report for the above referenced project and submittal, and should be retained as a permanent record thereof.

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TriMatrix Laboratories, Inc.

5560 Corporate Exchange Court SE • Grand Rapids, MI 49512

Chain of Custody Record

COC No № 56327

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Project Manager	Project Name	Project No	Sampler (Print)	Sampler Signature
Mike Balage	St Louis Army Ammunition Plant		H I L L II	Robert Hill II

For Lab Use Only: Rack/Tray No 35109-1; Lab Project #

Date Sampled	Time Sampled	Matrix*	Composite	Grab	Sample Identification	No of Containers	Container Type	Analysis Required/Comments	Sample No.	Filtered Date/Time
7/13/99	4:46pm	Soil		✓	2MW-1	5		5 gram EnCore Samplers -VOC/MSD	TG-1	227040
7/13/99	4:40pm	Soil		✓	2MW-1	5		5 gram Encore Samplers -VOC		
7/13/99	4:44pm	Soil		✓	2MW-1 (#1-#2)	2		4oz glass Jar SVOCS/ MSD	TG-2	227041
7/13/99	4:42pm	Soil		✓	2MW-1 (#3-#4)	2		4oz glass Jar SVOCS	TG-2	227042
7/13/99	4:35pm	WATER		✓	TRIP BLANK	1		Trip Voc	TG-4	227043
[illegible]/99	4:35pm	WATER		✓	EQB713-1	1		SVOC's Amber glass	TG-5	227044
7/13/99	1:46pm	WATER		✓	EQB713-[illegible]	1		PCB's Amber glass		
7/13/99	[illegible]:59pm	WATER		✓	EQB713-3	1		Metals Plastic		
7/[illegible]	[illegible]:40pm	WATER		✓	EQB713-4	2		glass 30mL VOC's	TG-4	227045

Relinquished By	Date/Time	Received By	Received to Lab By	Date/Time	Logged in By	Date/Time
Robert Hill II	7/13 7:29pm		Deb Sidhu	7-14-99	Deb Sidhu	7-19-99 3:00

Water (W), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)

9:20am

TriMatrix Laboratories, Inc.

5560 Corporate Exchange Court SE • Grand Rapids, MI 49512

Chain of Custody Record

COC No. № 56324

000032

Project Manager: Mike Balage

Project Name: St. Louis Army Ammunition Plant

Project No:

Sampler (Print): Hi 1 1 II

Sampler Signature: Robert Hill II

Date Sampled	Time Sampled	Matrix*	Composite	Grab	Sample Identification	No. of Containers	Container Type	Analysis Required/Comments	Sample No.	Filtered Date/Time
7/13/99	5:17pm	Soil		✓	2MW-1 (#1)	1		% Moisture		
7/13/99	5:16pm	Soil		✓	2MW-1 (#2)	1		% Moisture/MSD	Added to previous VOC (2MW-1)	
7/13/99	4:53pm	Soil	✓		10MW-1	1		SVOC	TG-227045	
7/13/99	4:55pm	Soil	✓		10MW-1	1		PCB		
7/13/99	4:57pm	Soil	✓		10-MW-1	1		(Pb) ~~Dissolved~~ Total (W) NOT ANALYZED PER EDWARDS 7/14 [redacted]		
7/13/99	1:12pm	Soil		✓	10MW-1	2		25 gram Encore Samplers - VOC	TG-227047	
7/13/99	1:13pm	Soil		✓	10MW-1	1		5 gram Encore Sampler - VOC		
7/13/99	1:22pm	Soil		✓	DUPLICATE	5		5 gram Encore Sampler - VOC	TG-227048	
7/13/99	1:10pm	Soil		✓	10MW-1	1		% Moisture split	for 10MW-1 227045	
								% Moisture	for Duplicate	

For Lab Use Only: Rack/Tray No: Lab Project #:

Relinquished By	Date/Time	Received By	Received to Lab By	Date/Time	Logged in By	Date/Time
Robert Hill II	7/13 7:30pm		Rob Schneck	7-14-99	Rob Schneck	7-19-99

PODEX 9/2 A/H

* Matrix: Water (WTR), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)

TriMatrix
Laboratories Inc

August 17, 1999

Tetra Tech EM, Inc.
Attn: Michael Barlage
200 E. Randolph
Suite 4700
Chicago, IL 60601

RE: St. Louis Army Ammunition
G0011-0054KFW02

Dear Mr. Michael Barlage:

Enclosed is a copy of your laboratory summary report for submittal **35109-2.** This submittal was completely received on July 21, 1999. All analyses have been validated and comply with our Quality Control program statistics unless otherwise noted.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Gerald L. Holycross
Project Chemist

Enclosure

000001

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TriMatrix Laboratories, Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB9,7

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 11:35
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/28/99
Lab Sample No: 227167
Batch No: 145683

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	* **0.057**		0.010
71-43-2	Benzene	<0.010		0.010
75-27-4	Dichlorobromomethane	<0.010		0.010
75-25-2	Bromoform	<0.010		0.010
74-83-9	Bromomethane	<0.010		0.010
78-93-3	Methyl Ethyl Ketone	<0.010		0.010
75-15-0	Carbon Disulfide	<0.010		0.010
56-23-5	Carbon Tetrachloride	<0.010		0.010
108-90-7	Chlorobenzene	<0.010		0.010
75-00-3	Chloroethane	<0.010		0.010
67-66-3	Chloroform	<0.010		0.010
74-87-3	Chloromethane	<0.010		0.010
124-48-1	Chlorodibromomethane	<0.010		0.010
95-50-1	1,2-Dichlorobenzene	<0.010		0.010
541-73-1	1,3-Dichlorobenzene	<0.010		0.010
106-46-7	1,4-Dichlorobenzene	<0.010		0.010
75-34-3	1,1-Dichloroethane	<0.010		0.010
107-06-2	1,2-Dichloroethane	<0.010		0.010
156-60-5	trans-1,2-Dichloroethene	<0.010		0.010
156-59-2	cis-1,2-Dichloroethene	<0.010		0.010
75-35-4	1,1-Dichloroethylene	<0.010		0.010
78-87-5	1,2-Dichloropropane	<0.010		0.010
10061-01-5	cis-1,3-Dichloropropene	<0.010		0.010
10061-02-6	trans-1,3-Dichloropropene	<0.010		0.010
100-41-4	Ethylbenzene	<0.010		0.010
591-78-6	2-Hexanone	<0.010		0.010
108-10-1	4-Methyl-2-Pentanone	<0.010		0.010
75-09-2	Methylene Chloride	<0.010		0.010
100-42-5	Styrene	<0.010		0.010
79-34-5	1,1,2,2-Tetrachloroethane	<0.010		0.010
127-18-4	Tetrachloroethene	<0.010		0.010
71-55-6	1,1,1-Trichloroethane	<0.010		0.010
79-00-5	1,1,2-Trichloroethane	<0.010		0.010
79-01-6	Trichloroethene	<0.010		0.010
108-88-3	Toluene	<0.010		0.010

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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB9,7

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 11:35
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/28/99
Lab Sample No: 227167
Batch No: 145683

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<0.010		0.010
1330-20-7	Xylene (Total)	<0.010		0.010

* See attached Statement of Data Qualifications.

000003

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TriMatrix Laboratories Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples

Submittal Number: 35109- 2
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		8SB9,7	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227167				
E-1047	Percent Solids	81				%

Sampled by: R. Hill
Date Sampled: 07/19/99
Time Sampled: 11:35
Date Received: 07/20/99
Time Received: 11:00

000004

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB9,6-8

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 11:35
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/31/99
Lab Sample No: 227168
Batch No: 145129

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<0.33		0.33
208-96-8	Acenaphthylene	<0.33		0.33
120-12-7	Anthracene	<0.33		0.33
56-55-3	Benzo (a) Anthracene	<0.33		0.33
50-32-8	Benzo (a) Pyrene	<0.33		0.33
205-99-2	Benzo (b) Fluoranthene	<0.33		0.33
207-08-9	Benzo (k) Fluoranthene	<0.33		0.33
191-24-2	Benzo (g,h,i,) Perylene	<0.33		0.33
111-91-1	Bis (2-Chloroethoxy)-Methane	<0.33		0.33
111-44-4	Bis (2-Chloroethyl) Ether	<0.33		0.33
108-60-1	Bis (2-Chloroisopropyl)-Ether	<0.33		0.33
117-81-7	Bis (2-ethylhexyl)-Phthalate	<0.33		0.33
101-55-3	4-Bromophenyl Phenylether	<0.33		0.33
85-68-7	Butyl Benzyl Phthalate	<0.33		0.33
86-74-8	Carbazole	<0.33		0.33
59-50-7	4-Chloro-3-Methylphenol	<0.33		0.33
106-47-8	4-Chloroaniline	<0.33		0.33
91-58-7	2-Chloronaphthalene	<0.33		0.33
95-57-8	2-Chlorophenol	<0.33		0.33
7005-72-3	4-Chlorophenylphenyl-Ether	<0.33		0.33
218-01-9	Chrysene	<0.33		0.33
84-74-2	Di-n-Butylphthalate	<0.33		0.33
117-84-0	Di-n-Octylphthalate	<0.33		0.33
53-70-3	Dibenzo (a,h) Anthracene	<0.33		0.33
132-64-9	Dibenzofuran	<0.33		0.33
95-50-1	1,2-Dichlorobenzene	<0.33		0.33
541-73-1	1,3-Dichlorobenzene	<0.33		0.33
106-46-7	1,4-Dichlorobenzene	<0.33		0.33
91-94-1	3,3'-Dichlorobenzidine	<0.33		0.33
120-83-2	2,4-Dichlorophenol	<0.33		0.33
84-66-2	Diethylphthalate	<0.33		0.33

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TriMatrix Laboratories, Inc.

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB9,6-8

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 11:35
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/31/99
Lab Sample No: 227168
Batch No: 145129

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
131-11-3	Dimethylphthalate	<0.33		0.33
105-67-9	2,4-Dimethylphenol	<0.33		0.33
534-52-1	4,6-Dinitro-2-Methylphenol	<0.83		0.83
51-28-5	2,4-Dinitrophenol	<0.83		0.83
121-14-2	2,4-Dinitrotoluene	<0.33		0.33
606-20-2	2,6-Dinitrotoluene	<0.33		0.33
206-44-0	Fluoranthene	<0.33		0.33
86-73-7	Fluorene	<0.33		0.33
118-74-1	Hexachlorobenzene	<0.33		0.33
87-68-3	Hexachlorobutadiene	<0.33		0.33
77-47-4	Hexachlorocyclopentadiene	<0.33		0.33
67-72-1	Hexachloroethane	<0.33		0.33
193-39-5	Indeno (1,2,3-cd) Pyrene	<0.33		0.33
78-59-1	Isophorone	<0.33		0.33
91-57-6	2-Methylnaphthalene	<0.33		0.33
95-48-7	2-Methylphenol	<0.33		0.33
106-44-5	4-Methylphenol	<0.33		0.33
621-64-7	N-Nitrosodi-n-Propylamine	<0.33		0.33
86-30-6	N-Nitroso-di-Phenylamine	<0.33		0.33
91-20-3	Naphthalene	<0.33		0.33
88-74-4	2-Nitroaniline	<0.83		0.83
99-09-2	3-Nitroaniline	<0.83		0.83
100-01-6	4-Nitroaniline	<0.83		0.83
98-95-3	Nitrobenzene	<0.33		0.33
88-75-5	2-Nitrophenol	<0.33		0.33
100-02-7	4-Nitrophenol	<0.33		0.33
87-86-5	Pentachlorophenol	<0.33		0.33
85-01-8	Phenanthrene	<0.33		0.33
108-95-2	Phenol	<0.33		0.33
129-00-0	Pyrene	<0.33		0.33
120-82-1	1,2,4-Trichlorobenzene	<0.33		0.33
95-95-4	2,4,5-Trichlorophenol	<0.33		0.33
88-06-2	2,4,6-Trichlorophenol	<0.33		0.33

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TriMatrix Laboratories Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples

Submittal Number: 35109- 2
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		8SB9,6-8	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227168				
E-1047	Percent Solids	81				%

Sampled by: R. Hill
Date Sampled: 07/19/99
Time Sampled: 11:35
Date Received: 07/20/99
Time Received: 11:00

000007

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TriMatrix Laboratories, Inc

PCBS IN SOIL
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB9,6-8

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 11:35
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/30/99
Lab Sample No: 227168
Batch No: 145088

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.33		0.33
11104-28-2	PCB-1221	<0.33		0.33
11141-16-5	PCB-1232	<0.33		0.33
53469-21-9	PCB-1242	<0.33		0.33
12672-29-6	PCB-1248	<0.33		0.33
11097-69-1	PCB-1254	<0.33		0.33
11096-82-5	PCB-1260	<0.33		0.33
-----	PCB-1262	<0.33		0.33
-----	PCB-1268	<0.33		0.33

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TriMatrix Laboratories, Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB10,7

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 12:10
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/28/99
Lab Sample No: 227169
Batch No: 145683

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	* **0.046**		0.010
71-43-2	Benzene	<0.010		0.010
75-27-4	Dichlorobromomethane	<0.010		0.010
75-25-2	Bromoform	<0.010		0.010
74-83-9	Bromomethane	<0.010		0.010
78-93-3	Methyl Ethyl Ketone	<0.010		0.010
75-15-0	Carbon Disulfide	<0.010		0.010
56-23-5	Carbon Tetrachloride	<0.010		0.010
108-90-7	Chlorobenzene	<0.010		0.010
75-00-3	Chloroethane	<0.010		0.010
67-66-3	Chloroform	<0.010		0.010
74-87-3	Chloromethane	<0.010		0.010
124-48-1	Chlorodibromomethane	<0.010		0.010
95-50-1	1,2-Dichlorobenzene	<0.010		0.010
541-73-1	1,3-Dichlorobenzene	<0.010		0.010
106-46-7	1,4-Dichlorobenzene	<0.010		0.010
75-34-3	1,1-Dichloroethane	<0.010		0.010
107-06-2	1,2-Dichloroethane	<0.010		0.010
156-60-5	trans-1,2-Dichloroethene	<0.010		0.010
156-59-2	cis-1,2-Dichloroethene	<0.010		0.010
75-35-4	1,1-Dichloroethylene	<0.010		0.010
78-87-5	1,2-Dichloropropane	<0.010		0.010
10061-01-5	cis-1,3-Dichloropropene	<0.010		0.010
10061-02-6	trans-1,3-Dichloropropene	<0.010		0.010
100-41-4	Ethylbenzene	<0.010		0.010
591-78-6	2-Hexanone	<0.010		0.010
108-10-1	4-Methyl-2-Pentanone	<0.010		0.010
75-09-2	Methylene Chloride	<0.010		0.010
100-42-5	Styrene	<0.010		0.010
79-34-5	1,1,2,2-Tetrachloroethane	<0.010		0.010
127-18-4	Tetrachloroethene	<0.010		0.010
71-55-6	1,1,1-Trichloroethane	<0.010		0.010
79-00-5	1,1,2-Trichloroethane	<0.010		0.010
79-01-6	Trichloroethene	<0.010		0.010
108-88-3	Toluene	<0.010		0.010

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TriMatrix Laboratories, Inc.

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB10,7

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 12:10
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/28/99
Lab Sample No: 227169
Batch No: 145683

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<0.010		0.010
1330-20-7	Xylene (Total)	<0.010		0.010

* See attached Statement of Data Qualifications.

000010

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TriMatrix
Laboratories Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples

Submittal Number: 35109- 2
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		8SB10,7	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227169				
E-1047	Percent Solids	79				%

Sampled by: R. Hill
Date Sampled: 07/19/99
Time Sampled: 12:10
Date Received: 07/20/99
Time Received: 11:00

000011

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB10,6-8

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 12:10
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/31/99
Lab Sample No: 227170
Batch No: 145129

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<0.33		0.33
208-96-8	Acenaphthylene	<0.33		0.33
120-12-7	Anthracene	<0.33		0.33
56-55-3	Benzo (a) Anthracene	<0.33		0.33
50-32-8	Benzo (a) Pyrene	<0.33		0.33
205-99-2	Benzo (b) Fluoranthene	<0.33		0.33
207-08-9	Benzo (k) Fluoranthene	<0.33		0.33
191-24-2	Benzo (g,h,i,) Perylene	<0.33		0.33
111-91-1	Bis (2-Chloroethoxy)-Methane	<0.33		0.33
111-44-4	Bis (2-Chloroethyl) Ether	<0.33		0.33
108-60-1	Bis (2-Chloroisopropyl)-Ether	<0.33		0.33
117-81-7	Bis (2-ethylhexyl)-Phthalate	<0.33		0.33
101-55-3	4-Bromophenyl Phenylether	<0.33		0.33
85-68-7	Butyl Benzyl Phthalate	<0.33		0.33
86-74-8	Carbazole	<0.33		0.33
59-50-7	4-Chloro-3-Methylphenol	<0.33		0.33
106-47-8	4-Chloroaniline	<0.33		0.33
91-58-7	2-Chloronaphthalene	<0.33		0.33
95-57-8	2-Chlorophenol	<0.33		0.33
7005-72-3	4-Chlorophenylphenyl-Ether	<0.33		0.33
218-01-9	Chrysene	<0.33		0.33
84-74-2	Di-n-Butylphthalate	<0.33		0.33
117-84-0	Di-n-Octylphthalate	<0.33		0.33
53-70-3	Dibenzo (a,h) Anthracene	<0.33		0.33
132-64-9	Dibenzofuran	<0.33		0.33
95-50-1	1,2-Dichlorobenzene	<0.33		0.33
541-73-1	1,3-Dichlorobenzene	<0.33		0.33
106-46-7	1,4-Dichlorobenzene	<0.33		0.33
91-94-1	3,3'-Dichlorobenzidine	<0.33		0.33
120-83-2	2,4-Dichlorophenol	<0.33		0.33
84-66-2	Diethylphthalate	<0.33		0.33

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB10,6-8

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 12:10
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/31/99
Lab Sample No: 227170
Batch No: 145129

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
131-11-3	Dimethylphthalate	<0.33		0.33
105-67-9	2,4-Dimethylphenol	<0.33		0.33
534-52-1	4,6-Dinitro-2-Methylphenol	<0.83		0.83
51-28-5	2,4-Dinitrophenol	<0.83		0.83
121-14-2	2,4-Dinitrotoluene	<0.33		0.33
606-20-2	2,6-Dinitrotoluene	<0.33		0.33
206-44-0	Fluoranthene	<0.33		0.33
86-73-7	Fluorene	<0.33		0.33
118-74-1	Hexachlorobenzene	<0.33		0.33
87-68-3	Hexachlorobutadiene	<0.33		0.33
77-47-4	Hexachlorocyclopentadiene	<0.33		0.33
67-72-1	Hexachloroethane	<0.33		0.33
193-39-5	Indeno (1,2,3-cd) Pyrene	<0.33		0.33
78-59-1	Isophorone	<0.33		0.33
91-57-6	2-Methylnaphthalene	<0.33		0.33
95-48-7	2-Methylphenol	<0.33		0.33
106-44-5	4-Methylphenol	<0.33		0.33
621-64-7	N-Nitrosodi-n-Propylamine	<0.33		0.33
86-30-6	N-Nitroso-di-Phenylamine	<0.33		0.33
91-20-3	Naphthalene	<0.33		0.33
88-74-4	2-Nitroaniline	<0.83		0.83
99-09-2	3-Nitroaniline	<0.83		0.83
100-01-6	4-Nitroaniline	<0.83		0.83
98-95-3	Nitrobenzene	<0.33		0.33
88-75-5	2-Nitrophenol	<0.33		0.33
100-02-7	4-Nitrophenol	<0.33		0.33
87-86-5	Pentachlorophenol	<0.33		0.33
85-01-8	Phenanthrene	<0.33		0.33
108-95-2	Phenol	<0.33		0.33
129-00-0	Pyrene	<0.33		0.33
120-82-1	1,2,4-Trichlorobenzene	<0.33		0.33
95-95-4	2,4,5-Trichlorophenol	<0.33		0.33
88-06-2	2,4,6-Trichlorophenol	<0.33		0.33

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TriMatrix Laboratories Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples

Submittal Number: 35109- 2
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		8SB10,6-8	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227170				
E-1047	Percent Solids	79				%

Sampled by: R. Hill
Date Sampled: 07/19/99
Time Sampled: 12:10
Date Received: 07/20/99
Time Received: 11:00

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TriMatrix Laboratories, Inc.

PCBS IN SOIL
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB10,6-8

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 12:10
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/30/99
Lab Sample No: 227170
Batch No: 145088

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.33		0.33
11104-28-2	PCB-1221	<0.33		0.33
11141-16-5	PCB-1232	<0.33		0.33
53469-21-9	PCB-1242	<0.33		0.33
12672-29-6	PCB-1248	<0.33		0.33
11097-69-1	PCB-1254	<0.33		0.33
11096-82-5	PCB-1260	<0.33		0.33
-----	PCB-1262	<0.33		0.33
-----	PCB-1268	<0.33		0.33

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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB1,7

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 12:40
Date Received: 07/20/99 Time: 11:00
Analysis Date: 08/04/99
Lab Sample No: 227171
Batch No: 145326

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	**0.40**		0.060
71-43-2	Benzene	<0.060		0.060
75-27-4	Dichlorobromomethane	<0.060		0.060
75-25-2	Bromoform	<0.060		0.060
74-83-9	Bromomethane	<0.060		0.060
78-93-3	Methyl Ethyl Ketone	**0.52**		0.060
75-15-0	Carbon Disulfide	<0.060		0.060
56-23-5	Carbon Tetrachloride	<0.060		0.060
108-90-7	Chlorobenzene	<0.060		0.060
75-00-3	Chloroethane	<0.060		0.060
67-66-3	Chloroform	<0.060		0.060
74-87-3	Chloromethane	<0.060		0.060
124-48-1	Chlorodibromomethane	<0.060		0.060
95-50-1	1,2-Dichlorobenzene	<0.060		0.060
541-73-1	1,3-Dichlorobenzene	<0.060		0.060
106-46-7	1,4-Dichlorobenzene	<0.060		0.060
75-34-3	1,1-Dichloroethane	<0.060		0.060
107-06-2	1,2-Dichloroethane	<0.060		0.060
156-60-5	trans-1,2-Dichloroethene	<0.060		0.060
156-59-2	cis-1,2-Dichloroethene	<0.060		0.060
75-35-4	1,1-Dichloroethylene	<0.060		0.060
78-87-5	1,2-Dichloropropane	<0.060		0.060
10061-01-5	cis-1,3-Dichloropropene	<0.060		0.060
10061-02-6	trans-1,3-Dichloropropene	<0.060		0.060
100-41-4	Ethylbenzene	<0.060		0.060
591-78-6	2-Hexanone	**0.53**		0.060
108-10-1	4-Methyl-2-Pentanone	**0.13**		0.060
75-09-2	Methylene Chloride	<0.060		0.060
100-42-5	Styrene	<0.060		0.060
79-34-5	1,1,2,2-Tetrachloroethane	<0.060		0.060
127-18-4	Tetrachloroethene	<0.060		0.060
71-55-6	1,1,1-Trichloroethane	<0.060		0.060
79-00-5	1,1,2-Trichloroethane	<0.060		0.060
79-01-6	Trichloroethene	<0.060		0.060
108-88-3	Toluene	<0.060		0.060

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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB1,7

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 12:40
Date Received: 07/20/99 Time: 11:00
Analysis Date: 08/04/99
Lab Sample No: 227171
Batch No: 145326

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<0.060		0.060
1330-20-7	Xylene (Total)	<0.060		0.060

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TriMatrix Laboratories Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples

Submittal Number: 35109- 2
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		8SB1,7	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227171				
E-1047	Percent Solids	83				%

Sampled by: R. Hill
Date Sampled: 07/19/99
Time Sampled: 12:40
Date Received: 07/20/99
Time Received: 11:00

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB1,6-8

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 12:40
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/31/99
Lab Sample No: 227172
Batch No: 145129

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<0.33		0.33
208-96-8	Acenaphthylene	<0.33		0.33
120-12-7	Anthracene	<0.33		0.33
56-55-3	Benzo (a) Anthracene	<0.33		0.33
50-32-8	Benzo (a) Pyrene	<0.33		0.33
205-99-2	Benzo (b) Fluoranthene	<0.33		0.33
207-08-9	Benzo (k) Fluoranthene	<0.33		0.33
191-24-2	Benzo (g,h,i,) Perylene	<0.33		0.33
111-91-1	Bis (2-Chloroethoxy)-Methane	<0.33		0.33
111-44-4	Bis (2-Chloroethyl) Ether	<0.33		0.33
108-60-1	Bis (2-Chloroisopropyl)-Ether	<0.33		0.33
117-81-7	Bis (2-ethylhexyl)-Phthalate	<0.33		0.33
101-55-3	4-Bromophenyl Phenylether	<0.33		0.33
85-68-7	Butyl Benzyl Phthalate	<0.33		0.33
86-74-8	Carbazole	<0.33		0.33
59-50-7	4-Chloro-3-Methylphenol	<0.33		0.33
106-47-8	4-Chloroaniline	<0.33		0.33
91-58-7	2-Chloronaphthalene	<0.33		0.33
95-57-8	2-Chlorophenol	<0.33		0.33
7005-72-3	4-Chlorophenylphenyl-Ether	<0.33		0.33
218-01-9	Chrysene	<0.33		0.33
84-74-2	Di-n-Butylphthalate	<0.33		0.33
117-84-0	Di-n-Octylphthalate	<0.33		0.33
53-70-3	Dibenzo (a,h) Anthracene	<0.33		0.33
132-64-9	Dibenzofuran	<0.33		0.33
95-50-1	1,2-Dichlorobenzene	<0.33		0.33
541-73-1	1,3-Dichlorobenzene	<0.33		0.33
106-46-7	1,4-Dichlorobenzene	<0.33		0.33
91-94-1	3,3'-Dichlorobenzidine	<0.33		0.33
120-83-2	2,4-Dichlorophenol	<0.33		0.33
84-66-2	Diethylphthalate	<0.33		0.33

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TriMatrix Laboratories, Inc.

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB1,6-8

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 12:40
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/31/99
Lab Sample No: 227172
Batch No: 145129

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
131-11-3	Dimethylphthalate	<0.33		0.33
105-67-9	2,4-Dimethylphenol	<0.33		0.33
534-52-1	4,6-Dinitro-2-Methylphenol	<0.83		0.83
51-28-5	2,4-Dinitrophenol	<0.83		0.83
121-14-2	2,4-Dinitrotoluene	<0.33		0.33
606-20-2	2,6-Dinitrotoluene	<0.33		0.33
206-44-0	Fluoranthene	<0.33		0.33
86-73-7	Fluorene	<0.33		0.33
118-74-1	Hexachlorobenzene	<0.33		0.33
87-68-3	Hexachlorobutadiene	<0.33		0.33
77-47-4	Hexachlorocyclopentadiene	<0.33		0.33
67-72-1	Hexachloroethane	<0.33		0.33
193-39-5	Indeno (1,2,3-cd) Pyrene	<0.33		0.33
78-59-1	Isophorone	<0.33		0.33
91-57-6	2-Methylnaphthalene	<0.33		0.33
95-48-7	2-Methylphenol	<0.33		0.33
106-44-5	4-Methylphenol	<0.33		0.33
621-64-7	N-Nitrosodi-n-Propylamine	<0.33		0.33
86-30-6	N-Nitroso-di-Phenylamine	<0.33		0.33
91-20-3	Naphthalene	<0.33		0.33
88-74-4	2-Nitroaniline	<0.83		0.83
99-09-2	3-Nitroaniline	<0.83		0.83
100-01-6	4-Nitroaniline	<0.83		0.83
98-95-3	Nitrobenzene	<0.33		0.33
88-75-5	2-Nitrophenol	<0.33		0.33
100-02-7	4-Nitrophenol	<0.33		0.33
87-86-5	Pentachlorophenol	<0.33		0.33
85-01-8	Phenanthrene	<0.33		0.33
108-95-2	Phenol	<0.33		0.33
129-00-0	Pyrene	<0.33		0.33
120-82-1	1,2,4-Trichlorobenzene	<0.33		0.33
95-95-4	2,4,5-Trichlorophenol	<0.33		0.33
88-06-2	2,4,6-Trichlorophenol	<0.33		0.33

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TriMatrix Laboratories Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples

Submittal Number: 35109- 2
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		8SB1,6-8	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227172				
E-1047	Percent Solids	83				%

Sampled by: R. Hill
Date Sampled: 07/19/99
Time Sampled: 12:40
Date Received: 07/20/99
Time Received: 11:00

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TriMatrix Laboratories, Inc.

PCBS IN SOIL
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB1,6-8

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 12:40
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/30/99
Lab Sample No: 227172
Batch No: 145088

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.33		0.33
11104-28-2	PCB-1221	<0.33		0.33
11141-16-5	PCB-1232	<0.33		0.33
53469-21-9	PCB-1242	<0.33		0.33
12672-29-6	PCB-1248	<0.33		0.33
11097-69-1	PCB-1254	<0.33		0.33
11096-82-5	PCB-1260	<0.33		0.33
-----	PCB-1262	<0.33		0.33
-----	PCB-1268	<0.33		0.33

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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB2,5

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 13:05
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/28/99
Lab Sample No: 227173
Batch No: 145683

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	* **0.94**		0.010
71-43-2	Benzene	<0.010		0.010
75-27-4	Dichlorobromomethane	<0.010		0.010
75-25-2	Bromoform	<0.010		0.010
74-83-9	Bromomethane	<0.010		0.010
78-93-3	Methyl Ethyl Ketone	<0.010		0.010
75-15-0	Carbon Disulfide	<0.010		0.010
56-23-5	Carbon Tetrachloride	<0.010		0.010
108-90-7	Chlorobenzene	<0.010		0.010
75-00-3	Chloroethane	<0.010		0.010
67-66-3	Chloroform	<0.010		0.010
74-87-3	Chloromethane	<0.010		0.010
124-48-1	Chlorodibromomethane	<0.010		0.010
95-50-1	1,2-Dichlorobenzene	<0.010		0.010
541-73-1	1,3-Dichlorobenzene	<0.010		0.010
106-46-7	1,4-Dichlorobenzene	<0.010		0.010
75-34-3	1,1-Dichloroethane	<0.010		0.010
107-06-2	1,2-Dichloroethane	<0.010		0.010
156-60-5	trans-1,2-Dichloroethene	<0.010		0.010
156-59-2	cis-1,2-Dichloroethene	<0.010		0.010
75-35-4	1,1-Dichloroethylene	<0.010		0.010
78-87-5	1,2-Dichloropropane	<0.010		0.010
10061-01-5	cis-1,3-Dichloropropene	<0.010		0.010
10061-02-6	trans-1,3-Dichloropropene	<0.010		0.010
100-41-4	Ethylbenzene	<0.010		0.010
591-78-6	2-Hexanone	<0.010		0.010
108-10-1	4-Methyl-2-Pentanone	<0.010		0.010
75-09-2	Methylene Chloride	<0.010		0.010
100-42-5	Styrene	<0.010		0.010
79-34-5	1,1,2,2-Tetrachloroethane	<0.010		0.010
127-18-4	Tetrachloroethene	<0.010		0.010
71-55-6	1,1,1-Trichloroethane	<0.010		0.010
79-00-5	1,1,2-Trichloroethane	<0.010		0.010
79-01-6	Trichloroethene	<0.010		0.010
108-88-3	Toluene	<0.010		0.010

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TriMatrix Laboratories, Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB2,5

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 13:05
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/28/99
Lab Sample No: 227173
Batch No: 145683

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<0.010		0.010
1330-20-7	Xylene (Total)	<0.010		0.010

* See attached Statement of Data Qualifications.

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TriMatrix Laboratories Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples

Submittal Number: 35109- 2
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		8SB2,5	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227173				
E-1047	Percent Solids	85				%

Sampled by: R. Hill
Date Sampled: 07/19/99
Time Sampled: 13:05
Date Received: 07/20/99
Time Received: 11:00

000025

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB2, 4-6

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 13:05
Date Received: 07/20/99 Time: 11:00
Analysis Date: 08/03/99
Lab Sample No: 227174
Batch No: 145210

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<0.33		0.33
208-96-8	Acenaphthylene	<0.33		0.33
120-12-7	Anthracene	<0.33		0.33
56-55-3	Benzo (a) Anthracene	**0.50**		0.33
50-32-8	Benzo (a) Pyrene	<0.33		0.33
205-99-2	Benzo (b) Fluoranthene	<0.33		0.33
207-08-9	Benzo (k) Fluoranthene	<0.33		0.33
191-24-2	Benzo (g,h,i,) Perylene	<0.33		0.33
111-91-1	Bis (2-Chloroethoxy)-Methane	<0.33		0.33
111-44-4	Bis (2-Chloroethyl) Ether	<0.33		0.33
108-60-1	Bis (2-Chloroisopropyl)-Ether	<0.33		0.33
117-81-7	Bis (2-ethylhexyl)-Phthalate	<0.33		0.33
101-55-3	4-Bromophenyl Phenylether	<0.33		0.33
85-68-7	Butyl Benzyl Phthalate	<0.33		0.33
86-74-8	Carbazole	<0.33		0.33
59-50-7	4-Chloro-3-Methylphenol	<0.33		0.33
106-47-8	4-Chloroaniline	<0.33		0.33
91-58-7	2-Chloronaphthalene	<0.33		0.33
95-57-8	2-Chlorophenol	<0.33		0.33
7005-72-3	4-Chlorophenylphenyl-Ether	<0.33		0.33
218-01-9	Chrysene	**0.62**		0.33
84-74-2	Di-n-Butylphthalate	<0.33		0.33
117-84-0	Di-n-Octylphthalate	<0.33		0.33
53-70-3	Dibenzo (a,h) Anthracene	<0.33		0.33
132-64-9	Dibenzofuran	<0.33		0.33
95-50-1	1,2-Dichlorobenzene	<0.33		0.33
541-73-1	1,3-Dichlorobenzene	<0.33		0.33
106-46-7	1,4-Dichlorobenzene	<0.33		0.33
91-94-1	3,3'-Dichlorobenzidine	<0.33		0.33
120-83-2	2,4-Dichlorophenol	<0.33		0.33
84-66-2	Diethylphthalate	<0.33		0.33

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB2, 4-6

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 13:05
Date Received: 07/20/99 Time: 11:00
Analysis Date: 08/03/99
Lab Sample No: 227174
Batch No: 145210

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
131-11-3	Dimethylphthalate	<0.33		0.33
105-67-9	2,4-Dimethylphenol	<0.33		0.33
534-52-1	4,6-Dinitro-2-Methylphenol	<0.83		0.83
51-28-5	2,4-Dinitrophenol	<0.83		0.83
121-14-2	2,4-Dinitrotoluene	<0.33		0.33
606-20-2	2,6-Dinitrotoluene	<0.33		0.33
206-44-0	Fluoranthene	**0.42**		0.33
86-73-7	Fluorene	<0.33		0.33
118-74-1	Hexachlorobenzene	<0.33		0.33
87-68-3	Hexachlorobutadiene	<0.33		0.33
77-47-4	Hexachlorocyclopentadiene	<0.33		0.33
67-72-1	Hexachloroethane	<0.33		0.33
193-39-5	Indeno (1,2,3-cd) Pyrene	<0.33		0.33
78-59-1	Isophorone	<0.33		0.33
91-57-6	2-Methylnaphthalene	**1.0**		0.33
95-48-7	2-Methylphenol	<0.33		0.33
106-44-5	4-Methylphenol	<0.33		0.33
621-64-7	N-Nitrosodi-n-Propylamine	<0.33		0.33
86-30-6	N-Nitroso-di-Phenylamine	<0.33		0.33
91-20-3	Naphthalene	<0.33		0.33
88-74-4	2-Nitroaniline	<0.83		0.83
99-09-2	3-Nitroaniline	<0.83		0.83
100-01-6	4-Nitroaniline	<0.83		0.83
98-95-3	Nitrobenzene	<0.33		0.33
88-75-5	2-Nitrophenol	<0.33		0.33
100-02-7	4-Nitrophenol	<0.33		0.33
87-86-5	Pentachlorophenol	<0.33		0.33
85-01-8	Phenanthrene	**1.6**		0.33
108-95-2	Phenol	<0.33		0.33
129-00-0	Pyrene	**1.8**		0.33
120-82-1	1,2,4-Trichlorobenzene	<0.33		0.33
95-95-4	2,4,5-Trichlorophenol	<0.33		0.33
88-06-2	2,4,6-Trichlorophenol	<0.33		0.33

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TriMatrix Laboratories, Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples

Submittal Number: 35109- 2
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		8SB2, 4-6	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227174				
E-1047	Percent Solids	85				%

Sampled by: R. Hill
Date Sampled: 07/19/99
Time Sampled: 13:05
Date Received: 07/20/99
Time Received: 11:00

000028

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TriMatrix Laboratories, Inc

PCBS IN SOIL
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB2, 4-6

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 13:05
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/30/99
Lab Sample No: 227174
Batch No: 145088

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.33		0.33
11104-28-2	PCB-1221	<0.33		0.33
11141-16-5	PCB-1232	<0.33		0.33
53469-21-9	PCB-1242	<0.33		0.33
12672-29-6	PCB-1248	<0.33		0.33
11097-69-1	PCB-1254	<0.33		0.33
11096-82-5	PCB-1260	<0.33		0.33
-----	PCB-1262	<0.33		0.33
-----	PCB-1268	<0.33		0.33

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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB4,7

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 14:00
Date Received: 07/20/99 Time: 11:00
Analysis Date: 08/04/99
Lab Sample No: 227175
Batch No: 145326

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	**0.32**		0.063
71-43-2	Benzene	**0.11**		0.063
75-27-4	Dichlorobromomethane	<0.063		0.063
75-25-2	Bromoform	<0.063		0.063
74-83-9	Bromomethane	<0.063		0.063
78-93-3	Methyl Ethyl Ketone	**0.46**		0.063
75-15-0	Carbon Disulfide	<0.063		0.063
56-23-5	Carbon Tetrachloride	<0.063		0.063
108-90-7	Chlorobenzene	<0.063		0.063
75-00-3	Chloroethane	<0.063		0.063
67-66-3	Chloroform	<0.063		0.063
74-87-3	Chloromethane	<0.063		0.063
124-48-1	Chlorodibromomethane	<0.063		0.063
95-50-1	1,2-Dichlorobenzene	<0.063		0.063
541-73-1	1,3-Dichlorobenzene	<0.063		0.063
106-46-7	1,4-Dichlorobenzene	<0.063		0.063
75-34-3	1,1-Dichloroethane	<0.063		0.063
107-06-2	1,2-Dichloroethane	<0.063		0.063
156-60-5	trans-1,2-Dichloroethene	<0.063		0.063
156-59-2	cis-1,2-Dichloroethene	<0.063		0.063
75-35-4	1,1-Dichloroethylene	<0.063		0.063
78-87-5	1,2-Dichloropropane	<0.063		0.063
10061-01-5	cis-1,3-Dichloropropene	<0.063		0.063
10061-02-6	trans-1,3-Dichloropropene	<0.063		0.063
100-41-4	Ethylbenzene	**1.1**		0.063
591-78-6	2-Hexanone	<0.063		0.063
108-10-1	4-Methyl-2-Pentanone	<0.063		0.063
75-09-2	Methylene Chloride	<0.063		0.063
100-42-5	Styrene	<0.063		0.063
79-34-5	1,1,2,2-Tetrachloroethane	<0.063		0.063
127-18-4	Tetrachloroethene	<0.063		0.063
71-55-6	1,1,1-Trichloroethane	<0.063		0.063
79-00-5	1,1,2-Trichloroethane	<0.063		0.063
79-01-6	Trichloroethene	<0.063		0.063
108-88-3	Toluene	**0.83**		0.063

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TriMatrix Laboratories, Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB4,7

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 14:00
Date Received: 07/20/99 Time: 11:00
Analysis Date: 08/04/99
Lab Sample No: 227175
Batch No: 145326

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<0.063		0.063
1330-20-7	Xylene (Total)	**5.0**		0.063

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TriMatrix Laboratories, Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples

Submittal Number: 35109- 2
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		8SB4,7	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227175				
E-1047	Percent Solids	79				%

Sampled by: R. Hill
Date Sampled: 07/19/99
Time Sampled: 14:00
Date Received: 07/20/99
Time Received: 11:00

000032

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB4, 6-8

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 14:00
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/31/99
Lab Sample No: 227176
Batch No: 145129

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<3.3		3.3
208-96-8	Acenaphthylene	<3.3		3.3
120-12-7	Anthracene	**8.5**		3.3
56-55-3	Benzo (a) Anthracene	**7.4**		3.3
50-32-8	Benzo (a) Pyrene	**4.6**		3.3
205-99-2	Benzo (b) Fluoranthene	<3.3		3.3
207-08-9	Benzo (k) Fluoranthene	<3.3		3.3
191-24-2	Benzo (g,h,i,) Perylene	<3.3		3.3
111-91-1	Bis (2-Chloroethoxy)-Methane	<3.3		3.3
111-44-4	Bis (2-Chloroethyl) Ether	<3.3		3.3
108-60-1	Bis (2-Chloroisopropyl)-Ether	<3.3		3.3
117-81-7	Bis (2-ethylhexyl)-Phthalate	<3.3		3.3
101-55-3	4-Bromophenyl Phenylether	<3.3		3.3
85-68-7	Butyl Benzyl Phthalate	<3.3		3.3
86-74-8	Carbazole	<3.3		3.3
59-50-7	4-Chloro-3-Methylphenol	<3.3		3.3
106-47-8	4-Chloroaniline	<3.3		3.3
91-58-7	2-Chloronaphthalene	<3.3		3.3
95-57-8	2-Chlorophenol	<3.3		3.3
7005-72-3	4-Chlorophenylphenyl-Ether	<3.3		3.3
218-01-9	Chrysene	**11**		3.3
84-74-2	Di-n-Butylphthalate	<3.3		3.3
117-84-0	Di-n-Octylphthalate	<3.3		3.3
53-70-3	Dibenzo (a,h) Anthracene	<3.3		3.3
132-64-9	Dibenzofuran	<3.3		3.3
95-50-1	1,2-Dichlorobenzene	<3.3		3.3
541-73-1	1,3-Dichlorobenzene	<3.3		3.3
106-46-7	1,4-Dichlorobenzene	<3.3		3.3
91-94-1	3,3'-Dichlorobenzidine	<3.3		3.3
120-83-2	2,4-Dichlorophenol	<3.3		3.3
84-66-2	Diethylphthalate	<3.3		3.3

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TriMatrix Laboratories, Inc.

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB4, 6-8

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 14:00
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/31/99
Lab Sample No: 227176
Batch No: 145129

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
131-11-3	Dimethylphthalate	<3.3		3.3
105-67-9	2,4-Dimethylphenol	<3.3		3.3
534-52-1	4,6-Dinitro-2-Methylphenol	<8.3		8.3
51-28-5	2,4-Dinitrophenol	<8.3		8.3
121-14-2	2,4-Dinitrotoluene	<3.3		3.3
606-20-2	2,6-Dinitrotoluene	<3.3		3.3
206-44-0	Fluoranthene	**3.6**		3.3
86-73-7	Fluorene	**5.1**		3.3
118-74-1	Hexachlorobenzene	<3.3		3.3
87-68-3	Hexachlorobutadiene	<3.3		3.3
77-47-4	Hexachlorocyclopentadiene	<3.3		3.3
67-72-1	Hexachloroethane	<3.3		3.3
193-39-5	Indeno (1,2,3-cd) Pyrene	<3.3		3.3
78-59-1	Isophorone	<3.3		3.3
91-57-6	2-Methylnaphthalene	**57**		3.3
95-48-7	2-Methylphenol	<3.3		3.3
106-44-5	4-Methylphenol	<3.3		3.3
621-64-7	N-Nitrosodi-n-Propylamine	<3.3		3.3
86-30-6	N-Nitroso-di-Phenylamine	<3.3		3.3
91-20-3	Naphthalene	**14**		3.3
88-74-4	2-Nitroaniline	<8.3		8.3
99-09-2	3-Nitroaniline	<8.3		8.3
100-01-6	4-Nitroaniline	<8.3		8.3
98-95-3	Nitrobenzene	<3.3		3.3
88-75-5	2-Nitrophenol	<3.3		3.3
100-02-7	4-Nitrophenol	<3.3		3.3
87-86-5	Pentachlorophenol	<3.3		3.3
85-01-8	Phenanthrene	**40**		3.3
108-95-2	Phenol	<3.3		3.3
129-00-0	Pyrene	**25**		3.3
120-82-1	1,2,4-Trichlorobenzene	<3.3		3.3
95-95-4	2,4,5-Trichlorophenol	<3.3		3.3
88-06-2	2,4,6-Trichlorophenol	<3.3		3.3

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TriMatrix Laboratories, Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples

Submittal Number: 35109- 2
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		8SB4, 6-8	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227176				
E-1047	Percent Solids	79				%

Sampled by: R. Hill
Date Sampled: 07/19/99
Time Sampled: 14:00
Date Received: 07/20/99
Time Received: 11:00

000035

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TriMatrix Laboratories Inc

PCBS IN SOIL
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB4, 6-8

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 14:00
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/31/99
Lab Sample No: 227176
Batch No: 145140

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.33		0.33
11104-28-2	PCB-1221	<0.33		0.33
11141-16-5	PCB-1232	<0.33		0.33
53469-21-9	PCB-1242	<0.33		0.33
12672-29-6	PCB-1248	<0.33		0.33
11097-69-1	PCB-1254	<0.33		0.33
11096-82-5	PCB-1260	<0.33		0.33
-----	PCB-1262	<0.33		0.33
-----	PCB-1268	<0.33		0.33

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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB3,5

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 14:35
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/28/99
Lab Sample No: 227177
Batch No: 145683

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	* **0.050**		0.010
71-43-2	Benzene	<0.010		0.010
75-27-4	Dichlorobromomethane	<0.010		0.010
75-25-2	Bromoform	<0.010		0.010
74-83-9	Bromomethane	<0.010		0.010
78-93-3	Methyl Ethyl Ketone	<0.010		0.010
75-15-0	Carbon Disulfide	<0.010		0.010
56-23-5	Carbon Tetrachloride	<0.010		0.010
108-90-7	Chlorobenzene	<0.010		0.010
75-00-3	Chloroethane	<0.010		0.010
67-66-3	Chloroform	<0.010		0.010
74-87-3	Chloromethane	<0.010		0.010
124-48-1	Chlorodibromomethane	<0.010		0.010
95-50-1	1,2-Dichlorobenzene	<0.010		0.010
541-73-1	1,3-Dichlorobenzene	<0.010		0.010
106-46-7	1,4-Dichlorobenzene	<0.010		0.010
75-34-3	1,1-Dichloroethane	<0.010		0.010
107-06-2	1,2-Dichloroethane	<0.010		0.010
156-60-5	trans-1,2-Dichloroethene	<0.010		0.010
156-59-2	cis-1,2-Dichloroethene	<0.010		0.010
75-35-4	1,1-Dichloroethylene	<0.010		0.010
78-87-5	1,2-Dichloropropane	<0.010		0.010
10061-01-5	cis-1,3-Dichloropropene	<0.010		0.010
10061-02-6	trans-1,3-Dichloropropene	<0.010		0.010
100-41-4	Ethylbenzene	<0.010		0.010
591-78-6	2-Hexanone	<0.010		0.010
108-10-1	4-Methyl-2-Pentanone	<0.010		0.010
75-09-2	Methylene Chloride	<0.010		0.010
100-42-5	Styrene	<0.010		0.010
79-34-5	1,1,2,2-Tetrachloroethane	<0.010		0.010
127-18-4	Tetrachloroethene	<0.010		0.010
71-55-6	1,1,1-Trichloroethane	<0.010		0.010
79-00-5	1,1,2-Trichloroethane	<0.010		0.010
79-01-6	Trichloroethene	<0.010		0.010
108-88-3	Toluene	<0.010		0.010

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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB3,5

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 14:35
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/28/99
Lab Sample No: 227177
Batch No: 145683

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<0.010		0.010
1330-20-7	Xylene (Total)	<0.010		0.010

* See attached Statement of Data Qualifications.

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TriMatrix Laboratories, Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples

Submittal Number: 35109- 2
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		8SB3,5	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227177				
E-1047	Percent Solids	80				%

Sampled by: R. Hill
Date Sampled: 07/19/99
Time Sampled: 14:35
Date Received: 07/20/99
Time Received: 11:00

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB3 4-6

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 14:35
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/31/99
Lab Sample No: 227178
Batch No: 145129

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<0.33		0.33
208-96-8	Acenaphthylene	<0.33		0.33
120-12-7	Anthracene	<0.33		0.33
56-55-3	Benzo (a) Anthracene	<0.33		0.33
50-32-8	Benzo (a) Pyrene	<0.33		0.33
205-99-2	Benzo (b) Fluoranthene	<0.33		0.33
207-08-9	Benzo (k) Fluoranthene	<0.33		0.33
191-24-2	Benzo (g,h,i,) Perylene	<0.33		0.33
111-91-1	Bis (2-Chloroethoxy)-Methane	<0.33		0.33
111-44-4	Bis (2-Chloroethyl) Ether	<0.33		0.33
108-60-1	Bis (2-Chloroisopropyl)-Ether	<0.33		0.33
117-81-7	Bis (2-ethylhexyl)-Phthalate	<0.33		0.33
101-55-3	4-Bromophenyl Phenylether	<0.33		0.33
85-68-7	Butyl Benzyl Phthalate	<0.33		0.33
86-74-8	Carbazole	<0.33		0.33
59-50-7	4-Chloro-3-Methylphenol	<0.33		0.33
106-47-8	4-Chloroaniline	<0.33		0.33
91-58-7	2-Chloronaphthalene	<0.33		0.33
95-57-8	2-Chlorophenol	<0.33		0.33
7005-72-3	4-Chlorophenylphenyl-Ether	<0.33		0.33
218-01-9	Chrysene	<0.33		0.33
84-74-2	Di-n-Butylphthalate	<0.33		0.33
117-84-0	Di-n-Octylphthalate	<0.33		0.33
53-70-3	Dibenzo (a,h) Anthracene	<0.33		0.33
132-64-9	Dibenzofuran	<0.33		0.33
95-50-1	1,2-Dichlorobenzene	<0.33		0.33
541-73-1	1,3-Dichlorobenzene	<0.33		0.33
106-46-7	1,4-Dichlorobenzene	<0.33		0.33
91-94-1	3,3'-Dichlorobenzidine	<0.33		0.33
120-83-2	2,4-Dichlorophenol	<0.33		0.33
84-66-2	Diethylphthalate	<0.33		0.33

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB3 4-6

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 14:35
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/31/99
Lab Sample No: 227178
Batch No: 145129

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
131-11-3	Dimethylphthalate	<0.33		0.33
105-67-9	2,4-Dimethylphenol	<0.33		0.33
534-52-1	4,6-Dinitro-2-Methylphenol	<0.83		0.83
51-28-5	2,4-Dinitrophenol	<0.83		0.83
121-14-2	2,4-Dinitrotoluene	<0.33		0.33
606-20-2	2,6-Dinitrotoluene	<0.33		0.33
206-44-0	Fluoranthene	<0.33		0.33
86-73-7	Fluorene	<0.33		0.33
118-74-1	Hexachlorobenzene	<0.33		0.33
87-68-3	Hexachlorobutadiene	<0.33		0.33
77-47-4	Hexachlorocyclopentadiene	<0.33		0.33
67-72-1	Hexachloroethane	<0.33		0.33
193-39-5	Indeno (1,2,3-cd) Pyrene	<0.33		0.33
78-59-1	Isophorone	<0.33		0.33
91-57-6	2-Methylnaphthalene	<0.33		0.33
95-48-7	2-Methylphenol	<0.33		0.33
106-44-5	4-Methylphenol	<0.33		0.33
621-64-7	N-Nitrosodi-n-Propylamine	<0.33		0.33
86-30-6	N-Nitroso-di-Phenylamine	<0.33		0.33
91-20-3	Naphthalene	<0.33		0.33
88-74-4	2-Nitroaniline	<0.83		0.83
99-09-2	3-Nitroaniline	<0.83		0.83
100-01-6	4-Nitroaniline	<0.83		0.83
98-95-3	Nitrobenzene	<0.33		0.33
88-75-5	2-Nitrophenol	<0.33		0.33
100-02-7	4-Nitrophenol	<0.33		0.33
87-86-5	Pentachlorophenol	<0.33		0.33
85-01-8	Phenanthrene	<0.33		0.33
108-95-2	Phenol	<0.33		0.33
129-00-0	Pyrene	<0.33		0.33
120-82-1	1,2,4-Trichlorobenzene	<0.33		0.33
95-95-4	2,4,5-Trichlorophenol	<0.33		0.33
88-06-2	2,4,6-Trichlorophenol	<0.33		0.33

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples

Submittal Number: 35109- 2
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		8SB3 4-6	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227178				
E-1047	Percent Solids	80				%

Sampled by: R. Hill
Date Sampled: 07/19/99
Time Sampled: 14:35
Date Received: 07/20/99
Time Received: 11:00

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TriMatrix Laboratories Inc

PCBS IN SOIL
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB3 4-6

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 14:35
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/30/99
Lab Sample No: 227178
Batch No: 145088

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.33		0.33
11104-28-2	PCB-1221	<0.33		0.33
11141-16-5	PCB-1232	<0.33		0.33
53469-21-9	PCB-1242	<0.33		0.33
12672-29-6	PCB-1248	<0.33		0.33
11097-69-1	PCB-1254	<0.33		0.33
11096-82-5	PCB-1260	<0.33		0.33
-----	PCB-1262	<0.33		0.33
-----	PCB-1268	<0.33		0.33

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TriMatrix Laboratories, Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB7,7

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 14:55
Date Received: 07/20/99 Time: 11:00
Analysis Date: 08/02/99
Lab Sample No: 227179
Batch No: 145295

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	**0.033**		0.010
71-43-2	Benzene	<0.010		0.010
75-27-4	Dichlorobromomethane	<0.010		0.010
75-25-2	Bromoform	<0.010		0.010
74-83-9	Bromomethane	<0.010		0.010
78-93-3	Methyl Ethyl Ketone	<0.010		0.010
75-15-0	Carbon Disulfide	<0.010		0.010
56-23-5	Carbon Tetrachloride	<0.010		0.010
108-90-7	Chlorobenzene	<0.010		0.010
75-00-3	Chloroethane	<0.010		0.010
67-66-3	Chloroform	<0.010		0.010
74-87-3	Chloromethane	<0.010		0.010
124-48-1	Chlorodibromomethane	<0.010		0.010
95-50-1	1,2-Dichlorobenzene	<0.010		0.010
541-73-1	1,3-Dichlorobenzene	<0.010		0.010
106-46-7	1,4-Dichlorobenzene	<0.010		0.010
75-34-3	1,1-Dichloroethane	<0.010		0.010
107-06-2	1,2-Dichloroethane	<0.010		0.010
156-60-5	trans-1,2-Dichloroethene	<0.010		0.010
156-59-2	cis-1,2-Dichloroethene	<0.010		0.010
75-35-4	1,1-Dichloroethylene	<0.010		0.010
78-87-5	1,2-Dichloropropane	<0.010		0.010
10061-01-5	cis-1,3-Dichloropropene	<0.010		0.010
10061-02-6	trans-1,3-Dichloropropene	<0.010		0.010
100-41-4	Ethylbenzene	<0.010		0.010
591-78-6	2-Hexanone	<0.010		0.010
108-10-1	4-Methyl-2-Pentanone	<0.010		0.010
75-09-2	Methylene Chloride	<0.010		0.010
100-42-5	Styrene	<0.010		0.010
79-34-5	1,1,2,2-Tetrachloroethane	<0.010		0.010
127-18-4	Tetrachloroethene	<0.010		0.010
71-55-6	1,1,1-Trichloroethane	<0.010		0.010
79-00-5	1,1,2-Trichloroethane	<0.010		0.010
79-01-6	Trichloroethene	<0.010		0.010
108-88-3	Toluene	<0.010		0.010

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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB7,7

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 14:55
Date Received: 07/20/99 Time: 11:00
Analysis Date: 08/02/99
Lab Sample No: 227179
Batch No: 145295

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<0.010		0.010
1330-20-7	Xylene (Total)	<0.010		0.010

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ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples

Submittal Number: 35109- 2
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		8SB7,7	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227179				
E-1047	Percent Solids	77				%

Sampled by: R. Hill
Date Sampled: 07/19/99
Time Sampled: 14:55
Date Received: 07/20/99
Time Received: 11:00

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SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB7 6-8

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 14:55
Date Received: 07/20/99 Time: 11:00
Analysis Date: 08/02/99
Lab Sample No: 227180
Batch No: 145161

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<0.33		0.33
208-96-8	Acenaphthylene	<0.33		0.33
120-12-7	Anthracene	<0.33		0.33
56-55-3	Benzo (a) Anthracene	<0.33		0.33
50-32-8	Benzo (a) Pyrene	<0.33		0.33
205-99-2	Benzo (b) Fluoranthene	<0.33		0.33
207-08-9	Benzo (k) Fluoranthene	<0.33		0.33
191-24-2	Benzo (g,h,i,) Perylene	<0.33		0.33
111-91-1	Bis (2-Chloroethoxy)-Methane	<0.33		0.33
111-44-4	Bis (2-Chloroethyl) Ether	<0.33		0.33
108-60-1	Bis (2-Chloroisopropyl)-Ether	<0.33		0.33
117-81-7	Bis (2-ethylhexyl)-Phthalate	<0.33		0.33
101-55-3	4-Bromophenyl Phenylether	<0.33		0.33
85-68-7	Butyl Benzyl Phthalate	<0.33		0.33
86-74-8	Carbazole	<0.33		0.33
59-50-7	4-Chloro-3-Methylphenol	<0.33		0.33
106-47-8	4-Chloroaniline	<0.33		0.33
91-58-7	2-Chloronaphthalene	<0.33		0.33
95-57-8	2-Chlorophenol	<0.33		0.33
7005-72-3	4-Chlorophenylphenyl-Ether	<0.33		0.33
218-01-9	Chrysene	<0.33		0.33
84-74-2	Di-n-Butylphthalate	<0.33		0.33
117-84-0	Di-n-Octylphthalate	<0.33		0.33
53-70-3	Dibenzo (a,h) Anthracene	<0.33		0.33
132-64-9	Dibenzofuran	<0.33		0.33
95-50-1	1,2-Dichlorobenzene	<0.33		0.33
541-73-1	1,3-Dichlorobenzene	<0.33		0.33
106-46-7	1,4-Dichlorobenzene	<0.33		0.33
91-94-1	3,3'-Dichlorobenzidine	<0.33		0.33
120-83-2	2,4-Dichlorophenol	<0.33		0.33
84-66-2	Diethylphthalate	<0.33		0.33

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TriMatrix Laboratories, Inc.

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB7 6-8

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 14:55
Date Received: 07/20/99 Time: 11:00
Analysis Date: 08/02/99
Lab Sample No: 227180
Batch No: 145161

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
131-11-3	Dimethylphthalate	<0.33		0.33
105-67-9	2,4-Dimethylphenol	<0.33		0.33
534-52-1	4,6-Dinitro-2-Methylphenol	<0.83		0.83
51-28-5	2,4-Dinitrophenol	<0.83		0.83
121-14-2	2,4-Dinitrotoluene	<0.33		0.33
606-20-2	2,6-Dinitrotoluene	<0.33		0.33
206-44-0	Fluoranthene	<0.33		0.33
86-73-7	Fluorene	<0.33		0.33
118-74-1	Hexachlorobenzene	<0.33		0.33
87-68-3	Hexachlorobutadiene	<0.33		0.33
77-47-4	Hexachlorocyclopentadiene	<0.33		0.33
67-72-1	Hexachloroethane	<0.33		0.33
193-39-5	Indeno (1,2,3-cd) Pyrene	<0.33		0.33
78-59-1	Isophorone	<0.33		0.33
91-57-6	2-Methylnaphthalene	<0.33		0.33
95-48-7	2-Methylphenol	<0.33		0.33
106-44-5	4-Methylphenol	<0.33		0.33
621-64-7	N-Nitrosodi-n-Propylamine	<0.33		0.33
86-30-6	N-Nitroso-di-Phenylamine	<0.33		0.33
91-20-3	Naphthalene	<0.33		0.33
88-74-4	2-Nitroaniline	<0.83		0.83
99-09-2	3-Nitroaniline	<0.83		0.83
100-01-6	4-Nitroaniline	<0.83		0.83
98-95-3	Nitrobenzene	<0.33		0.33
88-75-5	2-Nitrophenol	<0.33		0.33
100-02-7	4-Nitrophenol	<0.33		0.33
87-86-5	Pentachlorophenol	<0.33		0.33
85-01-8	Phenanthrene	<0.33		0.33
108-95-2	Phenol	<0.33		0.33
129-00-0	Pyrene	<0.33		0.33
120-82-1	1,2,4-Trichlorobenzene	<0.33		0.33
95-95-4	2,4,5-Trichlorophenol	<0.33		0.33
88-06-2	2,4,6-Trichlorophenol	<0.33		0.33

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TriMatrix Laboratories Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples

Submittal Number: 35109- 2
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		8SB7 6-8	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227180				
E-1047	Percent Solids	77				%

Sampled by: R. Hill
Date Sampled: 07/19/99
Time Sampled: 14:55
Date Received: 07/20/99
Time Received: 11:00

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TriMatrix Laboratories, Inc.

PCBS IN SOIL
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB7 6-8

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 14:55
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/30/99
Lab Sample No: 227180
Batch No: 145088

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.33		0.33
11104-28-2	PCB-1221	<0.33		0.33
11141-16-5	PCB-1232	<0.33		0.33
53469-21-9	PCB-1242	<0.33		0.33
12672-29-6	PCB-1248	<0.33		0.33
11097-69-1	PCB-1254	<0.33		0.33
11096-82-5	PCB-1260	<0.33		0.33
-----	PCB-1262	<0.33		0.33
-----	PCB-1268	<0.33		0.33

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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB8,6

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 15:35
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/30/99
Lab Sample No: 227181
Batch No: 145718

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<0.010		0.010
71-43-2	Benzene	<0.010		0.010
75-27-4	Dichlorobromomethane	<0.010		0.010
75-25-2	Bromoform	<0.010		0.010
74-83-9	Bromomethane	<0.010		0.010
78-93-3	Methyl Ethyl Ketone	<0.010		0.010
75-15-0	Carbon Disulfide	<0.010		0.010
56-23-5	Carbon Tetrachloride	<0.010		0.010
108-90-7	Chlorobenzene	<0.010		0.010
75-00-3	Chloroethane	<0.010		0.010
67-66-3	Chloroform	<0.010		0.010
74-87-3	Chloromethane	<0.010		0.010
124-48-1	Chlorodibromomethane	<0.010		0.010
95-50-1	1,2-Dichlorobenzene	<0.010		0.010
541-73-1	1,3-Dichlorobenzene	<0.010		0.010
106-46-7	1,4-Dichlorobenzene	<0.010		0.010
75-34-3	1,1-Dichloroethane	<0.010		0.010
107-06-2	1,2-Dichloroethane	<0.010		0.010
156-60-5	trans-1,2-Dichloroethene	<0.010		0.010
156-59-2	cis-1,2-Dichloroethene	<0.010		0.010
75-35-4	1,1-Dichloroethylene	<0.010		0.010
78-87-5	1,2-Dichloropropane	<0.010		0.010
10061-01-5	cis-1,3-Dichloropropene	<0.010		0.010
10061-02-6	trans-1,3-Dichloropropene	<0.010		0.010
100-41-4	Ethylbenzene	<0.010		0.010
591-78-6	2-Hexanone	<0.010		0.010
108-10-1	4-Methyl-2-Pentanone	<0.010		0.010
75-09-2	Methylene Chloride	<0.010		0.010
100-42-5	Styrene	<0.010		0.010
79-34-5	1,1,2,2-Tetrachloroethane	<0.010		0.010
127-18-4	Tetrachloroethene	<0.010		0.010
71-55-6	1,1,1-Trichloroethane	<0.010		0.010
79-00-5	1,1,2-Trichloroethane	<0.010		0.010
79-01-6	Trichloroethene	<0.010		0.010
108-88-3	Toluene	<0.010		0.010

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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB8,6

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 15:35
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/30/99
Lab Sample No: 227181
Batch No: 145718

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<0.010		0.010
1330-20-7	Xylene (Total)	<0.010		0.010

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples

Submittal Number: 35109- 2
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		8SB8,6	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227181				
E-1047	Percent Solids	79				%

Sampled by: R. Hill
Date Sampled: 07/19/99
Time Sampled: 15:35
Date Received: 07/20/99
Time Received: 11:00

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TriMatrix Laboratories, Inc.

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB8 5-7

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 15:35
Date Received: 07/20/99 Time: 11:00
Analysis Date: 08/02/99
Lab Sample No: 227182
Batch No: 145161

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<0.33		0.33
208-96-8	Acenaphthylene	<0.33		0.33
120-12-7	Anthracene	<0.33		0.33
56-55-3	Benzo (a) Anthracene	<0.33		0.33
50-32-8	Benzo (a) Pyrene	<0.33		0.33
205-99-2	Benzo (b) Fluoranthene	<0.33		0.33
207-08-9	Benzo (k) Fluoranthene	<0.33		0.33
191-24-2	Benzo (g,h,i,) Perylene	<0.33		0.33
111-91-1	Bis (2-Chloroethoxy)-Methane	<0.33		0.33
111-44-4	Bis (2-Chloroethyl) Ether	<0.33		0.33
108-60-1	Bis (2-Chloroisopropyl)-Ether	<0.33		0.33
117-81-7	Bis (2-ethylhexyl)-Phthalate	<0.33		0.33
101-55-3	4-Bromophenyl Phenylether	<0.33		0.33
85-68-7	Butyl Benzyl Phthalate	<0.33		0.33
86-74-8	Carbazole	<0.33		0.33
59-50-7	4-Chloro-3-Methylphenol	<0.33		0.33
106-47-8	4-Chloroaniline	<0.33		0.33
91-58-7	2-Chloronaphthalene	<0.33		0.33
95-57-8	2-Chlorophenol	<0.33		0.33
7005-72-3	4-Chlorophenylphenyl-Ether	<0.33		0.33
218-01-9	Chrysene	<0.33		0.33
84-74-2	Di-n-Butylphthalate	<0.33		0.33
117-84-0	Di-n-Octylphthalate	<0.33		0.33
53-70-3	Dibenzo (a,h) Anthracene	<0.33		0.33
132-64-9	Dibenzofuran	<0.33		0.33
95-50-1	1,2-Dichlorobenzene	<0.33		0.33
541-73-1	1,3-Dichlorobenzene	<0.33		0.33
106-46-7	1,4-Dichlorobenzene	<0.33		0.33
91-94-1	3,3'-Dichlorobenzidine	<0.33		0.33
120-83-2	2,4-Dichlorophenol	<0.33		0.33
84-66-2	Diethylphthalate	<0.33		0.33

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB8 5-7

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 15:35
Date Received: 07/20/99 Time: 11:00
Analysis Date: 08/02/99
Lab Sample No: 227182
Batch No: 145161

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
131-11-3	Dimethylphthalate	<0.33		0.33
105-67-9	2,4-Dimethylphenol	<0.33		0.33
534-52-1	4,6-Dinitro-2-Methylphenol	<0.83		0.83
51-28-5	2,4-Dinitrophenol	<0.83		0.83
121-14-2	2,4-Dinitrotoluene	<0.33		0.33
606-20-2	2,6-Dinitrotoluene	<0.33		0.33
206-44-0	Fluoranthene	<0.33		0.33
86-73-7	Fluorene	<0.33		0.33
118-74-1	Hexachlorobenzene	<0.33		0.33
87-68-3	Hexachlorobutadiene	<0.33		0.33
77-47-4	Hexachlorocyclopentadiene	<0.33		0.33
67-72-1	Hexachloroethane	<0.33		0.33
193-39-5	Indeno (1,2,3-cd) Pyrene	<0.33		0.33
78-59-1	Isophorone	<0.33		0.33
91-57-6	2-Methylnaphthalene	<0.33		0.33
95-48-7	2-Methylphenol	<0.33		0.33
106-44-5	4-Methylphenol	<0.33		0.33
621-64-7	N-Nitrosodi-n-Propylamine	<0.33		0.33
86-30-6	N-Nitroso-di-Phenylamine	<0.33		0.33
91-20-3	Naphthalene	<0.33		0.33
88-74-4	2-Nitroaniline	<0.83		0.83
99-09-2	3-Nitroaniline	<0.83		0.83
100-01-6	4-Nitroaniline	<0.83		0.83
98-95-3	Nitrobenzene	<0.33		0.33
88-75-5	2-Nitrophenol	<0.33		0.33
100-02-7	4-Nitrophenol	<0.33		0.33
87-86-5	Pentachlorophenol	<0.33		0.33
85-01-8	Phenanthrene	<0.33		0.33
108-95-2	Phenol	<0.33		0.33
129-00-0	Pyrene	<0.33		0.33
120-82-1	1,2,4-Trichlorobenzene	<0.33		0.33
95-95-4	2,4,5-Trichlorophenol	<0.33		0.33
88-06-2	2,4,6-Trichlorophenol	<0.33		0.33

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TriMatrix Laboratories, Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples

Submittal Number: 35109- 2
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		8SB8 5-7	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227182				
E-1047	Percent Solids	79				%

Sampled by: R. Hill
Date Sampled: 07/19/99
Time Sampled: 15:35
Date Received: 07/20/99
Time Received: 11:00

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TriMatrix Laboratories Inc

PCBS IN SOIL
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: 8SB8 5-7

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 15:35
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/30/99
Lab Sample No: 227182
Batch No: 145088

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.33		0.33
11104-28-2	PCB-1221	<0.33		0.33
11141-16-5	PCB-1232	<0.33		0.33
53469-21-9	PCB-1242	<0.33		0.33
12672-29-6	PCB-1248	<0.33		0.33
11097-69-1	PCB-1254	<0.33		0.33
11096-82-5	PCB-1260	<0.33		0.33
-----	PCB-1262	<0.33		0.33
-----	PCB-1268	<0.33		0.33

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TriMatrix Laboratories, Inc.

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: EQB719

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 16:10
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/30/99
Lab Sample No: 227183
Batch No: 145131

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<5.0		5.0
208-96-8	Acenaphthylene	<5.0		5.0
120-12-7	Anthracene	<5.0		5.0
56-55-3	Benzo (a) Anthracene	<5.0		5.0
50-32-8	Benzo (a) Pyrene	<5.0		5.0
205-99-2	Benzo (b) Fluoranthene	<5.0		5.0
207-08-9	Benzo (k) Fluoranthene	<5.0		5.0
191-24-2	Benzo (g,h,i,) Perylene	<5.0		5.0
111-91-1	Bis (2-Chloroethoxy)-Methane	<5.0		5.0
111-44-4	Bis (2-Chloroethyl) Ether	<5.0		5.0
108-60-1	Bis (2-Chloroisopropyl)-Ether	<5.0		5.0
117-81-7	Bis (2-ethylhexyl)-Phthalate	<5.0		5.0
101-55-3	4-Bromophenyl Phenylether	<5.0		5.0
85-68-7	Butyl Benzyl Phthalate	<5.0		5.0
59-50-7	4-Chloro-3-Methylphenol	<5.0		5.0
106-47-8	4-Chloroaniline	<5.0		5.0
91-58-7	2-Chloronaphthalene	<5.0		5.0
95-57-8	2-Chlorophenol	<5.0		5.0
7005-72-3	4-Chlorophenylphenyl-Ether	<5.0		5.0
218-01-9	Chrysene	<5.0		5.0
84-74-2	Di-n-Butylphthalate	<5.0		5.0
117-84-0	Di-n-Octylphthalate	<5.0		5.0
53-70-3	Dibenzo (a,h) Anthracene	<5.0		5.0
132-64-9	Dibenzofuran	<5.0		5.0
95-50-1	1,2-Dichlorobenzene	<5.0		5.0
541-73-1	1,3-Dichlorobenzene	<5.0		5.0
106-46-7	1,4-Dichlorobenzene	<5.0		5.0
91-94-1	3,3'-Dichlorobenzidine	<5.0		5.0
120-83-2	2,4-Dichlorophenol	<5.0		5.0
84-66-2	Diethylphthalate	<5.0		5.0
131-11-3	Dimethylphthalate	<5.0		5.0

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: EQB719

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 16:10
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/30/99
Lab Sample No: 227183
Batch No: 145131

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
105-67-9	2,4-Dimethylphenol	<5.0		5.0
534-52-1	4,6-Dinitro-2-Methylphenol	<20		20
51-28-5	2,4-Dinitrophenol	<20		20
121-14-2	2,4-Dinitrotoluene	<5.0		5.0
606-20-2	2,6-Dinitrotoluene	<5.0		5.0
206-44-0	Fluoranthene	<5.0		5.0
86-73-7	Fluorene	<5.0		5.0
118-74-1	Hexachlorobenzene	<5.0		5.0
87-68-3	Hexachlorobutadiene	<5.0		5.0
77-47-4	Hexachlorocyclopentadiene	<5.0		5.0
67-72-1	Hexachloroethane	<5.0		5.0
193-39-5	Indeno (1,2,3-cd) Pyrene	<5.0		5.0
78-59-1	Isophorone	<5.0		5.0
91-57-6	2-Methylnaphthalene	<5.0		5.0
95-48-7	2-Methylphenol	<5.0		5.0
106-44-5	4-Methylphenol	<5.0		5.0
621-64-7	N-Nitrosodi-n-Propylamine	<5.0		5.0
86-30-6	N-Nitroso-di-Phenylamine	<5.0		5.0
91-20-3	Naphthalene	<5.0		5.0
88-74-4	2-Nitroaniline	<20		20
99-09-2	3-Nitroaniline	<20		20
100-01-6	4-Nitroaniline	<20		20
98-95-3	Nitrobenzene	<5.0		5.0
88-75-5	2-Nitrophenol	<5.0		5.0
100-02-7	4-Nitrophenol	<20		20
87-86-5	Pentachlorophenol	<20		20
85-01-8	Phenanthrene	<5.0		5.0
108-95-2	Phenol	<5.0		5.0
129-00-0	Pyrene	<5.0		5.0
120-82-1	1,2,4-Trichlorobenzene	<5.0		5.0
95-95-4	2,4,5-Trichlorophenol	<20		20
88-06-2	2,4,6-Trichlorophenol	<5.0		5.0
86-74-8	Carbazole	<10		10

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TriMatrix Laboratories Inc

PCBS IN WATER
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: EQB719

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 16:10
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/27/99
Lab Sample No: 227183
Batch No: 145030

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.20		0.20
11104-28-2	PCB-1221	<0.40		0.40
11141-16-5	PCB-1232	<0.20		0.20
53469-21-9	PCB-1242	<0.20		0.20
12672-29-6	PCB-1248	<0.20		0.20
11097-69-1	PCB-1254	<0.20		0.20
11096-82-5	PCB-1260	<0.20		0.20
-----	PCB-1262	<0.20		0.20
-----	PCB-1268	<0.20		0.20

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TriMatrix Laboratories Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: EQB719

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 16:10
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/28/99
Lab Sample No: 227183
Batch No: 145252

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<5.0		5.0
71-43-2	Benzene	<1.0		1.0
75-27-4	Dichlorobromomethane	<1.0		1.0
75-25-2	Bromoform	<1.0		1.0
74-83-9	Bromomethane	<1.0		1.0
78-93-3	Methyl Ethyl Ketone	<5.0		5.0
75-15-0	Carbon Disulfide	<1.0		1.0
56-23-5	Carbon Tetrachloride	<1.0		1.0
108-90-7	Chlorobenzene	<1.0		1.0
75-00-3	Chloroethane	<1.0		1.0
67-66-3	Chloroform	<1.0		1.0
74-87-3	Chloromethane	<1.0		1.0
124-48-1	Chlorodibromomethane	<1.0		1.0
95-50-1	1,2-Dichlorobenzene	<1.0		1.0
541-73-1	1,3-Dichlorobenzene	<1.0		1.0
106-46-7	1,4-Dichlorobenzene	<1.0		1.0
75-34-3	1,1-Dichloroethane	<1.0		1.0
107-06-2	1,2-Dichloroethane	<1.0		1.0
156-59-2	cis-1,2-Dichloroethene	<1.0		1.0
156-60-5	trans-1,2-Dichloroethene	<1.0		1.0
75-35-4	1,1-Dichloroethylene	<1.0		1.0
78-87-5	1,2-Dichloropropane	<1.0		1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0		1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0		1.0
100-41-4	Ethylbenzene	<1.0		1.0
591-78-6	2-Hexanone	<5.0		5.0
108-10-1	4-Methyl-2-Pentanone	<5.0		5.0
75-09-2	Methylene Chloride	<2.0		2.0
100-42-5	Styrene	<1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0		1.0
127-18-4	Tetrachloroethene	<1.0		1.0
71-55-6	1,1,1-Trichloroethane	<1.0		1.0
79-00-5	1,1,2-Trichloroethane	<1.0		1.0
79-01-6	Trichloroethene	<1.0		1.0
108-88-3	Toluene	<1.0		1.0

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TriMatrix Laboratories Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: EQB719

Submittal Number 35109- 2
Date Sampled: 07/19/99 Time: 16:10
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/28/99
Lab Sample No: 227183
Batch No: 145252

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<1.0		1.0
1330-20-7	Xylene (Total)	<1.0		1.0

000062

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TriMatrix Laboratories, Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: Trip Blank

Submittal Number 35109- 2
Date Sampled: 06/29/99 Time: 16:34
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/28/99
Lab Sample No: 227184
Batch No: 145252

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<5.0		5.0
71-43-2	Benzene	<1.0		1.0
75-27-4	Dichlorobromomethane	<1.0		1.0
75-25-2	Bromoform	<1.0		1.0
74-83-9	Bromomethane	<1.0		1.0
78-93-3	Methyl Ethyl Ketone	<5.0		5.0
75-15-0	Carbon Disulfide	<1.0		1.0
56-23-5	Carbon Tetrachloride	<1.0		1.0
108-90-7	Chlorobenzene	<1.0		1.0
75-00-3	Chloroethane	<1.0		1.0
67-66-3	Chloroform	<1.0		1.0
74-87-3	Chloromethane	<1.0		1.0
124-48-1	Chlorodibromomethane	<1.0		1.0
95-50-1	1,2-Dichlorobenzene	<1.0		1.0
541-73-1	1,3-Dichlorobenzene	<1.0		1.0
106-46-7	1,4-Dichlorobenzene	<1.0		1.0
75-34-3	1,1-Dichloroethane	<1.0		1.0
107-06-2	1,2-Dichloroethane	<1.0		1.0
156-59-2	cis-1,2-Dichloroethene	<1.0		1.0
156-60-5	trans-1,2-Dichloroethene	<1.0		1.0
75-35-4	1,1-Dichloroethylene	<1.0		1.0
78-87-5	1,2-Dichloropropane	<1.0		1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0		1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0		1.0
100-41-4	Ethylbenzene	<1.0		1.0
591-78-6	2-Hexanone	<5.0		5.0
108-10-1	4-Methyl-2-Pentanone	<5.0		5.0
75-09-2	Methylene Chloride	<2.0		2.0
100-42-5	Styrene	<1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0		1.0
127-18-4	Tetrachloroethene	<1.0		1.0
71-55-6	1,1,1-Trichloroethane	<1.0		1.0
79-00-5	1,1,2-Trichloroethane	<1.0		1.0
79-01-6	Trichloroethene	<1.0		1.0
108-88-3	Toluene	<1.0		1.0

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TriMatrix Laboratories Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 19, 1999 Samples
Sample: Trip Blank

Submittal Number 35109- 2
Date Sampled: 06/29/99 Time: 16:34
Date Received: 07/20/99 Time: 11:00
Analysis Date: 07/28/99
Lab Sample No: 227184
Batch No: 145252

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<1.0		1.0
1330-20-7	Xylene (Total)	<1.0		1.0

000064

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STATEMENT OF DATA QUALIFICATIONS

Analysis: **Acetone**
Volatiles Purge & Trap-GC/MS
SOIL USEPA-8260B

Qualification:

The analysis of the Method Preparation Blank (MPB) for this parameter, method and associated digestion/extraction batch, had a positive value above the project reporting limit. The corresponding sample result is < 5 times the positive MPB value and therefore must be considered estimated.

Sample(s) Qualified:

227167	8SB9,7
227169	8SB10,7
227177	8SB3,5

Qualification:

The analysis of the method preparation blank (MPB) for this batch had a positive result above the reporting limit for this compound. This result must be considered suspect due to possible laboratory contamination.

Explanation for Sample(s) listed below:

Acetone

Sample(s) Qualified:

227169	8SB10,7
227173	8SB2,5
227177	8SB3,5

Explanation for Sample(s) listed below:

Acetone.

Sample(s) Qualified: 227167 8SB9,7

Note: This document is included as a part of the analytical report for the above referenced project and submittal, and should be retained as a permanent record thereof.

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STATEMENT OF DATA QUALIFICATIONS

Analysis: **Volatiles in Soil**
Volatiles Purge & Trap-GC/MS
SOIL USEPA-8260B

Qualification:

Analysis performed beyond established USEPA maximum allowable parameter hold time. All positive results must be considered estimated, and all non-detectable results must be considered approximate.

Explanation for Sample(s) listed below:

Sample was run within hold twice, but required re-analysis as a high level soil due to failing recovery.

Sample(s) Qualified: 227171 8SB1,7

Explanation for Sample(s) listed below:

Sample was run within hold twice, but requred re-analysis as a high level soil due to failing recovery.

Sample(s) Qualified: 227175 8SB4,7

Qualification:

The reporting limit for this sample and the corresponding analysis is elevated due to an analytical interference which was a direct result of the sample matrix.

Explanation for Sample(s) listed below:

Dilution was required due to matrix-related Internal Standard failure.

Sample(s) Qualified: 227171 8SB1,7

Note: This document is included as a part of the analytical report for the above referenced project and submittal, and should be retained as a permanent record thereof.

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STATEMENT OF DATA QUALIFICATIONS

Analysis: **Volatiles in Soil**
Volatiles Purge & Trap-GC/MS
SOIL USEPA-8260B

Qualification:

The reporting limit for this sample and the corresponding analysis is elevated due to an analytical interference which was a direct result of the sample matrix.

Explanation for Sample(s) listed below:

Sample detection limit raised due to internal standard failure.

Sample(s) Qualified: 227175 8SB4,7

Note: This document is included as a part of the analytical report for the above referenced project and submittal, and should be retained as a permanent record thereof.

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CASE NARRATIVE

Analysis: **Volatiles in water**
Volatiles Purge & Trap-GC/MS
WATER USEPA-8260B

Narrative:

This analysis was performed beyond an established USEPA maximum allowable parameter hold time. However, because the sample is a laboratory trip blank, the established hold time is inappropriate to the purpose of this analysis. No qualifications are required.

Sample(s) Narrated: 227184 Trip Blank

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TriMatrix Laboratories, Inc.

5560 Corporate Exchange Court SE • Grand Rapids, MI 49512

Chain of Custody Record

COC No. № 56738

000069

Project Manager: A. BASLAGO

Project Name: SLARP EBS

Project No: 60011-003-4RPM12

Sampler (Print): HILL II

Sampler Signature: Robert Hill II

For Lab Use Only

Rack/Tray No:

Lab Project: 35109-2

Date Sampled	Time Sampled	Matrix*	Composite	Grab	Sample Identification	No of Containers	Container Type	Analysis Required/Comments	Sample No.	Filtered Date/Time
7/19/99	1135	Soil		X	8SB9,7	3		2-5gal; 1-250ml Encore VOCs	TG-1	227167
7/19/99	1135	Soil	X		8SB9,6-8	2		SVOCs; PCBs; Moisture	TG-3	227168
7/19/99	1210	Soil		X	8SB10,7	3		2-5gal; 1-25gal Encore VOCs	TG-1	227169
7/19/99	1210	Soil	X		8SB10,6-8	2		SVOCs, PCBs; Moisture	TG-3	227170
7/19/99	1240	Soil		X	8SB1,7	3		25gal & 2-5gal Encore VOCs	TG-1	227171
7/19/99	1240	Soil	X		8SB1,6-8	2		SVOCs, PCBs; Moisture	TG-3	227172
7/19/99	1305	Soil		X	8SB2,5	3		25gal & 2-5gal Encore VOCs	TG-1	227173
7/19/99	1305	Soil	X		8SB2,4-6	2		SVOCs, PCBs, Moisture	TG-3	227174
7/19/99	1400	Soil		X	8SB4,7	3		25gal & 2-5gal Encore VOCs	TG-1	227175

Relinquished By	Date/Time	Received By	Received to Lab By	Date/Time	Logged in By	Date/Time
Robert Hill II	7/19/99 16:00pm		Deb Sidlauskas	7-20-99	Deb Sidlauskas	7-21-99 4:04 pm

IDEX 11:00AM

custody seal intact upon rec

*Matrix: Water (W), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)

TriMatrix Laboratories, Inc.

5560 Corporate Exchange Court SE • Grand Rapids, MI 49512

Chain of Custody Record

COC No. № 56718

000070

Project Manager	Project Name	No's Correspond to Bottle Packing List	For Lab Use Only
M. SALLAN	SLAAP ETS		Rack/Tray No:
Project No. 60011-005-YEFW40	Sampler (Print): HILL H		Lab Project #
	Sampler Signature: Robert Hill		

Date Sampled	Time Sampled	Matrix*	Composite	Grab	Sample Identification	No. of Containers	Container Type	Analysis Required/Comments	Sample No.	Filtered Date/Time
7/19/99	1400	SOIL	X		P S B 4 1 6 - 8	2		SVOCs, PCB, MOISTURE	TG-3	227176
7/19/99	1435	SOIL		X	P S B 3 1 5	3		25-gr ; 2-5gr ENCORE VOC.	TG-1	227177
7/19/99	1435	SOIL	X		P S B 3 1 4 - 6	2		SVOCs, PCB, MOISTURE	TG-3	227178
7/19/99	1455	SOIL		X	P S B 7 1 7	3		25gr ENCORE & 2-5gr ENCORE VOC.	TG-1	227179
7/19/99	1455	SOIL	X		P S B 7 1 6 - 8	2		SVOCs, PCB, MOISTURE	TG-3	227180
7/19/99	1535	SOIL		X	P S B 8 1 6	3		25gr & 2-5gr ENCORES VOCs	TG-1	227181
7/19/99	1535	SOIL	X		P S B 8 1 5 - 7	2		SVOCs, PCB, MOISTURE	TG-3	227182
7/19/99	1610	WTR		X	E Q B 7 1 9	4		VOCs, SVOCs, PCBs	TG-5	227183
7/19/99	1634	WTR		X	T R 1 P	1		VOCs	TG-4	227184

Relinquished By	Date/Time	Received By	Received to Lab By	Date/Time	Logged in By	Date/Time
Robert Hill	7/19/99 1600		Deb Silhavy	7/20/99	Deb Silhavy	7-21-99 4:01

*Matrix: Water (WTR), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)

FedEx 11:00 AM

Custody seals intact upon receipt

PM

August 17, 1999

Tetra Tech EM, Inc.
Attn: Michael Barlage
200 E. Randolph
Suite 4700
Chicago, IL 60601

RE: St. Louis Army Ammunition
G0011-0054KFW02

Dear Mr. Michael Barlage:

Enclosed is a copy of your laboratory summary report for submittal **35109-3.** This submittal was completely received on July 21, 1999. All analyses have been validated and comply with our Quality Control program statistics unless otherwise noted.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Gerald L. Holycross
Project Chemist

Enclosure

000001

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TriMatrix Laboratories, Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 8SB5,7

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 06:55
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/30/99
Lab Sample No: 227185
Batch No: 145555

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<0.010		0.010
71-43-2	Benzene	<0.010		0.010
75-27-4	Dichlorobromomethane	<0.010		0.010
75-25-2	Bromoform	<0.010		0.010
74-83-9	Bromomethane	<0.010		0.010
78-93-3	Methyl Ethyl Ketone	<0.010		0.010
75-15-0	Carbon Disulfide	<0.010		0.010
56-23-5	Carbon Tetrachloride	<0.010		0.010
108-90-7	Chlorobenzene	<0.010		0.010
75-00-3	Chloroethane	<0.010		0.010
67-66-3	Chloroform	<0.010		0.010
74-87-3	Chloromethane	<0.010		0.010
124-48-1	Chlorodibromomethane	<0.010		0.010
95-50-1	1,2-Dichlorobenzene	<0.010		0.010
541-73-1	1,3-Dichlorobenzene	<0.010		0.010
106-46-7	1,4-Dichlorobenzene	<0.010		0.010
75-34-3	1,1-Dichloroethane	<0.010		0.010
107-06-2	1,2-Dichloroethane	<0.010		0.010
156-60-5	trans-1,2-Dichloroethene	<0.010		0.010
156-59-2	cis-1,2-Dichloroethene	<0.010		0.010
75-35-4	1,1-Dichloroethylene	<0.010		0.010
78-87-5	1,2-Dichloropropane	<0.010		0.010
10061-01-5	cis-1,3-Dichloropropene	<0.010		0.010
10061-02-6	trans-1,3-Dichloropropene	<0.010		0.010
100-41-4	Ethylbenzene	<0.010		0.010
591-78-6	2-Hexanone	<0.010		0.010
108-10-1	4-Methyl-2-Pentanone	<0.010		0.010
75-09-2	Methylene Chloride	<0.010		0.010
100-42-5	Styrene	<0.010		0.010
79-34-5	1,1,2,2-Tetrachloroethane	<0.010		0.010
127-18-4	Tetrachloroethene	<0.010		0.010
71-55-6	1,1,1-Trichloroethane	<0.010		0.010
79-00-5	1,1,2-Trichloroethane	<0.010		0.010
79-01-6	Trichloroethene	<0.010		0.010
108-88-3	Toluene	<0.010		0.010

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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 8SB5,7

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 06:55
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/30/99
Lab Sample No: 227185
Batch No: 145555

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<0.010		0.010
1330-20-7	Xylene (Total)	<0.010		0.010

000003

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ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples

Submittal Number: 35109- 3
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		8SB5,7	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227185				
E-1047	Percent Solids	78				%

Sampled by: Barlage
Date Sampled: 07/20/99
Time Sampled: 06:55
Date Received: 07/21/99
Time Received: 09:55

000004

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 8SB5, 6-8

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 06:55
Date Received: 07/21/99 Time: 09:55
Analysis Date: 08/02/99
Lab Sample No: 227186
Batch No: 145161

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<0.33		0.33
208-96-8	Acenaphthylene	<0.33		0.33
120-12-7	Anthracene	<0.33		0.33
56-55-3	Benzo (a) Anthracene	<0.33		0.33
50-32-8	Benzo (a) Pyrene	<0.33		0.33
205-99-2	Benzo (b) Fluoranthene	<0.33		0.33
207-08-9	Benzo (k) Fluoranthene	<0.33		0.33
191-24-2	Benzo (g,h,i,) Perylene	<0.33		0.33
111-91-1	Bis (2-Chloroethoxy)-Methane	<0.33		0.33
111-44-4	Bis (2-Chloroethyl) Ether	<0.33		0.33
108-60-1	Bis (2-Chloroisopropyl)-Ether	<0.33		0.33
117-81-7	Bis (2-ethylhexyl)-Phthalate	<0.33		0.33
101-55-3	4-Bromophenyl Phenylether	<0.33		0.33
85-68-7	Butyl Benzyl Phthalate	<0.33		0.33
86-74-8	Carbazole	<0.33		0.33
59-50-7	4-Chloro-3-Methylphenol	<0.33		0.33
106-47-8	4-Chloroaniline	<0.33		0.33
91-58-7	2-Chloronaphthalene	<0.33		0.33
95-57-8	2-Chlorophenol	<0.33		0.33
7005-72-3	4-Chlorophenylphenyl-Ether	<0.33		0.33
218-01-9	Chrysene	<0.33		0.33
84-74-2	Di-n-Butylphthalate	<0.33		0.33
117-84-0	Di-n-Octylphthalate	<0.33		0.33
53-70-3	Dibenzo (a,h) Anthracene	<0.33		0.33
132-64-9	Dibenzofuran	<0.33		0.33
95-50-1	1,2-Dichlorobenzene	<0.33		0.33
541-73-1	1,3-Dichlorobenzene	<0.33		0.33
106-46-7	1,4-Dichlorobenzene	<0.33		0.33
91-94-1	3,3'-Dichlorobenzidine	<0.33		0.33
120-83-2	2,4-Dichlorophenol	<0.33		0.33
84-66-2	Diethylphthalate	<0.33		0.33

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 8SB5, 6-8

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 06:55
Date Received: 07/21/99 Time: 09:55
Analysis Date: 08/02/99
Lab Sample No: 227186
Batch No: 145161

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
131-11-3	Dimethylphthalate	<0.33		0.33
105-67-9	2,4-Dimethylphenol	<0.33		0.33
534-52-1	4,6-Dinitro-2-Methylphenol	<0.83		0.83
51-28-5	2,4-Dinitrophenol	<0.83		0.83
121-14-2	2,4-Dinitrotoluene	<0.33		0.33
606-20-2	2,6-Dinitrotoluene	<0.33		0.33
206-44-0	Fluoranthene	<0.33		0.33
86-73-7	Fluorene	<0.33		0.33
118-74-1	Hexachlorobenzene	<0.33		0.33
87-68-3	Hexachlorobutadiene	<0.33		0.33
77-47-4	Hexachlorocyclopentadiene	<0.33		0.33
67-72-1	Hexachloroethane	<0.33		0.33
193-39-5	Indeno (1,2,3-cd) Pyrene	<0.33		0.33
78-59-1	Isophorone	<0.33		0.33
91-57-6	2-Methylnaphthalene	<0.33		0.33
95-48-7	2-Methylphenol	<0.33		0.33
106-44-5	4-Methylphenol	<0.33		0.33
621-64-7	N-Nitrosodi-n-Propylamine	<0.33		0.33
86-30-6	N-Nitroso-di-Phenylamine	<0.33		0.33
91-20-3	Naphthalene	<0.33		0.33
88-74-4	2-Nitroaniline	<0.83		0.83
99-09-2	3-Nitroaniline	<0.83		0.83
100-01-6	4-Nitroaniline	<0.83		0.83
98-95-3	Nitrobenzene	<0.33		0.33
88-75-5	2-Nitrophenol	<0.33		0.33
100-02-7	4-Nitrophenol	<0.33		0.33
87-86-5	Pentachlorophenol	<0.33		0.33
85-01-8	Phenanthrene	<0.33		0.33
108-95-2	Phenol	<0.33		0.33
129-00-0	Pyrene	<0.33		0.33
120-82-1	1,2,4-Trichlorobenzene	<0.33		0.33
95-95-4	2,4,5-Trichlorophenol	<0.33		0.33
88-06-2	2,4,6-Trichlorophenol	<0.33		0.33

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TriMatrix Laboratories Inc

PCBS IN SOIL
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 8SB5, 6-8

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 06:55
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/30/99
Lab Sample No: 227186
Batch No: 145088

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.33		0.33
11104-28-2	PCB-1221	<0.33		0.33
11141-16-5	PCB-1232	<0.33		0.33
53469-21-9	PCB-1242	<0.33		0.33
12672-29-6	PCB-1248	<0.33		0.33
11097-69-1	PCB-1254	<0.33		0.33
11096-82-5	PCB-1260	<0.33		0.33
-----	PCB-1262	<0.33		0.33
-----	PCB-1268	<0.33		0.33

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TriMatrix Laboratories Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples

Submittal Number: 35109- 3
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		8SB5, 6-8	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227186				
E-1047	Percent Solids	78				%

Sampled by: Barlage
Date Sampled: 07/20/99
Time Sampled: 06:55
Date Received: 07/21/99
Time Received: 09:55

000008

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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 8SB6,6-5

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 07:40
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/30/99
Lab Sample No: 227187
Batch No: 145555

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<0.010		0.010
71-43-2	Benzene	<0.010		0.010
75-27-4	Dichlorobromomethane	<0.010		0.010
75-25-2	Bromoform	<0.010		0.010
74-83-9	Bromomethane	<0.010		0.010
78-93-3	Methyl Ethyl Ketone	<0.010		0.010
75-15-0	Carbon Disulfide	<0.010		0.010
56-23-5	Carbon Tetrachloride	<0.010		0.010
108-90-7	Chlorobenzene	<0.010		0.010
75-00-3	Chloroethane	<0.010		0.010
67-66-3	Chloroform	<0.010		0.010
74-87-3	Chloromethane	<0.010		0.010
124-48-1	Chlorodibromomethane	<0.010		0.010
95-50-1	1,2-Dichlorobenzene	<0.010		0.010
541-73-1	1,3-Dichlorobenzene	<0.010		0.010
106-46-7	1,4-Dichlorobenzene	<0.010		0.010
75-34-3	1,1-Dichloroethane	<0.010		0.010
107-06-2	1,2-Dichloroethane	<0.010		0.010
156-60-5	trans-1,2-Dichloroethene	<0.010		0.010
156-59-2	cis-1,2-Dichloroethene	<0.010		0.010
75-35-4	1,1-Dichloroethylene	<0.010		0.010
78-87-5	1,2-Dichloropropane	<0.010		0.010
10061-01-5	cis-1,3-Dichloropropene	<0.010		0.010
10061-02-6	trans-1,3-Dichloropropene	<0.010		0.010
100-41-4	Ethylbenzene	<0.010		0.010
591-78-6	2-Hexanone	<0.010		0.010
108-10-1	4-Methyl-2-Pentanone	<0.010		0.010
75-09-2	Methylene Chloride	<0.010		0.010
100-42-5	Styrene	<0.010		0.010
79-34-5	1,1,2,2-Tetrachloroethane	<0.010		0.010
127-18-4	Tetrachloroethene	<0.010		0.010
71-55-6	1,1,1-Trichloroethane	<0.010		0.010
79-00-5	1,1,2-Trichloroethane	<0.010		0.010
79-01-6	Trichloroethene	<0.010		0.010
108-88-3	Toluene	<0.010		0.010

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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 8SB6,6-5

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 07:40
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/30/99
Lab Sample No: 227187
Batch No: 145555

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<0.010		0.010
1330-20-7	Xylene (Total)	<0.010		0.010

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ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples

Submittal Number: 35109- 3
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		8SB6,6-5	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227187				
E-1047	Percent Solids	80				%

Sampled by: Barlage
Date Sampled: 07/20/99
Time Sampled: 07:40
Date Received: 07/21/99
Time Received: 09:55

000011

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 8SB6,6-7.5

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 07:40
Date Received: 07/21/99 Time: 09:55
Analysis Date: 08/02/99
Lab Sample No: 227188
Batch No: 145161

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<0.33		0.33
208-96-8	Acenaphthylene	<0.33		0.33
120-12-7	Anthracene	<0.33		0.33
56-55-3	Benzo (a) Anthracene	<0.33		0.33
50-32-8	Benzo (a) Pyrene	<0.33		0.33
205-99-2	Benzo (b) Fluoranthene	<0.33		0.33
207-08-9	Benzo (k) Fluoranthene	<0.33		0.33
191-24-2	Benzo (g,h,i,) Perylene	<0.33		0.33
111-91-1	Bis (2-Chloroethoxy)-Methane	<0.33		0.33
111-44-4	Bis (2-Chloroethyl) Ether	<0.33		0.33
108-60-1	Bis (2-Chloroisopropyl)-Ether	<0.33		0.33
117-81-7	Bis (2-ethylhexyl)-Phthalate	<0.33		0.33
101-55-3	4-Bromophenyl Phenylether	<0.33		0.33
85-68-7	Butyl Benzyl Phthalate	<0.33		0.33
86-74-8	Carbazole	<0.33		0.33
59-50-7	4-Chloro-3-Methylphenol	<0.33		0.33
106-47-8	4-Chloroaniline	<0.33		0.33
91-58-7	2-Chloronaphthalene	<0.33		0.33
95-57-8	2-Chlorophenol	<0.33		0.33
7005-72-3	4-Chlorophenylphenyl-Ether	<0.33		0.33
218-01-9	Chrysene	<0.33		0.33
84-74-2	Di-n-Butylphthalate	<0.33		0.33
117-84-0	Di-n-Octylphthalate	<0.33		0.33
53-70-3	Dibenzo (a,h) Anthracene	<0.33		0.33
132-64-9	Dibenzofuran	<0.33		0.33
95-50-1	1,2-Dichlorobenzene	<0.33		0.33
541-73-1	1,3-Dichlorobenzene	<0.33		0.33
106-46-7	1,4-Dichlorobenzene	<0.33		0.33
91-94-1	3,3'-Dichlorobenzidine	<0.33		0.33
120-83-2	2,4-Dichlorophenol	<0.33		0.33
84-66-2	Diethylphthalate	<0.33		0.33

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 8SB6,6-7.5

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 07:40
Date Received: 07/21/99 Time: 09:55
Analysis Date: 08/02/99
Lab Sample No: 227188
Batch No: 145161

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
131-11-3	Dimethylphthalate	<0.33		0.33
105-67-9	2,4-Dimethylphenol	<0.33		0.33
534-52-1	4,6-Dinitro-2-Methylphenol	<0.83		0.83
51-28-5	2,4-Dinitrophenol	<0.83		0.83
121-14-2	2,4-Dinitrotoluene	<0.33		0.33
606-20-2	2,6-Dinitrotoluene	<0.33		0.33
206-44-0	Fluoranthene	<0.33		0.33
86-73-7	Fluorene	<0.33		0.33
118-74-1	Hexachlorobenzene	<0.33		0.33
87-68-3	Hexachlorobutadiene	<0.33		0.33
77-47-4	Hexachlorocyclopentadiene	<0.33		0.33
67-72-1	Hexachloroethane	<0.33		0.33
193-39-5	Indeno (1,2,3-cd) Pyrene	<0.33		0.33
78-59-1	Isophorone	<0.33		0.33
91-57-6	2-Methylnaphthalene	<0.33		0.33
95-48-7	2-Methylphenol	<0.33		0.33
106-44-5	4-Methylphenol	<0.33		0.33
621-64-7	N-Nitrosodi-n-Propylamine	<0.33		0.33
86-30-6	N-Nitroso-di-Phenylamine	<0.33		0.33
91-20-3	Naphthalene	<0.33		0.33
88-74-4	2-Nitroaniline	<0.83		0.83
99-09-2	3-Nitroaniline	<0.83		0.83
100-01-6	4-Nitroaniline	<0.83		0.83
98-95-3	Nitrobenzene	<0.33		0.33
88-75-5	2-Nitrophenol	<0.33		0.33
100-02-7	4-Nitrophenol	<0.33		0.33
87-86-5	Pentachlorophenol	<0.33		0.33
85-01-8	Phenanthrene	<0.33		0.33
108-95-2	Phenol	<0.33		0.33
129-00-0	Pyrene	<0.33		0.33
120-82-1	1,2,4-Trichlorobenzene	<0.33		0.33
95-95-4	2,4,5-Trichlorophenol	<0.33		0.33
88-06-2	2,4,6-Trichlorophenol	<0.33		0.33

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TriMatrix Laboratories, Inc

PCBS IN SOIL
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 8SB6,6-7.5

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 07:40
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/30/99
Lab Sample No: 227188
Batch No: 145088

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.33		0.33
11104-28-2	PCB-1221	<0.33		0.33
11141-16-5	PCB-1232	<0.33		0.33
53469-21-9	PCB-1242	<0.33		0.33
12672-29-6	PCB-1248	<0.33		0.33
11097-69-1	PCB-1254	<0.33		0.33
11096-82-5	PCB-1260	<0.33		0.33
-----	PCB-1262	<0.33		0.33
-----	PCB-1268	<0.33		0.33

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TriMatrix Laboratories, Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples

Submittal Number: 35109- 3
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		8SB6,6-7.5	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227188				
E-1047	Percent Solids	80				%

Sampled by: Barlage
Date Sampled: 07/20/99
Time Sampled: 07:40
Date Received: 07/21/99
Time Received: 09:55

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TriMatrix Laboratories, Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 1SB1,9.5

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 08:35
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/30/99
Lab Sample No: 227189
Batch No: 145555

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	**0.058**		0.010
71-43-2	Benzene	<0.010		0.010
75-27-4	Dichlorobromomethane	<0.010		0.010
75-25-2	Bromoform	<0.010		0.010
74-83-9	Bromomethane	<0.010		0.010
78-93-3	Methyl Ethyl Ketone	<0.010		0.010
75-15-0	Carbon Disulfide	<0.010		0.010
56-23-5	Carbon Tetrachloride	<0.010		0.010
108-90-7	Chlorobenzene	<0.010		0.010
75-00-3	Chloroethane	<0.010		0.010
67-66-3	Chloroform	<0.010		0.010
74-87-3	Chloromethane	<0.010		0.010
124-48-1	Chlorodibromomethane	<0.010		0.010
95-50-1	1,2-Dichlorobenzene	<0.010		0.010
541-73-1	1,3-Dichlorobenzene	<0.010		0.010
106-46-7	1,4-Dichlorobenzene	<0.010		0.010
75-34-3	1,1-Dichloroethane	<0.010		0.010
107-06-2	1,2-Dichloroethane	<0.010		0.010
156-60-5	trans-1,2-Dichloroethene	<0.010		0.010
156-59-2	cis-1,2-Dichloroethene	<0.010		0.010
75-35-4	1,1-Dichloroethylene	<0.010		0.010
78-87-5	1,2-Dichloropropane	<0.010		0.010
10061-01-5	cis-1,3-Dichloropropene	<0.010		0.010
10061-02-6	trans-1,3-Dichloropropene	<0.010		0.010
100-41-4	Ethylbenzene	<0.010		0.010
591-78-6	2-Hexanone	<0.010		0.010
108-10-1	4-Methyl-2-Pentanone	<0.010		0.010
75-09-2	Methylene Chloride	<0.010		0.010
100-42-5	Styrene	<0.010		0.010
79-34-5	1,1,2,2-Tetrachloroethane	<0.010		0.010
127-18-4	Tetrachloroethene	<0.010		0.010
71-55-6	1,1,1-Trichloroethane	<0.010		0.010
79-00-5	1,1,2-Trichloroethane	<0.010		0.010
79-01-6	Trichloroethene	<0.010		0.010
108-88-3	Toluene	<0.010		0.010

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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 1SB1,9.5

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 08:35
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/30/99
Lab Sample No: 227189
Batch No: 145555

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<0.010		0.010
1330-20-7	Xylene (Total)	<0.010		0.010

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TriMatrix Laboratories, Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples

Submittal Number: 35109- 3
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		1SB1,9.5	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227189				
E-1047	Percent Solids	78				%

Sampled by: Barlage
Date Sampled: 07/20/99
Time Sampled: 08:35
Date Received: 07/21/99
Time Received: 09:55

000018

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 1SB1,9-11

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 08:35
Date Received: 07/21/99 Time: 09:55
Analysis Date: 08/02/99
Lab Sample No: 227190
Batch No: 145161

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<0.33		0.33
208-96-8	Acenaphthylene	<0.33		0.33
120-12-7	Anthracene	<0.33		0.33
56-55-3	Benzo (a) Anthracene	<0.33		0.33
50-32-8	Benzo (a) Pyrene	<0.33		0.33
205-99-2	Benzo (b) Fluoranthene	<0.33		0.33
207-08-9	Benzo (k) Fluoranthene	<0.33		0.33
191-24-2	Benzo (g,h,i,) Perylene	<0.33		0.33
111-91-1	Bis (2-Chloroethoxy)-Methane	<0.33		0.33
111-44-4	Bis (2-Chloroethyl) Ether	<0.33		0.33
108-60-1	Bis (2-Chloroisopropyl)-Ether	<0.33		0.33
117-81-7	Bis (2-ethylhexyl)-Phthalate	<0.33		0.33
101-55-3	4-Bromophenyl Phenylether	<0.33		0.33
85-68-7	Butyl Benzyl Phthalate	<0.33		0.33
86-74-8	Carbazole	<0.33		0.33
59-50-7	4-Chloro-3-Methylphenol	<0.33		0.33
106-47-8	4-Chloroaniline	<0.33		0.33
91-58-7	2-Chloronaphthalene	<0.33		0.33
95-57-8	2-Chlorophenol	<0.33		0.33
7005-72-3	4-Chlorophenylphenyl-Ether	<0.33		0.33
218-01-9	Chrysene	<0.33		0.33
84-74-2	Di-n-Butylphthalate	<0.33		0.33
117-84-0	Di-n-Octylphthalate	<0.33		0.33
53-70-3	Dibenzo (a,h) Anthracene	<0.33		0.33
132-64-9	Dibenzofuran	<0.33		0.33
95-50-1	1,2-Dichlorobenzene	<0.33		0.33
541-73-1	1,3-Dichlorobenzene	<0.33		0.33
106-46-7	1,4-Dichlorobenzene	<0.33		0.33
91-94-1	3,3'-Dichlorobenzidine	<0.33		0.33
120-83-2	2,4-Dichlorophenol	<0.33		0.33
84-66-2	Diethylphthalate	<0.33		0.33

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 1SB1,9-11

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 08:35
Date Received: 07/21/99 Time: 09:55
Analysis Date: 08/02/99
Lab Sample No: 227190
Batch No: 145161

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
131-11-3	Dimethylphthalate	<0.33		0.33
105-67-9	2,4-Dimethylphenol	<0.33		0.33
534-52-1	4,6-Dinitro-2-Methylphenol	<0.83		0.83
51-28-5	2,4-Dinitrophenol	<0.83		0.83
121-14-2	2,4-Dinitrotoluene	<0.33		0.33
606-20-2	2,6-Dinitrotoluene	<0.33		0.33
206-44-0	Fluoranthene	<0.33		0.33
86-73-7	Fluorene	<0.33		0.33
118-74-1	Hexachlorobenzene	<0.33		0.33
87-68-3	Hexachlorobutadiene	<0.33		0.33
77-47-4	Hexachlorocyclopentadiene	<0.33		0.33
67-72-1	Hexachloroethane	<0.33		0.33
193-39-5	Indeno (1,2,3-cd) Pyrene	<0.33		0.33
78-59-1	Isophorone	<0.33		0.33
91-57-6	2-Methylnaphthalene	<0.33		0.33
95-48-7	2-Methylphenol	<0.33		0.33
106-44-5	4-Methylphenol	<0.33		0.33
621-64-7	N-Nitrosodi-n-Propylamine	<0.33		0.33
86-30-6	N-Nitroso-di-Phenylamine	<0.33		0.33
91-20-3	Naphthalene	<0.33		0.33
88-74-4	2-Nitroaniline	<0.83		0.83
99-09-2	3-Nitroaniline	<0.83		0.83
100-01-6	4-Nitroaniline	<0.83		0.83
98-95-3	Nitrobenzene	<0.33		0.33
88-75-5	2-Nitrophenol	<0.33		0.33
100-02-7	4-Nitrophenol	<0.33		0.33
87-86-5	Pentachlorophenol	<0.33		0.33
85-01-8	Phenanthrene	<0.33		0.33
108-95-2	Phenol	<0.33		0.33
129-00-0	Pyrene	<0.33		0.33
120-82-1	1,2,4-Trichlorobenzene	<0.33		0.33
95-95-4	2,4,5-Trichlorophenol	<0.33		0.33
88-06-2	2,4,6-Trichlorophenol	<0.33		0.33

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TriMatrix Laboratories Inc

PCBS IN SOIL
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 1SB1,9-11

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 08:35
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/29/99
Lab Sample No: 227190
Batch No: 145088

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.33		0.33
11104-28-2	PCB-1221	<0.33		0.33
11141-16-5	PCB-1232	<0.33		0.33
53469-21-9	PCB-1242	<0.33		0.33
12672-29-6	PCB-1248	<0.33		0.33
11097-69-1	PCB-1254	<0.33		0.33
11096-82-5	PCB-1260	<0.33		0.33
-----	PCB-1262	<0.33		0.33
-----	PCB-1268	<0.33		0.33

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TriMatrix Laboratories, Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples

Submittal Number: 35109- 3
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		1SB1,9-11	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227190				
E-1047	Percent Solids	78				%

Sampled by: Barlage
Date Sampled: 07/20/99
Time Sampled: 08:35
Date Received: 07/21/99
Time Received: 09:55

000022

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TriMatrix Laboratories, Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 3SB1,5

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 08:55
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/30/99
Lab Sample No: 227191
Batch No: 145555

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<0.010		0.010
71-43-2	Benzene	<0.010		0.010
75-27-4	Dichlorobromomethane	<0.010		0.010
75-25-2	Bromoform	<0.010		0.010
74-83-9	Bromomethane	<0.010		0.010
78-93-3	Methyl Ethyl Ketone	<0.010		0.010
75-15-0	Carbon Disulfide	<0.010		0.010
56-23-5	Carbon Tetrachloride	<0.010		0.010
108-90-7	Chlorobenzene	<0.010		0.010
75-00-3	Chloroethane	<0.010		0.010
67-66-3	Chloroform	<0.010		0.010
74-87-3	Chloromethane	<0.010		0.010
124-48-1	Chlorodibromomethane	<0.010		0.010
95-50-1	1,2-Dichlorobenzene	<0.010		0.010
541-73-1	1,3-Dichlorobenzene	<0.010		0.010
106-46-7	1,4-Dichlorobenzene	<0.010		0.010
75-34-3	1,1-Dichloroethane	<0.010		0.010
107-06-2	1,2-Dichloroethane	<0.010		0.010
156-60-5	trans-1,2-Dichloroethene	<0.010		0.010
156-59-2	cis-1,2-Dichloroethene	<0.010		0.010
75-35-4	1,1-Dichloroethylene	<0.010		0.010
78-87-5	1,2-Dichloropropane	<0.010		0.010
10061-01-5	cis-1,3-Dichloropropene	<0.010		0.010
10061-02-6	trans-1,3-Dichloropropene	<0.010		0.010
100-41-4	Ethylbenzene	<0.010		0.010
591-78-6	2-Hexanone	<0.010		0.010
108-10-1	4-Methyl-2-Pentanone	<0.010		0.010
75-09-2	Methylene Chloride	<0.010		0.010
100-42-5	Styrene	<0.010		0.010
79-34-5	1,1,2,2-Tetrachloroethane	<0.010		0.010
127-18-4	Tetrachloroethene	<0.010		0.010
71-55-6	1,1,1-Trichloroethane	<0.010		0.010
79-00-5	1,1,2-Trichloroethane	<0.010		0.010
79-01-6	Trichloroethene	<0.010		0.010
108-88-3	Toluene	<0.010		0.010

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TriMatrix Laboratories, Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 3SB1,5

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 08:55
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/30/99
Lab Sample No: 227191
Batch No: 145555

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<0.010		0.010
1330-20-7	Xylene (Total)	<0.010		0.010

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TriMatrix
Laboratories Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples

Submittal Number: 35109- 3
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		3SB1,5	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227191				
E-1047	Percent Solids	80				%

Sampled by: Barlage
Date Sampled: 07/20/99
Time Sampled: 08:55
Date Received: 07/21/99
Time Received: 09:55

000025

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 3SB1, 4-6

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 08:55
Date Received: 07/21/99 Time: 09:55
Analysis Date: 08/02/99
Lab Sample No: 227192
Batch No: 145161

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<0.33		0.33
208-96-8	Acenaphthylene	<0.33		0.33
120-12-7	Anthracene	<0.33		0.33
56-55-3	Benzo (a) Anthracene	<0.33		0.33
50-32-8	Benzo (a) Pyrene	<0.33		0.33
205-99-2	Benzo (b) Fluoranthene	<0.33		0.33
207-08-9	Benzo (k) Fluoranthene	<0.33		0.33
191-24-2	Benzo (g,h,i,) Perylene	<0.33		0.33
111-91-1	Bis (2-Chloroethoxy)-Methane	<0.33		0.33
111-44-4	Bis (2-Chloroethyl) Ether	<0.33		0.33
108-60-1	Bis (2-Chloroisopropyl)-Ether	<0.33		0.33
117-81-7	Bis (2-ethylhexyl)-Phthalate	<0.33		0.33
101-55-3	4-Bromophenyl Phenylether	<0.33		0.33
85-68-7	Butyl Benzyl Phthalate	<0.33		0.33
86-74-8	Carbazole	<0.33		0.33
59-50-7	4-Chloro-3-Methylphenol	<0.33		0.33
106-47-8	4-Chloroaniline	<0.33		0.33
91-58-7	2-Chloronaphthalene	<0.33		0.33
95-57-8	2-Chlorophenol	<0.33		0.33
7005-72-3	4-Chlorophenylphenyl-Ether	<0.33		0.33
218-01-9	Chrysene	<0.33		0.33
84-74-2	Di-n-Butylphthalate	<0.33		0.33
117-84-0	Di-n-Octylphthalate	<0.33		0.33
53-70-3	Dibenzo (a,h) Anthracene	<0.33		0.33
132-64-9	Dibenzofuran	<0.33		0.33
95-50-1	1,2-Dichlorobenzene	<0.33		0.33
541-73-1	1,3-Dichlorobenzene	<0.33		0.33
106-46-7	1,4-Dichlorobenzene	<0.33		0.33
91-94-1	3,3'-Dichlorobenzidine	<0.33		0.33
120-83-2	2,4-Dichlorophenol	<0.33		0.33
84-66-2	Diethylphthalate	<0.33		0.33

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 3SB1, 4-6

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 08:55
Date Received: 07/21/99 Time: 09:55
Analysis Date: 08/02/99
Lab Sample No: 227192
Batch No: 145161

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
131-11-3	Dimethylphthalate	<0.33		0.33
105-67-9	2,4-Dimethylphenol	<0.33		0.33
534-52-1	4,6-Dinitro-2-Methylphenol	<0.83		0.83
51-28-5	2,4-Dinitrophenol	<0.83		0.83
121-14-2	2,4-Dinitrotoluene	<0.33		0.33
606-20-2	2,6-Dinitrotoluene	<0.33		0.33
206-44-0	Fluoranthene	<0.33		0.33
86-73-7	Fluorene	<0.33		0.33
118-74-1	Hexachlorobenzene	<0.33		0.33
87-68-3	Hexachlorobutadiene	<0.33		0.33
77-47-4	Hexachlorocyclopentadiene	<0.33		0.33
67-72-1	Hexachloroethane	<0.33		0.33
193-39-5	Indeno (1,2,3-cd) Pyrene	<0.33		0.33
78-59-1	Isophorone	<0.33		0.33
91-57-6	2-Methylnaphthalene	<0.33		0.33
95-48-7	2-Methylphenol	<0.33		0.33
106-44-5	4-Methylphenol	<0.33		0.33
621-64-7	N-Nitrosodi-n-Propylamine	<0.33		0.33
86-30-6	N-Nitroso-di-Phenylamine	<0.33		0.33
91-20-3	Naphthalene	<0.33		0.33
88-74-4	2-Nitroaniline	<0.83		0.83
99-09-2	3-Nitroaniline	<0.83		0.83
100-01-6	4-Nitroaniline	<0.83		0.83
98-95-3	Nitrobenzene	<0.33		0.33
88-75-5	2-Nitrophenol	<0.33		0.33
100-02-7	4-Nitrophenol	<0.33		0.33
87-86-5	Pentachlorophenol	<0.33		0.33
85-01-8	Phenanthrene	<0.33		0.33
108-95-2	Phenol	<0.33		0.33
129-00-0	Pyrene	<0.33		0.33
120-82-1	1,2,4-Trichlorobenzene	<0.33		0.33
95-95-4	2,4,5-Trichlorophenol	<0.33		0.33
88-06-2	2,4,6-Trichlorophenol	<0.33		0.33

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TriMatrix Laboratories, Inc

PCBS IN SOIL
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 3SB1, 4-6

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 08:55
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/29/99
Lab Sample No: 227192
Batch No: 145088

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.33		0.33
11104-28-2	PCB-1221	<0.33		0.33
11141-16-5	PCB-1232	<0.33		0.33
53469-21-9	PCB-1242	<0.33		0.33
12672-29-6	PCB-1248	<0.33		0.33
11097-69-1	PCB-1254	<0.33		0.33
11096-82-5	PCB-1260	<0.33		0.33
-----	PCB-1262	<0.33		0.33
-----	PCB-1268	<0.33		0.33

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TriMatrix Laboratories, Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples

Submittal Number: 35109- 3
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		3SB1, 4-6	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227192				
E-1047	Percent Solids	80				%

Sampled by:	Barlage
Date Sampled:	07/20/99
Time Sampled:	08:55
Date Received:	07/21/99
Time Received:	09:55

000029

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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 10SB4,11

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 09:30
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/30/99
Lab Sample No: 227193
Batch No: 145555

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	**0.050**		0.010
71-43-2	Benzene	<0.010		0.010
75-27-4	Dichlorobromomethane	<0.010		0.010
75-25-2	Bromoform	<0.010		0.010
74-83-9	Bromomethane	<0.010		0.010
78-93-3	Methyl Ethyl Ketone	<0.010		0.010
75-15-0	Carbon Disulfide	<0.010		0.010
56-23-5	Carbon Tetrachloride	<0.010		0.010
108-90-7	Chlorobenzene	<0.010		0.010
75-00-3	Chloroethane	<0.010		0.010
67-66-3	Chloroform	<0.010		0.010
74-87-3	Chloromethane	<0.010		0.010
124-48-1	Chlorodibromomethane	<0.010		0.010
95-50-1	1,2-Dichlorobenzene	<0.010		0.010
541-73-1	1,3-Dichlorobenzene	<0.010		0.010
106-46-7	1,4-Dichlorobenzene	<0.010		0.010
75-34-3	1,1-Dichloroethane	<0.010		0.010
107-06-2	1,2-Dichloroethane	<0.010		0.010
156-60-5	trans-1,2-Dichloroethene	<0.010		0.010
156-59-2	cis-1,2-Dichloroethene	<0.010		0.010
75-35-4	1,1-Dichloroethylene	<0.010		0.010
78-87-5	1,2-Dichloropropane	<0.010		0.010
10061-01-5	cis-1,3-Dichloropropene	<0.010		0.010
10061-02-6	trans-1,3-Dichloropropene	<0.010		0.010
100-41-4	Ethylbenzene	<0.010		0.010
591-78-6	2-Hexanone	<0.010		0.010
108-10-1	4-Methyl-2-Pentanone	<0.010		0.010
75-09-2	Methylene Chloride	<0.010		0.010
100-42-5	Styrene	<0.010		0.010
79-34-5	1,1,2,2-Tetrachloroethane	<0.010		0.010
127-18-4	Tetrachloroethene	<0.010		0.010
71-55-6	1,1,1-Trichloroethane	<0.010		0.010
79-00-5	1,1,2-Trichloroethane	<0.010		0.010
79-01-6	Trichloroethene	<0.010		0.010
108-88-3	Toluene	<0.010		0.010

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VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 10SB4,11

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 09:30
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/30/99
Lab Sample No: 227193
Batch No: 145555

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<0.010		0.010
1330-20-7	Xylene (Total)	<0.010		0.010

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TriMatrix Laboratories Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples

Submittal Number: 35109- 3
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		10SB4,11	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227193				
E-1047	Percent Solids	78				%

Sampled by: Barlage
Date Sampled: 07/20/99
Time Sampled: 09:30
Date Received: 07/21/99
Time Received: 09:55

000032

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 10SB4,
10-12

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 09:30
Date Received: 07/21/99 Time: 09:55
Analysis Date: 08/02/99
Lab Sample No: 227194
Batch No: 145161

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<0.33		0.33
208-96-8	Acenaphthylene	<0.33		0.33
120-12-7	Anthracene	<0.33		0.33
56-55-3	Benzo (a) Anthracene	<0.33		0.33
50-32-8	Benzo (a) Pyrene	<0.33		0.33
205-99-2	Benzo (b) Fluoranthene	<0.33		0.33
207-08-9	Benzo (k) Fluoranthene	<0.33		0.33
191-24-2	Benzo (g,h,i,) Perylene	<0.33		0.33
111-91-1	Bis (2-Chloroethoxy)-Methane	<0.33		0.33
111-44-4	Bis (2-Chloroethyl) Ether	<0.33		0.33
108-60-1	Bis (2-Chloroisopropyl)-Ether	<0.33		0.33
117-81-7	Bis (2-ethylhexyl)-Phthalate	<0.33		0.33
101-55-3	4-Bromophenyl Phenylether	<0.33		0.33
85-68-7	Butyl Benzyl Phthalate	<0.33		0.33
86-74-8	Carbazole	<0.33		0.33
59-50-7	4-Chloro-3-Methylphenol	<0.33		0.33
106-47-8	4-Chloroaniline	<0.33		0.33
91-58-7	2-Chloronaphthalene	<0.33		0.33
95-57-8	2-Chlorophenol	<0.33		0.33
7005-72-3	4-Chlorophenylphenyl-Ether	<0.33		0.33
218-01-9	Chrysene	<0.33		0.33
84-74-2	Di-n-Butylphthalate	<0.33		0.33
117-84-0	Di-n-Octylphthalate	<0.33		0.33
53-70-3	Dibenzo (a,h) Anthracene	<0.33		0.33
132-64-9	Dibenzofuran	<0.33		0.33
95-50-1	1,2-Dichlorobenzene	<0.33		0.33
541-73-1	1,3-Dichlorobenzene	<0.33		0.33
106-46-7	1,4-Dichlorobenzene	<0.33		0.33
91-94-1	3,3'-Dichlorobenzidine	<0.33		0.33
120-83-2	2,4-Dichlorophenol	<0.33		0.33
84-66-2	Diethylphthalate	<0.33		0.33

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TriMatrix Laboratories, Inc.

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 10SB4,
10-12

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 09:30
Date Received: 07/21/99 Time: 09:55
Analysis Date: 08/02/99
Lab Sample No: 227194
Batch No: 145161

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
131-11-3	Dimethylphthalate	<0.33		0.33
105-67-9	2,4-Dimethylphenol	<0.33		0.33
534-52-1	4,6-Dinitro-2-Methylphenol	<0.83		0.83
51-28-5	2,4-Dinitrophenol	<0.83		0.83
121-14-2	2,4-Dinitrotoluene	<0.33		0.33
606-20-2	2,6-Dinitrotoluene	<0.33		0.33
206-44-0	Fluoranthene	<0.33		0.33
86-73-7	Fluorene	<0.33		0.33
118-74-1	Hexachlorobenzene	<0.33		0.33
87-68-3	Hexachlorobutadiene	<0.33		0.33
77-47-4	Hexachlorocyclopentadiene	<0.33		0.33
67-72-1	Hexachloroethane	<0.33		0.33
193-39-5	Indeno (1,2,3-cd) Pyrene	<0.33		0.33
78-59-1	Isophorone	<0.33		0.33
91-57-6	2-Methylnaphthalene	<0.33		0.33
95-48-7	2-Methylphenol	<0.33		0.33
106-44-5	4-Methylphenol	<0.33		0.33
621-64-7	N-Nitrosodi-n-Propylamine	<0.33		0.33
86-30-6	N-Nitroso-di-Phenylamine	<0.33		0.33
91-20-3	Naphthalene	<0.33		0.33
88-74-4	2-Nitroaniline	<0.83		0.83
99-09-2	3-Nitroaniline	<0.83		0.83
100-01-6	4-Nitroaniline	<0.83		0.83
98-95-3	Nitrobenzene	<0.33		0.33
88-75-5	2-Nitrophenol	<0.33		0.33
100-02-7	4-Nitrophenol	<0.33		0.33
87-86-5	Pentachlorophenol	<0.33		0.33
85-01-8	Phenanthrene	<0.33		0.33
108-95-2	Phenol	<0.33		0.33
129-00-0	Pyrene	<0.33		0.33
120-82-1	1,2,4-Trichlorobenzene	<0.33		0.33
95-95-4	2,4,5-Trichlorophenol	<0.33		0.33
88-06-2	2,4,6-Trichlorophenol	<0.33		0.33

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TriMatrix Laboratories Inc

PCBS IN SOIL
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 10SB4,
10-12

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 09:30
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/29/99
Lab Sample No: 227194
Batch No: 145088

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.33		0.33
11104-28-2	PCB-1221	<0.33		0.33
11141-16-5	PCB-1232	<0.33		0.33
53469-21-9	PCB-1242	<0.33		0.33
12672-29-6	PCB-1248	<0.33		0.33
11097-69-1	PCB-1254	<0.33		0.33
11096-82-5	PCB-1260	<0.33		0.33
-----	PCB-1262	<0.33		0.33
-----	PCB-1268	<0.33		0.33

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TriMatrix Laboratories, Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples

Submittal Number: 35109- 3
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		10SB4, 10-12	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227194				
E-1047	Percent Solids	78				%

Sampled by:	Barlage
Date Sampled:	07/20/99
Time Sampled:	09:30
Date Received:	07/21/99
Time Received:	09:55

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TriMatrix Laboratories, Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 1SB2,7

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 10:35
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/30/99
Lab Sample No: 227195
Batch No: 145555

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<0.010		0.010
71-43-2	Benzene	<0.010		0.010
75-27-4	Dichlorobromomethane	<0.010		0.010
75-25-2	Bromoform	<0.010		0.010
74-83-9	Bromomethane	<0.010		0.010
78-93-3	Methyl Ethyl Ketone	<0.010		0.010
75-15-0	Carbon Disulfide	<0.010		0.010
56-23-5	Carbon Tetrachloride	<0.010		0.010
108-90-7	Chlorobenzene	<0.010		0.010
75-00-3	Chloroethane	<0.010		0.010
67-66-3	Chloroform	<0.010		0.010
74-87-3	Chloromethane	<0.010		0.010
124-48-1	Chlorodibromomethane	<0.010		0.010
95-50-1	1,2-Dichlorobenzene	<0.010		0.010
541-73-1	1,3-Dichlorobenzene	<0.010		0.010
106-46-7	1,4-Dichlorobenzene	<0.010		0.010
75-34-3	1,1-Dichloroethane	**0.018**		0.010
107-06-2	1,2-Dichloroethane	<0.010		0.010
156-60-5	trans-1,2-Dichloroethene	<0.010		0.010
156-59-2	cis-1,2-Dichloroethene	<0.010		0.010
75-35-4	1,1-Dichloroethylene	<0.010		0.010
78-87-5	1,2-Dichloropropane	<0.010		0.010
10061-01-5	cis-1,3-Dichloropropene	<0.010		0.010
10061-02-6	trans-1,3-Dichloropropene	<0.010		0.010
100-41-4	Ethylbenzene	<0.010		0.010
591-78-6	2-Hexanone	<0.010		0.010
108-10-1	4-Methyl-2-Pentanone	<0.010		0.010
75-09-2	Methylene Chloride	<0.010		0.010
100-42-5	Styrene	<0.010		0.010
79-34-5	1,1,2,2-Tetrachloroethane	<0.010		0.010
127-18-4	Tetrachloroethene	<0.010		0.010
71-55-6	1,1,1-Trichloroethane	<0.010		0.010
79-00-5	1,1,2-Trichloroethane	<0.010		0.010
79-01-6	Trichloroethene	<0.010		0.010
108-88-3	Toluene	<0.010		0.010

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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 1SB2,7

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 10:35
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/30/99
Lab Sample No: 227195
Batch No: 145555

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<0.010		0.010
1330-20-7	Xylene (Total)	<0.010		0.010

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ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples

Submittal Number: 35109- 3
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		1SB2,7	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227195				
E-1047	Percent Solids	79				%

Sampled by: Barlage
Date Sampled: 07/20/99
Time Sampled: 10:35
Date Received: 07/21/99
Time Received: 09:55

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TriMatrix Laboratories Inc.

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 10SB5,7

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 11:30
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/31/99
Lab Sample No: 227196
Batch No: 145555

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	**0.046**		0.010
71-43-2	Benzene	<0.010		0.010
75-27-4	Dichlorobromomethane	<0.010		0.010
75-25-2	Bromoform	<0.010		0.010
74-83-9	Bromomethane	<0.010		0.010
78-93-3	Methyl Ethyl Ketone	<0.010		0.010
75-15-0	Carbon Disulfide	<0.010		0.010
56-23-5	Carbon Tetrachloride	<0.010		0.010
108-90-7	Chlorobenzene	<0.010		0.010
75-00-3	Chloroethane	<0.010		0.010
67-66-3	Chloroform	<0.010		0.010
74-87-3	Chloromethane	<0.010		0.010
124-48-1	Chlorodibromomethane	<0.010		0.010
95-50-1	1,2-Dichlorobenzene	<0.010		0.010
541-73-1	1,3-Dichlorobenzene	<0.010		0.010
106-46-7	1,4-Dichlorobenzene	<0.010		0.010
75-34-3	1,1-Dichloroethane	<0.010		0.010
107-06-2	1,2-Dichloroethane	<0.010		0.010
156-60-5	trans-1,2-Dichloroethene	<0.010		0.010
156-59-2	cis-1,2-Dichloroethene	<0.010		0.010
75-35-4	1,1-Dichloroethylene	<0.010		0.010
78-87-5	1,2-Dichloropropane	<0.010		0.010
10061-01-5	cis-1,3-Dichloropropene	<0.010		0.010
10061-02-6	trans-1,3-Dichloropropene	<0.010		0.010
100-41-4	Ethylbenzene	<0.010		0.010
591-78-6	2-Hexanone	<0.010		0.010
108-10-1	4-Methyl-2-Pentanone	<0.010		0.010
75-09-2	Methylene Chloride	<0.010		0.010
100-42-5	Styrene	<0.010		0.010
79-34-5	1,1,2,2-Tetrachloroethane	<0.010		0.010
127-18-4	Tetrachloroethene	<0.010		0.010
71-55-6	1,1,1-Trichloroethane	<0.010		0.010
79-00-5	1,1,2-Trichloroethane	<0.010		0.010
79-01-6	Trichloroethene	<0.010		0.010
108-88-3	Toluene	<0.010		0.010

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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 10SB5,7

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 11:30
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/31/99
Lab Sample No: 227196
Batch No: 145555

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<0.010		0.010
1330-20-7	Xylene (Total)	<0.010		0.010

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TriMatrix Laboratories, Inc.

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples

Submittal Number: 35109- 3
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		10SB5,7	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227196				
E-1047	Percent Solids	79				%

Sampled by: Barlage
Date Sampled: 07/20/99
Time Sampled: 11:30
Date Received: 07/21/99
Time Received: 09:55

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 1SB2,6-8

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 10:35
Date Received: 07/21/99 Time: 09:55
Analysis Date: 08/02/99
Lab Sample No: 227197
Batch No: 145161

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<0.33		0.33
208-96-8	Acenaphthylene	<0.33		0.33
120-12-7	Anthracene	<0.33		0.33
56-55-3	Benzo (a) Anthracene	<0.33		0.33
50-32-8	Benzo (a) Pyrene	<0.33		0.33
205-99-2	Benzo (b) Fluoranthene	<0.33		0.33
207-08-9	Benzo (k) Fluoranthene	<0.33		0.33
191-24-2	Benzo (g,h,i,) Perylene	<0.33		0.33
111-91-1	Bis (2-Chloroethoxy)-Methane	<0.33		0.33
111-44-4	Bis (2-Chloroethyl) Ether	<0.33		0.33
108-60-1	Bis (2-Chloroisopropyl)-Ether	<0.33		0.33
117-81-7	Bis (2-ethylhexyl)-Phthalate	<0.33		0.33
101-55-3	4-Bromophenyl Phenylether	<0.33		0.33
85-68-7	Butyl Benzyl Phthalate	<0.33		0.33
86-74-8	Carbazole	<0.33		0.33
59-50-7	4-Chloro-3-Methylphenol	<0.33		0.33
106-47-8	4-Chloroaniline	<0.33		0.33
91-58-7	2-Chloronaphthalene	<0.33		0.33
95-57-8	2-Chlorophenol	<0.33		0.33
7005-72-3	4-Chlorophenylphenyl-Ether	<0.33		0.33
218-01-9	Chrysene	<0.33		0.33
84-74-2	Di-n-Butylphthalate	<0.33		0.33
117-84-0	Di-n-Octylphthalate	<0.33		0.33
53-70-3	Dibenzo (a,h) Anthracene	<0.33		0.33
132-64-9	Dibenzofuran	<0.33		0.33
95-50-1	1,2-Dichlorobenzene	<0.33		0.33
541-73-1	1,3-Dichlorobenzene	<0.33		0.33
106-46-7	1,4-Dichlorobenzene	<0.33		0.33
91-94-1	3,3'-Dichlorobenzidine	<0.33		0.33
120-83-2	2,4-Dichlorophenol	<0.33		0.33
84-66-2	Diethylphthalate	<0.33		0.33

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 1SB2,6-8

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 10:35
Date Received: 07/21/99 Time: 09:55
Analysis Date: 08/02/99
Lab Sample No: 227197
Batch No: 145161

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
131-11-3	Dimethylphthalate	<0.33		0.33
105-67-9	2,4-Dimethylphenol	<0.33		0.33
534-52-1	4,6-Dinitro-2-Methylphenol	<0.83		0.83
51-28-5	2,4-Dinitrophenol	<0.83		0.83
121-14-2	2,4-Dinitrotoluene	<0.33		0.33
606-20-2	2,6-Dinitrotoluene	<0.33		0.33
206-44-0	Fluoranthene	<0.33		0.33
86-73-7	Fluorene	<0.33		0.33
118-74-1	Hexachlorobenzene	<0.33		0.33
87-68-3	Hexachlorobutadiene	<0.33		0.33
77-47-4	Hexachlorocyclopentadiene	<0.33		0.33
67-72-1	Hexachloroethane	<0.33		0.33
193-39-5	Indeno (1,2,3-cd) Pyrene	<0.33		0.33
78-59-1	Isophorone	<0.33		0.33
91-57-6	2-Methylnaphthalene	<0.33		0.33
95-48-7	2-Methylphenol	<0.33		0.33
106-44-5	4-Methylphenol	<0.33		0.33
621-64-7	N-Nitrosodi-n-Propylamine	<0.33		0.33
86-30-6	N-Nitroso-di-Phenylamine	<0.33		0.33
91-20-3	Naphthalene	<0.33		0.33
88-74-4	2-Nitroaniline	<0.83		0.83
99-09-2	3-Nitroaniline	<0.83		0.83
100-01-6	4-Nitroaniline	<0.83		0.83
98-95-3	Nitrobenzene	<0.33		0.33
88-75-5	2-Nitrophenol	<0.33		0.33
100-02-7	4-Nitrophenol	<0.33		0.33
87-86-5	Pentachlorophenol	<0.33		0.33
85-01-8	Phenanthrene	<0.33		0.33
108-95-2	Phenol	<0.33		0.33
129-00-0	Pyrene	<0.33		0.33
120-82-1	1,2,4-Trichlorobenzene	<0.33		0.33
95-95-4	2,4,5-Trichlorophenol	<0.33		0.33
88-06-2	2,4,6-Trichlorophenol	<0.33		0.33

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TriMatrix Laboratories Inc

PCBS IN SOIL
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 1SB2,6-8

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 10:35
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/29/99
Lab Sample No: 227197
Batch No: 145088

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.33		0.33
11104-28-2	PCB-1221	<0.33		0.33
11141-16-5	PCB-1232	<0.33		0.33
53469-21-9	PCB-1242	<0.33		0.33
12672-29-6	PCB-1248	<0.33		0.33
11097-69-1	PCB-1254	<0.33		0.33
11096-82-5	PCB-1260	<0.33		0.33
-----	PCB-1262	<0.33		0.33
-----	PCB-1268	<0.33		0.33

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TriMatrix Laboratories, Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples

Submittal Number: 35109- 3
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		1SB2,6-8	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227197				
E-1047	Percent Solids	79				%

Sampled by: Barlage
Date Sampled: 07/20/99
Time Sampled: 10:35
Date Received: 07/21/99
Time Received: 09:55

000046

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 10SB5,6-8

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 11:30
Date Received: 07/21/99 Time: 09:55
Analysis Date: 08/03/99
Lab Sample No: 227198
Batch No: 145210

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<0.33		0.33
208-96-8	Acenaphthylene	<0.33		0.33
120-12-7	Anthracene	<0.33		0.33
56-55-3	Benzo (a) Anthracene	<0.33		0.33
50-32-8	Benzo (a) Pyrene	<0.33		0.33
205-99-2	Benzo (b) Fluoranthene	<0.33		0.33
207-08-9	Benzo (k) Fluoranthene	<0.33		0.33
191-24-2	Benzo (g,h,i,) Perylene	<0.33		0.33
111-91-1	Bis (2-Chloroethoxy)-Methane	<0.33		0.33
111-44-4	Bis (2-Chloroethyl) Ether	<0.33		0.33
108-60-1	Bis (2-Chloroisopropyl)-Ether	<0.33		0.33
117-81-7	Bis (2-ethylhexyl)-Phthalate	<0.33		0.33
101-55-3	4-Bromophenyl Phenylether	<0.33		0.33
85-68-7	Butyl Benzyl Phthalate	<0.33		0.33
86-74-8	Carbazole	<0.33		0.33
59-50-7	4-Chloro-3-Methylphenol	<0.33		0.33
106-47-8	4-Chloroaniline	<0.33		0.33
91-58-7	2-Chloronaphthalene	<0.33		0.33
95-57-8	2-Chlorophenol	<0.33		0.33
7005-72-3	4-Chlorophenylphenyl-Ether	<0.33		0.33
218-01-9	Chrysene	<0.33		0.33
84-74-2	Di-n-Butylphthalate	<0.33		0.33
117-84-0	Di-n-Octylphthalate	<0.33		0.33
53-70-3	Dibenzo (a,h) Anthracene	<0.33		0.33
132-64-9	Dibenzofuran	<0.33		0.33
95-50-1	1,2-Dichlorobenzene	<0.33		0.33
541-73-1	1,3-Dichlorobenzene	<0.33		0.33
106-46-7	1,4-Dichlorobenzene	<0.33		0.33
91-94-1	3,3'-Dichlorobenzidine	<0.33		0.33
120-83-2	2,4-Dichlorophenol	<0.33		0.33
84-66-2	Diethylphthalate	<0.33		0.33

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TriMatrix Laboratories Inc.

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 10SB5,6-8

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 11:30
Date Received: 07/21/99 Time: 09:55
Analysis Date: 08/03/99
Lab Sample No: 227198
Batch No: 145210

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
131-11-3	Dimethylphthalate	<0.33		0.33
105-67-9	2,4-Dimethylphenol	<0.33		0.33
534-52-1	4,6-Dinitro-2-Methylphenol	<0.83		0.83
51-28-5	2,4-Dinitrophenol	<0.83		0.83
121-14-2	2,4-Dinitrotoluene	<0.33		0.33
606-20-2	2,6-Dinitrotoluene	<0.33		0.33
206-44-0	Fluoranthene	<0.33		0.33
86-73-7	Fluorene	<0.33		0.33
118-74-1	Hexachlorobenzene	<0.33		0.33
87-68-3	Hexachlorobutadiene	<0.33		0.33
77-47-4	Hexachlorocyclopentadiene	<0.33		0.33
67-72-1	Hexachloroethane	<0.33		0.33
193-39-5	Indeno (1,2,3-cd) Pyrene	<0.33		0.33
78-59-1	Isophorone	<0.33		0.33
91-57-6	2-Methylnaphthalene	<0.33		0.33
95-48-7	2-Methylphenol	<0.33		0.33
106-44-5	4-Methylphenol	<0.33		0.33
621-64-7	N-Nitrosodi-n-Propylamine	<0.33		0.33
86-30-6	N-Nitroso-di-Phenylamine	<0.33		0.33
91-20-3	Naphthalene	<0.33		0.33
88-74-4	2-Nitroaniline	<0.83		0.83
99-09-2	3-Nitroaniline	<0.83		0.83
100-01-6	4-Nitroaniline	<0.83		0.83
98-95-3	Nitrobenzene	<0.33		0.33
88-75-5	2-Nitrophenol	<0.33		0.33
100-02-7	4-Nitrophenol	<0.33		0.33
87-86-5	Pentachlorophenol	<0.33		0.33
85-01-8	Phenanthrene	<0.33		0.33
108-95-2	Phenol	<0.33		0.33
129-00-0	Pyrene	<0.33		0.33
120-82-1	1,2,4-Trichlorobenzene	<0.33		0.33
95-95-4	2,4,5-Trichlorophenol	<0.33		0.33
88-06-2	2,4,6-Trichlorophenol	<0.33		0.33

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TriMatrix Laboratories Inc

PCBS IN SOIL
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 10SB5,6-8

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 11:30
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/29/99
Lab Sample No: 227198
Batch No: 145088

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.33		0.33
11104-28-2	PCB-1221	<0.33		0.33
11141-16-5	PCB-1232	<0.33		0.33
53469-21-9	PCB-1242	<0.33		0.33
12672-29-6	PCB-1248	<0.33		0.33
11097-69-1	PCB-1254	<0.33		0.33
11096-82-5	PCB-1260	<0.33		0.33
-----	PCB-1262	<0.33		0.33
-----	PCB-1268	<0.33		0.33

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TriMatrix Laboratories Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples

Submittal Number: 35109- 3
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		10SB5,6-8	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227198				
E-10139	pH	6.93				pH Units
E-1047	Percent Solids	79				%

Sampled by:	Barlage
Date Sampled:	07/20/99
Time Sampled:	11:30
Date Received:	07/21/99
Time Received:	09:55

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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 10SB2,7

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 12:55
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/31/99
Lab Sample No: 227199
Batch No: 145555

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	**0.035**		0.010
71-43-2	Benzene	<0.010		0.010
75-27-4	Dichlorobromomethane	<0.010		0.010
75-25-2	Bromoform	<0.010		0.010
74-83-9	Bromomethane	<0.010		0.010
78-93-3	Methyl Ethyl Ketone	<0.010		0.010
75-15-0	Carbon Disulfide	<0.010		0.010
56-23-5	Carbon Tetrachloride	<0.010		0.010
108-90-7	Chlorobenzene	<0.010		0.010
75-00-3	Chloroethane	<0.010		0.010
67-66-3	Chloroform	<0.010		0.010
74-87-3	Chloromethane	<0.010		0.010
124-48-1	Chlorodibromomethane	<0.010		0.010
95-50-1	1,2-Dichlorobenzene	<0.010		0.010
541-73-1	1,3-Dichlorobenzene	<0.010		0.010
106-46-7	1,4-Dichlorobenzene	<0.010		0.010
75-34-3	1,1-Dichloroethane	<0.010		0.010
107-06-2	1,2-Dichloroethane	<0.010		0.010
156-60-5	trans-1,2-Dichloroethene	<0.010		0.010
156-59-2	cis-1,2-Dichloroethene	<0.010		0.010
75-35-4	1,1-Dichloroethylene	<0.010		0.010
78-87-5	1,2-Dichloropropane	<0.010		0.010
10061-01-5	cis-1,3-Dichloropropene	<0.010		0.010
10061-02-6	trans-1,3-Dichloropropene	<0.010		0.010
100-41-4	Ethylbenzene	<0.010		0.010
591-78-6	2-Hexanone	<0.010		0.010
108-10-1	4-Methyl-2-Pentanone	<0.010		0.010
75-09-2	Methylene Chloride	<0.010		0.010
100-42-5	Styrene	<0.010		0.010
79-34-5	1,1,2,2-Tetrachloroethane	<0.010		0.010
127-18-4	Tetrachloroethene	<0.010		0.010
71-55-6	1,1,1-Trichloroethane	<0.010		0.010
79-00-5	1,1,2-Trichloroethane	<0.010		0.010
79-01-6	Trichloroethene	<0.010		0.010
108-88-3	Toluene	<0.010		0.010

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VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 10SB2,7

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 12:55
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/31/99
Lab Sample No: 227199
Batch No: 145555

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<0.010		0.010
1330-20-7	Xylene (Total)	<0.010		0.010

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ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples

Submittal Number: 35109- 3
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		10SB2,7	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227199				
E-1047	Percent Solids	80				%

Sampled by: Barlage
Date Sampled: 07/20/99
Time Sampled: 12:55
Date Received: 07/21/99
Time Received: 09:55

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VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: DUP-7/20/1

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 00:00
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/31/99
Lab Sample No: 227200
Batch No: 145555

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<0.010		0.010
71-43-2	Benzene	<0.010		0.010
75-27-4	Dichlorobromomethane	<0.010		0.010
75-25-2	Bromoform	<0.010		0.010
74-83-9	Bromomethane	<0.010		0.010
78-93-3	Methyl Ethyl Ketone	<0.010		0.010
75-15-0	Carbon Disulfide	<0.010		0.010
56-23-5	Carbon Tetrachloride	<0.010		0.010
108-90-7	Chlorobenzene	<0.010		0.010
75-00-3	Chloroethane	<0.010		0.010
67-66-3	Chloroform	<0.010		0.010
74-87-3	Chloromethane	<0.010		0.010
124-48-1	Chlorodibromomethane	<0.010		0.010
95-50-1	1,2-Dichlorobenzene	<0.010		0.010
541-73-1	1,3-Dichlorobenzene	<0.010		0.010
106-46-7	1,4-Dichlorobenzene	<0.010		0.010
75-34-3	1,1-Dichloroethane	<0.010		0.010
107-06-2	1,2-Dichloroethane	<0.010		0.010
156-60-5	trans-1,2-Dichloroethene	<0.010		0.010
156-59-2	cis-1,2-Dichloroethene	<0.010		0.010
75-35-4	1,1-Dichloroethylene	<0.010		0.010
78-87-5	1,2-Dichloropropane	<0.010		0.010
10061-01-5	cis-1,3-Dichloropropene	<0.010		0.010
10061-02-6	trans-1,3-Dichloropropene	<0.010		0.010
100-41-4	Ethylbenzene	<0.010		0.010
591-78-6	2-Hexanone	<0.010		0.010
108-10-1	4-Methyl-2-Pentanone	<0.010		0.010
75-09-2	Methylene Chloride	<0.010		0.010
100-42-5	Styrene	<0.010		0.010
79-34-5	1,1,2,2-Tetrachloroethane	<0.010		0.010
127-18-4	Tetrachloroethene	<0.010		0.010
71-55-6	1,1,1-Trichloroethane	<0.010		0.010
79-00-5	1,1,2-Trichloroethane	<0.010		0.010
79-01-6	Trichloroethene	<0.010		0.010
108-88-3	Toluene	<0.010		0.010

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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: DUP-7/20/1

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 00:00
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/31/99
Lab Sample No: 227200
Batch No: 145555

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<0.010		0.010
1330-20-7	Xylene (Total)	<0.010		0.010

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TriMatrix Laboratories Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples

Submittal Number: 35109- 3
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		DUP-7/20/1	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227200				
E-1047	Percent Solids	80				%

Sampled by: Barlage
Date Sampled: 07/20/99
Time Sampled: 00:00
Date Received: 07/21/99
Time Received: 09:55

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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 10SB3,7

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 13:45
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/31/99
Lab Sample No: 227201
Batch No: 145555

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<0.010		0.010
71-43-2	Benzene	<0.010		0.010
75-27-4	Dichlorobromomethane	<0.010		0.010
75-25-2	Bromoform	<0.010		0.010
74-83-9	Bromomethane	<0.010		0.010
78-93-3	Methyl Ethyl Ketone	<0.010		0.010
75-15-0	Carbon Disulfide	<0.010		0.010
56-23-5	Carbon Tetrachloride	<0.010		0.010
108-90-7	Chlorobenzene	<0.010		0.010
75-00-3	Chloroethane	<0.010		0.010
67-66-3	Chloroform	<0.010		0.010
74-87-3	Chloromethane	<0.010		0.010
124-48-1	Chlorodibromomethane	<0.010		0.010
95-50-1	1,2-Dichlorobenzene	<0.010		0.010
541-73-1	1,3-Dichlorobenzene	<0.010		0.010
106-46-7	1,4-Dichlorobenzene	<0.010		0.010
75-34-3	1,1-Dichloroethane	<0.010		0.010
107-06-2	1,2-Dichloroethane	<0.010		0.010
156-60-5	trans-1,2-Dichloroethene	<0.010		0.010
156-59-2	cis-1,2-Dichloroethene	<0.010		0.010
75-35-4	1,1-Dichloroethylene	<0.010		0.010
78-87-5	1,2-Dichloropropane	<0.010		0.010
10061-01-5	cis-1,3-Dichloropropene	<0.010		0.010
10061-02-6	trans-1,3-Dichloropropene	<0.010		0.010
100-41-4	Ethylbenzene	<0.010		0.010
591-78-6	2-Hexanone	<0.010		0.010
108-10-1	4-Methyl-2-Pentanone	<0.010		0.010
75-09-2	Methylene Chloride	<0.010		0.010
100-42-5	Styrene	<0.010		0.010
79-34-5	1,1,2,2-Tetrachloroethane	<0.010		0.010
127-18-4	Tetrachloroethene	<0.010		0.010
71-55-6	1,1,1-Trichloroethane	<0.010		0.010
79-00-5	1,1,2-Trichloroethane	<0.010		0.010
79-01-6	Trichloroethene	<0.010		0.010
108-88-3	Toluene	<0.010		0.010

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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 10SB3,7

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 13:45
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/31/99
Lab Sample No: 227201
Batch No: 145555

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<0.010		0.010
1330-20-7	Xylene (Total)	<0.010		0.010

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TriMatrix Laboratories, Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples

Submittal Number: 35109- 3
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		10SB3,7	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227201				
E-1047	Percent Solids	80				%

Sampled by: Barlage
Date Sampled: 07/20/99
Time Sampled: 13:45
Date Received: 07/21/99
Time Received: 09:55

000059

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TriMatrix Laboratories Inc.

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: DUP-7/20/2

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 00:00
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/31/99
Lab Sample No: 227202
Batch No: 145555

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<0.010		0.010
71-43-2	Benzene	<0.010		0.010
75-27-4	Dichlorobromomethane	<0.010		0.010
75-25-2	Bromoform	<0.010		0.010
74-83-9	Bromomethane	<0.010		0.010
78-93-3	Methyl Ethyl Ketone	<0.010		0.010
75-15-0	Carbon Disulfide	<0.010		0.010
56-23-5	Carbon Tetrachloride	<0.010		0.010
108-90-7	Chlorobenzene	<0.010		0.010
75-00-3	Chloroethane	<0.010		0.010
67-66-3	Chloroform	<0.010		0.010
74-87-3	Chloromethane	<0.010		0.010
124-48-1	Chlorodibromomethane	<0.010		0.010
95-50-1	1,2-Dichlorobenzene	<0.010		0.010
541-73-1	1,3-Dichlorobenzene	<0.010		0.010
106-46-7	1,4-Dichlorobenzene	<0.010		0.010
75-34-3	1,1-Dichloroethane	<0.010		0.010
107-06-2	1,2-Dichloroethane	<0.010		0.010
156-60-5	trans-1,2-Dichloroethene	<0.010		0.010
156-59-2	cis-1,2-Dichloroethene	<0.010		0.010
75-35-4	1,1-Dichloroethylene	<0.010		0.010
78-87-5	1,2-Dichloropropane	<0.010		0.010
10061-01-5	cis-1,3-Dichloropropene	<0.010		0.010
10061-02-6	trans-1,3-Dichloropropene	<0.010		0.010
100-41-4	Ethylbenzene	<0.010		0.010
591-78-6	2-Hexanone	<0.010		0.010
108-10-1	4-Methyl-2-Pentanone	<0.010		0.010
75-09-2	Methylene Chloride	<0.010		0.010
100-42-5	Styrene	<0.010		0.010
79-34-5	1,1,2,2-Tetrachloroethane	<0.010		0.010
127-18-4	Tetrachloroethene	<0.010		0.010
71-55-6	1,1,1-Trichloroethane	<0.010		0.010
79-00-5	1,1,2-Trichloroethane	<0.010		0.010
79-01-6	Trichloroethene	<0.010		0.010
108-88-3	Toluene	<0.010		0.010

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TriMatrix Laboratories Inc

VOLATILES IN SOIL
BY USEPA-8260B/5035

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: DUP-7/20/2

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 00:00
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/31/99
Lab Sample No: 227202
Batch No: 145555

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<0.010		0.010
1330-20-7	Xylene (Total)	<0.010		0.010

000061

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ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples

Submittal Number: 35109- 3
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		DUP-7/20/2	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227202				
E-1047	Percent Solids	80				%

Sampled by:	Barlage
Date Sampled:	07/20/99
Time Sampled:	00:00
Date Received:	07/21/99
Time Received:	09:55

000062

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TriMatrix Laboratories, Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: EQB720

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 15:00
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/28/99
Lab Sample No: 227203
Batch No: 145182

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<5.0		5.0
71-43-2	Benzene	<1.0		1.0
75-27-4	Dichlorobromomethane	<1.0		1.0
75-25-2	Bromoform	<1.0		1.0
74-83-9	Bromomethane	<1.0		1.0
78-93-3	Methyl Ethyl Ketone	<5.0		5.0
75-15-0	Carbon Disulfide	<1.0		1.0
56-23-5	Carbon Tetrachloride	<1.0		1.0
108-90-7	Chlorobenzene	<1.0		1.0
75-00-3	Chloroethane	<1.0		1.0
67-66-3	Chloroform	**3.1**		1.0
74-87-3	Chloromethane	<1.0		1.0
124-48-1	Chlorodibromomethane	<1.0		1.0
95-50-1	1,2-Dichlorobenzene	<1.0		1.0
541-73-1	1,3-Dichlorobenzene	<1.0		1.0
106-46-7	1,4-Dichlorobenzene	<1.0		1.0
75-34-3	1,1-Dichloroethane	<1.0		1.0
107-06-2	1,2-Dichloroethane	<1.0		1.0
156-59-2	cis-1,2-Dichloroethene	<1.0		1.0
156-60-5	trans-1,2-Dichloroethene	<1.0		1.0
75-35-4	1,1-Dichloroethylene	<1.0		1.0
78-87-5	1,2-Dichloropropane	<1.0		1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0		1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0		1.0
100-41-4	Ethylbenzene	<1.0		1.0
591-78-6	2-Hexanone	<5.0		5.0
108-10-1	4-Methyl-2-Pentanone	<5.0		5.0
75-09-2	Methylene Chloride	<2.0		2.0
100-42-5	Styrene	<1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0		1.0
127-18-4	Tetrachloroethene	<1.0		1.0
71-55-6	1,1,1-Trichloroethane	<1.0		1.0
79-00-5	1,1,2-Trichloroethane	<1.0		1.0
79-01-6	Trichloroethene	<1.0		1.0
108-88-3	Toluene	<1.0		1.0

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TriMatrix Laboratories Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: EQB720

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 15:00
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/28/99
Lab Sample No: 227203
Batch No: 145182

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<1.0		1.0
1330-20-7	Xylene (Total)	<1.0		1.0

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VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: Trip Blank

Submittal Number 35109- 3
Date Sampled: 07/17/99 Time: 08:38
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/28/99
Lab Sample No: 227204
Batch No: 145182

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<5.0		5.0
71-43-2	Benzene	<1.0		1.0
75-27-4	Dichlorobromomethane	<1.0		1.0
75-25-2	Bromoform	<1.0		1.0
74-83-9	Bromomethane	<1.0		1.0
78-93-3	Methyl Ethyl Ketone	<5.0		5.0
75-15-0	Carbon Disulfide	<1.0		1.0
56-23-5	Carbon Tetrachloride	<1.0		1.0
108-90-7	Chlorobenzene	<1.0		1.0
75-00-3	Chloroethane	<1.0		1.0
67-66-3	Chloroform	<1.0		1.0
74-87-3	Chloromethane	<1.0		1.0
124-48-1	Chlorodibromomethane	<1.0		1.0
95-50-1	1,2-Dichlorobenzene	<1.0		1.0
541-73-1	1,3-Dichlorobenzene	<1.0		1.0
106-46-7	1,4-Dichlorobenzene	<1.0		1.0
75-34-3	1,1-Dichloroethane	<1.0		1.0
107-06-2	1,2-Dichloroethane	<1.0		1.0
156-59-2	cis-1,2-Dichloroethene	<1.0		1.0
156-60-5	trans-1,2-Dichloroethene	<1.0		1.0
75-35-4	1,1-Dichloroethylene	<1.0		1.0
78-87-5	1,2-Dichloropropane	<1.0		1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0		1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0		1.0
100-41-4	Ethylbenzene	<1.0		1.0
591-78-6	2-Hexanone	<5.0		5.0
108-10-1	4-Methyl-2-Pentanone	<5.0		5.0
75-09-2	Methylene Chloride	<2.0		2.0
100-42-5	Styrene	<1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0		1.0
127-18-4	Tetrachloroethene	<1.0		1.0
71-55-6	1,1,1-Trichloroethane	<1.0		1.0
79-00-5	1,1,2-Trichloroethane	<1.0		1.0
79-01-6	Trichloroethene	<1.0		1.0
108-88-3	Toluene	<1.0		1.0

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TriMatrix Laboratories, Inc.

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: Trip Blank

Submittal Number 35109- 3
Date Sampled: 07/17/99 Time: 08:38
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/28/99
Lab Sample No: 227204
Batch No: 145182

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<1.0		1.0
1330-20-7	Xylene (Total)	<1.0		1.0

000066

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 10SB2, 6-8

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 12:55
Date Received: 07/21/99 Time: 09:55
Analysis Date: 08/03/99
Lab Sample No: 227205
Batch No: 145210

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<0.33		0.33
208-96-8	Acenaphthylene	<0.33		0.33
120-12-7	Anthracene	<0.33		0.33
56-55-3	Benzo (a) Anthracene	<0.33		0.33
50-32-8	Benzo (a) Pyrene	<0.33		0.33
205-99-2	Benzo (b) Fluoranthene	<0.33		0.33
207-08-9	Benzo (k) Fluoranthene	<0.33		0.33
191-24-2	Benzo (g,h,i,) Perylene	<0.33		0.33
111-91-1	Bis (2-Chloroethoxy)-Methane	<0.33		0.33
111-44-4	Bis (2-Chloroethyl) Ether	<0.33		0.33
108-60-1	Bis (2-Chloroisopropyl)-Ether	<0.33		0.33
117-81-7	Bis (2-ethylhexyl)-Phthalate	<0.33		0.33
101-55-3	4-Bromophenyl Phenylether	<0.33		0.33
85-68-7	Butyl Benzyl Phthalate	<0.33		0.33
86-74-8	Carbazole	<0.33		0.33
59-50-7	4-Chloro-3-Methylphenol	<0.33		0.33
106-47-8	4-Chloroaniline	<0.33		0.33
91-58-7	2-Chloronaphthalene	<0.33		0.33
95-57-8	2-Chlorophenol	<0.33		0.33
7005-72-3	4-Chlorophenylphenyl-Ether	<0.33		0.33
218-01-9	Chrysene	<0.33		0.33
84-74-2	Di-n-Butylphthalate	<0.33		0.33
117-84-0	Di-n-Octylphthalate	<0.33		0.33
53-70-3	Dibenzo (a,h) Anthracene	<0.33		0.33
132-64-9	Dibenzofuran	<0.33		0.33
95-50-1	1,2-Dichlorobenzene	<0.33		0.33
541-73-1	1,3-Dichlorobenzene	<0.33		0.33
106-46-7	1,4-Dichlorobenzene	<0.33		0.33
91-94-1	3,3'-Dichlorobenzidine	<0.33		0.33
120-83-2	2,4-Dichlorophenol	<0.33		0.33
84-66-2	Diethylphthalate	<0.33		0.33

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TriMatrix Laboratories Inc.

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 10SB2, 6-8

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 12:55
Date Received: 07/21/99 Time: 09:55
Analysis Date: 08/03/99
Lab Sample No: 227205
Batch No: 145210

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
131-11-3	Dimethylphthalate	<0.33		0.33
105-67-9	2,4-Dimethylphenol	<0.33		0.33
534-52-1	4,6-Dinitro-2-Methylphenol	<0.83		0.83
51-28-5	2,4-Dinitrophenol	<0.83		0.83
121-14-2	2,4-Dinitrotoluene	<0.33		0.33
606-20-2	2,6-Dinitrotoluene	<0.33		0.33
206-44-0	Fluoranthene	<0.33		0.33
86-73-7	Fluorene	<0.33		0.33
118-74-1	Hexachlorobenzene	<0.33		0.33
87-68-3	Hexachlorobutadiene	<0.33		0.33
77-47-4	Hexachlorocyclopentadiene	<0.33		0.33
67-72-1	Hexachloroethane	<0.33		0.33
193-39-5	Indeno (1,2,3-cd) Pyrene	<0.33		0.33
78-59-1	Isophorone	<0.33		0.33
91-57-6	2-Methylnaphthalene	<0.33		0.33
95-48-7	2-Methylphenol	<0.33		0.33
106-44-5	4-Methylphenol	<0.33		0.33
621-64-7	N-Nitrosodi-n-Propylamine	<0.33		0.33
86-30-6	N-Nitroso-di-Phenylamine	<0.33		0.33
91-20-3	Naphthalene	<0.33		0.33
88-74-4	2-Nitroaniline	<0.83		0.83
99-09-2	3-Nitroaniline	<0.83		0.83
100-01-6	4-Nitroaniline	<0.83		0.83
98-95-3	Nitrobenzene	<0.33		0.33
88-75-5	2-Nitrophenol	<0.33		0.33
100-02-7	4-Nitrophenol	<0.33		0.33
87-86-5	Pentachlorophenol	<0.33		0.33
85-01-8	Phenanthrene	<0.33		0.33
108-95-2	Phenol	<0.33		0.33
129-00-0	Pyrene	<0.33		0.33
120-82-1	1,2,4-Trichlorobenzene	<0.33		0.33
95-95-4	2,4,5-Trichlorophenol	<0.33		0.33
88-06-2	2,4,6-Trichlorophenol	<0.33		0.33

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TriMatrix Laboratories Inc

PCBS IN SOIL
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 10SB2, 6-8

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 12:55
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/29/99
Lab Sample No: 227205
Batch No: 145088

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.33		0.33
11104-28-2	PCB-1221	<0.33		0.33
11141-16-5	PCB-1232	<0.33		0.33
53469-21-9	PCB-1242	<0.33		0.33
12672-29-6	PCB-1248	<0.33		0.33
11097-69-1	PCB-1254	<0.33		0.33
11096-82-5	PCB-1260	<0.33		0.33
-----	PCB-1262	<0.33		0.33
-----	PCB-1268	<0.33		0.33

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TriMatrix Laboratories, Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples

Submittal Number: 35109- 3
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		10SB2, 6-8	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227205				
E-1047	Percent Solids	80				%

Sampled by: Barlage
Date Sampled: 07/20/99
Time Sampled: 12:55
Date Received: 07/21/99
Time Received: 09:55

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: DUP-7/20/1

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 00:00
Date Received: 07/21/99 Time: 09:55
Analysis Date: 08/03/99
Lab Sample No: 227206
Batch No: 145210

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<0.33		0.33
208-96-8	Acenaphthylene	<0.33		0.33
120-12-7	Anthracene	<0.33		0.33
56-55-3	Benzo (a) Anthracene	<0.33		0.33
50-32-8	Benzo (a) Pyrene	<0.33		0.33
205-99-2	Benzo (b) Fluoranthene	<0.33		0.33
207-08-9	Benzo (k) Fluoranthene	<0.33		0.33
191-24-2	Benzo (g,h,i,) Perylene	<0.33		0.33
111-91-1	Bis (2-Chloroethoxy)-Methane	<0.33		0.33
111-44-4	Bis (2-Chloroethyl) Ether	<0.33		0.33
108-60-1	Bis (2-Chloroisopropyl)-Ether	<0.33		0.33
117-81-7	Bis (2-ethylhexyl)-Phthalate	<0.33		0.33
101-55-3	4-Bromophenyl Phenylether	<0.33		0.33
85-68-7	Butyl Benzyl Phthalate	<0.33		0.33
86-74-8	Carbazole	<0.33		0.33
59-50-7	4-Chloro-3-Methylphenol	<0.33		0.33
106-47-8	4-Chloroaniline	<0.33		0.33
91-58-7	2-Chloronaphthalene	<0.33		0.33
95-57-8	2-Chlorophenol	<0.33		0.33
7005-72-3	4-Chlorophenylphenyl-Ether	<0.33		0.33
218-01-9	Chrysene	<0.33		0.33
84-74-2	Di-n-Butylphthalate	<0.33		0.33
117-84-0	Di-n-Octylphthalate	<0.33		0.33
53-70-3	Dibenzo (a,h) Anthracene	<0.33		0.33
132-64-9	Dibenzofuran	<0.33		0.33
95-50-1	1,2-Dichlorobenzene	<0.33		0.33
541-73-1	1,3-Dichlorobenzene	<0.33		0.33
106-46-7	1,4-Dichlorobenzene	<0.33		0.33
91-94-1	3,3'-Dichlorobenzidine	<0.33		0.33
120-83-2	2,4-Dichlorophenol	<0.33		0.33
84-66-2	Diethylphthalate	<0.33		0.33

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: DUP-7/20/1

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 00:00
Date Received: 07/21/99 Time: 09:55
Analysis Date: 08/03/99
Lab Sample No: 227206
Batch No: 145210

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
131-11-3	Dimethylphthalate	<0.33		0.33
105-67-9	2,4-Dimethylphenol	<0.33		0.33
534-52-1	4,6-Dinitro-2-Methylphenol	<0.83		0.83
51-28-5	2,4-Dinitrophenol	<0.83		0.83
121-14-2	2,4-Dinitrotoluene	<0.33		0.33
606-20-2	2,6-Dinitrotoluene	<0.33		0.33
206-44-0	Fluoranthene	<0.33		0.33
86-73-7	Fluorene	<0.33		0.33
118-74-1	Hexachlorobenzene	<0.33		0.33
87-68-3	Hexachlorobutadiene	<0.33		0.33
77-47-4	Hexachlorocyclopentadiene	<0.33		0.33
67-72-1	Hexachloroethane	<0.33		0.33
193-39-5	Indeno (1,2,3-cd) Pyrene	<0.33		0.33
78-59-1	Isophorone	<0.33		0.33
91-57-6	2-Methylnaphthalene	<0.33		0.33
95-48-7	2-Methylphenol	<0.33		0.33
106-44-5	4-Methylphenol	<0.33		0.33
621-64-7	N-Nitrosodi-n-Propylamine	<0.33		0.33
86-30-6	N-Nitroso-di-Phenylamine	<0.33		0.33
91-20-3	Naphthalene	<0.33		0.33
88-74-4	2-Nitroaniline	<0.83		0.83
99-09-2	3-Nitroaniline	<0.83		0.83
100-01-6	4-Nitroaniline	<0.83		0.83
98-95-3	Nitrobenzene	<0.33		0.33
88-75-5	2-Nitrophenol	<0.33		0.33
100-02-7	4-Nitrophenol	<0.33		0.33
87-86-5	Pentachlorophenol	<0.33		0.33
85-01-8	Phenanthrene	<0.33		0.33
108-95-2	Phenol	<0.33		0.33
129-00-0	Pyrene	<0.33		0.33
120-82-1	1,2,4-Trichlorobenzene	<0.33		0.33
95-95-4	2,4,5-Trichlorophenol	<0.33		0.33
88-06-2	2,4,6-Trichlorophenol	<0.33		0.33

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TriMatrix Laboratories Inc

PCBS IN SOIL
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: DUP-7/20/1

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 00:00
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/29/99
Lab Sample No: 227206
Batch No: 145088

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.33		0.33
11104-28-2	PCB-1221	<0.33		0.33
11141-16-5	PCB-1232	<0.33		0.33
53469-21-9	PCB-1242	<0.33		0.33
12672-29-6	PCB-1248	<0.33		0.33
11097-69-1	PCB-1254	<0.33		0.33
11096-82-5	PCB-1260	<0.33		0.33
-----	PCB-1262	<0.33		0.33
-----	PCB-1268	<0.33		0.33

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TriMatrix Laboratories Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples

Submittal Number: 35109- 3
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		DUP-7/20/1	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227206				
E-1047	Percent Solids	80				%

Sampled by: Barlage
Date Sampled: 07/20/99
Time Sampled: 00:00
Date Received: 07/21/99
Time Received: 09:55

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 10SB3, 6-8

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 13:45
Date Received: 07/21/99 Time: 09:55
Analysis Date: 08/03/99
Lab Sample No: 227207
Batch No: 145210

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<0.33		0.33
208-96-8	Acenaphthylene	<0.33		0.33
120-12-7	Anthracene	<0.33		0.33
56-55-3	Benzo (a) Anthracene	<0.33		0.33
50-32-8	Benzo (a) Pyrene	<0.33		0.33
205-99-2	Benzo (b) Fluoranthene	<0.33		0.33
207-08-9	Benzo (k) Fluoranthene	<0.33		0.33
191-24-2	Benzo (g,h,i,) Perylene	<0.33		0.33
111-91-1	Bis (2-Chloroethoxy)-Methane	<0.33		0.33
111-44-4	Bis (2-Chloroethyl) Ether	<0.33		0.33
108-60-1	Bis (2-Chloroisopropyl)-Ether	<0.33		0.33
117-81-7	Bis (2-ethylhexyl)-Phthalate	<0.33		0.33
101-55-3	4-Bromophenyl Phenylether	<0.33		0.33
85-68-7	Butyl Benzyl Phthalate	<0.33		0.33
86-74-8	Carbazole	<0.33		0.33
59-50-7	4-Chloro-3-Methylphenol	<0.33		0.33
106-47-8	4-Chloroaniline	<0.33		0.33
91-58-7	2-Chloronaphthalene	<0.33		0.33
95-57-8	2-Chlorophenol	<0.33		0.33
7005-72-3	4-Chlorophenylphenyl-Ether	<0.33		0.33
218-01-9	Chrysene	<0.33		0.33
84-74-2	Di-n-Butylphthalate	<0.33		0.33
117-84-0	Di-n-Octylphthalate	<0.33		0.33
53-70-3	Dibenzo (a,h) Anthracene	<0.33		0.33
132-64-9	Dibenzofuran	<0.33		0.33
95-50-1	1,2-Dichlorobenzene	<0.33		0.33
541-73-1	1,3-Dichlorobenzene	<0.33		0.33
106-46-7	1,4-Dichlorobenzene	<0.33		0.33
91-94-1	3,3'-Dichlorobenzidine	<0.33		0.33
120-83-2	2,4-Dichlorophenol	<0.33		0.33
84-66-2	Diethylphthalate	<0.33		0.33

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 10SB3, 6-8

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 13:45
Date Received: 07/21/99 Time: 09:55
Analysis Date: 08/03/99
Lab Sample No: 227207
Batch No: 145210

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
131-11-3	Dimethylphthalate	<0.33		0.33
105-67-9	2,4-Dimethylphenol	<0.33		0.33
534-52-1	4,6-Dinitro-2-Methylphenol	<0.83		0.83
51-28-5	2,4-Dinitrophenol	<0.83		0.83
121-14-2	2,4-Dinitrotoluene	<0.33		0.33
606-20-2	2,6-Dinitrotoluene	<0.33		0.33
206-44-0	Fluoranthene	<0.33		0.33
86-73-7	Fluorene	<0.33		0.33
118-74-1	Hexachlorobenzene	<0.33		0.33
87-68-3	Hexachlorobutadiene	<0.33		0.33
77-47-4	Hexachlorocyclopentadiene	<0.33		0.33
67-72-1	Hexachloroethane	<0.33		0.33
193-39-5	Indeno (1,2,3-cd) Pyrene	<0.33		0.33
78-59-1	Isophorone	<0.33		0.33
91-57-6	2-Methylnaphthalene	<0.33		0.33
95-48-7	2-Methylphenol	<0.33		0.33
106-44-5	4-Methylphenol	<0.33		0.33
621-64-7	N-Nitrosodi-n-Propylamine	<0.33		0.33
86-30-6	N-Nitroso-di-Phenylamine	<0.33		0.33
91-20-3	Naphthalene	<0.33		0.33
88-74-4	2-Nitroaniline	<0.83		0.83
99-09-2	3-Nitroaniline	<0.83		0.83
100-01-6	4-Nitroaniline	<0.83		0.83
98-95-3	Nitrobenzene	<0.33		0.33
88-75-5	2-Nitrophenol	<0.33		0.33
100-02-7	4-Nitrophenol	<0.33		0.33
87-86-5	Pentachlorophenol	<0.33		0.33
85-01-8	Phenanthrene	<0.33		0.33
108-95-2	Phenol	<0.33		0.33
129-00-0	Pyrene	<0.33		0.33
120-82-1	1,2,4-Trichlorobenzene	<0.33		0.33
95-95-4	2,4,5-Trichlorophenol	<0.33		0.33
88-06-2	2,4,6-Trichlorophenol	<0.33		0.33

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TriMatrix Laboratories Inc

PCBS IN SOIL
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: 10SB3, 6-8

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 13:45
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/29/99
Lab Sample No: 227207
Batch No: 145088

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.33		0.33
11104-28-2	PCB-1221	<0.33		0.33
11141-16-5	PCB-1232	<0.33		0.33
53469-21-9	PCB-1242	<0.33		0.33
12672-29-6	PCB-1248	<0.33		0.33
11097-69-1	PCB-1254	<0.33		0.33
11096-82-5	PCB-1260	<0.33		0.33
-----	PCB-1262	<0.33		0.33
-----	PCB-1268	<0.33		0.33

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TriMatrix Laboratories, Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples

Submittal Number: 35109- 3
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		10SB3, 6-8	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227207				
E-1047	Percent Solids	80				%

Sampled by: Barlage
Date Sampled: 07/20/99
Time Sampled: 13:45
Date Received: 07/21/99
Time Received: 09:55

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: DUP-7/20/2

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 00:00
Date Received: 07/21/99 Time: 09:55
Analysis Date: 08/03/99
Lab Sample No: 227208
Batch No: 145210

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<0.33		0.33
208-96-8	Acenaphthylene	<0.33		0.33
120-12-7	Anthracene	<0.33		0.33
56-55-3	Benzo (a) Anthracene	<0.33		0.33
50-32-8	Benzo (a) Pyrene	<0.33		0.33
205-99-2	Benzo (b) Fluoranthene	<0.33		0.33
207-08-9	Benzo (k) Fluoranthene	<0.33		0.33
191-24-2	Benzo (g,h,i,) Perylene	<0.33		0.33
111-91-1	Bis (2-Chloroethoxy)-Methane	<0.33		0.33
111-44-4	Bis (2-Chloroethyl) Ether	<0.33		0.33
108-60-1	Bis (2-Chloroisopropyl)-Ether	<0.33		0.33
117-81-7	Bis (2-ethylhexyl)-Phthalate	<0.33		0.33
101-55-3	4-Bromophenyl Phenylether	<0.33		0.33
85-68-7	Butyl Benzyl Phthalate	<0.33		0.33
86-74-8	Carbazole	<0.33		0.33
59-50-7	4-Chloro-3-Methylphenol	<0.33		0.33
106-47-8	4-Chloroaniline	<0.33		0.33
91-58-7	2-Chloronaphthalene	<0.33		0.33
95-57-8	2-Chlorophenol	<0.33		0.33
7005-72-3	4-Chlorophenylphenyl-Ether	<0.33		0.33
218-01-9	Chrysene	<0.33		0.33
84-74-2	Di-n-Butylphthalate	<0.33		0.33
117-84-0	Di-n-Octylphthalate	<0.33		0.33
53-70-3	Dibenzo (a,h) Anthracene	<0.33		0.33
132-64-9	Dibenzofuran	<0.33		0.33
95-50-1	1,2-Dichlorobenzene	<0.33		0.33
541-73-1	1,3-Dichlorobenzene	<0.33		0.33
106-46-7	1,4-Dichlorobenzene	<0.33		0.33
91-94-1	3,3'-Dichlorobenzidine	<0.33		0.33
120-83-2	2,4-Dichlorophenol	<0.33		0.33
84-66-2	Diethylphthalate	<0.33		0.33

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN SOIL
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: DUP-7/20/2

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 00:00
Date Received: 07/21/99 Time: 09:55
Analysis Date: 08/03/99
Lab Sample No: 227208
Batch No: 145210

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
131-11-3	Dimethylphthalate	<0.33		0.33
105-67-9	2,4-Dimethylphenol	<0.33		0.33
534-52-1	4,6-Dinitro-2-Methylphenol	<0.83		0.83
51-28-5	2,4-Dinitrophenol	<0.83		0.83
121-14-2	2,4-Dinitrotoluene	<0.33		0.33
606-20-2	2,6-Dinitrotoluene	<0.33		0.33
206-44-0	Fluoranthene	<0.33		0.33
86-73-7	Fluorene	<0.33		0.33
118-74-1	Hexachlorobenzene	<0.33		0.33
87-68-3	Hexachlorobutadiene	<0.33		0.33
77-47-4	Hexachlorocyclopentadiene	<0.33		0.33
67-72-1	Hexachloroethane	<0.33		0.33
193-39-5	Indeno (1,2,3-cd) Pyrene	<0.33		0.33
78-59-1	Isophorone	<0.33		0.33
91-57-6	2-Methylnaphthalene	<0.33		0.33
95-48-7	2-Methylphenol	<0.33		0.33
106-44-5	4-Methylphenol	<0.33		0.33
621-64-7	N-Nitrosodi-n-Propylamine	<0.33		0.33
86-30-6	N-Nitroso-di-Phenylamine	<0.33		0.33
91-20-3	Naphthalene	<0.33		0.33
88-74-4	2-Nitroaniline	<0.83		0.83
99-09-2	3-Nitroaniline	<0.83		0.83
100-01-6	4-Nitroaniline	<0.83		0.83
98-95-3	Nitrobenzene	<0.33		0.33
88-75-5	2-Nitrophenol	<0.33		0.33
100-02-7	4-Nitrophenol	<0.33		0.33
87-86-5	Pentachlorophenol	<0.33		0.33
85-01-8	Phenanthrene	<0.33		0.33
108-95-2	Phenol	<0.33		0.33
129-00-0	Pyrene	<0.33		0.33
120-82-1	1,2,4-Trichlorobenzene	<0.33		0.33
95-95-4	2,4,5-Trichlorophenol	<0.33		0.33
88-06-2	2,4,6-Trichlorophenol	<0.33		0.33

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TriMatrix Laboratories Inc

PCBS IN SOIL
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: DUP-7/20/2

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 00:00
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/29/99
Lab Sample No: 227208
Batch No: 145088

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.33		0.33
11104-28-2	PCB-1221	<0.33		0.33
11141-16-5	PCB-1232	<0.33		0.33
53469-21-9	PCB-1242	<0.33		0.33
12672-29-6	PCB-1248	<0.33		0.33
11097-69-1	PCB-1254	<0.33		0.33
11096-82-5	PCB-1260	<0.33		0.33
-----	PCB-1262	<0.33		0.33
-----	PCB-1268	<0.33		0.33

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TriMatrix Laboratories, Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples

Submittal Number: 35109- 3
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		DUP-7/20/2	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227208				
E-1047	Percent Solids	80				%

Sampled by:	Barlage
Date Sampled:	07/20/99
Time Sampled:	00:00
Date Received:	07/21/99
Time Received:	09:55

000082

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TriMatrix Laboratories Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples

Submittal Number: 35109- 3
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		7SB1, 1-3	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227209				
7440-47-3	Chromium, Total	26			P	mg/kg dry

Sampled by: Barlage
Date Sampled: 07/20/99
Time Sampled: 14:40
Date Received: 07/21/99
Time Received: 09:55

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TriMatrix Laboratories Inc.

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: EQB720

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 17:00
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/30/99
Lab Sample No: 227210
Batch No: 145131

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<5.0		5.0
208-96-8	Acenaphthylene	<5.0		5.0
120-12-7	Anthracene	<5.0		5.0
56-55-3	Benzo (a) Anthracene	<5.0		5.0
50-32-8	Benzo (a) Pyrene	<5.0		5.0
205-99-2	Benzo (b) Fluoranthene	<5.0		5.0
207-08-9	Benzo (k) Fluoranthene	<5.0		5.0
191-24-2	Benzo (g,h,i,) Perylene	<5.0		5.0
111-91-1	Bis (2-Chloroethoxy)-Methane	<5.0		5.0
111-44-4	Bis (2-Chloroethyl) Ether	<5.0		5.0
108-60-1	Bis (2-Chloroisopropyl)-Ether	<5.0		5.0
117-81-7	Bis (2-ethylhexyl)-Phthalate	<5.0		5.0
101-55-3	4-Bromophenyl Phenylether	<5.0		5.0
85-68-7	Butyl Benzyl Phthalate	<5.0		5.0
59-50-7	4-Chloro-3-Methylphenol	<5.0		5.0
106-47-8	4-Chloroaniline	<5.0		5.0
91-58-7	2-Chloronaphthalene	<5.0		5.0
95-57-8	2-Chlorophenol	<5.0		5.0
7005-72-3	4-Chlorophenylphenyl-Ether	<5.0		5.0
218-01-9	Chrysene	<5.0		5.0
84-74-2	Di-n-Butylphthalate	<5.0		5.0
117-84-0	Di-n-Octylphthalate	<5.0		5.0
53-70-3	Dibenzo (a,h) Anthracene	<5.0		5.0
132-64-9	Dibenzofuran	<5.0		5.0
95-50-1	1,2-Dichlorobenzene	<5.0		5.0
541-73-1	1,3-Dichlorobenzene	<5.0		5.0
106-46-7	1,4-Dichlorobenzene	<5.0		5.0
91-94-1	3,3'-Dichlorobenzidine	<5.0		5.0
120-83-2	2,4-Dichlorophenol	<5.0		5.0
84-66-2	Diethylphthalate	<5.0		5.0
131-11-3	Dimethylphthalate	<5.0		5.0

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: EQB720

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 17:00
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/30/99
Lab Sample No: 227210
Batch No: 145131

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
105-67-9	2,4-Dimethylphenol	<5.0		5.0
534-52-1	4,6-Dinitro-2-Methylphenol	<20		20
51-28-5	2,4-Dinitrophenol	<20		20
121-14-2	2,4-Dinitrotoluene	<5.0		5.0
606-20-2	2,6-Dinitrotoluene	<5.0		5.0
206-44-0	Fluoranthene	<5.0		5.0
86-73-7	Fluorene	<5.0		5.0
118-74-1	Hexachlorobenzene	<5.0		5.0
87-68-3	Hexachlorobutadiene	<5.0		5.0
77-47-4	Hexachlorocyclopentadiene	<5.0		5.0
67-72-1	Hexachloroethane	<5.0		5.0
193-39-5	Indeno (1,2,3-cd) Pyrene	<5.0		5.0
78-59-1	Isophorone	<5.0		5.0
91-57-6	2-Methylnaphthalene	<5.0		5.0
95-48-7	2-Methylphenol	<5.0		5.0
106-44-5	4-Methylphenol	<5.0		5.0
621-64-7	N-Nitrosodi-n-Propylamine	<5.0		5.0
86-30-6	N-Nitroso-di-Phenylamine	<5.0		5.0
91-20-3	Naphthalene	<5.0		5.0
88-74-4	2-Nitroaniline	<20		20
99-09-2	3-Nitroaniline	<20		20
100-01-6	4-Nitroaniline	<20		20
98-95-3	Nitrobenzene	<5.0		5.0
88-75-5	2-Nitrophenol	<5.0		5.0
100-02-7	4-Nitrophenol	<20		20
87-86-5	Pentachlorophenol	<20		20
85-01-8	Phenanthrene	<5.0		5.0
108-95-2	Phenol	<5.0		5.0
129-00-0	Pyrene	<5.0		5.0
120-82-1	1,2,4-Trichlorobenzene	<5.0		5.0
95-95-4	2,4,5-Trichlorophenol	<20		20
88-06-2	2,4,6-Trichlorophenol	<5.0		5.0
86-74-8	Carbazole	<10		10

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TriMatrix Laboratories Inc

PCBS IN WATER
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: EQB720

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 17:00
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/27/99
Lab Sample No: 227210
Batch No: 145030

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.20		0.20
11104-28-2	PCB-1221	<0.40		0.40
11141-16-5	PCB-1232	<0.20		0.20
53469-21-9	PCB-1242	<0.20		0.20
12672-29-6	PCB-1248	<0.20		0.20
11097-69-1	PCB-1254	<0.20		0.20
11096-82-5	PCB-1260	<0.20		0.20
-----	PCB-1262	<0.20		0.20
-----	PCB-1268	<0.20		0.20

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TriMatrix Laboratories Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: EQB720

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 17:00
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/28/99
Lab Sample No: 227210
Batch No: 145182

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<5.0		5.0
71-43-2	Benzene	<1.0		1.0
75-27-4	Dichlorobromomethane	<1.0		1.0
75-25-2	Bromoform	<1.0		1.0
74-83-9	Bromomethane	<1.0		1.0
78-93-3	Methyl Ethyl Ketone	<5.0		5.0
75-15-0	Carbon Disulfide	<1.0		1.0
56-23-5	Carbon Tetrachloride	<1.0		1.0
108-90-7	Chlorobenzene	<1.0		1.0
75-00-3	Chloroethane	<1.0		1.0
67-66-3	Chloroform	<1.0		1.0
74-87-3	Chloromethane	<1.0		1.0
124-48-1	Chlorodibromomethane	<1.0		1.0
95-50-1	1,2-Dichlorobenzene	<1.0		1.0
541-73-1	1,3-Dichlorobenzene	<1.0		1.0
106-46-7	1,4-Dichlorobenzene	<1.0		1.0
75-34-3	1,1-Dichloroethane	<1.0		1.0
107-06-2	1,2-Dichloroethane	<1.0		1.0
156-59-2	cis-1,2-Dichloroethene	<1.0		1.0
156-60-5	trans-1,2-Dichloroethene	<1.0		1.0
75-35-4	1,1-Dichloroethylene	<1.0		1.0
78-87-5	1,2-Dichloropropane	<1.0		1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0		1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0		1.0
100-41-4	Ethylbenzene	<1.0		1.0
591-78-6	2-Hexanone	<5.0		5.0
108-10-1	4-Methyl-2-Pentanone	<5.0		5.0
75-09-2	Methylene Chloride	<2.0		2.0
100-42-5	Styrene	<1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0		1.0
127-18-4	Tetrachloroethene	<1.0		1.0
71-55-6	1,1,1-Trichloroethane	<1.0		1.0
79-00-5	1,1,2-Trichloroethane	<1.0		1.0
79-01-6	Trichloroethene	<1.0		1.0
108-88-3	Toluene	<1.0		1.0

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TriMatrix Laboratories, Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 20, 1999 Samples
Sample: EQB720

Submittal Number 35109- 3
Date Sampled: 07/20/99 Time: 17:00
Date Received: 07/21/99 Time: 09:55
Analysis Date: 07/28/99
Lab Sample No: 227210
Batch No: 145182

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<1.0		1.0
1330-20-7	Xylene (Total)	<1.0		1.0

000088

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35109- 3

STATEMENT OF DATA QUALIFICATIONS

Analysis: **PCBs in soil**
Organochlorine Pesticides & PCBs
SOIL USEPA-8081

Qualification:

Surrogate spike result(s) for this sample and analysis had a percent recovery outside the upper control limit for this method and matrix. Any positive results must be considered estimated.

Sample(s) Qualified: 227205 10SB2, 6-8

Note: This document is included as a part of the analytical report for the above referenced project and submittal, and should be retained as a permanent record thereof.

000089

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TriMatrix Laboratories, Inc.

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Chain of Custody Record

COC No. № 56720

000090

Project Manager: A. BARLAGE

Project Name: SLAAP EBS.

Project No: 600-1-00594 FW #2

Sampler (Print): B A R L A G E

Sampler Signature:

No's Correspond to Bottle Packing List

For Lab Use Only: Rack/Tray No. 1/1-13; Lab Proj. 35109-3

Date Sampled	Time Sampled	Matrix*	Composite	Grab	Sample Identification	No of Containers	Container Type	Analysis Required/Comments	Sample No.	Filtered Date/Time
7/20/99	0655	SOIL		X	8SB5,7	3		1-25gr + 2x5gr ENCORE VOCs	~~TG~~ TG-1	227185
7/20/99	0655	SOIL	X		8SB5,6-8	2		2x4oz GLASS SVOCs, PCBs, MOISTURE	TG-3	227186
7/20/99	0740	SOIL		X	8SB6,6.5	3		1-25gr + 2x5gr ENCORE VOCs	TG-1	227187
7/20/99	0740	SOIL	X		8SB6,6-7.5	2		2x4oz GLASS SVOCs, PCBs, MOISTURE	TG-3	227188
7/20/99	0835	SOIL		X	1SB1,9.5	3		1-25gr + 2x5gr ENCORE VOCs	TG-1	227189
7/20/99	0835	SOIL	X		1SB1,9-11	2		2x8oz GLASS SVOCs, PCBs, MOISTURE	TG-3	227190
7/20/99	0855	SOIL		X	3SB1,5	3		1-25gr + 2x5gr ENCORE VOCs	TG-1	227191
7/20/99	0855	SOIL	X		3SB1,4-6	2		2x8oz GLASS SVOCs, PCBs, MOISTURE	TG-3	227192
7/20/99	0930	SOIL		X	~~10~~ 10SB4,11	6		1-25gr + 5-5gr ENCORE VOCs /MS-MSD	TG-1	227193

Relinquished By	Date/Time	Received By	Received to Lab By	Date/Time	Logged in By	Date/Time
	7/20/99 1100			7-21-99		7-21-99 4:20 PM

Custody Seals intact upon FSDC 9:55 AM

* Matrix: Water (WTR), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)

TriMatrix Laboratories, Inc.

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Chain of Custody Record

COC No. № 56721

00009

Project Manager	Project Name	No's Correspond to Bottle Packing List	For Lab Use Only
M. Ballard	SLAAP EBS		Rack/Tray No:
Project No. 60011-00642FW42	Sampler (Print): TARLALE		Lab Project #
	Sampler Signature: [signature]		

Date Sampled	Time Sampled	Matrix*	Composite	Grab	Sample Identification	No. of Containers	Container Type	Analysis Required/Comments	Sample No.	Filtered Date/Time
7/20/99	0930	SOIL	X		105B49 10-1	4	19	1-8oz + 3x4oz GLASS SVOCs, PCBs, MOISTURE / MS-MSD	TG-3	227194
7/20/99	1035	SOIL		X	5B2,7	3		1x5gal + 2x5gal ENCORE VOCs	TG-1 @	227195
7/20/99	1130	SOIL		X	105B5,7	3		1x5gal + 2x5gal ENCORE VOCs	TG-#1	227196
7/20/99	1035	SOIL	X		15B2,6-8	2	2	2x8oz GLASS SVOCs, PCBs, MOISTURE	TG-3	227197
7/20/99	1130	SOIL	X		105B5,6-8	2	2	2x8oz GLASS SVOCs, PCBs, MOISTURE, pH	TG-6	227198
7/20/99	1255	SOIL		X	105B2,7	3		1x5gal + 2x5gal ENCORE VOCs	TG-1	227199
7/20/99		SOIL		X	D12P-7/20/1	3		1x5gal + 2x5gal ENCORE VOCs	TG-1	227200
7/20/99	1345	SOIL		X	105B3,7	3		1x5gal + 2x5gal ENCORE VOCs	TG-1	227201
7/20/99		SOIL		X	D12P-7/20/2	5		5x5gal ENCORE VOCs	TG-1	227202

Relinquished By	Date/Time	Received By	Received to Lab By	Date/Time	Logged in By	Date/Time
[signature]	7/20/99 1800		[signature]	7-21-99	[signature]	7-21-99 4:20 PM

Only Sealed out after 9:55 AM

* Matrix: Water (W), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)

TriMatrix Laboratories, Inc.

5560 Corporate Exchange Court SE • Grand Rapids, MI 49512

Chain of Custody Record

COC No. № 54218

000092

Project Manager	Project Name	Project No.	Sampler (Print)	Sampler Signature
M Brainard	SLAAP EBS	60011-60546 Field	BARLAGE	

Date Sampled	Time Sampled	Matrix*	Composite	Grab	Sample Identification	No. of Containers	Container Type	Analysis Required/Comments	Sample No.	Filtered Date/Time
7-20-94	1500	WTR		X	EQB720	2	4	VOC	TG-4	227203
6-27-94	0838	WTR		X	TRIP	1	4	VOCs	TG-4	227204

Nos Correspond to Bottle Packing List

For Lab Use Only: Rack/Tray No: Lab Project #

Relinquished By	Date/Time	Received By	Received to Lab By	Date/Time	Logged in By	Date/Time
[signature]	7-26-94 1800		Debs Dawn	7-27-94	Debs Dawn	7-28-94 4:20 PM

Custody seal intact upon FrDay 9:58AM

* Matrix: Water (WTR), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)

TriMatrix Laboratories, Inc.

5560 Corporate Exchange Court SE • Grand Rapids, MI 49512

Chain of Custody Record

COC No. № 54219

000093

Project Manager: M. MAPLAN

Project Name: SLAAP EBS

Project No: GOV11-005-4KFAP2

Sampler (Print): JARLAG

Sampler Signature:

No's Correspond to Bottle Packing List

For Lab Use Only: Rack/Tray No.: Lab Project #:

Date Sampled	Time Sampled	Matrix*	Composite	Grab	Sample Identification	No of Containers	Container Type	Analysis Required/Comments	Lab Sample No.	Filtered Date/Time
7/20/99	1255	SOIL	X		10SB2,6-8	2		2x8oz GLASS SVOCs, PCBs, MOISTURE	TG-3	227205
7/20/99		SOIL	X		DUP-7/20/1	2		2x8oz GLASS SVOCs, PCBs, MOISTURE	TG-3	227206
7/20/99	1345	SOIL	X		10SB3,6-8	2		2x8oz GLASS SVOCs, PCBs, MOISTURE	TG-3	227207
7/20/99		SOIL	X		DUP-7/20/2	2		2x8oz GLASS SVOCs, PCBs, MOISTURE	TG-3	227208
7/20/99	1440	SOIL	X		7SB1,1-3	2		2x8oz GLASS TOTAL CHROME	TG-7	227209
7/20/99	1700	WTR		X	EQB720	2		2x1LTR AMBER SVOC, PCBs.	TG-5	227210

Relinquished By	Date/Time	Received By	Received to Lab By	Date/Time	Logged in By	Date/Time
	7/20/99 1700		Deb Sidhem	7-21-99	Deb Sidhem	7-21-99 9:20

Custody seals intact upon receipt

* Matrix: Water (W), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)

TriMatrix Laboratories, Inc

August 25, 1999

Tetra Tech EM, Inc.
Attn: Michael Barlage
200 E. Randolph
Suite 4700
Chicago, IL 60601

RE: St. Louis Army Ammunition
G0011-0054KFW02

Dear Mr. Michael Barlage:

Enclosed is a copy of your laboratory summary report for submittal **35109-4.** This submittal was completely received on August 2, 1999. All analyses have been validated and comply with our Quality Control program statistics unless otherwise noted.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Gerald L. Holycross
Project Chemist

Enclosure

000001

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EMSL Analytical, Inc.

167 Haddon Ave., Westmont, NJ 08108

Attn	Jerry Holycross TriMatrix Laboratories, Inc 5555 Glenwood Hills Pkwy SE Grand Rapids, MI 49588	Customer ID	TRIM50
		Customer PO:	
		Received	08/11/99 11:15 AM
Fax:	6169427463 Phone 616-975-4500	EMSL Order:	049932530
Project:	SLAAP	EMSL Project ID:	

Asbestos Analysis by Transmission Electron Microscopy (TEM) Performed by NIOSH 7402 Method

Sample	Volume (Liters)	Asbestos Type(s)	Asbestos Fibers	Non Asbestos Fibers	Asbestos % of total	PCM F/cc	7402 Adjusted (TEM) F/cc	Notes
BLD3BASF72899 049932530-0002	120			11	0	n/a	<0.022	Reported using TEM data only
BLD3BASF72999 049932530-0001	140			2	0	n/a	<0.010	Reported using TEM data only

NIOSH 7402 method only reports fibers >= 5µm in length and >= to 0.25µm in width. This method requires 2 field blank analyses per set. Since no blanks were analyzed, the results are not blank corrected.

Average number of asbestos fibers on field blanks: n/a

Average number of non-asbestos fibers on field blanks: n/a

Sandy Burany

Analyst

Approved Signatory

Disclaimer: The Laboratory is only responsible for fibers counted and not for fibers/cc which is dependent on volume collected by non-laboratory personnel. The above test must not be used by the client to claim product endorsement by NVLAP nor any agency of the United States Government. All NVLAP reports with NVLAP logo must contain at least one signature to be valid. This report may only be reproduced in full with written approval by EMSL.

Analysis performed by EMSL Westmont (NY ELAP #10872, AIHA #7012)

TriMatrix Laboratories Inc

PCB SCAN
USEPA-8081 SCAN

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: 4SW-1

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 09:05
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/11/99
Lab Sample No: 227992
Batch No: 145603

CAS No.	Compound	Result ug	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<1.0		1.0
11104-28-2	PCB-1221	<1.0		1.0
11141-16-5	PCB-1232	<1.0		1.0
53469-21-9	PCB-1242	<1.0		1.0
12672-29-6	PCB-1248	**6.7**		1.0
11097-69-1	PCB-1254	<1.0		1.0
11096-82-5	PCB-1260	**3.4**		1.0
-----	PCB-1262	<1.0		1.0
-----	PCB-1268	<1.0		1.0

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TriMatrix Laboratories, Inc

PCB SCAN
USEPA-8081 SCAN

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: 5SW-1

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 09:25
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/11/99
Lab Sample No: 227993
Batch No: 145603

CAS No.	Compound	Result ug	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<1.0		1.0
11104-28-2	PCB-1221	<1.0		1.0
11141-16-5	PCB-1232	<1.0		1.0
53469-21-9	PCB-1242	<1.0		1.0
12672-29-6	PCB-1248	<1.0		1.0
11097-69-1	PCB-1254	**31**		1.0
11096-82-5	PCB-1260	**5.4**		1.0
-----	PCB-1262	<1.0		1.0
-----	PCB-1268	<1.0		1.0

000004

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TriMatrix Laboratories, Inc.

PCB SCAN
USEPA-8081 SCAN

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: 3SW-9

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 14:15
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/11/99
Lab Sample No: 227994
Batch No: 145603

CAS No.	Compound	Result ug	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<1.0		1.0
11104-28-2	PCB-1221	<1.0		1.0
11141-16-5	PCB-1232	<1.0		1.0
53469-21-9	PCB-1242	<1.0		1.0
12672-29-6	PCB-1248	**13**		1.0
11097-69-1	PCB-1254	<1.0		1.0
11096-82-5	PCB-1260	**2.7**		1.0
-----	PCB-1262	<1.0		1.0
-----	PCB-1268	<1.0		1.0

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TriMatrix Laboratories Inc

PCB SCAN
USEPA-8081 SCAN

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: 3SW-10

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 14:50
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/11/99
Lab Sample No: 227995
Batch No: 145602

CAS No.	Compound	Result ug	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<10		10
11104-28-2	PCB-1221	<10		10
11141-16-5	PCB-1232	<10		10
53469-21-9	PCB-1242	<10		10
12672-29-6	PCB-1248	**48**		10
11097-69-1	PCB-1254	<10		10
11096-82-5	PCB-1260	<10		10
-----	PCB-1262	<10		10
-----	PCB-1268	<10		10

000006

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TriMatrix Laboratories Inc

PCBS IN SOIL
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: 2SS-05

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 15:05
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/12/99
Lab Sample No: 227996
Batch No: 145602

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<3.3		3.3
11104-28-2	PCB-1221	<3.3		3.3
11141-16-5	PCB-1232	<3.3		3.3
53469-21-9	PCB-1242	<3.3		3.3
12672-29-6	PCB-1248	<3.3		3.3
11097-69-1	PCB-1254	**60**		3.3
11096-82-5	PCB-1260	**16**		3.3
-----	PCB-1262	<3.3		3.3
-----	PCB-1268	<3.3		3.3

000007

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TriMatrix Laboratories, Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples

Submittal Number: 35109- 4
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		2SS-05	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227996				
E 1047	Percent Solids	41				%

Sampled by: Barlage
Date Sampled: 07/29/99
Time Sampled: 15:05
Date Received: 07/30/99
Time Received: 09:30

000008

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TriMatrix Laboratories Inc

PCBS IN SOIL
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: 3SS-1

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 15:10
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 227997
Batch No: 145681

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.83		0.83
11104-28-2	PCB-1221	<0.83		0.83
11141-16-5	PCB-1232	<0.83		0.83
53469-21-9	PCB-1242	<0.83		0.83
12672-29-6	PCB-1248	**15**		0.83
11097-69-1	PCB-1254	<0.83		0.83
11096-82-5	PCB-1260	<0.83		0.83
-----	PCB-1262	<0.83		0.83
-----	PCB-1268	<0.83		0.83

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ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples

Submittal Number: 35109- 4
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		3SS-1	Data Qualifiers C	Q	M	Units
	Lab Sample No:	227997				
E-1047	Percent Solids	81				%

Sampled by: Barlage
Date Sampled: 07/29/99
Time Sampled: 15:10
Date Received: 07/30/99
Time Received: 09:30

000010

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TriMatrix Laboratories Inc

PCB SCAN
USEPA-8081 SCAN

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: 3SW-1

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 15:15
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/11/99
Lab Sample No: 227998
Batch No: 145602

CAS No.	Compound	Result ug	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<25		25
11104-28-2	PCB-1221	<25		25
11141-16-5	PCB-1232	<25		25
53469-21-9	PCB-1242	<25		25
12672-29-6	PCB-1248	**69**		25
11097-69-1	PCB-1254	<25		25
11096-82-5	PCB-1260	<25		25
-----	PCB-1262	<25		25
-----	PCB-1268	<25		25

000011

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Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: 3SW-2

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 15:20
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/11/99
Lab Sample No: 227999
Batch No: 145602

CAS No.	Compound	Result ug	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<25		25
11104-28-2	PCB-1221	<25		25
11141-16-5	PCB-1232	<25		25
53469-21-9	PCB-1242	<25		25
12672-29-6	PCB-1248	**64**		25
11097-69-1	PCB-1254	<25		25
11096-82-5	PCB-1260	<25		25
-----	PCB-1262	<25		25
-----	PCB-1268	<25		25

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PCB SCAN
USEPA-8081 SCAN

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: 3SW-3

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 15:25
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/11/99
Lab Sample No: 228000
Batch No: 145603

CAS No.	Compound	Result ug	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<2.5		2.5
11104-28-2	PCB-1221	<2.5		2.5
11141-16-5	PCB-1232	<2.5		2.5
53469-21-9	PCB-1242	<2.5		2.5
12672-29-6	PCB-1248	**30**		2.5
11097-69-1	PCB-1254	<2.5		2.5
11096-82-5	PCB-1260	<2.5		2.5
-----	PCB-1262	<2.5		2.5
-----	PCB-1268	<2.5		2.5

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TriMatrix Laboratories, Inc

PCB SCAN
USEPA-8081 SCAN

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: 3SW-13B

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 15:30
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/11/99
Lab Sample No: 228001
Batch No: 145602

CAS No.	Compound	Result ug	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<5.0		5.0
11104-28-2	PCB-1221	<5.0		5.0
11141-16-5	PCB-1232	<5.0		5.0
53469-21-9	PCB-1242	<5.0		5.0
12672-29-6	PCB-1248	**130**		5.0
11097-69-1	PCB-1254	<5.0		5.0
11096-82-5	PCB-1260	<5.0		5.0
-----	PCB-1262	<5.0		5.0
-----	PCB-1268	<5.0		5.0

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Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: 3SW-4

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 15:35
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/11/99
Lab Sample No: 228002
Batch No: 145602

CAS No.	Compound	Result ug	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<5.0		5.0
11104-28-2	PCB-1221	<5.0		5.0
11141-16-5	PCB-1232	<5.0		5.0
53469-21-9	PCB-1242	<5.0		5.0
12672-29-6	PCB-1248	**18**		5.0
11097-69-1	PCB-1254	<5.0		5.0
11096-82-5	PCB-1260	<5.0		5.0
----	PCB-1262	<5.0		5.0
----	PCB-1268	<5.0		5.0

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Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: 3SW-5

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 15:40
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/11/99
Lab Sample No: 228003
Batch No: 145602

CAS No.	Compound	Result ug	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<10		10
11104-28-2	PCB-1221	<10		10
11141-16-5	PCB-1232	<10		10
53469-21-9	PCB-1242	<10		10
12672-29-6	PCB-1248	**31**		10
11097-69-1	PCB-1254	<10		10
11096-82-5	PCB-1260	<10		10
-----	PCB-1262	<10		10
-----	PCB-1268	<10		10

000016

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USEPA-8081 SCAN

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: 3SW-6

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 15:45
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/11/99
Lab Sample No: 228004
Batch No: 145602

CAS No.	Compound	Result ug	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<10		10
11104-28-2	PCB-1221	<10		10
11141-16-5	PCB-1232	<10		10
53469-21-9	PCB-1242	<10		10
12672-29-6	PCB-1248	**110**		10
11097-69-1	PCB-1254	<10		10
11096-82-5	PCB-1260	<10		10
-----	PCB-1262	<10		10
-----	PCB-1268	<10		10

000017

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PCB SCAN
USEPA-8081 SCAN

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: 3SW-7

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 16:10
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/11/99
Lab Sample No: 228005
Batch No: 145602

CAS No.	Compound	Result ug	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<25		25
11104-28-2	PCB-1221	<25		25
11141-16-5	PCB-1232	<25		25
53469-21-9	PCB-1242	<25		25
12672-29-6	PCB-1248	**490**		25
11097-69-1	PCB-1254	<25		25
11096-82-5	PCB-1260	<25		25
-----	PCB-1262	<25		25
-----	PCB-1268	<25		25

000018

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PCB SCAN
USEPA-8081 SCAN

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: 3SW-8

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 16:15
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/11/99
Lab Sample No: 228006
Batch No: 145602

CAS No.	Compound	Result ug	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<5.0		5.0
11104-28-2	PCB-1221	<5.0		5.0
11141-16-5	PCB-1232	<5.0		5.0
53469-21-9	PCB-1242	<5.0		5.0
12672-29-6	PCB-1248	**46**		5.0
11097-69-1	PCB-1254	<5.0		5.0
11096-82-5	PCB-1260	<5.0		5.0
-----	PCB-1262	<5.0		5.0
-----	PCB-1268	<5.0		5.0

000019

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TriMatrix Laboratories, Inc

PCB SCAN
USEPA-8081 SCAN

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: 3SW-15

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 16:20
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/11/99
Lab Sample No: 228007
Batch No: 145602

CAS No.	Compound	Result ug	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<10		10
11104-28-2	PCB-1221	<10		10
11141-16-5	PCB-1232	<10		10
53469-21-9	PCB-1242	<10		10
12672-29-6	PCB-1248	**18**		10
11097-69-1	PCB-1254	<10		10
11096-82-5	PCB-1260	<10		10
-----	PCB-1262	<10		10
-----	PCB-1268	<10		10

000020

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TriMatrix Laboratories, Inc

PCB SCAN
USEPA-8081 SCAN

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: 3SW-16

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 16:25
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/12/99
Lab Sample No: 228008
Batch No: 145602

CAS No.	Compound	Result ug	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<5.0		5.0
11104-28-2	PCB-1221	<5.0		5.0
11141-16-5	PCB-1232	<5.0		5.0
53469-21-9	PCB-1242	<5.0		5.0
12672-29-6	PCB-1248	**71**		5.0
11097-69-1	PCB-1254	<5.0		5.0
11096-82-5	PCB-1260	<5.0		5.0
-----	PCB-1262	<5.0		5.0
-----	PCB-1268	<5.0		5.0

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TriMatrix Laboratories, Inc

PCBS IN SOIL
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011 0054KFW02
Subm: July 29, 1999 Samples
Sample: 3SS-17

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 16:30
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228009
Batch No: 145681

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<5.0		5.0
11104-28-2	PCB-1221	<5.0		5.0
11141-16-5	PCB-1232	<5.0		5.0
53469-21-9	PCB-1242	<5.0		5.0
12672-29-6	PCB-1248	<5.0		5.0
11097-69-1	PCB-1254	**50**		5.0
11096-82-5	PCB-1260	<5.0		5.0
-----	PCB-1262	<5.0		5.0
-----	PCB-1268	<5.0		5.0

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TriMatrix Laboratories Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples

Submittal Number: 35109- 4
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		3SS-17	Data Qualifiers C	Q	M	Units
	Lab Sample No:	228009				
E-1047	Percent Solids	80				%

Sampled by: Barlage
Date Sampled: 07/29/99
Time Sampled: 16:30
Date Received: 07/30/99
Time Received: 09:30

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TriMatrix Laboratories, Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples

Submittal Number: 35109- 4
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		6SS-1	Data Qualifiers C	Q	M	Units
	Lab Sample No:	228010				
7440-36-0	Antimony, Total	68			MS	mg/kg dry
7440-38-2	Arsenic, Total	* 33		J	MS	mg/kg dry
7440-41-7	Beryllium, Total	<0.50			MS	mg/kg dry
7440-43-9	Cadmium, Total	4.0			MS	mg/kg dry
7440-47-3	Chromium, Total	167			MS	mg/kg dry
7440-50-8	Copper, Total	366			MS	mg/kg dry
7439-92-1	Lead, Total	332			MS	mg/kg dry
7439-97-6	Mercury, Total	* 6.3			CV	mg/kg dry
7440-02-0	Nickel, Total	* 78		J	MS	mg/kg dry
7782-49-2	Selenium, Total	* 0.89		J	MS	mg/kg dry
7440-22-4	Silver, Total	0.76			MS	mg/kg dry
7440-28-0	Thallium, Total	*<0.50			MS	mg/kg dry
7440-66-6	Zinc, Total	* 4570			MS	mg/kg dry

Sampled by: Barlage
Date Sampled: 07/29/99
Time Sampled: 09:15
Date Received: 07/30/99
Time Received: 09:30

* See attached Statement of Data Qualifications.

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TriMatrix Laboratories Inc

PCBS IN SOIL
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: 2SS-1

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 08:50
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/12/99
Lab Sample No: 228011
Batch No: 145602

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.33		0.33
11104-28-2	PCB-1221	<0.33		0.33
11141-16-5	PCB-1232	<0.33		0.33
53469-21-9	PCB-1242	<0.33		0.33
12672-29-6	PCB-1248	<0.33		0.33
11097-69-1	PCB-1254	**0.51**		0.33
11096-82-5	PCB-1260	<0.33		0.33
-----	PCB-1262	<0.33		0.33
-----	PCB-1268	<0.33		0.33

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TriMatrix Laboratories Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples

Submittal Number: 35109- 4
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		2SS-1	Data Qualifiers C	Q	M	Units
	Lab Sample No:	228011				
E-1047	Percent Solids	87				%

Sampled by:	Barlage
Date Sampled:	07/29/99
Time Sampled:	08:50
Date Received:	07/30/99
Time Received:	09:30

000026

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TriMatrix Laboratories Inc

PCB SCAN
USEPA-8081 SCAN

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: 3SW-13

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 09:45
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/12/99
Lab Sample No: 228012
Batch No: 145601

CAS No.	Compound	Result ug	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<5.0		5.0
11104-28-2	PCB-1221	<5.0		5.0
11141-16-5	PCB-1232	<5.0		5.0
53469-21-9	PCB-1242	<5.0		5.0
12672-29-6	PCB-1248	**79**		5.0
11097-69-1	PCB-1254	**100**		5.0
11096-82-5	PCB-1260	<5.0		5.0
-----	PCB-1262	<5.0		5.0
-----	PCB-1268	<5.0		5.0

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TriMatrix Laboratories, Inc

PCB SCAN
USEPA-8081 SCAN

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: REP-1

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 09:50
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/12/99
Lab Sample No: 228013
Batch No: 145601

CAS No.	Compound	Result ug	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<2.5		2.5
11104-28-2	PCB-1221	<2.5		2.5
11141-16-5	PCB-1232	<2.5		2.5
53469-21-9	PCB-1242	<2.5		2.5
12672-29-6	PCB-1248	**13**		2.5
11097-69-1	PCB-1254	<2.5		2.5
11096-82-5	PCB-1260	<2.5		2.5
-----	PCB-1262	<2.5		2.5
-----	PCB-1268	<2.5		2.5

000028

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TriMatrix Laboratories, Inc

PCB SCAN
USEPA-8081 SCAN

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: 3SW-12

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 09:57
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/12/99
Lab Sample No: 228014
Batch No: 145602

CAS No.	Compound	Result ug	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<1.0		1.0
11104-28-2	PCB-1221	<1.0		1.0
11141-16-5	PCB-1232	<1.0		1.0
53469-21-9	PCB-1242	<1.0		1.0
12672-29-6	PCB-1248	**14**		1.0
11097-69-1	PCB-1254	<1.0		1.0
11096-82-5	PCB-1260	<1.0		1.0
-----	PCB-1262	<1.0		1.0
-----	PCB-1268	<1.0		1.0

000029

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TriMatrix Laboratories, Inc.

PCB SCAN
USEPA-8081 SCAN

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: 3SW-14

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 09:50
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/12/99
Lab Sample No: 228015
Batch No: 145602

CAS No.	Compound	Result ug	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<5.0		5.0
11104-28-2	PCB-1221	<5.0		5.0
11141-16-5	PCB-1232	<5.0		5.0
53469-21-9	PCB-1242	<5.0		5.0
12672-29-6	PCB-1248	**120**		5.0
11097-69-1	PCB-1254	<5.0		5.0
11096-82-5	PCB-1260	<5.0		5.0
-----	PCB-1262	<5.0		5.0
-----	PCB-1268	<5.0		5.0

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TriMatrix Laboratories, Inc

PCB SCAN
USEPA-8081 SCAN

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: 3SW-11

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 10:00
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/12/99
Lab Sample No: 228016
Batch No: 145602

CAS No.	Compound	Result ug	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<25		25
11104-28-2	PCB-1221	<25		25
11141-16-5	PCB-1232	<25		25
53469-21-9	PCB-1242	<25		25
12672-29-6	PCB-1248	**21**		25
11097-69-1	PCB-1254	**67**		25
11096-82-5	PCB-1260	<25		25
-----	PCB-1262	<25		25
-----	PCB-1268	<25		25

000031

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TriMatrix Laboratories, Inc

PCB SCAN
USEPA-8081 SCAN

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: 1SW-1

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 08:45
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/12/99
Lab Sample No: 228017
Batch No: 145601

CAS No.	Compound	Result ug	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<2.5		2.5
11104-28-2	PCB-1221	<2.5		2.5
11141-16-5	PCB-1232	<2.5		2.5
53469-21-9	PCB-1242	<2.5		2.5
12672-29-6	PCB-1248	**8.9**		2.5
11097-69-1	PCB-1254	<2.5		2.5
11096-82-5	PCB-1260	**13**		2.5
-----	PCB-1262	<2.5		2.5
-----	PCB-1268	<2.5		2.5

000032

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TriMatrix Laboratories, Inc

PCB SCAN
USEPA-8081 SCAN

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: 1SW-2

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 08:40
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/12/99
Lab Sample No: 228018
Batch No: 145602

CAS No.	Compound	Result ug	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<1.0		1.0
11104-28-2	PCB-1221	<1.0		1.0
11141-16-5	PCB-1232	<1.0		1.0
53469-21-9	PCB-1242	<1.0		1.0
12672-29-6	PCB-1248	<1.0		1.0
11097-69-1	PCB-1254	<1.0		1.0
11096-82-5	PCB-1260	<1.0		1.0
-----	PCB-1262	<1.0		1.0
-----	PCB-1268	<1.0		1.0

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TriMatrix Laboratories Inc

PCBS IN SOIL
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples
Sample: 3SS-18

Submittal Number 35109- 4
Date Sampled: 07/29/99 Time: 16:45
Date Received: 07/30/99 Time: 09:30
Analysis Date: 08/12/99
Lab Sample No: 228019
Batch No: 145602

CAS No.	Compound	Result mg/kg dry	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.33		0.33
11104-28-2	PCB-1221	<0.33		0.33
11141-16-5	PCB-1232	<0.33		0.33
53469-21-9	PCB-1242	<0.33		0.33
12672-29-6	PCB-1248	<0.33		0.33
11097-69-1	PCB-1254	<0.33		0.33
11096-82-5	PCB-1260	**1.2**		0.33
-----	PCB-1262	<0.33		0.33
-----	PCB-1268	<0.33		0.33

000034

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TriMatrix Laboratories Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: July 29, 1999 Samples

Submittal Number: 35109- 4
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		3SS-18	Data Qualifiers C	Q	M	Units
	Lab Sample No:	228019				
E-1047	Percent Solids	92				%

Sampled by:	Barlage
Date Sampled:	07/29/99
Time Sampled:	16:45
Date Received:	07/30/99
Time Received:	09:30

000035

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STATEMENT OF DATA QUALIFICATIONS

Analysis: **Arsenic, Total**
ICP Mass Spectrometry (ICP-MS)
SOIL USEPA-6020

Qualification:

The matrix spike recovery (SPK) for this sample, fell outside the laboratory established control limits for this method and matrix. The corresponding sample result must be considered estimated.

Explanation for Sample(s) listed below:

Percent Recovery	Control Limits
57%	73- 121
53%	73- 121

Sample(s) Qualified: 228010 6SS-1

Analysis: **Mercury, Total**
Manual Cold Vapor, Mercury
SOIL USEPA-7471A

Qualification:

Matrix QC results (SPK and MSD) for this sample, QC batch, matrix and analysis are unavailable due to high analyte concentrations.

Sample(s) Qualified: 228010 6SS-1

Note: This document is included as a part of the analytical report for the above referenced project and submittal, and should be retained as a permanent record thereof.

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STATEMENT OF DATA QUALIFICATIONS

Analysis: **Nickel, Total**
ICP Mass Spectrometry (ICP-MS)
SOIL USEPA-6020

Qualification:

The matrix spike recovery (SPK) for this sample, fell outside the laboratory established control limits for this method and matrix. The corresponding sample result must be considered estimated.

Explanation for Sample(s) listed below:

Percent Recovery	Control Limits
57%	87- 113
54%	87- 113

Sample(s) Qualified: 228010 6SS-1

Analysis: **Selenium, Total**
ICP Mass Spectrometry (ICP-MS)
SOIL USEPA-6020

Qualification:

Duplicate instrument injection/aspiration precision was >20% RSD for this sample and analysis. Sample result must be considered estimated.

Sample(s) Qualified: 228010 6SS-1

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000037

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STATEMENT OF DATA QUALIFICATIONS

Analysis: **Thallium, Total**
ICP Mass Spectrometry (ICP-MS)
SOIL USEPA-6020

Qualification:

One of the matrix spike accuracies fell outside of the established laboratory control limits, but the precision between the MS/MSD is within the control limits for this matrix and method. The corresponding sample result is not considered estimated.

Explanation for Sample(s) listed below:

Percent Recovery	Control Limits
87%	87- 121
85%	87- 121

Sample(s) Qualified: 228010 6SS-1

Analysis: **Zinc, Total**
ICP Mass Spectrometry (ICP-MS)
SOIL USEPA-6020

Qualification:

Matrix QC results (SPK and MSD) for this sample, QC batch, matrix and analysis are unavailable due to high analyte concentrations resulting in a dilution of this sample and/or it's extract.

Sample(s) Qualified: 228010 6SS-1

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STATEMENT OF DATA QUALIFICATIONS

Analysis: **PCB Scan**
Organochlorine Pesticides & PCBs
WIPES USEPA-8081

Qualification:

Surrogate results are unavailable due to positive results in the sample extract resulting in a dilution of greater than 1:5 of the sample extract.

Sample(s) Qualified:

227995	3SW-10
227998	3SW-1
227999	3SW-2
228013	REP-1
228003	3SW-5
228005	3SW-7
228007	3SW-15
228004	3SW-6

Analysis: **PCBs in soil**
Organochlorine Pesticides & PCBs
SOIL USEPA-8081

Qualification:

Surrogate results are unavailable due to positive results in the sample extract resulting in a dilution of greater than 1:5 of the sample extract.

Sample(s) Qualified:

227996	2SS-05
228009	3SS-17
227997	3SS-1

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FAX NO. 616 942 7463

JUL-29-1999 THU 12:43 PM TRIMATRIX

TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court SE • Grand Rapids, MI 49512

Chain of Custody Record

COC No. № 56976A

000040

Project Manager: M. Bolagt

Project Name: SLAAP EBS

Project No.: G0011-00546F0B2

Sampler (Print): BOLAB

Sampler Signature: [signature]

For Lab Use Only

Rack/Tray No:

Lab Project # 35109-4

Date Sampled	Time Sampled	Matrix*	Composite	Grab	Sample Identification	No. of Containers	Container Type	Analysis Required/Comments	Sample No.	Filtered Date/Time
7-29-99	0905	Soil		X	4SW-1	1		1x4oz (Hexane) PCBs TG-09	227992	
7-29-99	0925	Soil		X	5SW-1	1		1x4oz (Hexane) PCBs	227993	
7-29-99	1415	Soil		X	3SW-9	1		1x4oz (Hexane) PCBs	227994	
7-29-99	1450	Wipe Soil		X	3SW-10	1		1x4oz (Hexane) PCBs	227995	
7-29-99	1505	Soil		X	3SS-05	1		1x12oz PCBs TG-08	227996	
7-29-99	1510	Soil		X	3SS-1	1		1x12oz PCBs TG-08	227997	
7-29-99	1515	Soil wipe		X	3SW-1	1		1x4oz (Hexane) PCBs TG-09	227998	
7-29-99	1520	Soil wipe		X	3SW-2	1		1x4oz (Hexane) PCBs	227999	
7-29-99	1525	Soil wipe		X	3SW-3	1		1x4oz (Hexane) PCBs	228000	

Relinquished By	Date/Time	Received By:	Received to Lab By:	Date/Time	Logged in By:	Date/Time
[signature]	7-29-99 1800		[signature]	7-30-99	[signature]	8-2-99 1:27 PM

Cooler dry seals intact upon receipt

PCDC 930AR

* Matrix: Water (W), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)

2044

TriMatrix Laboratories, Inc.

5560 Corporate Exchange Court SE • Grand Rapids, MI 49512

Chain of Custody Record

COC No. № 56976B

00004

Project Manager	Project Name	Project No.	Sampler (Print)	Sampler Signature
[illegible]	SLAAP EBS	[illegible]	BARLAGH	[signature]

For Lab Use Only: Rack/Tray No: ; Lab Project #

Date Sampled	Time Sampled	Matrix*	Composite	Grab	Sample Identification	No. of Containers	Container Type (No's Correspond to Bottle Packing List)	Analysis Required/Comments	Sample No.	Filtered Date/Time
7.29.99	1530	Soil Wipe		X	3SW-3B	1		1x4oz (Hexane) PCBs T6-09	228001	
7.29.99	1535	Soil Wipe		X	3SW-4	1		1x4oz (hexane) PCBs	228002	
7.29.99	1540	Soil Wipe		X	3SW-5	1		1x4oz (hexane) PCBs	228003	
7.29.99	1545	Soil Wipe		X	3SW-6	1		1x4oz (hexane) PCBs	228004	
7.29.99	1610	Soil Wipe			3SW-7	1		1x4oz (hexane) PCBs	228005	
7.29.99	1615	Soil Wipe			3SW-8	1		1x4oz (hexane) PCBs	228006	
7.29.99	1620	Soil Wipe			~~3SW-[illegible]~~ 3SW-15	1		1x4oz (hexane) PCBs	228007	
7.29.99	1625	Soil Wipe			3SW-16	1		1x4oz (hexane) PCBs	228008	
7.29.99	1630	Soil			3SS-17	1		1x12oz PCBs T6-08	228009	

Relinquished By	Date/Time	Received By:	Received to Lab By:	Date/Time	Logged in By:	Date/Time
[signature]	7.29.99 1800		[signature]	7-30-99	[signature]	8.22.99 4:22 PM

Custody seals intact upon receipt

* Matrix: Water (WTR), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)

FAX NO. 616 942 7463

JUL-29-1999 THU 12:43 PM TRIMATRIX

3054

TriMatrix Laboratories, Inc.

5560 Corporate Exchange Court SE • Grand Rapids, MI 49512

Chain of Custody Record

COC No. № 56976C

000042

Project Manager: M. Barlage

Project Name: SLAAP EBS

Project No.: 60011.00 54EFW02

Sampler (Print): B A R L A G E

Sampler Signature:

No's Correspond to Bottle Packing List

For Lab Use Only

Rack/Tray No:

Lab Project #

Date Sampled	Time Sampled	Matrix*	Composite	Grab	Sample Identification	No. of Containers	Container Type	Analysis Required/Comments	Sample No.	Filtered Date/Time
7-29-99	0915	Soil		x	6 S S - 1	1		1x8oz Glass METALS RP metals TO-10 Ill M Barlage	228010	
7-29-99	0850	Soil		x	2 S S - 1	1		1x8oz Glass PCBs TG-08	228011	
7-29-99	0945	Soil		x	3 S W - 1 3	1		1x4oz Glass (Hexane) PCBs TG-09	228012	
7-29-99	0950	Soil		x	R & P - 1	1		1x4oz Glass (Hexane) PCBs	228013	
7-29-99	0957	Soil		x	3 S W - 1 2	1		1x4oz Glass (Hexane) PCBs	228014	
7-29-99	0950	Soil		x	3 S W - 1 4	1		1x4oz Glass (Hexane) PCBs	228015	
7-29-99	1000	Soil		x	3 S W - 1 1	1		1x4oz (Hexane) PCBs	228016	
7-29-99	0845	Soil		x	1 S W - 1	1		1x4oz (Hexane) PCBs	228017	
7-29-99	0840	Soil		x	1 S W - 2	1		1x4oz (Hexane) PCBs	228018	

Relinquished By:	Date/Time	Received By:	Received to Lab By:	Date/Time	Logged in By:	Date/Time
	7-29-99 1100		Deb Sidbauer	7-30-99	Deb Sidbauer	8-2-99 1:22 PM

* Matrix: Water (W), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)

cc/ Geoff Wright Act Sprue PSDX N9.130

FAX NO. 616 942 7463

TriMatrix Laboratories, Inc.
5560 Corporate Exchange Court SE • Grand Rapids, MI 49512

Chain of Custody Record

COC No. № 56976 D

000043

Project Manager: M. BARLAGE
Project Name: SLAAP EBS
Project No.: G0011 OU54KFW12
Sampler (Print): BARLAGE
Sampler Signature:

No's Correspond to Bottle Packing List

For Lab Use Only
Rack/Tray No:
Lab Project #

Date Sampled	Time Sampled	Matrix*	Composite	Grab	Sample Identification	No. of Containers	Container Type	Analysis Required/Comments	Sample No.	Filtered Date/Time
7-29-99	1645	Soil		X	3SS-48	1		TX 1208 / PCBs TK-08	228019	
7-28-99	—	Charcoal			BKD3BASE 72994	1		ASBESTOS CARTRIDGE 140 MIN @ 1Lpm —		
7-28-99	—	Charcoal			BKD3BASE 72995	1		ASBESTOS CARTRIDGE 120 MIN @ 1 Lpm —		

Relinquished By:	Date/Time	Received By:	Received to Lab By:	Date/Time	Logged in By:	Date/Time
			Deb Sidawlas	7-30-99	Deb Sidawlas	8-2-99 4:22

* Matrix: Water (WTR), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)

Custody seals intact upon rec. FED ES 9:30 AM

PM

TriMatrix
Laboratories Inc

August 20, 1999

Tetra Tech EM, Inc.
Attn: Michael Barlage
200 E. Randolph
Suite 4700
Chicago, IL 60601

RE: St. Louis Army Ammunition
G0011-0054KFW02

Dear Mr. Michael Barlage:

Enclosed is a copy of your laboratory summary report for submittal **35109-5.** This submittal was completely received on August 4, 1999. All analyses have been validated and comply with our Quality Control program statistics unless otherwise noted.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Gerald D. Holycross
Project Chemist

Enclosure

000001

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TriMatrix Laboratories, Inc.

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-1

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 06:20
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228166
Batch No: 145766

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<5.0		5.0
71-43-2	Benzene	<1.0		1.0
75-27-4	Dichlorobromomethane	<1.0		1.0
75-25-2	Bromoform	<1.0		1.0
74-83-9	Bromomethane	<1.0		1.0
78-93-3	Methyl Ethyl Ketone	<5.0		5.0
75-15-0	Carbon Disulfide	<1.0		1.0
56-23-5	Carbon Tetrachloride	<1.0		1.0
108-90-7	Chlorobenzene	<1.0		1.0
75-00-3	Chloroethane	<1.0		1.0
67-66-3	Chloroform	<1.0		1.0
74-87-3	Chloromethane	<1.0		1.0
124-48-1	Chlorodibromomethane	<1.0		1.0
95-50-1	1,2-Dichlorobenzene	<1.0		1.0
541-73-1	1,3-Dichlorobenzene	<1.0		1.0
106-46-7	1,4-Dichlorobenzene	<1.0		1.0
75-34-3	1,1-Dichloroethane	<1.0		1.0
107-06-2	1,2-Dichloroethane	<1.0		1.0
156-59-2	cis-1,2-Dichloroethene	<1.0		1.0
156-60-5	trans-1,2-Dichloroethene	<1.0		1.0
75-35-4	1,1-Dichloroethylene	<1.0		1.0
78-87-5	1,2-Dichloropropane	<1.0		1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0		1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0		1.0
100-41-4	Ethylbenzene	<1.0		1.0
591-78-6	2-Hexanone	<5.0		5.0
108-10-1	4-Methyl-2-Pentanone	<5.0		5.0
75-09-2	Methylene Chloride	<2.0		2.0
100-42-5	Styrene	<1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0		1.0
127-18-4	Tetrachloroethene	<1.0		1.0
71-55-6	1,1,1-Trichloroethane	<1.0		1.0
79-00-5	1,1,2-Trichloroethane	<1.0		1.0
79-01-6	Trichloroethene	<1.0		1.0
108-88-3	Toluene	<1.0		1.0

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TriMatrix Laboratories Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-1

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 06:20
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228166
Batch No: 145766

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<1.0		1.0
1330-20-7	Xylene (Total)	<1.0		1.0

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-2

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 07:30
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228167
Batch No: 145685

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<5.0		5.0
208-96-8	Acenaphthylene	<5.0		5.0
120-12-7	Anthracene	<5.0		5.0
56-55-3	Benzo (a) Anthracene	<5.0		5.0
50-32-8	Benzo (a) Pyrene	<5.0		5.0
205-99-2	Benzo (b) Fluoranthene	<5.0		5.0
207-08-9	Benzo (k) Fluoranthene	<5.0		5.0
191-24-2	Benzo (g,h,i,) Perylene	<5.0		5.0
111-91-1	Bis (2-Chloroethoxy)-Methane	<5.0		5.0
111-44-4	Bis (2-Chloroethyl) Ether	<5.0		5.0
108-60-1	Bis (2-Chloroisopropyl)-Ether	<5.0		5.0
117-81-7	Bis (2-ethylhexyl)-Phthalate	<5.0		5.0
101-55-3	4-Bromophenyl Phenylether	<5.0		5.0
85-68-7	Butyl Benzyl Phthalate	<5.0		5.0
59-50-7	4-Chloro-3-Methylphenol	<5.0		5.0
106-47-8	4-Chloroaniline	<5.0		5.0
91-58-7	2-Chloronaphthalene	<5.0		5.0
95-57-8	2-Chlorophenol	<5.0		5.0
7005-72-3	4-Chlorophenylphenyl-Ether	<5.0		5.0
218-01-9	Chrysene	<5.0		5.0
84-74-2	Di-n-Butylphthalate	<5.0		5.0
117-84-0	Di-n-Octylphthalate	<5.0		5.0
53-70-3	Dibenzo (a,h) Anthracene	<5.0		5.0
132-64-9	Dibenzofuran	<5.0		5.0
95-50-1	1,2-Dichlorobenzene	<5.0		5.0
541-73-1	1,3-Dichlorobenzene	<5.0		5.0
106-46-7	1,4-Dichlorobenzene	<5.0		5.0
91-94-1	3,3'-Dichlorobenzidine	<5.0		5.0
120-83-2	2,4-Dichlorophenol	<5.0		5.0
84-66-2	Diethylphthalate	<5.0		5.0
131-11-3	Dimethylphthalate	<5.0		5.0

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TriMatrix Laboratories Inc.

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-2

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 07:30
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228167
Batch No: 145685

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
105-67-9	2,4-Dimethylphenol	<5.0		5.0
534-52-1	4,6-Dinitro-2-Methylphenol	<20		20
51-28-5	2,4-Dinitrophenol	<20		20
121-14-2	2,4-Dinitrotoluene	<5.0		5.0
606-20-2	2,6-Dinitrotoluene	<5.0		5.0
206-44-0	Fluoranthene	<5.0		5.0
86-73-7	Fluorene	<5.0		5.0
118-74-1	Hexachlorobenzene	<5.0		5.0
87-68-3	Hexachlorobutadiene	<5.0		5.0
77-47-4	Hexachlorocyclopentadiene	<5.0		5.0
67-72-1	Hexachloroethane	<5.0		5.0
193-39-5	Indeno (1,2,3-cd) Pyrene	<5.0		5.0
78-59-1	Isophorone	<5.0		5.0
91-57-6	2-Methylnaphthalene	<5.0		5.0
95-48-7	2-Methylphenol	<1.0		1.0
106-44-5	4-Methylphenol	<5.0		5.0
621-64-7	N-Nitrosodi-n-Propylamine	<5.0		5.0
86-30-6	N-Nitroso-di-Phenylamine	<5.0		5.0
91-20-3	Naphthalene	<5.0		5.0
88-74-4	2-Nitroaniline	<20		20
99-09-2	3-Nitroaniline	<20		20
100-01-6	4-Nitroaniline	<20		20
98-95-3	Nitrobenzene	<5.0		5.0
88-75-5	2-Nitrophenol	<5.0		5.0
100-02-7	4-Nitrophenol	<20		20
87-86-5	Pentachlorophenol	<20		20
85-01-8	Phenanthrene	<5.0		5.0
108-95-2	Phenol	<5.0		5.0
129-00-0	Pyrene	<5.0		5.0
120-82-1	1,2,4-Trichlorobenzene	<5.0		5.0
95-95-4	2,4,5-Trichlorophenol	<20		20
88-06-2	2,4,6-Trichlorophenol	<5.0		5.0
86-74-8	Carbazole	<10		10

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TriMatrix Laboratories, Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-2

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 07:30
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228167
Batch No: 145766

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<5.0		5.0
71-43-2	Benzene	<1.0		1.0
75-27-4	Dichlorobromomethane	<1.0		1.0
75-25-2	Bromoform	<1.0		1.0
74-83-9	Bromomethane	<1.0		1.0
78-93-3	Methyl Ethyl Ketone	<5.0		5.0
75-15-0	Carbon Disulfide	<1.0		1.0
56-23-5	Carbon Tetrachloride	<1.0		1.0
108-90-7	Chlorobenzene	<1.0		1.0
75-00-3	Chloroethane	<1.0		1.0
67-66-3	Chloroform	<1.0		1.0
74-87-3	Chloromethane	<1.0		1.0
124-48-1	Chlorodibromomethane	<1.0		1.0
95-50-1	1,2-Dichlorobenzene	<1.0		1.0
541-73-1	1,3-Dichlorobenzene	<1.0		1.0
106-46-7	1,4-Dichlorobenzene	<1.0		1.0
75-34-3	1,1-Dichloroethane	<1.0		1.0
107-06-2	1,2-Dichloroethane	<1.0		1.0
156-59-2	cis-1,2-Dichloroethene	<1.0		1.0
156-60-5	trans-1,2-Dichloroethene	<1.0		1.0
75-35-4	1,1-Dichloroethylene	<1.0		1.0
78-87-5	1,2-Dichloropropane	<1.0		1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0		1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0		1.0
100-41-4	Ethylbenzene	<1.0		1.0
591-78-6	2-Hexanone	<5.0		5.0
108-10-1	4-Methyl-2-Pentanone	<5.0		5.0
75-09-2	Methylene Chloride	<2.0		2.0
100-42-5	Styrene	<1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0		1.0
127-18-4	Tetrachloroethene	<1.0		1.0
71-55-6	1,1,1-Trichloroethane	<1.0		1.0
79-00-5	1,1,2-Trichloroethane	<1.0		1.0
79-01-6	Trichloroethene	<1.0		1.0
108-88-3	Toluene	<1.0		1.0

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TriMatrix Laboratories Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-2

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 07:30
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228167
Batch No: 145766

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<1.0		1.0
1330-20-7	Xylene (Total)	<1.0		1.0

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-4

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 09:00
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228168
Batch No: 145685

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<5.0		5.0
208-96-8	Acenaphthylene	<5.0		5.0
120-12-7	Anthracene	<5.0		5.0
56-55-3	Benzo (a) Anthracene	<5.0		5.0
50-32-8	Benzo (a) Pyrene	<5.0		5.0
205-99-2	Benzo (b) Fluoranthene	<5.0		5.0
207-08-9	Benzo (k) Fluoranthene	<5.0		5.0
191-24-2	Benzo (g,h,i,) Perylene	<5.0		5.0
111-91-1	Bis (2-Chloroethoxy)-Methane	<5.0		5.0
111-44-4	Bis (2-Chloroethyl) Ether	<5.0		5.0
108-60-1	Bis (2-Chloroisopropyl)-Ether	<5.0		5.0
117-81-7	Bis (2-ethylhexyl)-Phthalate	**13**		5.0
101-55-3	4-Bromophenyl Phenylether	<5.0		5.0
85-68-7	Butyl Benzyl Phthalate	<5.0		5.0
59-50-7	4-Chloro-3-Methylphenol	<5.0		5.0
106-47-8	4-Chloroaniline	<5.0		5.0
91-58-7	2-Chloronaphthalene	<5.0		5.0
95-57-8	2-Chlorophenol	<5.0		5.0
7005-72-3	4-Chlorophenylphenyl-Ether	<5.0		5.0
218-01-9	Chrysene	<5.0		5.0
84-74-2	Di-n-Butylphthalate	<5.0		5.0
117-84-0	Di-n-Octylphthalate	<5.0		5.0
53-70-3	Dibenzo (a,h) Anthracene	<5.0		5.0
132-64-9	Dibenzofuran	<5.0		5.0
95-50-1	1,2-Dichlorobenzene	<5.0		5.0
541-73-1	1,3-Dichlorobenzene	<5.0		5.0
106-46-7	1,4-Dichlorobenzene	<5.0		5.0
91-94-1	3,3'-Dichlorobenzidine	<5.0		5.0
120-83-2	2,4-Dichlorophenol	<5.0		5.0
84-66-2	Diethylphthalate	<5.0		5.0
131-11-3	Dimethylphthalate	<5.0		5.0

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-4

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 09:00
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228168
Batch No: 145685

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
105-67-9	2,4-Dimethylphenol	<5.0		5.0
534-52-1	4,6-Dinitro-2-Methylphenol	<20		20
51-28-5	2,4-Dinitrophenol	<20		20
121-14-2	2,4-Dinitrotoluene	<5.0		5.0
606-20-2	2,6-Dinitrotoluene	<5.0		5.0
206-44-0	Fluoranthene	<5.0		5.0
86-73-7	Fluorene	<5.0		5.0
118-74-1	Hexachlorobenzene	<5.0		5.0
87-68-3	Hexachlorobutadiene	<5.0		5.0
77-47-4	Hexachlorocyclopentadiene	<5.0		5.0
67-72-1	Hexachloroethane	<5.0		5.0
193-39-5	Indeno (1,2,3-cd) Pyrene	<5.0		5.0
78-59-1	Isophorone	<5.0		5.0
91-57-6	2-Methylnaphthalene	<5.0		5.0
95-48-7	2-Methylphenol	<1.0		1.0
106-44-5	4-Methylphenol	<5.0		5.0
621-64-7	N-Nitrosodi-n-Propylamine	<5.0		5.0
86-30-6	N-Nitroso-di-Phenylamine	<5.0		5.0
91-20-3	Naphthalene	<5.0		5.0
88-74-4	2-Nitroaniline	<20		20
99-09-2	3-Nitroaniline	<20		20
100-01-6	4-Nitroaniline	<20		20
98-95-3	Nitrobenzene	<5.0		5.0
88-75-5	2-Nitrophenol	<5.0		5.0
100-02-7	4-Nitrophenol	<20		20
87-86-5	Pentachlorophenol	<20		20
85-01-8	Phenanthrene	<5.0		5.0
108-95-2	Phenol	<5.0		5.0
129-00-0	Pyrene	<5.0		5.0
120-82-1	1,2,4-Trichlorobenzene	<5.0		5.0
95-95-4	2,4,5-Trichlorophenol	<20		20
88-06-2	2,4,6-Trichlorophenol	<5.0		5.0
86-74-8	Carbazole	<10		10

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TriMatrix Laboratories Inc.

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-4

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 09:00
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228168
Batch No: 145766

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<5.0		5.0
71-43-2	Benzene	<1.0		1.0
75-27-4	Dichlorobromomethane	<1.0		1.0
75-25-2	Bromoform	<1.0		1.0
74-83-9	Bromomethane	<1.0		1.0
78-93-3	Methyl Ethyl Ketone	<5.0		5.0
75-15-0	Carbon Disulfide	<1.0		1.0
56-23-5	Carbon Tetrachloride	<1.0		1.0
108-90-7	Chlorobenzene	<1.0		1.0
75-00-3	Chloroethane	<1.0		1.0
67-66-3	Chloroform	<1.0		1.0
74-87-3	Chloromethane	<1.0		1.0
124-48-1	Chlorodibromomethane	<1.0		1.0
95-50-1	1,2-Dichlorobenzene	<1.0		1.0
541-73-1	1,3-Dichlorobenzene	<1.0		1.0
106-46-7	1,4-Dichlorobenzene	<1.0		1.0
75-34-3	1,1-Dichloroethane	<1.0		1.0
107-06-2	1,2-Dichloroethane	<1.0		1.0
156-59-2	cis-1,2-Dichloroethene	<1.0		1.0
156-60-5	trans-1,2-Dichloroethene	<1.0		1.0
75-35-4	1,1-Dichloroethylene	<1.0		1.0
78-87-5	1,2-Dichloropropane	<1.0		1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0		1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0		1.0
100-41-4	Ethylbenzene	<1.0		1.0
591-78-6	2-Hexanone	<5.0		5.0
108-10-1	4-Methyl-2-Pentanone	<5.0		5.0
75-09-2	Methylene Chloride	<2.0		2.0
100-42-5	Styrene	<1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0		1.0
127-18-4	Tetrachloroethene	<1.0		1.0
71-55-6	1,1,1-Trichloroethane	<1.0		1.0
79-00-5	1,1,2-Trichloroethane	<1.0		1.0
79-01-6	Trichloroethene	<1.0		1.0
108-88-3	Toluene	<1.0		1.0

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TriMatrix Laboratories Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-4

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 09:00
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228168
Batch No: 145766

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<1.0		1.0
1330-20-7	Xylene (Total)	<1.0		1.0

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TriMatrix Laboratories, Inc.

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-5

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 10:10
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228169
Batch No: 145685

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<5.0		5.0
208-96-8	Acenaphthylene	<5.0		5.0
120-12-7	Anthracene	<5.0		5.0
56-55-3	Benzo (a) Anthracene	<5.0		5.0
50-32-8	Benzo (a) Pyrene	<5.0		5.0
205-99-2	Benzo (b) Fluoranthene	<5.0		5.0
207-08-9	Benzo (k) Fluoranthene	<5.0		5.0
191-24-2	Benzo (g,h,i,) Perylene	<5.0		5.0
111-91-1	Bis (2-Chloroethoxy)-Methane	<5.0		5.0
111-44-4	Bis (2-Chloroethyl) Ether	<5.0		5.0
108-60-1	Bis (2-Chloroisopropyl)-Ether	<5.0		5.0
117-81-7	Bis (2-ethylhexyl)-Phthalate	<5.0		5.0
101-55-3	4-Bromophenyl Phenylether	<5.0		5.0
85-68-7	Butyl Benzyl Phthalate	<5.0		5.0
59-50-7	4-Chloro-3-Methylphenol	<5.0		5.0
106-47-8	4-Chloroaniline	<5.0		5.0
91-58-7	2-Chloronaphthalene	<5.0		5.0
95-57-8	2-Chlorophenol	<5.0		5.0
7005-72-3	4-Chlorophenylphenyl-Ether	<5.0		5.0
218-01-9	Chrysene	<5.0		5.0
84-74-2	Di-n-Butylphthalate	<5.0		5.0
117-84-0	Di-n-Octylphthalate	<5.0		5.0
53-70-3	Dibenzo (a,h) Anthracene	<5.0		5.0
132-64-9	Dibenzofuran	<5.0		5.0
95-50-1	1,2-Dichlorobenzene	<5.0		5.0
541-73-1	1,3-Dichlorobenzene	<5.0		5.0
106-46-7	1,4-Dichlorobenzene	<5.0		5.0
91-94-1	3,3'-Dichlorobenzidine	<5.0		5.0
120-83-2	2,4-Dichlorophenol	<5.0		5.0
84-66-2	Diethylphthalate	<5.0		5.0
131-11-3	Dimethylphthalate	<5.0		5.0

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-5

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 10:10
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228169
Batch No: 145685

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
105-67-9	2,4-Dimethylphenol	<5.0		5.0
534-52-1	4,6-Dinitro-2-Methylphenol	<20		20
51-28-5	2,4-Dinitrophenol	<20		20
121-14-2	2,4-Dinitrotoluene	<5.0		5.0
606-20-2	2,6-Dinitrotoluene	<5.0		5.0
206-44-0	Fluoranthene	<5.0		5.0
86-73-7	Fluorene	<5.0		5.0
118-74-1	Hexachlorobenzene	<5.0		5.0
87-68-3	Hexachlorobutadiene	<5.0		5.0
77-47-4	Hexachlorocyclopentadiene	<5.0		5.0
67-72-1	Hexachloroethane	<5.0		5.0
193-39-5	Indeno (1,2,3-cd) Pyrene	<5.0		5.0
78-59-1	Isophorone	<5.0		5.0
91-57-6	2-Methylnaphthalene	<5.0		5.0
95-48-7	2-Methylphenol	<1.0		1.0
106-44-5	4-Methylphenol	<5.0		5.0
621-64-7	N-Nitrosodi-n-Propylamine	<5.0		5.0
86-30-6	N-Nitroso-di-Phenylamine	<5.0		5.0
91-20-3	Naphthalene	<5.0		5.0
88-74-4	2-Nitroaniline	<20		20
99-09-2	3-Nitroaniline	<20		20
100-01-6	4-Nitroaniline	<20		20
98-95-3	Nitrobenzene	<5.0		5.0
88-75-5	2-Nitrophenol	<5.0		5.0
100-02-7	4-Nitrophenol	<20		20
87-86-5	Pentachlorophenol	<20		20
85-01-8	Phenanthrene	<5.0		5.0
108-95-2	Phenol	<5.0		5.0
129-00-0	Pyrene	<5.0		5.0
120-82-1	1,2,4-Trichlorobenzene	<5.0		5.0
95-95-4	2,4,5-Trichlorophenol	<20		20
88-06-2	2,4,6-Trichlorophenol	<5.0		5.0
86-74-8	Carbazole	<10		10

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TriMatrix Laboratories, Inc.

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-5

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 10:10
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228169
Batch No: 145766

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<5.0		5.0
71-43-2	Benzene	<1.0		1.0
75-27-4	Dichlorobromomethane	<1.0		1.0
75-25-2	Bromoform	<1.0		1.0
74-83-9	Bromomethane	<1.0		1.0
78-93-3	Methyl Ethyl Ketone	<5.0		5.0
75-15-0	Carbon Disulfide	<1.0		1.0
56-23-5	Carbon Tetrachloride	<1.0		1.0
108-90-7	Chlorobenzene	<1.0		1.0
75-00-3	Chloroethane	<1.0		1.0
67-66-3	Chloroform	<1.0		1.0
74-87-3	Chloromethane	<1.0		1.0
124-48-1	Chlorodibromomethane	<1.0		1.0
95-50-1	1,2-Dichlorobenzene	<1.0		1.0
541-73-1	1,3-Dichlorobenzene	<1.0		1.0
106-46-7	1,4-Dichlorobenzene	<1.0		1.0
75-34-3	1,1-Dichloroethane	<1.0		1.0
107-06-2	1,2-Dichloroethane	<1.0		1.0
156-59-2	cis-1,2-Dichloroethene	<1.0		1.0
156-60-5	trans-1,2-Dichloroethene	<1.0		1.0
75-35-4	1,1-Dichloroethylene	<1.0		1.0
78-87-5	1,2-Dichloropropane	<1.0		1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0		1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0		1.0
100-41-4	Ethylbenzene	<1.0		1.0
591-78-6	2-Hexanone	<5.0		5.0
108-10-1	4-Methyl-2-Pentanone	<5.0		5.0
75-09-2	Methylene Chloride	<2.0		2.0
100-42-5	Styrene	<1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0		1.0
127-18-4	Tetrachloroethene	<1.0		1.0
71-55-6	1,1,1-Trichloroethane	<1.0		1.0
79-00-5	1,1,2-Trichloroethane	<1.0		1.0
79-01-6	Trichloroethene	<1.0		1.0
108-88-3	Toluene	<1.0		1.0

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TriMatrix
Laboratories Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-5

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 10:10
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228169
Batch No: 145766

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<1.0		1.0
1330-20-7	Xylene (Total)	<1.0		1.0

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TriMatrix Laboratories, Inc.

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: DUP-1

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 10:10
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228170
Batch No: 145685

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<5.0		5.0
208-96-8	Acenaphthylene	<5.0		5.0
120-12-7	Anthracene	<5.0		5.0
56-55-3	Benzo (a) Anthracene	<5.0		5.0
50-32-8	Benzo (a) Pyrene	<5.0		5.0
205-99-2	Benzo (b) Fluoranthene	<5.0		5.0
207-08-9	Benzo (k) Fluoranthene	<5.0		5.0
191-24-2	Benzo (g,h,i,) Perylene	<5.0		5.0
111-91-1	Bis (2-Chloroethoxy)-Methane	<5.0		5.0
111-44-4	Bis (2-Chloroethyl) Ether	<5.0		5.0
108-60-1	Bis (2-Chloroisopropyl)-Ether	<5.0		5.0
117-81-7	Bis (2-ethylhexyl)-Phthalate	<5.0		5.0
101-55-3	4-Bromophenyl Phenylether	<5.0		5.0
85-68-7	Butyl Benzyl Phthalate	<5.0		5.0
59-50-7	4-Chloro-3-Methylphenol	<5.0		5.0
106-47-8	4-Chloroaniline	<5.0		5.0
91-58-7	2-Chloronaphthalene	<5.0		5.0
95-57-8	2-Chlorophenol	<5.0		5.0
7005-72-3	4-Chlorophenylphenyl-Ether	<5.0		5.0
218-01-9	Chrysene	<5.0		5.0
84-74-2	Di-n-Butylphthalate	<5.0		5.0
117-84-0	Di-n-Octylphthalate	<5.0		5.0
53-70-3	Dibenzo (a,h) Anthracene	<5.0		5.0
132-64-9	Dibenzofuran	<5.0		5.0
95-50-1	1,2-Dichlorobenzene	<5.0		5.0
541-73-1	1,3-Dichlorobenzene	<5.0		5.0
106-46-7	1,4-Dichlorobenzene	<5.0		5.0
91-94-1	3,3'-Dichlorobenzidine	<5.0		5.0
120-83-2	2,4-Dichlorophenol	<5.0		5.0
84-66-2	Diethylphthalate	<5.0		5.0
131-11-3	Dimethylphthalate	<5.0		5.0

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: DUP-1

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 10:10
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228170
Batch No: 145685

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
105-67-9	2,4-Dimethylphenol	<5.0		5.0
534-52-1	4,6-Dinitro-2-Methylphenol	<20		20
51-28-5	2,4-Dinitrophenol	<20		20
121-14-2	2,4-Dinitrotoluene	<5.0		5.0
606-20-2	2,6-Dinitrotoluene	<5.0		5.0
206-44-0	Fluoranthene	<5.0		5.0
86-73-7	Fluorene	<5.0		5.0
118-74-1	Hexachlorobenzene	<5.0		5.0
87-68-3	Hexachlorobutadiene	<5.0		5.0
77-47-4	Hexachlorocyclopentadiene	<5.0		5.0
67-72-1	Hexachloroethane	<5.0		5.0
193-39-5	Indeno (1,2,3-cd) Pyrene	<5.0		5.0
78-59-1	Isophorone	<5.0		5.0
91-57-6	2-Methylnaphthalene	<5.0		5.0
95-48-7	2-Methylphenol	<1.0		1.0
106-44-5	4-Methylphenol	<5.0		5.0
621-64-7	N-Nitrosodi-n-Propylamine	<5.0		5.0
86-30-6	N-Nitroso-di-Phenylamine	<5.0		5.0
91-20-3	Naphthalene	<5.0		5.0
88-74-4	2-Nitroaniline	<20		20
99-09-2	3-Nitroaniline	<20		20
100-01-6	4-Nitroaniline	<20		20
98-95-3	Nitrobenzene	<5.0		5.0
88-75-5	2-Nitrophenol	<5.0		5.0
100-02-7	4-Nitrophenol	<20		20
87-86-5	Pentachlorophenol	<20		20
85-01-8	Phenanthrene	<5.0		5.0
108-95-2	Phenol	<5.0		5.0
129-00-0	Pyrene	<5.0		5.0
120-82-1	1,2,4-Trichlorobenzene	<5.0		5.0
95-95-4	2,4,5-Trichlorophenol	<20		20
88-06-2	2,4,6-Trichlorophenol	<5.0		5.0
86-74-8	Carbazole	<10		10

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VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: DUP-1

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 10:10
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228170
Batch No: 145766

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<5.0		5.0
71-43-2	Benzene	<1.0		1.0
75-27-4	Dichlorobromomethane	<1.0		1.0
75-25-2	Bromoform	<1.0		1.0
74-83-9	Bromomethane	<1.0		1.0
78-93-3	Methyl Ethyl Ketone	<5.0		5.0
75-15-0	Carbon Disulfide	<1.0		1.0
56-23-5	Carbon Tetrachloride	<1.0		1.0
108-90-7	Chlorobenzene	<1.0		1.0
75-00-3	Chloroethane	<1.0		1.0
67-66-3	Chloroform	<1.0		1.0
74-87-3	Chloromethane	<1.0		1.0
124-48-1	Chlorodibromomethane	<1.0		1.0
95-50-1	1,2-Dichlorobenzene	<1.0		1.0
541-73-1	1,3-Dichlorobenzene	<1.0		1.0
106-46-7	1,4-Dichlorobenzene	<1.0		1.0
75-34-3	1,1-Dichloroethane	<1.0		1.0
107-06-2	1,2-Dichloroethane	<1.0		1.0
156-59-2	cis-1,2-Dichloroethene	<1.0		1.0
156-60-5	trans-1,2-Dichloroethene	<1.0		1.0
75-35-4	1,1-Dichloroethylene	<1.0		1.0
78-87-5	1,2-Dichloropropane	<1.0		1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0		1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0		1.0
100-41-4	Ethylbenzene	<1.0		1.0
591-78-6	2-Hexanone	<5.0		5.0
108-10-1	4-Methyl-2-Pentanone	<5.0		5.0
75-09-2	Methylene Chloride	<2.0		2.0
100-42-5	Styrene	<1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0		1.0
127-18-4	Tetrachloroethene	<1.0		1.0
71-55-6	1,1,1-Trichloroethane	<1.0		1.0
79-00-5	1,1,2-Trichloroethane	<1.0		1.0
79-01-6	Trichloroethene	<1.0		1.0
108-88-3	Toluene	<1.0		1.0

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TriMatrix Laboratories Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: DUP-1

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 10:10
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228170
Batch No: 145766

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<1.0		1.0
1330-20-7	Xylene (Total)	<1.0		1.0

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TriMatrix Laboratories Inc.

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-6

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 10:55
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228171
Batch No: 145685

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<5.0		5.0
208-96-8	Acenaphthylene	<5.0		5.0
120-12-7	Anthracene	<5.0		5.0
56-55-3	Benzo (a) Anthracene	<5.0		5.0
50-32-8	Benzo (a) Pyrene	<5.0		5.0
205-99-2	Benzo (b) Fluoranthene	<5.0		5.0
207-08-9	Benzo (k) Fluoranthene	<5.0		5.0
191-24-2	Benzo (g,h,i,) Perylene	<5.0		5.0
111-91-1	Bis (2-Chloroethoxy)-Methane	<5.0		5.0
111-44-4	Bis (2-Chloroethyl) Ether	<5.0		5.0
108-60-1	Bis (2-Chloroisopropyl)-Ether	<5.0		5.0
117-81-7	Bis (2-ethylhexyl)-Phthalate	<5.0		5.0
101-55-3	4-Bromophenyl Phenylether	<5.0		5.0
85-68-7	Butyl Benzyl Phthalate	<5.0		5.0
59-50-7	4-Chloro-3-Methylphenol	<5.0		5.0
106-47-8	4-Chloroaniline	<5.0		5.0
91-58-7	2-Chloronaphthalene	<5.0		5.0
95-57-8	2-Chlorophenol	<5.0		5.0
7005-72-3	4-Chlorophenylphenyl-Ether	<5.0		5.0
218-01-9	Chrysene	<5.0		5.0
84-74-2	Di-n-Butylphthalate	<5.0		5.0
117-84-0	Di-n-Octylphthalate	<5.0		5.0
53-70-3	Dibenzo (a,h) Anthracene	<5.0		5.0
132-64-9	Dibenzofuran	<5.0		5.0
95-50-1	1,2-Dichlorobenzene	<5.0		5.0
541-73-1	1,3-Dichlorobenzene	<5.0		5.0
106-46-7	1,4-Dichlorobenzene	<5.0		5.0
91-94-1	3,3'-Dichlorobenzidine	<5.0		5.0
120-83-2	2,4-Dichlorophenol	<5.0		5.0
84-66-2	Diethylphthalate	<5.0		5.0
131-11-3	Dimethylphthalate	<5.0		5.0

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-6

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 10:55
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228171
Batch No: 145685

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
105-67-9	2,4-Dimethylphenol	<5.0		5.0
534-52-1	4,6-Dinitro-2-Methylphenol	<20		20
51-28-5	2,4-Dinitrophenol	<20		20
121-14-2	2,4-Dinitrotoluene	<5.0		5.0
606-20-2	2,6-Dinitrotoluene	<5.0		5.0
206-44-0	Fluoranthene	<5.0		5.0
86-73-7	Fluorene	<5.0		5.0
118-74-1	Hexachlorobenzene	<5.0		5.0
87-68-3	Hexachlorobutadiene	<5.0		5.0
77-47-4	Hexachlorocyclopentadiene	<5.0		5.0
67-72-1	Hexachloroethane	<5.0		5.0
193-39-5	Indeno (1,2,3-cd) Pyrene	<5.0		5.0
78-59-1	Isophorone	<5.0		5.0
91-57-6	2-Methylnaphthalene	<5.0		5.0
95-48-7	2-Methylphenol	<1.0		1.0
106-44-5	4-Methylphenol	<5.0		5.0
621-64-7	N-Nitrosodi-n-Propylamine	<5.0		5.0
86-30-6	N-Nitroso-di-Phenylamine	<5.0		5.0
91-20-3	Naphthalene	<5.0		5.0
88-74-4	2-Nitroaniline	<20		20
99-09-2	3-Nitroaniline	<20		20
100-01-6	4-Nitroaniline	<20		20
98-95-3	Nitrobenzene	<5.0		5.0
88-75-5	2-Nitrophenol	<5.0		5.0
100-02-7	4-Nitrophenol	<20		20
87-86-5	Pentachlorophenol	<20		20
85-01-8	Phenanthrene	<5.0		5.0
108-95-2	Phenol	<5.0		5.0
129-00-0	Pyrene	<5.0		5.0
120-82-1	1,2,4-Trichlorobenzene	<5.0		5.0
95-95-4	2,4,5-Trichlorophenol	<20		20
88-06-2	2,4,6-Trichlorophenol	<5.0		5.0
86-74-8	Carbazole	<10		10

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TriMatrix Laboratories Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-6

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 10:55
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/14/99
Lab Sample No: 228171
Batch No: 145766

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<5.0		5.0
71-43-2	Benzene	<1.0		1.0
75-27-4	Dichlorobromomethane	<1.0		1.0
75-25-2	Bromoform	<1.0		1.0
74-83-9	Bromomethane	<1.0		1.0
78-93-3	Methyl Ethyl Ketone	<5.0		5.0
75-15-0	Carbon Disulfide	<1.0		1.0
56-23-5	Carbon Tetrachloride	<1.0		1.0
108-90-7	Chlorobenzene	<1.0		1.0
75-00-3	Chloroethane	<1.0		1.0
67-66-3	Chloroform	<1.0		1.0
74-87-3	Chloromethane	<1.0		1.0
124-48-1	Chlorodibromomethane	<1.0		1.0
95-50-1	1,2-Dichlorobenzene	<1.0		1.0
541-73-1	1,3-Dichlorobenzene	<1.0		1.0
106-46-7	1,4-Dichlorobenzene	<1.0		1.0
75-34-3	1,1-Dichloroethane	<1.0		1.0
107-06-2	1,2-Dichloroethane	<1.0		1.0
156-59-2	cis-1,2-Dichloroethene	<1.0		1.0
156-60-5	trans-1,2-Dichloroethene	<1.0		1.0
75-35-4	1,1-Dichloroethylene	<1.0		1.0
78-87-5	1,2-Dichloropropane	<1.0		1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0		1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0		1.0
100-41-4	Ethylbenzene	<1.0		1.0
591-78-6	2-Hexanone	<5.0		5.0
108-10-1	4-Methyl-2-Pentanone	<5.0		5.0
75-09-2	Methylene Chloride	<2.0		2.0
100-42-5	Styrene	<1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0		1.0
127-18-4	Tetrachloroethene	<1.0		1.0
71-55-6	1,1,1-Trichloroethane	<1.0		1.0
79-00-5	1,1,2-Trichloroethane	<1.0		1.0
79-01-6	Trichloroethene	<1.0		1.0
108-88-3	Toluene	<1.0		1.0

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TriMatrix Laboratories Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-6

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 10:55
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/14/99
Lab Sample No: 228171
Batch No: 145766

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<1.0		1.0
1330-20-7	Xylene (Total)	<1.0		1.0

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-7

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 13:30
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228172
Batch No: 145685

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<5.0		5.0
208-96-8	Acenaphthylene	<5.0		5.0
120-12-7	Anthracene	<5.0		5.0
56-55-3	Benzo (a) Anthracene	<5.0		5.0
50-32-8	Benzo (a) Pyrene	<5.0		5.0
205-99-2	Benzo (b) Fluoranthene	<5.0		5.0
207-08-9	Benzo (k) Fluoranthene	<5.0		5.0
191-24-2	Benzo (g,h,i,) Perylene	<5.0		5.0
111-91-1	Bis (2-Chloroethoxy)-Methane	<5.0		5.0
111-44-4	Bis (2-Chloroethyl) Ether	<5.0		5.0
108-60-1	Bis (2-Chloroisopropyl)-Ether	<5.0		5.0
117-81-7	Bis (2-ethylhexyl)-Phthalate	**11**		5.0
101-55-3	4-Bromophenyl Phenylether	<5.0		5.0
85-68-7	Butyl Benzyl Phthalate	<5.0		5.0
59-50-7	4-Chloro-3-Methylphenol	<5.0		5.0
106-47-8	4-Chloroaniline	<5.0		5.0
91-58-7	2-Chloronaphthalene	<5.0		5.0
95-57-8	2-Chlorophenol	<5.0		5.0
7005-72-3	4-Chlorophenylphenyl-Ether	<5.0		5.0
218-01-9	Chrysene	<5.0		5.0
84-74-2	Di-n-Butylphthalate	**9.0**		5.0
117-84-0	Di-n-Octylphthalate	<5.0		5.0
53-70-3	Dibenzo (a,h) Anthracene	<5.0		5.0
132-64-9	Dibenzofuran	<5.0		5.0
95-50-1	1,2-Dichlorobenzene	<5.0		5.0
541-73-1	1,3-Dichlorobenzene	<5.0		5.0
106-46-7	1,4-Dichlorobenzene	<5.0		5.0
91-94-1	3,3'-Dichlorobenzidine	<5.0		5.0
120-83-2	2,4-Dichlorophenol	<5.0		5.0
84-66-2	Diethylphthalate	<5.0		5.0
131-11-3	Dimethylphthalate	<5.0		5.0

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-7

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 13:30
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228172
Batch No: 145685

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
105-67-9	2,4-Dimethylphenol	<5.0		5.0
534-52-1	4,6-Dinitro-2-Methylphenol	<20		20
51-28-5	2,4-Dinitrophenol	<20		20
121-14-2	2,4-Dinitrotoluene	<5.0		5.0
606-20-2	2,6-Dinitrotoluene	<5.0		5.0
206-44-0	Fluoranthene	<5.0		5.0
86-73-7	Fluorene	<5.0		5.0
118-74-1	Hexachlorobenzene	<5.0		5.0
87-68-3	Hexachlorobutadiene	<5.0		5.0
77-47-4	Hexachlorocyclopentadiene	<5.0		5.0
67-72-1	Hexachloroethane	<5.0		5.0
193-39-5	Indeno (1,2,3-cd) Pyrene	<5.0		5.0
78-59-1	Isophorone	<5.0		5.0
91-57-6	2-Methylnaphthalene	<5.0		5.0
95-48-7	2-Methylphenol	<1.0		1.0
106-44-5	4-Methylphenol	<5.0		5.0
621-64-7	N-Nitrosodi-n-Propylamine	<5.0		5.0
86-30-6	N-Nitroso-di-Phenylamine	<5.0		5.0
91-20-3	Naphthalene	<5.0		5.0
88-74-4	2-Nitroaniline	<20		20
99-09-2	3-Nitroaniline	<20		20
100-01-6	4-Nitroaniline	<20		20
98-95-3	Nitrobenzene	<5.0		5.0
88-75-5	2-Nitrophenol	<5.0		5.0
100-02-7	4-Nitrophenol	<20		20
87-86-5	Pentachlorophenol	<20		20
85-01-8	Phenanthrene	<5.0		5.0
108-95-2	Phenol	<5.0		5.0
129-00-0	Pyrene	<5.0		5.0
120-82-1	1,2,4-Trichlorobenzene	<5.0		5.0
95-95-4	2,4,5-Trichlorophenol	<20		20
88-06-2	2,4,6-Trichlorophenol	<5.0		5.0
86-74-8	Carbazole	<10		10

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TriMatrix Laboratories, Inc

PCBS IN WATER
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-7

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 13:30
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228172
Batch No: 145681

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.10		0.10
11104-28-2	PCB-1221	<0.10		0.10
11141-16-5	PCB-1232	<0.10		0.10
53469-21-9	PCB-1242	<0.10		0.10
12672-29-6	PCB-1248	<0.10		0.10
11097-69-1	PCB-1254	<0.10		0.10
11096-82-5	PCB-1260	<0.10		0.10
-----	PCB-1262	<0.20		0.20
-----	PCB-1268	<0.20		0.20

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TriMatrix Laboratories, Inc.

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-7

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 13:30
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/14/99
Lab Sample No: 228172
Batch No: 145766

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<5.0		5.0
71-43-2	Benzene	<1.0		1.0
75-27-4	Dichlorobromomethane	<1.0		1.0
75-25-2	Bromoform	<1.0		1.0
74-83-9	Bromomethane	<1.0		1.0
78-93-3	Methyl Ethyl Ketone	<5.0		5.0
75-15-0	Carbon Disulfide	<1.0		1.0
56-23-5	Carbon Tetrachloride	<1.0		1.0
108-90-7	Chlorobenzene	<1.0		1.0
75-00-3	Chloroethane	<1.0		1.0
67-66-3	Chloroform	<1.0		1.0
74-87-3	Chloromethane	<1.0		1.0
124-48-1	Chlorodibromomethane	<1.0		1.0
95-50-1	1,2-Dichlorobenzene	<1.0		1.0
541-73-1	1,3-Dichlorobenzene	<1.0		1.0
106-46-7	1,4-Dichlorobenzene	<1.0		1.0
75-34-3	1,1-Dichloroethane	<1.0		1.0
107-06-2	1,2-Dichloroethane	<1.0		1.0
156-59-2	cis-1,2-Dichloroethene	<1.0		1.0
156-60-5	trans-1,2-Dichloroethene	<1.0		1.0
75-35-4	1,1-Dichloroethylene	<1.0		1.0
78-87-5	1,2-Dichloropropane	<1.0		1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0		1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0		1.0
100-41-4	Ethylbenzene	<1.0		1.0
591-78-6	2-Hexanone	<5.0		5.0
108-10-1	4-Methyl-2-Pentanone	<5.0		5.0
75-09-2	Methylene Chloride	<2.0		2.0
100-42-5	Styrene	<1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0		1.0
127-18-4	Tetrachloroethene	<1.0		1.0
71-55-6	1,1,1-Trichloroethane	<1.0		1.0
79-00-5	1,1,2-Trichloroethane	<1.0		1.0
79-01-6	Trichloroethene	<1.0		1.0
108-88-3	Toluene	<1.0		1.0

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TriMatrix Laboratories Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-7

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 13:30
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/14/99
Lab Sample No: 228172
Batch No: 145766

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<1.0		1.0
1330-20-7	Xylene (Total)	<1.0		1.0

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: 10MW-1

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 15:30
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228173
Batch No: 145685

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<5.0		5.0
208-96-8	Acenaphthylene	<5.0		5.0
120-12-7	Anthracene	<5.0		5.0
56-55-3	Benzo (a) Anthracene	<5.0		5.0
50-32-8	Benzo (a) Pyrene	<5.0		5.0
205-99-2	Benzo (b) Fluoranthene	<5.0		5.0
207-08-9	Benzo (k) Fluoranthene	<5.0		5.0
191-24-2	Benzo (g,h,i,) Perylene	<5.0		5.0
111-91-1	Bis (2-Chloroethoxy)-Methane	<5.0		5.0
111-44-4	Bis (2-Chloroethyl) Ether	<5.0		5.0
108-60-1	Bis (2-Chloroisopropyl)-Ether	<5.0		5.0
117-81-7	Bis (2-ethylhexyl)-Phthalate	<5.0		5.0
101-55-3	4-Bromophenyl Phenylether	<5.0		5.0
85-68-7	Butyl Benzyl Phthalate	<5.0		5.0
59-50-7	4-Chloro-3-Methylphenol	<5.0		5.0
106-47-8	4-Chloroaniline	<5.0		5.0
91-58-7	2-Chloronaphthalene	<5.0		5.0
95-57-8	2-Chlorophenol	<5.0		5.0
7005-72-3	4-Chlorophenylphenyl-Ether	<5.0		5.0
218-01-9	Chrysene	<5.0		5.0
84-74-2	Di-n-Butylphthalate	<5.0		5.0
117-84-0	Di-n-Octylphthalate	<5.0		5.0
53-70-3	Dibenzo (a,h) Anthracene	<5.0		5.0
132-64-9	Dibenzofuran	<5.0		5.0
95-50-1	1,2-Dichlorobenzene	<5.0		5.0
541-73-1	1,3-Dichlorobenzene	<5.0		5.0
106-46-7	1,4-Dichlorobenzene	<5.0		5.0
91-94-1	3,3'-Dichlorobenzidine	<5.0		5.0
120-83-2	2,4-Dichlorophenol	<5.0		5.0
84-66-2	Diethylphthalate	<5.0		5.0
131-11-3	Dimethylphthalate	<5.0		5.0

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: 10MW-1

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 15:30
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228173
Batch No: 145685

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
105-67-9	2,4-Dimethylphenol	<5.0		5.0
534-52-1	4,6-Dinitro-2-Methylphenol	<20		20
51-28-5	2,4-Dinitrophenol	<20		20
121-14-2	2,4-Dinitrotoluene	<5.0		5.0
606-20-2	2,6-Dinitrotoluene	<5.0		5.0
206-44-0	Fluoranthene	<5.0		5.0
86-73-7	Fluorene	<5.0		5.0
118-74-1	Hexachlorobenzene	<5.0		5.0
87-68-3	Hexachlorobutadiene	<5.0		5.0
77-47-4	Hexachlorocyclopentadiene	<5.0		5.0
67-72-1	Hexachloroethane	<5.0		5.0
193-39-5	Indeno (1,2,3-cd) Pyrene	<5.0		5.0
78-59-1	Isophorone	<5.0		5.0
91-57-6	2-Methylnaphthalene	<5.0		5.0
95-48-7	2-Methylphenol	<1.0		1.0
106-44-5	4-Methylphenol	<5.0		5.0
621-64-7	N-Nitrosodi-n-Propylamine	<5.0		5.0
86-30-6	N-Nitroso-di-Phenylamine	<5.0		5.0
91-20-3	Naphthalene	<5.0		5.0
88-74-4	2-Nitroaniline	<20		20
99-09-2	3-Nitroaniline	<20		20
100-01-6	4-Nitroaniline	<20		20
98-95-3	Nitrobenzene	<5.0		5.0
88-75-5	2-Nitrophenol	<5.0		5.0
100-02-7	4-Nitrophenol	<20		20
87-86-5	Pentachlorophenol	<20		20
85-01-8	Phenanthrene	<5.0		5.0
108-95-2	Phenol	<5.0		5.0
129-00-0	Pyrene	<5.0		5.0
120-82-1	1,2,4-Trichlorobenzene	<5.0		5.0
95-95-4	2,4,5-Trichlorophenol	<20		20
88-06-2	2,4,6-Trichlorophenol	<5.0		5.0
86-74-8	Carbazole	<10		10

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TriMatrix Laboratories Inc

PCBS IN WATER
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: 10MW-1

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 15:30
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228173
Batch No: 145681

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.10		0.10
11104-28-2	PCB-1221	<0.10		0.10
11141-16-5	PCB-1232	<0.10		0.10
53469-21-9	PCB-1242	<0.10		0.10
12672-29-6	PCB-1248	<0.10		0.10
11097-69-1	PCB-1254	<0.10		0.10
11096-82-5	PCB-1260	<0.10		0.10
-----	PCB-1262	<0.20		0.20
-----	PCB-1268	<0.20		0.20

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TriMatrix Laboratories Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: 10MW-1

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 15:30
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/14/99
Lab Sample No: 228173
Batch No: 145766

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<5.0		5.0
71-43-2	Benzene	<1.0		1.0
75-27-4	Dichlorobromomethane	<1.0		1.0
75-25-2	Bromoform	<1.0		1.0
74-83-9	Bromomethane	<1.0		1.0
78-93-3	Methyl Ethyl Ketone	<5.0		5.0
75-15-0	Carbon Disulfide	<1.0		1.0
56-23-5	Carbon Tetrachloride	<1.0		1.0
108-90-7	Chlorobenzene	<1.0		1.0
75-00-3	Chloroethane	<1.0		1.0
67-66-3	Chloroform	<1.0		1.0
74-87-3	Chloromethane	<1.0		1.0
124-48-1	Chlorodibromomethane	<1.0		1.0
95-50-1	1,2-Dichlorobenzene	<1.0		1.0
541-73-1	1,3-Dichlorobenzene	<1.0		1.0
106-46-7	1,4-Dichlorobenzene	<1.0		1.0
75-34-3	1,1-Dichloroethane	<1.0		1.0
107-06-2	1,2-Dichloroethane	<1.0		1.0
156-59-2	cis-1,2-Dichloroethene	<1.0		1.0
156-60-5	trans-1,2-Dichloroethene	<1.0		1.0
75-35-4	1,1-Dichloroethylene	<1.0		1.0
78-87-5	1,2-Dichloropropane	<1.0		1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0		1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0		1.0
100-41-4	Ethylbenzene	<1.0		1.0
591-78-6	2-Hexanone	<5.0		5.0
108-10-1	4-Methyl-2-Pentanone	<5.0		5.0
75-09-2	Methylene Chloride	<2.0		2.0
100-42-5	Styrene	<1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0		1.0
127-18-4	Tetrachloroethene	<1.0		1.0
71-55-6	1,1,1-Trichloroethane	<1.0		1.0
79-00-5	1,1,2-Trichloroethane	<1.0		1.0
79-01-6	Trichloroethene	<1.0		1.0
108-88-3	Toluene	<1.0		1.0

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TriMatrix
Laboratories Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: 10MW-1

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 15:30
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/14/99
Lab Sample No: 228173
Batch No: 145766

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<1.0		1.0
1330-20-7	Xylene (Total)	<1.0		1.0

000033

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TriMatrix Laboratories, Inc

PCBS IN WATER
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: DUP-2

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 15:30
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228174
Batch No: 145681

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.10		0.10
11104-28-2	PCB-1221	<0.10		0.10
11141-16-5	PCB-1232	<0.10		0.10
53469-21-9	PCB-1242	<0.10		0.10
12672-29-6	PCB-1248	<0.10		0.10
11097-69-1	PCB-1254	<0.10		0.10
11096-82-5	PCB-1260	<0.10		0.10
-----	PCB-1262	<0.20		0.20
-----	PCB-1268	<0.20		0.20

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TriMatrix Laboratories Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples

Submittal Number: 35109- 5
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		10MW-1	Data Qualifiers C	Q	M	Units
	Lab Sample No:	228175				
7439-92-1	Lead, Total	<1.0			MS	ug/L

Sampled by: E. Gasra
Date Sampled: 08/03/99
Time Sampled: 16:00
Date Received: 08/04/99
Time Received: 09:30

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TriMatrix Laboratories, Inc

ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples

Submittal Number: 35109- 5
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		DUP-3	Data Qualifiers C	Q	M	Units
	Lab Sample No:	228176				
7439-92-1	Lead, Total	<1.0			MS	ug/L

Sampled by: E. Gasra
Date Sampled: 08/03/99
Time Sampled: 16:00
Date Received: 08/04/99
Time Received: 09:30

000036

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-3

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 16:30
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228177
Batch No: 145685

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<5.0		5.0
208-96-8	Acenaphthylene	<5.0		5.0
120-12-7	Anthracene	<5.0		5.0
56-55-3	Benzo (a) Anthracene	<5.0		5.0
50-32-8	Benzo (a) Pyrene	<5.0		5.0
205-99-2	Benzo (b) Fluoranthene	<5.0		5.0
207-08-9	Benzo (k) Fluoranthene	<5.0		5.0
191-24-2	Benzo (g,h,i,) Perylene	<5.0		5.0
111-91-1	Bis (2-Chloroethoxy)-Methane	<5.0		5.0
111-44-4	Bis (2-Chloroethyl) Ether	<5.0		5.0
108-60-1	Bis (2-Chloroisopropyl)-Ether	<5.0		5.0
117-81-7	Bis (2-ethylhexyl)-Phthalate	**32**		5.0
101-55-3	4-Bromophenyl Phenylether	<5.0		5.0
85-68-7	Butyl Benzyl Phthalate	<5.0		5.0
59-50-7	4-Chloro-3-Methylphenol	<5.0		5.0
106-47-8	4-Chloroaniline	<5.0		5.0
91-58-7	2-Chloronaphthalene	<5.0		5.0
95-57-8	2-Chlorophenol	<5.0		5.0
7005-72-3	4-Chlorophenylphenyl-Ether	<5.0		5.0
218-01-9	Chrysene	<5.0		5.0
84-74-2	Di-n-Butylphthalate	**6.0**		5.0
117-84-0	Di-n-Octylphthalate	<5.0		5.0
53-70-3	Dibenzo (a,h) Anthracene	<5.0		5.0
132-64-9	Dibenzofuran	<5.0		5.0
95-50-1	1,2-Dichlorobenzene	<5.0		5.0
541-73-1	1,3-Dichlorobenzene	<5.0		5.0
106-46-7	1,4-Dichlorobenzene	<5.0		5.0
91-94-1	3,3'-Dichlorobenzidine	<5.0		5.0
120-83-2	2,4-Dichlorophenol	<5.0		5.0
84-66-2	Diethylphthalate	<5.0		5.0
131-11-3	Dimethylphthalate	<5.0		5.0

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TriMatrix Laboratories, Inc.

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-3

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 16:30
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228177
Batch No: 145685

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
105-67-9	2,4-Dimethylphenol	<5.0		5.0
534-52-1	4,6-Dinitro-2-Methylphenol	<20		20
51-28-5	2,4-Dinitrophenol	<20		20
121-14-2	2,4-Dinitrotoluene	<5.0		5.0
606-20-2	2,6-Dinitrotoluene	<5.0		5.0
206-44-0	Fluoranthene	<5.0		5.0
86-73-7	Fluorene	<5.0		5.0
118-74-1	Hexachlorobenzene	<5.0		5.0
87-68-3	Hexachlorobutadiene	<5.0		5.0
77-47-4	Hexachlorocyclopentadiene	<5.0		5.0
67-72-1	Hexachloroethane	<5.0		5.0
193-39-5	Indeno (1,2,3-cd) Pyrene	<5.0		5.0
78-59-1	Isophorone	<5.0		5.0
91-57-6	2-Methylnaphthalene	<5.0		5.0
95-48-7	2-Methylphenol	<1.0		1.0
106-44-5	4-Methylphenol	<5.0		5.0
621-64-7	N-Nitrosodi-n-Propylamine	<5.0		5.0
86-30-6	N-Nitroso-di-Phenylamine	<5.0		5.0
91-20-3	Naphthalene	<5.0		5.0
88-74-4	2-Nitroaniline	<20		20
99-09-2	3-Nitroaniline	<20		20
100-01-6	4-Nitroaniline	<20		20
98-95-3	Nitrobenzene	<5.0		5.0
88-75-5	2-Nitrophenol	<5.0		5.0
100-02-7	4-Nitrophenol	<20		20
87-86-5	Pentachlorophenol	<20		20
85-01-8	Phenanthrene	<5.0		5.0
108-95-2	Phenol	<5.0		5.0
129-00-0	Pyrene	<5.0		5.0
120-82-1	1,2,4-Trichlorobenzene	<5.0		5.0
95-95-4	2,4,5-Trichlorophenol	<20		20
88-06-2	2,4,6-Trichlorophenol	<5.0		5.0
86-74-8	Carbazole	<10		10

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TriMatrix Laboratories, Inc.

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-3

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 16:30
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/14/99
Lab Sample No: 228177
Batch No: 145766

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<5.0		5.0
71-43-2	Benzene	<1.0		1.0
75-27-4	Dichlorobromomethane	<1.0		1.0
75-25-2	Bromoform	<1.0		1.0
74-83-9	Bromomethane	<1.0		1.0
78-93-3	Methyl Ethyl Ketone	<5.0		5.0
75-15-0	Carbon Disulfide	<1.0		1.0
56-23-5	Carbon Tetrachloride	<1.0		1.0
108-90-7	Chlorobenzene	<1.0		1.0
75-00-3	Chloroethane	<1.0		1.0
67-66-3	Chloroform	<1.0		1.0
74-87-3	Chloromethane	<1.0		1.0
124-48-1	Chlorodibromomethane	<1.0		1.0
95-50-1	1,2-Dichlorobenzene	<1.0		1.0
541-73-1	1,3-Dichlorobenzene	<1.0		1.0
106-46-7	1,4-Dichlorobenzene	<1.0		1.0
75-34-3	1,1-Dichloroethane	<1.0		1.0
107-06-2	1,2-Dichloroethane	<1.0		1.0
156-59-2	cis-1,2-Dichloroethene	<1.0		1.0
156-60-5	trans-1,2-Dichloroethene	<1.0		1.0
75-35-4	1,1-Dichloroethylene	<1.0		1.0
78-87-5	1,2-Dichloropropane	<1.0		1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0		1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0		1.0
100-41-4	Ethylbenzene	<1.0		1.0
591-78-6	2-Hexanone	<5.0		5.0
108-10-1	4-Methyl-2-Pentanone	<5.0		5.0
75-09-2	Methylene Chloride	<2.0		2.0
100-42-5	Styrene	<1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0		1.0
127-18-4	Tetrachloroethene	<1.0		1.0
71-55-6	1,1,1-Trichloroethane	<1.0		1.0
79-00-5	1,1,2-Trichloroethane	<1.0		1.0
79-01-6	Trichloroethene	<1.0		1.0
108-88-3	Toluene	<1.0		1.0

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TriMatrix Laboratories, Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: MW-3

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 16:30
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/14/99
Lab Sample No: 228177
Batch No: 145766

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<1.0		1.0
1330-20-7	Xylene (Total)	<1.0		1.0

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: 2MW-1

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 16:50
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228178
Batch No: 145685

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<5.0		5.0
208-96-8	Acenaphthylene	<5.0		5.0
120-12-7	Anthracene	<5.0		5.0
56-55-3	Benzo (a) Anthracene	<5.0		5.0
50-32-8	Benzo (a) Pyrene	<5.0		5.0
205-99-2	Benzo (b) Fluoranthene	<5.0		5.0
207-08-9	Benzo (k) Fluoranthene	<5.0		5.0
191-24-2	Benzo (g,h,i,) Perylene	<5.0		5.0
111-91-1	Bis (2-Chloroethoxy)-Methane	<5.0		5.0
111-44-4	Bis (2-Chloroethyl) Ether	<5.0		5.0
108-60-1	Bis (2-Chloroisopropyl)-Ether	<5.0		5.0
117-81-7	Bis (2-ethylhexyl)-Phthalate	**220**		5.0
101-55-3	4-Bromophenyl Phenylether	<5.0		5.0
85-68-7	Butyl Benzyl Phthalate	<5.0		5.0
59-50-7	4-Chloro-3-Methylphenol	<5.0		5.0
106-47-8	4-Chloroaniline	<5.0		5.0
91-58-7	2-Chloronaphthalene	<5.0		5.0
95-57-8	2-Chlorophenol	<5.0		5.0
7005-72-3	4-Chlorophenylphenyl-Ether	<5.0		5.0
218-01-9	Chrysene	<5.0		5.0
84-74-2	Di-n-Butylphthalate	**11**		5.0
117-84-0	Di-n-Octylphthalate	<5.0		5.0
53-70-3	Dibenzo (a,h) Anthracene	<5.0		5.0
132-64-9	Dibenzofuran	<5.0		5.0
95-50-1	1,2-Dichlorobenzene	<5.0		5.0
541-73-1	1,3-Dichlorobenzene	<5.0		5.0
106-46-7	1,4-Dichlorobenzene	<5.0		5.0
91-94-1	3,3'-Dichlorobenzidine	<5.0		5.0
120-83-2	2,4-Dichlorophenol	<5.0		5.0
84-66-2	Diethylphthalate	<5.0		5.0
131-11-3	Dimethylphthalate	<5.0		5.0

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SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: 2MW-1

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 16:50
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228178
Batch No: 145685

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
105-67-9	2,4-Dimethylphenol	<5.0		5.0
534-52-1	4,6-Dinitro-2-Methylphenol	<20		20
51-28-5	2,4-Dinitrophenol	<20		20
121-14-2	2,4-Dinitrotoluene	<5.0		5.0
606-20-2	2,6-Dinitrotoluene	<5.0		5.0
206-44-0	Fluoranthene	<5.0		5.0
86-73-7	Fluorene	<5.0		5.0
118-74-1	Hexachlorobenzene	<5.0		5.0
87-68-3	Hexachlorobutadiene	<5.0		5.0
77-47-4	Hexachlorocyclopentadiene	<5.0		5.0
67-72-1	Hexachloroethane	<5.0		5.0
193-39-5	Indeno (1,2,3-cd) Pyrene	<5.0		5.0
78-59-1	Isophorone	<5.0		5.0
91-57-6	2-Methylnaphthalene	<5.0		5.0
95-48-7	2-Methylphenol	<1.0		1.0
106-44-5	4-Methylphenol	<5.0		5.0
621-64-7	N-Nitrosodi-n-Propylamine	<5.0		5.0
86-30-6	N-Nitroso-di-Phenylamine	<5.0		5.0
91-20-3	Naphthalene	<5.0		5.0
88-74-4	2-Nitroaniline	<20		20
99-09-2	3-Nitroaniline	<20		20
100-01-6	4-Nitroaniline	<20		20
98-95-3	Nitrobenzene	<5.0		5.0
88-75-5	2-Nitrophenol	<5.0		5.0
100-02-7	4-Nitrophenol	<20		20
87-86-5	Pentachlorophenol	<20		20
85-01-8	Phenanthrene	<5.0		5.0
108-95-2	Phenol	<5.0		5.0
129-00-0	Pyrene	<5.0		5.0
120-82-1	1,2,4-Trichlorobenzene	<5.0		5.0
95-95-4	2,4,5-Trichlorophenol	<20		20
88-06-2	2,4,6-Trichlorophenol	<5.0		5.0
86-74-8	Carbazole	<10		10

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TriMatrix Laboratories Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: 2MW-1

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 16:50
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/14/99
Lab Sample No: 228178
Batch No: 145766

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<5.0		5.0
71-43-2	Benzene	<1.0		1.0
75-27-4	Dichlorobromomethane	<1.0		1.0
75-25-2	Bromoform	<1.0		1.0
74-83-9	Bromomethane	<1.0		1.0
78-93-3	Methyl Ethyl Ketone	<5.0		5.0
75-15-0	Carbon Disulfide	<1.0		1.0
56-23-5	Carbon Tetrachloride	**3.1**		1.0
108-90-7	Chlorobenzene	<1.0		1.0
75-00-3	Chloroethane	<1.0		1.0
67-66-3	Chloroform	**22**		1.0
74-87-3	Chloromethane	<1.0		1.0
124-48-1	Chlorodibromomethane	<1.0		1.0
95-50-1	1,2-Dichlorobenzene	<1.0		1.0
541-73-1	1,3-Dichlorobenzene	<1.0		1.0
106-46-7	1,4-Dichlorobenzene	<1.0		1.0
75-34-3	1,1-Dichloroethane	**22**		1.0
107-06-2	1,2-Dichloroethane	<1.0		1.0
156-59-2	cis-1,2-Dichloroethene	<1.0		1.0
156-60-5	trans-1,2-Dichloroethene	<1.0		1.0
75-35-4	1,1-Dichloroethylene	**61**		1.0
78-87-5	1,2-Dichloropropane	<1.0		1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0		1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0		1.0
100-41-4	Ethylbenzene	<1.0		1.0
591-78-6	2-Hexanone	<5.0		5.0
108-10-1	4-Methyl-2-Pentanone	<5.0		5.0
75-09-2	Methylene Chloride	<2.0		2.0
100-42-5	Styrene	<1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0		1.0
127-18-4	Tetrachloroethene	<1.0		1.0
71-55-6	1,1,1-Trichloroethane	**4.3**		1.0
79-00-5	1,1,2-Trichloroethane	<1.0		1.0
79-01-6	Trichloroethene	<1.0		1.0
108-88-3	Toluene	<1.0		1.0

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TriMatrix Laboratories, Inc.

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: 2MW-1

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 16:50
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/14/99
Lab Sample No: 228178
Batch No: 145766

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<1.0		1.0
1330-20-7	Xylene (Total)	<1.0		1.0

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: 2SP-1

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 17:20
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228179
Batch No: 145685

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<5.0		5.0
208-96-8	Acenaphthylene	<5.0		5.0
120-12-7	Anthracene	<5.0		5.0
56-55-3	Benzo (a) Anthracene	<5.0		5.0
50-32-8	Benzo (a) Pyrene	<5.0		5.0
205-99-2	Benzo (b) Fluoranthene	<5.0		5.0
207-08-9	Benzo (k) Fluoranthene	<5.0		5.0
191-24-2	Benzo (g,h,i,) Perylene	<5.0		5.0
111-91-1	Bis (2-Chloroethoxy)-Methane	<5.0		5.0
111-44-4	Bis (2-Chloroethyl) Ether	<5.0		5.0
108-60-1	Bis (2-Chloroisopropyl)-Ether	<5.0		5.0
117-81-7	Bis (2-ethylhexyl)-Phthalate	<5.0		5.0
101-55-3	4-Bromophenyl Phenylether	<5.0		5.0
85-68-7	Butyl Benzyl Phthalate	<5.0		5.0
59-50-7	4-Chloro-3-Methylphenol	<5.0		5.0
106-47-8	4-Chloroaniline	<5.0		5.0
91-58-7	2-Chloronaphthalene	<5.0		5.0
95-57-8	2-Chlorophenol	<5.0		5.0
7005-72-3	4-Chlorophenylphenyl-Ether	<5.0		5.0
218-01-9	Chrysene	<5.0		5.0
84-74-2	Di-n-Butylphthalate	<5.0		5.0
117-84-0	Di-n-Octylphthalate	<5.0		5.0
53-70-3	Dibenzo (a,h) Anthracene	<5.0		5.0
132-64-9	Dibenzofuran	<5.0		5.0
95-50-1	1,2-Dichlorobenzene	<5.0		5.0
541-73-1	1,3-Dichlorobenzene	<5.0		5.0
106-46-7	1,4-Dichlorobenzene	<5.0		5.0
91-94-1	3,3'-Dichlorobenzidine	<5.0		5.0
120-83-2	2,4-Dichlorophenol	<5.0		5.0
84-66-2	Diethylphthalate	<5.0		5.0
131-11-3	Dimethylphthalate	<5.0		5.0

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: 2SP-1

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 17:20
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228179
Batch No: 145685

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
105-67-9	2,4-Dimethylphenol	<5.0		5.0
534-52-1	4,6-Dinitro-2-Methylphenol	<20		20
51-28-5	2,4-Dinitrophenol	<20		20
121-14-2	2,4-Dinitrotoluene	<5.0		5.0
606-20-2	2,6-Dinitrotoluene	<5.0		5.0
206-44-0	Fluoranthene	<5.0		5.0
86-73-7	Fluorene	<5.0		5.0
118-74-1	Hexachlorobenzene	<5.0		5.0
87-68-3	Hexachlorobutadiene	<5.0		5.0
77-47-4	Hexachlorocyclopentadiene	<5.0		5.0
67-72-1	Hexachloroethane	<5.0		5.0
193-39-5	Indeno (1,2,3-cd) Pyrene	<5.0		5.0
78-59-1	Isophorone	<5.0		5.0
91-57-6	2-Methylnaphthalene	<5.0		5.0
95-48-7	2-Methylphenol	<1.0		1.0
106-44-5	4-Methylphenol	<5.0		5.0
621-64-7	N-Nitrosodi-n-Propylamine	<5.0		5.0
86-30-6	N-Nitroso-di-Phenylamine	<5.0		5.0
91-20-3	Naphthalene	<5.0		5.0
88-74-4	2-Nitroaniline	<20		20
99-09-2	3-Nitroaniline	<20		20
100-01-6	4-Nitroaniline	<20		20
98-95-3	Nitrobenzene	<5.0		5.0
88-75-5	2-Nitrophenol	<5.0		5.0
100-02-7	4-Nitrophenol	<20		20
87-86-5	Pentachlorophenol	<20		20
85-01-8	Phenanthrene	<5.0		5.0
108-95-2	Phenol	<5.0		5.0
129-00-0	Pyrene	<5.0		5.0
120-82-1	1,2,4-Trichlorobenzene	<5.0		5.0
95-95-4	2,4,5-Trichlorophenol	<20		20
88-06-2	2,4,6-Trichlorophenol	<5.0		5.0
86-74-8	Carbazole	<10		10

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TriMatrix Laboratories Inc

PCBS IN WATER
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: 2SP-1

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 17:20
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/14/99
Lab Sample No: 228179
Batch No: 145681

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.10		0.10
11104-28-2	PCB-1221	<0.10		0.10
11141-16-5	PCB-1232	<0.10		0.10
53469-21-9	PCB-1242	<0.10		0.10
12672-29-6	PCB-1248	<0.10		0.10
11097-69-1	PCB-1254	<0.10		0.10
11096-82-5	PCB-1260	<0.10		0.10
-----	PCB-1262	<0.20		0.20
-----	PCB-1268	<0.20		0.20

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TriMatrix Laboratories Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: 2SP-1

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 17:20
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/14/99
Lab Sample No: 228179
Batch No: 145766

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<5.0		5.0
71-43-2	Benzene	<1.0		1.0
75-27-4	Dichlorobromomethane	<1.0		1.0
75-25-2	Bromoform	<1.0		1.0
74-83-9	Bromomethane	<1.0		1.0
78-93-3	Methyl Ethyl Ketone	<5.0		5.0
75-15-0	Carbon Disulfide	<1.0		1.0
56-23-5	Carbon Tetrachloride	<1.0		1.0
108-90-7	Chlorobenzene	<1.0		1.0
75-00-3	Chloroethane	<1.0		1.0
67-66-3	Chloroform	<1.0		1.0
74-87-3	Chloromethane	<1.0		1.0
124-48-1	Chlorodibromomethane	<1.0		1.0
95-50-1	1,2-Dichlorobenzene	<1.0		1.0
541-73-1	1,3-Dichlorobenzene	<1.0		1.0
106-46-7	1,4-Dichlorobenzene	<1.0		1.0
75-34-3	1,1-Dichloroethane	**10**		1.0
107-06-2	1,2-Dichloroethane	<1.0		1.0
156-59-2	cis-1,2-Dichloroethene	<1.0		1.0
156-60-5	trans-1,2-Dichloroethene	<1.0		1.0
75-35-4	1,1-Dichloroethylene	<1.0		1.0
78-87-5	1,2-Dichloropropane	<1.0		1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0		1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0		1.0
100-41-4	Ethylbenzene	<1.0		1.0
591-78-6	2-Hexanone	<5.0		5.0
108-10-1	4-Methyl-2-Pentanone	<5.0		5.0
75-09-2	Methylene Chloride	<2.0		2.0
100-42-5	Styrene	<1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0		1.0
127-18-4	Tetrachloroethene	<1.0		1.0
71-55-6	1,1,1-Trichloroethane	**1.6**		1.0
79-00-5	1,1,2-Trichloroethane	<1.0		1.0
79-01-6	Trichloroethene	<1.0		1.0
108-88-3	Toluene	<1.0		1.0

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TriMatrix Laboratories Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: 2SP-1

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 17:20
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/14/99
Lab Sample No: 228179
Batch No: 145766

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<1.0		1.0
1330-20-7	Xylene (Total)	<1.0		1.0

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ANALYTICAL REPORT
USEPA CLP FORM 1

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples

Submittal Number: 35109- 5
Location:
Contact: Gerald L. Holycross
Phone: (616) 975-4500

CAS No.		EQ-1	Data Qualifiers C	Q	M	Units
	Lab Sample No:	228180				
7439-92-1	Lead, Total	1.6			MS	ug/L

Sampled by: E. Gasra
Date Sampled: 08/03/99
Time Sampled: 17:55
Date Received: 08/04/99
Time Received: 09:30

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: EQ-1

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 17:55
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228180
Batch No: 145685

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<5.0		5.0
208-96-8	Acenaphthylene	<5.0		5.0
120-12-7	Anthracene	<5.0		5.0
56-55-3	Benzo (a) Anthracene	<5.0		5.0
50-32-8	Benzo (a) Pyrene	<5.0		5.0
205-99-2	Benzo (b) Fluoranthene	<5.0		5.0
207-08-9	Benzo (k) Fluoranthene	<5.0		5.0
191-24-2	Benzo (g,h,i,) Perylene	<5.0		5.0
111-91-1	Bis (2-Chloroethoxy)-Methane	<5.0		5.0
111-44-4	Bis (2-Chloroethyl) Ether	<5.0		5.0
108-60-1	Bis (2-Chloroisopropyl)-Ether	<5.0		5.0
117-81-7	Bis (2-ethylhexyl)-Phthalate	**81**		5.0
101-55-3	4-Bromophenyl Phenylether	<5.0		5.0
85-68-7	Butyl Benzyl Phthalate	<5.0		5.0
59-50-7	4-Chloro-3-Methylphenol	<5.0		5.0
106-47-8	4-Chloroaniline	<5.0		5.0
91-58-7	2-Chloronaphthalene	<5.0		5.0
95-57-8	2-Chlorophenol	<5.0		5.0
7005-72-3	4-Chlorophenylphenyl-Ether	<5.0		5.0
218-01-9	Chrysene	<5.0		5.0
84-74-2	Di-n-Butylphthalate	<5.0		5.0
117-84-0	Di-n-Octylphthalate	<5.0		5.0
53-70-3	Dibenzo (a,h) Anthracene	<5.0		5.0
132-64-9	Dibenzofuran	<5.0		5.0
95-50-1	1,2-Dichlorobenzene	<5.0		5.0
541-73-1	1,3-Dichlorobenzene	<5.0		5.0
106-46-7	1,4-Dichlorobenzene	<5.0		5.0
91-94-1	3,3'-Dichlorobenzidine	<5.0		5.0
120-83-2	2,4-Dichlorophenol	<5.0		5.0
84-66-2	Diethylphthalate	<5.0		5.0
131-11-3	Dimethylphthalate	<5.0		5.0

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: EQ-1

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 17:55
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/13/99
Lab Sample No: 228180
Batch No: 145685

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
105-67-9	2,4-Dimethylphenol	<5.0		5.0
534-52-1	4,6-Dinitro-2-Methylphenol	<20		20
51-28-5	2,4-Dinitrophenol	<20		20
121-14-2	2,4-Dinitrotoluene	<5.0		5.0
606-20-2	2,6-Dinitrotoluene	<5.0		5.0
206-44-0	Fluoranthene	<5.0		5.0
86-73-7	Fluorene	<5.0		5.0
118-74-1	Hexachlorobenzene	<5.0		5.0
87-68-3	Hexachlorobutadiene	<5.0		5.0
77-47-4	Hexachlorocyclopentadiene	<5.0		5.0
67-72-1	Hexachloroethane	<5.0		5.0
193-39-5	Indeno (1,2,3-cd) Pyrene	<5.0		5.0
78-59-1	Isophorone	<5.0		5.0
91-57-6	2-Methylnaphthalene	<5.0		5.0
95-48-7	2-Methylphenol	<1.0		1.0
106-44-5	4-Methylphenol	<5.0		5.0
621-64-7	N-Nitrosodi-n-Propylamine	<5.0		5.0
86-30-6	N-Nitroso-di-Phenylamine	<5.0		5.0
91-20-3	Naphthalene	<5.0		5.0
88-74-4	2-Nitroaniline	<20		20
99-09-2	3-Nitroaniline	<20		20
100-01-6	4-Nitroaniline	<20		20
98-95-3	Nitrobenzene	<5.0		5.0
88-75-5	2-Nitrophenol	<5.0		5.0
100-02-7	4-Nitrophenol	<20		20
87-86-5	Pentachlorophenol	<20		20
85-01-8	Phenanthrene	<5.0		5.0
108-95-2	Phenol	<5.0		5.0
129-00-0	Pyrene	<5.0		5.0
120-82-1	1,2,4-Trichlorobenzene	<5.0		5.0
95-95-4	2,4,5-Trichlorophenol	<20		20
88-06-2	2,4,6-Trichlorophenol	<5.0		5.0
86-74-8	Carbazole	<10		10

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TriMatrix Laboratories, Inc

PCBS IN WATER
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: EQ-1

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 17:55
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/14/99
Lab Sample No: 228180
Batch No: 145681

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.10		0.10
11104-28-2	PCB-1221	<0.10		0.10
11141-16-5	PCB-1232	<0.10		0.10
53469-21-9	PCB-1242	<0.10		0.10
12672-29-6	PCB-1248	<0.10		0.10
11097-69-1	PCB-1254	<0.10		0.10
11096-82-5	PCB-1260	<0.10		0.10
-----	PCB-1262	<0.20		0.20
-----	PCB-1268	<0.20		0.20

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TriMatrix Laboratories Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: EQ-1

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 17:55
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/16/99
Lab Sample No: 228180
Batch No: 145785

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<5.0		5.0
71-43-2	Benzene	<1.0		1.0
75-27-4	Dichlorobromomethane	<1.0		1.0
75-25-2	Bromoform	<1.0		1.0
74-83-9	Bromomethane	<1.0		1.0
78-93-3	Methyl Ethyl Ketone	<5.0		5.0
75-15-0	Carbon Disulfide	<1.0		1.0
56-23-5	Carbon Tetrachloride	<1.0		1.0
108-90-7	Chlorobenzene	<1.0		1.0
75-00-3	Chloroethane	<1.0		1.0
67-66-3	Chloroform	<1.0		1.0
74-87-3	Chloromethane	<1.0		1.0
124-48-1	Chlorodibromomethane	<1.0		1.0
95-50-1	1,2-Dichlorobenzene	<1.0		1.0
541-73-1	1,3-Dichlorobenzene	<1.0		1.0
106-46-7	1,4-Dichlorobenzene	<1.0		1.0
75-34-3	1,1-Dichloroethane	<1.0		1.0
107-06-2	1,2-Dichloroethane	<1.0		1.0
156-59-2	cis-1,2-Dichloroethene	<1.0		1.0
156-60-5	trans-1,2-Dichloroethene	<1.0		1.0
75-35-4	1,1-Dichloroethylene	<1.0		1.0
78-87-5	1,2-Dichloropropane	<1.0		1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0		1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0		1.0
100-41-4	Ethylbenzene	<1.0		1.0
591-78-6	2-Hexanone	<5.0		5.0
108-10-1	4-Methyl-2-Pentanone	<5.0		5.0
75-09-2	Methylene Chloride	<2.0		2.0
100-42-5	Styrene	<1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0		1.0
127-18-4	Tetrachloroethene	<1.0		1.0
71-55-6	1,1,1-Trichloroethane	<1.0		1.0
79-00-5	1,1,2-Trichloroethane	<1.0		1.0
79-01-6	Trichloroethene	<1.0		1.0
108-88-3	Toluene	<1.0		1.0

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TriMatrix Laboratories Inc.

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: EQ-1

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 17:55
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/16/99
Lab Sample No: 228180
Batch No: 145785

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<1.0		1.0
1330-20-7	Xylene (Total)	<1.0		1.0

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: EQ-2

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 19:00
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/16/99
Lab Sample No: 228181
Batch No: 145686

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<5.0		5.0
208-96-8	Acenaphthylene	<5.0		5.0
120-12-7	Anthracene	<5.0		5.0
56-55-3	Benzo (a) Anthracene	<5.0		5.0
50-32-8	Benzo (a) Pyrene	<5.0		5.0
205-99-2	Benzo (b) Fluoranthene	<5.0		5.0
207-08-9	Benzo (k) Fluoranthene	<5.0		5.0
191-24-2	Benzo (g,h,i,) Perylene	<5.0		5.0
111-91-1	Bis (2-Chloroethoxy)-Methane	<5.0		5.0
111-44-4	Bis (2-Chloroethyl) Ether	<5.0		5.0
108-60-1	Bis (2-Chloroisopropyl)-Ether	<5.0		5.0
117-81-7	Bis (2-ethylhexyl)-Phthalate	<5.0		5.0
101-55-3	4-Bromophenyl Phenylether	<5.0		5.0
85-68-7	Butyl Benzyl Phthalate	<5.0		5.0
59-50-7	4-Chloro-3-Methylphenol	<5.0		5.0
106-47-8	4-Chloroaniline	<5.0		5.0
91-58-7	2-Chloronaphthalene	<5.0		5.0
95-57-8	2-Chlorophenol	<5.0		5.0
7005-72-3	4-Chlorophenylphenyl-Ether	<5.0		5.0
218-01-9	Chrysene	<5.0		5.0
84-74-2	Di-n-Butylphthalate	<5.0		5.0
117-84-0	Di-n-Octylphthalate	<5.0		5.0
53-70-3	Dibenzo (a,h) Anthracene	<5.0		5.0
132-64-9	Dibenzofuran	<5.0		5.0
95-50-1	1,2-Dichlorobenzene	<5.0		5.0
541-73-1	1,3-Dichlorobenzene	<5.0		5.0
106-46-7	1,4-Dichlorobenzene	<5.0		5.0
91-94-1	3,3'-Dichlorobenzidine	<5.0		5.0
120-83-2	2,4-Dichlorophenol	<5.0		5.0
84-66-2	Diethylphthalate	<5.0		5.0
131-11-3	Dimethylphthalate	<5.0		5.0

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: EQ-2

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 19:00
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/16/99
Lab Sample No: 228181
Batch No: 145686

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
105-67-9	2,4-Dimethylphenol	<5.0		5.0
534-52-1	4,6-Dinitro-2-Methylphenol	<20		20
51-28-5	2,4-Dinitrophenol	<20		20
121-14-2	2,4-Dinitrotoluene	<5.0		5.0
606-20-2	2,6-Dinitrotoluene	<5.0		5.0
206-44-0	Fluoranthene	<5.0		5.0
86-73-7	Fluorene	<5.0		5.0
118-74-1	Hexachlorobenzene	<5.0		5.0
87-68-3	Hexachlorobutadiene	<5.0		5.0
77-47-4	Hexachlorocyclopentadiene	<5.0		5.0
67-72-1	Hexachloroethane	<5.0		5.0
193-39-5	Indeno (1,2,3-cd) Pyrene	<5.0		5.0
78-59-1	Isophorone	<5.0		5.0
91-57-6	2-Methylnaphthalene	<5.0		5.0
95-48-7	2-Methylphenol	<1.0		1.0
106-44-5	4-Methylphenol	<5.0		5.0
621-64-7	N-Nitrosodi-n-Propylamine	<5.0		5.0
86-30-6	N-Nitroso-di-Phenylamine	<5.0		5.0
91-20-3	Naphthalene	<5.0		5.0
88-74-4	2-Nitroaniline	<20		20
99-09-2	3-Nitroaniline	<20		20
100-01-6	4-Nitroaniline	<20		20
98-95-3	Nitrobenzene	<5.0		5.0
88-75-5	2-Nitrophenol	<5.0		5.0
100-02-7	4-Nitrophenol	<20		20
87-86-5	Pentachlorophenol	<20		20
85-01-8	Phenanthrene	<5.0		5.0
108-95-2	Phenol	<5.0		5.0
129-00-0	Pyrene	<5.0		5.0
120-82-1	1,2,4-Trichlorobenzene	<5.0		5.0
95-95-4	2,4,5-Trichlorophenol	<20		20
88-06-2	2,4,6-Trichlorophenol	<5.0		5.0
86-74-8	Carbazole	<10		10

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TriMatrix Laboratories, Inc.

PCBS IN WATER
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: EQ-2

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 19:00
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/14/99
Lab Sample No: 228181
Batch No: 145681

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.10		0.10
11104-28-2	PCB-1221	<0.10		0.10
11141-16-5	PCB-1232	<0.10		0.10
53469-21-9	PCB-1242	<0.10		0.10
12672-29-6	PCB-1248	<0.10		0.10
11097-69-1	PCB-1254	<0.10		0.10
11096-82-5	PCB-1260	<0.10		0.10
-----	PCB-1262	<0.20		0.20
-----	PCB-1268	<0.20		0.20

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TriMatrix Laboratories, Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: EQ-2

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 19:00
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/16/99
Lab Sample No: 228181
Batch No: 145785

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<5.0		5.0
71-43-2	Benzene	<1.0		1.0
75-27-4	Dichlorobromomethane	<1.0		1.0
75-25-2	Bromoform	<1.0		1.0
74-83-9	Bromomethane	<1.0		1.0
78-93-3	Methyl Ethyl Ketone	<5.0		5.0
75-15-0	Carbon Disulfide	<1.0		1.0
56-23-5	Carbon Tetrachloride	<1.0		1.0
108-90-7	Chlorobenzene	<1.0		1.0
75-00-3	Chloroethane	<1.0		1.0
67-66-3	Chloroform	<1.0		1.0
74-87-3	Chloromethane	<1.0		1.0
124-48-1	Chlorodibromomethane	<1.0		1.0
95-50-1	1,2-Dichlorobenzene	<1.0		1.0
541-73-1	1,3-Dichlorobenzene	<1.0		1.0
106-46-7	1,4-Dichlorobenzene	<1.0		1.0
75-34-3	1,1-Dichloroethane	<1.0		1.0
107-06-2	1,2-Dichloroethane	<1.0		1.0
156-59-2	cis-1,2-Dichloroethene	<1.0		1.0
156-60-5	trans-1,2-Dichloroethene	<1.0		1.0
75-35-4	1,1-Dichloroethylene	<1.0		1.0
78-87-5	1,2-Dichloropropane	<1.0		1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0		1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0		1.0
100-41-4	Ethylbenzene	<1.0		1.0
591-78-6	2-Hexanone	<5.0		5.0
108-10-1	4-Methyl-2-Pentanone	<5.0		5.0
75-09-2	Methylene Chloride	<2.0		2.0
100-42-5	Styrene	<1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0		1.0
127-18-4	Tetrachloroethene	<1.0		1.0
71-55-6	1,1,1-Trichloroethane	<1.0		1.0
79-00-5	1,1,2-Trichloroethane	<1.0		1.0
79-01-6	Trichloroethene	<1.0		1.0
108-88-3	Toluene	<1.0		1.0

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TriMatrix Laboratories, Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: EQ-2

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 19:00
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/16/99
Lab Sample No: 228181
Batch No: 145785

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<1.0		1.0
1330-20-7	Xylene (Total)	<1.0		1.0

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: EQ-0

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 19:00
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/16/99
Lab Sample No: 228182
Batch No: 145686

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<5.0		5.0
208-96-8	Acenaphthylene	<5.0		5.0
120-12-7	Anthracene	<5.0		5.0
56-55-3	Benzo (a) Anthracene	<5.0		5.0
50-32-8	Benzo (a) Pyrene	<5.0		5.0
205-99-2	Benzo (b) Fluoranthene	<5.0		5.0
207-08-9	Benzo (k) Fluoranthene	<5.0		5.0
191-24-2	Benzo (g,h,i,) Perylene	<5.0		5.0
111-91-1	Bis (2-Chloroethoxy)-Methane	<5.0		5.0
111-44-4	Bis (2-Chloroethyl) Ether	<5.0		5.0
108-60-1	Bis (2-Chloroisopropyl)-Ether	<5.0		5.0
117-81-7	Bis (2-ethylhexyl)-Phthalate	<5.0		5.0
101-55-3	4-Bromophenyl Phenylether	<5.0		5.0
85-68-7	Butyl Benzyl Phthalate	<5.0		5.0
59-50-7	4-Chloro-3-Methylphenol	<5.0		5.0
106-47-8	4-Chloroaniline	<5.0		5.0
91-58-7	2-Chloronaphthalene	<5.0		5.0
95-57-8	2-Chlorophenol	<5.0		5.0
7005-72-3	4-Chlorophenylphenyl-Ether	<5.0		5.0
218-01-9	Chrysene	<5.0		5.0
84-74-2	Di-n-Butylphthalate	**6.0**		5.0
117-84-0	Di-n-Octylphthalate	<5.0		5.0
53-70-3	Dibenzo (a,h) Anthracene	<5.0		5.0
132-64-9	Dibenzofuran	<5.0		5.0
95-50-1	1,2-Dichlorobenzene	<5.0		5.0
541-73-1	1,3-Dichlorobenzene	<5.0		5.0
106-46-7	1,4-Dichlorobenzene	<5.0		5.0
91-94-1	3,3'-Dichlorobenzidine	<5.0		5.0
120-83-2	2,4-Dichlorophenol	<5.0		5.0
84-66-2	Diethylphthalate	<5.0		5.0
131-11-3	Dimethylphthalate	<5.0		5.0

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: EQ-0

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 19:00
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/16/99
Lab Sample No: 228182
Batch No: 145686

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
105-67-9	2,4-Dimethylphenol	<5.0		5.0
534-52-1	4,6-Dinitro-2-Methylphenol	<20		20
51-28-5	2,4-Dinitrophenol	<20		20
121-14-2	2,4-Dinitrotoluene	<5.0		5.0
606-20-2	2,6-Dinitrotoluene	<5.0		5.0
206-44-0	Fluoranthene	<5.0		5.0
86-73-7	Fluorene	<5.0		5.0
118-74-1	Hexachlorobenzene	<5.0		5.0
87-68-3	Hexachlorobutadiene	<5.0		5.0
77-47-4	Hexachlorocyclopentadiene	<5.0		5.0
67-72-1	Hexachloroethane	<5.0		5.0
193-39-5	Indeno (1,2,3-cd) Pyrene	<5.0		5.0
78-59-1	Isophorone	<5.0		5.0
91-57-6	2-Methylnaphthalene	<5.0		5.0
95-48-7	2-Methylphenol	<1.0		1.0
106-44-5	4-Methylphenol	<5.0		5.0
621-64-7	N-Nitrosodi-n-Propylamine	<5.0		5.0
86-30-6	N-Nitroso-di-Phenylamine	<5.0		5.0
91-20-3	Naphthalene	<5.0		5.0
88-74-4	2-Nitroaniline	<20		20
99-09-2	3-Nitroaniline	<20		20
100-01-6	4-Nitroaniline	<20		20
98-95-3	Nitrobenzene	<5.0		5.0
88-75-5	2-Nitrophenol	<5.0		5.0
100-02-7	4-Nitrophenol	<20		20
87-86-5	Pentachlorophenol	<20		20
85-01-8	Phenanthrene	<5.0		5.0
108-95-2	Phenol	<5.0		5.0
129-00-0	Pyrene	<5.0		5.0
120-82-1	1,2,4-Trichlorobenzene	<5.0		5.0
95-95-4	2,4,5-Trichlorophenol	<20		20
88-06-2	2,4,6-Trichlorophenol	<5.0		5.0
86-74-8	Carbazole	<10		10

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TriMatrix Laboratories, Inc

PCBS IN WATER
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: EQ-0

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 19:00
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/14/99
Lab Sample No: 228182
Batch No: 145681

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.10		0.10
11104-28-2	PCB-1221	<0.10		0.10
11141-16-5	PCB-1232	<0.10		0.10
53469-21-9	PCB-1242	<0.10		0.10
12672-29-6	PCB-1248	<0.10		0.10
11097-69-1	PCB-1254	<0.10		0.10
11096-82-5	PCB-1260	<0.10		0.10
-----	PCB-1262	<0.20		0.20
-----	PCB-1268	<0.20		0.20

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TriMatrix Laboratories Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: EQ-0

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 19:00
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/16/99
Lab Sample No: 228182
Batch No: 145785

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<5.0		5.0
71-43-2	Benzene	<1.0		1.0
75-27-4	Dichlorobromomethane	<1.0		1.0
75-25-2	Bromoform	<1.0		1.0
74-83-9	Bromomethane	<1.0		1.0
78-93-3	Methyl Ethyl Ketone	<5.0		5.0
75-15-0	Carbon Disulfide	<1.0		1.0
56-23-5	Carbon Tetrachloride	<1.0		1.0
108-90-7	Chlorobenzene	<1.0		1.0
75-00-3	Chloroethane	<1.0		1.0
67-66-3	Chloroform	<1.0		1.0
74-87-3	Chloromethane	<1.0		1.0
124-48-1	Chlorodibromomethane	<1.0		1.0
95-50-1	1,2-Dichlorobenzene	<1.0		1.0
541-73-1	1,3-Dichlorobenzene	<1.0		1.0
106-46-7	1,4-Dichlorobenzene	<1.0		1.0
75-34-3	1,1-Dichloroethane	<1.0		1.0
107-06-2	1,2-Dichloroethane	<1.0		1.0
156-59-2	cis-1,2-Dichloroethene	<1.0		1.0
156-60-5	trans-1,2-Dichloroethene	<1.0		1.0
75-35-4	1,1-Dichloroethylene	<1.0		1.0
78-87-5	1,2-Dichloropropane	<1.0		1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0		1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0		1.0
100-41-4	Ethylbenzene	<1.0		1.0
591-78-6	2-Hexanone	<5.0		5.0
108-10-1	4-Methyl-2-Pentanone	<5.0		5.0
75-09-2	Methylene Chloride	<2.0		2.0
100-42-5	Styrene	<1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0		1.0
127-18-4	Tetrachloroethene	<1.0		1.0
71-55-6	1,1,1-Trichloroethane	<1.0		1.0
79-00-5	1,1,2-Trichloroethane	<1.0		1.0
79-01-6	Trichloroethene	<1.0		1.0
108-88-3	Toluene	<1.0		1.0

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TriMatrix Laboratories, Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: EQ-0

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 19:00
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/16/99
Lab Sample No: 228182
Batch No: 145785

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<1.0		1.0
1330-20-7	Xylene (Total)	<1.0		1.0

000065

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TriMatrix Laboratories, Inc.

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: Trip Blank

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 00:00
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/16/99
Lab Sample No: 228183
Batch No: 145785

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
67-64-1	Acetone	<5.0		5.0
71-43-2	Benzene	<1.0		1.0
75-27-4	Dichlorobromomethane	<1.0		1.0
75-25-2	Bromoform	<1.0		1.0
74-83-9	Bromomethane	<1.0		1.0
78-93-3	Methyl Ethyl Ketone	<5.0		5.0
75-15-0	Carbon Disulfide	<1.0		1.0
56-23-5	Carbon Tetrachloride	<1.0		1.0
108-90-7	Chlorobenzene	<1.0		1.0
75-00-3	Chloroethane	<1.0		1.0
67-66-3	Chloroform	<1.0		1.0
74-87-3	Chloromethane	<1.0		1.0
124-48-1	Chlorodibromomethane	<1.0		1.0
95-50-1	1,2-Dichlorobenzene	<1.0		1.0
541-73-1	1,3-Dichlorobenzene	<1.0		1.0
106-46-7	1,4-Dichlorobenzene	<1.0		1.0
75-34-3	1,1-Dichloroethane	<1.0		1.0
107-06-2	1,2-Dichloroethane	<1.0		1.0
156-59-2	cis-1,2-Dichloroethene	<1.0		1.0
156-60-5	trans-1,2-Dichloroethene	<1.0		1.0
75-35-4	1,1-Dichloroethylene	<1.0		1.0
78-87-5	1,2-Dichloropropane	<1.0		1.0
10061-01-5	cis-1,3-Dichloropropene	<1.0		1.0
10061-02-6	trans-1,3-Dichloropropene	<1.0		1.0
100-41-4	Ethylbenzene	<1.0		1.0
591-78-6	2-Hexanone	<5.0		5.0
108-10-1	4-Methyl-2-Pentanone	<5.0		5.0
75-09-2	Methylene Chloride	<2.0		2.0
100-42-5	Styrene	<1.0		1.0
79-34-5	1,1,2,2-Tetrachloroethane	<1.0		1.0
127-18-4	Tetrachloroethene	<1.0		1.0
71-55-6	1,1,1-Trichloroethane	<1.0		1.0
79-00-5	1,1,2-Trichloroethane	<1.0		1.0
79-01-6	Trichloroethene	<1.0		1.0
108-88-3	Toluene	<1.0		1.0

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TriMatrix Laboratories, Inc

VOLATILES IN WATER
BY USEPA-8260B

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 03, 1999 Samples
Sample: Trip Blank

Submittal Number 35109- 5
Date Sampled: 08/03/99 Time: 00:00
Date Received: 08/04/99 Time: 09:30
Analysis Date: 08/16/99
Lab Sample No: 228183
Batch No: 145785

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
75-01-4	Vinyl Chloride	<1.0		1.0
1330-20-7	Xylene (Total)	<1.0		1.0

000067

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STATEMENT OF DATA QUALIFICATIONS

Analysis: **Semi-Volatiles in Water**
Semi-Volatiles GC/MS
WATER USEPA-8270C

Qualification:

Semi-volatile surrogate spike result(s) for this sample and analysis had a percent recovery outside the upper control limit for this method and matrix. All positive results must be considered estimated.

Explanation for Sample(s) listed below:

Applies to the acidic compounds only. No base/neutral data requires qualification.

Sample(s) Qualified: 228181 EQ-2

Explanation for Sample(s) listed below:

Applies to the acidic compounds only. No base/neutral data requires qualification.

Sample(s) Qualified: 228178 2MW-1

Note: This document is included as a part of the analytical report for the above referenced project and submittal, and should be retained as a permanent record thereof.

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TriMatrix Laboratories, Inc.

5560 Corporate Exchange Court SE • Grand Rapids, MI 49512

Chain of Custody Record

COC No. № 54220

1 of 2

Project Manager: M. BARLOGE

Project Name: SLAAP EBS

Project No: 60011 005YRFWD2

Sampler (Print): E. GASLA

Sampler Signature: Eduardo Gasla

No's Correspond to Bottle Packing List

Date Sampled	Time Sampled	Matrix*	Composite	Grab	Sample Identification	No. of Containers	Container Type	Analysis Required/Comments
8/3/99	0620	WTR		X	MW-1	3		2-40ml — VOC (Broken) 1-1L-6VOC
8/3/99	0730	WTR		X	MW-2	3		"
8/3/99	0900	WTR		X	MW-4	3		"
8/3/99	1010	WTR		X	MW-5	3		"
8/3/99	1010	WTR		X	DUP-1	3		"
8/3/99	1055	WTR		X	MW-6	3		"
8/3/99	1330	WTR		X	MW-7	~~3~~ 4		2-40ML-VOC 2-1L-SVOC, PCB
8/3/99	1530	WTR		X	LOMW-1	4		2-40ml-VOC 2-1L-SVOC, PCB
8/3/99	1530	WTR		X	DUP-2	1		1-1L-PCB

Relinquished By	Date/Time	Received By:	Received to Lab By	Date/Time	Logged in By:	Date/Time
Eduardo Gasla	08/03/99 1930	Eduardo Gasla	Deb Sidney	8-4-99	Deb Sidney	8-4-99 4:00 PM

Custody seals intact upon receipt 8/3/99 8:30 AM

* Matrix: Water (W), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)

TriMatrix Laboratories, Inc.

5560 Corporate Exchange Court SE • Grand Rapids, MI 49512

Chain of Custody Record

COC No. № 54221 2 of 2

Project Manager: M. Barlage

Project Name: SLAAP EBS

Project No: G00N 0054KFW02

Sampler (Print): E GASCA

Sampler Signature: Eduardo Garcia

No's Correspond to Bottle Packing List

Date Sampled	Time Sampled	Matrix*	Composite	Grab	Sample Identification	No of Containers	Container Type	Analysis Required/Comments	[redacted]
8/3/99	1600	WTR		X	LOMW-1	~~2~~ 1		500mL plastic - Total lead	[redacted]
8/3/99	1600	WTR		X	DUP-3	1		"	[redacted]
8/3/99	1630	WTR		X	MW-3	3		2-40mL-VOC 1-1L-SVOC	[redacted]
8/3/99	1650	WTR		X	ZMW-1	3		"	[redacted]
8/3/99	1720	WTR		X	ZSP-1	4		2-40mL-VOC 2-1L-SVOC, PCBs	[redacted]
8/3/99	1755	WTR		X	EQ-1	4		1-500mL plastic - Total Lead 2-40mL-VOC 1-1L-SVOC, PCB	[redacted]
8/3/99	1900	WTR		X	EQ-2	~~2~~ 3		2-40mL-VOC 1-1L-SVOC, PCB	[redacted]
8/3/99	1900	WTR		X	EQ-0	1		1-1L-SVOC, PCB	[redacted]
8/3/99		WTR		X	TRIP BLANK	1		VOC	[redacted]

Relinquished By	Date/Time	Received By	Received to Lab By	Date/Time	Logged in By	Date/Time
Eduardo Garcia	080399 1930		Deb Sidhaw	8-4-99	Deb Sidhaw	8-4-99 4:00 PM

Custody Seals intact upon receipt 9:30 AM

* Matrix: Water (WTR), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)

TriMatrix
Laboratories, Inc

August 19, 1999

Tetra Tech EM, Inc.
Attn: Michael Barlage
200 E. Randolph
Suite 4700
Chicago, IL 60601

RE: St. Louis Army Ammunition
G0011-0054KFW02

Dear Mr. Michael Barlage:

Enclosed is a copy of your laboratory summary report for submittal **35109-6.** This submittal was completely received on August 7, 1999. All analyses have been validated and comply with our Quality Control program statistics unless otherwise noted.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Gerald L. Holycross
Project Chemist

Enclosure

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TriMatrix Laboratories, Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 05, 1999 Sample
Sample: MW1

Submittal Number 35109- 6
Date Sampled: 08/05/99 Time: 07:40
Date Received: 08/06/99 Time: 09:30
Analysis Date: 08/16/99
Lab Sample No: 228498
Batch No: 145686

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
83-32-9	Acenaphthene	<5.0		5.0
208-96-8	Acenaphthylene	<5.0		5.0
120-12-7	Anthracene	<5.0		5.0
56-55-3	Benzo (a) Anthracene	<5.0		5.0
50-32-8	Benzo (a) Pyrene	<5.0		5.0
205-99-2	Benzo (b) Fluoranthene	<5.0		5.0
207-08-9	Benzo (k) Fluoranthene	<5.0		5.0
191-24-2	Benzo (g,h,i,) Perylene	<5.0		5.0
111-91-1	Bis (2-Chloroethoxy)-Methane	<5.0		5.0
111-44-4	Bis (2-Chloroethyl) Ether	<5.0		5.0
108-60-1	Bis (2-Chloroisopropyl)-Ether	<5.0		5.0
117-81-7	Bis (2-ethylhexyl)-Phthalate	**14**		5.0
101-55-3	4-Bromophenyl Phenylether	<5.0		5.0
85-68-7	Butyl Benzyl Phthalate	<5.0		5.0
59-50-7	4-Chloro-3-Methylphenol	<5.0		5.0
106-47-8	4-Chloroaniline	<5.0		5.0
91-58-7	2-Chloronaphthalene	<5.0		5.0
95-57-8	2-Chlorophenol	<5.0		5.0
7005-72-3	4-Chlorophenylphenyl-Ether	<5.0		5.0
218-01-9	Chrysene	<5.0		5.0
84-74-2	Di-n-Butylphthalate	<5.0		5.0
117-84-0	Di-n-Octylphthalate	<5.0		5.0
53-70-3	Dibenzo (a,h) Anthracene	<5.0		5.0
132-64-9	Dibenzofuran	<5.0		5.0
95-50-1	1,2-Dichlorobenzene	<5.0		5.0
541-73-1	1,3-Dichlorobenzene	<5.0		5.0
106-46-7	1,4-Dichlorobenzene	<5.0		5.0
91-94-1	3,3'-Dichlorobenzidine	<5.0		5.0
120-83-2	2,4-Dichlorophenol	<5.0		5.0
84-66-2	Diethylphthalate	<5.0		5.0
131-11-3	Dimethylphthalate	<5.0		5.0

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TriMatrix Laboratories Inc

SEMI-VOLATILES IN WATER
BY USEPA-8270C

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
G0011-0054KFW02
Subm: August 05, 1999 Sample
Sample: MW1

Submittal Number 35109- 6
Date Sampled: 08/05/99 Time: 07:40
Date Received: 08/06/99 Time: 09:30
Analysis Date: 08/16/99
Lab Sample No: 228498
Batch No: 145686

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
105-67-9	2,4-Dimethylphenol	<5.0		5.0
534-52-1	4,6-Dinitro-2-Methylphenol	<20		20
51-28-5	2,4-Dinitrophenol	<20		20
121-14-2	2,4-Dinitrotoluene	<5.0		5.0
606-20-2	2,6-Dinitrotoluene	<5.0		5.0
206-44-0	Fluoranthene	<5.0		5.0
86-73-7	Fluorene	<5.0		5.0
118-74-1	Hexachlorobenzene	<5.0		5.0
87-68-3	Hexachlorobutadiene	<5.0		5.0
77-47-4	Hexachlorocyclopentadiene	<5.0		5.0
67-72-1	Hexachloroethane	<5.0		5.0
193-39-5	Indeno (1,2,3-cd) Pyrene	<5.0		5.0
78-59-1	Isophorone	<5.0		5.0
91-57-6	2-Methylnaphthalene	<5.0		5.0
95-48-7	2-Methylphenol	<1.0		1.0
106-44-5	4-Methylphenol	<5.0		5.0
621-64-7	N-Nitrosodi-n-Propylamine	<5.0		5.0
86-30-6	N-Nitroso-di-Phenylamine	<5.0		5.0
91-20-3	Naphthalene	<5.0		5.0
88-74-4	2-Nitroaniline	<20		20
99-09-2	3-Nitroaniline	<20		20
100-01-6	4-Nitroaniline	<20		20
98-95-3	Nitrobenzene	<5.0		5.0
88-75-5	2-Nitrophenol	<5.0		5.0
100-02-7	4-Nitrophenol	<20		20
87-86-5	Pentachlorophenol	<20		20
85-01-8	Phenanthrene	<5.0		5.0
108-95-2	Phenol	<5.0		5.0
129-00-0	Pyrene	<5.0		5.0
120-82-1	1,2,4-Trichlorobenzene	<5.0		5.0
95-95-4	2,4,5-Trichlorophenol	<20		20
88-06-2	2,4,6-Trichlorophenol	<5.0		5.0
86-74-8	Carbazole	<10		10

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STATEMENT OF DATA QUALIFICATIONS

All analyses have been validated and comply with our Quality Control Program. No qualifications required.

Note: This document is included as a part of the analytical report for the above referenced project and submittal, and should be retained as a permanent record thereof.

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TriMatrix Laboratories, Inc.

5560 Corporate Exchange Court SE • Grand Rapids, MI 49512

Chain of Custody Record

COC No. № 54224

Project Manager: M. Barlow

Project Name: SLAAP

Project No: 60011 0054KFW02

Sampler (Print): CHAD GIBSON

Sampler Signature:

No's Correspond to Bottle Packing List

For Lab Use Only: Rack/Tray No:

Lab Project # 35109-6

Date Sampled	Time Sampled	Matrix*	Composite	Grab	Sample Identification	No of Containers	Container Type	Analysis Required/Comments	Sample No.	Filtered Date/Time
8/5/99	740	WTR		X	MW1	4	1	SVOCs	TG-1	228/98

Relinquished By	Date/Time	Received By	Received to Lab By	Date/Time	Logged in By	Date/Time
	1715 8/5/99		Deb Schram	8-6-99	D Sidhu	8-7-99 11:27

seals intact upon receipt 5:30

* Matrix: Water (W), Wastewater (WW), Soil (SOIL), Sludge (SLG), Air, Oil, Waste (WASTE)

TriMatrix Laboratories, Inc

September 1, 1999

Tetra Tech EM, Inc.
Attn: Michael Barlage
200 E. Randolph
Suite 4700
Chicago, IL 60601

RE: St. Louis Army Ammunition
G0011-0054KFW02

Dear Mr. Michael Barlage:

Enclosed is a copy of your laboratory summary report for submittal **35109-7.** This submittal was completely received on August 19, 1999. All analyses have been validated and comply with our Quality Control program statistics unless otherwise noted.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Gerald L. Holycross
Project Chemist

Enclosure

TriMatrix Laboratories Inc

PCBS IN WATER
BY USEPA-8082

Tetra Tech EM, Inc.
Proj: St. Louis Army Ammunition
GP011 0054KFW02
Subm: August 18, 1999 Sample
Sample: 10-MW1

Submittal Number 35109- 7
Date Sampled: 08/18/99 Time: 11:30
Date Received: 08/19/99 Time: 08:55
Analysis Date: 08/27/99
Lab Sample No: 229643
Batch No: 146280

CAS No.	Compound	Result ug/L	Data Qualifiers	Quantitation Limit
12674-11-2	PCB-1016	<0.10		0.10
11104-28-2	PCB-1221	<0.10		0.10
11141-16-5	PCB-1232	<0.10		0.10
53469-21-9	PCB-1242	<0.10		0.10
12672-29-6	PCB-1248	<0.10		0.10
11097-69-1	PCB-1254	<0.10		0.10
11096-82-5	PCB-1260	<0.10		0.10
[illegible]	PCB-1262	<0.20		0.20
[illegible]	PCB-1268	<0.20		0.20

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STATEMENT OF DATA QUALIFICATIONS

All analyses have been validated and comply with our Quality Control Program. No qualifications required.

Note: This document is included as a part of the analytical report for the above referenced project and submittal, and should be retained as a permanent record thereof.

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TriMatrix Laboratories, Inc.

5500 Corporate Exchange Court SE • Grand Rapids, MI 49512

Chain of Custody Record

COC No № 57050

Project Manager: M. BARLDGE

Project No: 6001100 57K RU002

Project Name: SLAAP EBS

Sampler's Printed Name: E GASCA

Sampler's Signature: Eduardo Gasca

Notes Correspondence Bill, Packing Lists

For Lab Use Only

Rack/Tray No

Lab Project No 35109-7

Date Sampled	Time Sampled	Matrix			Sample Identification	No. of Containers	Container Type	Analysis Required/Comments	Sample No	Filtered Date/Time
8/18/99	1130	WTR		X	10 ml 1	5	X	PCBs + MS/MSD for Semi Vols, etc TAI/TCL (Container Broken)	2291643	
8/18/99	1130	WTR		X	10 ml 1	1	X	PCBs		

Relinquished By	Date/Time	Received By	Received for Lab By	Date/Time	Logged in By	Date/Time
Eduardo Gasca	8/18/99 1600		[illegible]	8-19-99	[illegible]	8/19/99 [illegible]

Matrix: Water (WTR), Waste Water (WW), Soil (SOIL), Sludge (SLG), Air (AIR), Oil (Waste Oil) (WASTE)

Quanterra - St. Louis

Quanterra Incorporated
13715 Ruder Trail North
Earth City, Missouri 63045

314 298 8566 Telephone
314 298 8757 Fax

Quanterra Environmental Services

ANALYTICAL REPORT

PROJECT NO. G0011-0054KWP02

4800 Goodfellow Blvd. (SLAAP)

Lot #: F9K170192

Eduardo Gasca

Tetra Tech EM Inc.

QUANTERRA INCORPORATED

Mark J. Loeb
Project Manager

December 22, 1999

Data is Incomplete without Case Narrative

CASE NARRATIVE
Lot F9K170192

On November 17, 1999, twenty-two (22) soil samples, four (4) water samples, and one (1) trip blank were received at the Quanterra St. Louis laboratory from Tetra Tech EM, Inc., St. Louis Army Ammunitions Plant site. Upon receipt, the samples were given laboratory ID numbers to correspond with the specific client ID's. The cross-reference table can be found on a separate page as part of this report.

Analytical results are provided in two sections. A certificate of analysis that summarizes all reported analytical results inclusive of any QC associated with the analyses is included in a non-paginated section. A paginated full data package with the associated raw data immediately follows this section.

Reporting

By client request, the analyses of samples F9K170192-005, -020, -024, and -025 are not included in this report. Due to this request, page numbers 25-36, 526-572, 767, 770, 774, 895, 901, 1086-1087, 1184-1191, 1259-1260, 1706-1721 have been removed from the full data package section of this report.

Sample Receiving

One sample cooler was received at the laboratory above recommended temperatures. All samples received in this cooler were to be analyzed for total metals analysis.

Volatiles

Samples F9K170192-002 and –006 effervesced in sodium bisulfate. These samples were preserved in water.

Samples -007 and -009 have Laboratory Control Sample and Laboratory Control Sample Duplicate (LCS/LCSD) as batch QC.

A Non-Conformance Memo (# 6055) was issued for sample F9K170192-001. The result as calculated for Acetone was greater than the instrument calibration range. The actual on column concentration was calculated at 208 ppb. The upper calibration limit for acetone is 200 ppb.

Sample -007 was prepared in sodium bisulfate and effervesced slightly. There was no extra vial to test for effervescence on this sample.

PCBs

Batch QC included a Laboratory Control Sample and Laboratory Control Sample Duplicate instead of a MS/MSD for sample -008.

Explosives

No non-conformances are associated with this analysis.

Metals

No non-conformances are associated with this analysis.

METHODS SUMMARY

F9K170192

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Nitroaromatics and Nitramines by HPLC	SW846 8330	SW846 3535
Nitroaromatics and Nitramines by HPLC	SW846 8330	SW846 8330
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD
PCBs by SW-846 8082	SW846 8082	SW846 3541
PCBs by SW-846 8082	SW846 8082	SW846 8082
Semivolatile Organic Compounds by GC/MS	SW846 8270C	SW846 3510C
Semivolatile Organic Compounds by GC/MS	SW846 8270C	SW846 3550B
Volatile Organics by GC/MS	SW846 8260B	SW846 5030B/826
Volatile Organics by GC/MS	SW846 8260B	SW846 5035

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

F9K170192

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
D55F7	001	5SB-2 1	11/16/99	16:45
D55H8	002	5SB-1 5	11/16/99	16:20
D55HG	003	6SB-1 5	11/16/99	15:00
D55HN	004	3SB-2-9	11/16/99	13:45
D55HV	005	3SB3B-11	11/16/99	10:30
D55J2	006	3SB-3-3	11/16/99	10:15
D55J4	007	3SB-4 1	11/16/99	09:40
D55JW	008	1116EQ1	11/16/99	17:30
D55KC	009	1116EQ2	11/16/99	17:45
D55KK	010	TRIP BLANK	11/16/99	17:45
D55VJ	013	1SB-3	11/15/99	12:45
D55W9	014	1SB-4	11/15/99	13:20
D55WK	015	DUP 1	11/15/99	
D55WQ	016	2SS-1	11/15/99	16:00
D5606	017	1SB-2A	11/15/99	16:00
D5612	018	2SS-2	11/15/99	14:10
D561L	019	1SB-1A	11/15/99	14:30
D561V	020	8SB-4A	11/15/99	14:50
D562C	021	5SB-2 0-2	11/16/99	17:00
D568D	022	5SB-1 4-6	11/16/99	16:30
D568G	023	6SB-1 4-6	11/16/99	15:30
D568J	024	3SB-2 8-10	11/16/99	14:00
D5692	025	3SB3-B 10-12	11/16/99	10:45
D5695	026	3SB-3 2-4	11/16/99	10:30
D569A	027	3SB-4 0-2	11/16/99	09:45

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages
- All calculations are performed before rounding to avoid round-off errors in calculated results
  Results noted as "ND" were not detected at or above the stated limit
- This report must not be reproduced, except in full, without the written approval of the laboratory
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, [illegible], paint filter test, pH, porosity, pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, [illegible], viscosity, and weight

TETRA TECH EM INC.

Client Sample ID: SSB 2 1

GC/MS Volatiles

Lot-Sample #...: F9K170192-001 **Work Order #...:** D55F7102 **Matrix.....:** SOLID
Date Sampled...: 11/16/99 16:45 **Date Received..:** 11/17/99
Prep Date.....: 11/29/99 **Analysis Date..:** 11/29/99
Prep Batch #...: 9334167 **Analysis Time..:** 15:22
Dilution Factor: 0.9
% Moisture.....: 100 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	** 9.0	ug/kg
Vinyl chloride	**2.2 J**	**** 9.0**	**ug/kg**
Bromomethane	ND	** 9.0	ug/kg
Chloroethane	ND	** 9.0	ug/kg
Acetone	**190 E,B**	**** 9.0**	**ug/kg**
1,1-Dichloroethene	ND	** 9.0	ug/kg
Methylene chloride	ND	** 9.0	ug/kg
Carbon disulfide	**2.7 J**	**** 9.0**	**ug/kg**
1,1-Dichloroethane	ND	** 9.0	ug/kg
2-Butanone	ND	** 9.0	ug/kg
1,2-Dichloroethene (total)	ND	** 9.0	ug/kg
Chloroform	ND	** 9.0	ug/kg
1,1,1-Trichloroethane	ND	** 9.0	ug/kg
Carbon tetrachloride	ND	** 9.0	ug/kg
1,2-Dichloroethane	ND	** 9.0	ug/kg
Benzene	**1.3 J**	**** 9.0**	**ug/kg**
Trichloroethene	ND	** 9.0	ug/kg
1,2-Dichloropropane	ND	** 9.0	ug/kg
Bromodichloromethane	ND	** 9.0	ug/kg
4-Methyl-2-pentanone	ND	** 9.0	ug/kg
cis-1,3-Dichloropropene	ND	** 9.0	ug/kg
Toluene	**1.0 J**	**** 9.0**	**ug/kg**
trans-1,3-Dichloropropene	ND	** 9.0	ug/kg
1,1,2-Trichloroethane	ND	** 9.0	ug/kg
2-Hexanone	ND	** 9.0	ug/kg
Tetrachloroethene	ND	** 9.0	ug/kg
Dibromochloromethane	ND	** 9.0	ug/kg
Chlorobenzene	ND	** 9.0	ug/kg
Ethylbenzene	ND	** 9.0	ug/kg
Xylenes (total)	ND	** 9.0	ug/kg
Styrene	ND	** 9.0	ug/kg
Bromoform	ND	** 9.0	ug/kg
1,1,2,2-Tetrachloroethane	ND	** 9.0	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	105	(73 - 147)
Toluene-d8	104	(81 - 139)
Dibromofluoromethane	103	(89 - 148)

(Continued on next page)

TETRA TECH EM INC.

Client Sample ID: 5SB 2 1

GC/MS Volatiles

Lot-Sample #...: F9K170192-001 **Work Order #...:** D55F7102 **Matrix.....:** SOLID

NOTE(S):

Results and reporting limits have been adjusted for dry weight

J Estimated result Result is less than RL

E Estimated result Result concentration exceeds the calibration range

B Method blank contamination The associated method blank contains the target analyte at a reportable level

TETRA TECH EM INC.

Client Sample ID: SSB-1 5

GC/MS Volatiles

Lot-Sample #...: F9K170192-002 **Work Order #...:** D55H8102 **Matrix.....:** SOLID
Date Sampled...: 11/16/99 16:20 **Date Received..:** 11/17/99
Prep Date.....: 11/23/99 **Analysis Date..:** 11/23/99
Prep Batch #...: 9328181 **Analysis Time..:** 23:47
Dilution Factor: 0.93
% Moisture.....: 100 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	** 9.3	ug/kg
Benzene	ND	** 9.3	ug/kg
Bromodichloromethane	ND	** 9.3	ug/kg
Bromoform	ND	** 9.3	ug/kg
Bromomethane	ND	** 9.3	ug/kg
2-Butanone	ND	** 9.3	ug/kg
Carbon disulfide	ND	** 9.3	ug/kg
Carbon tetrachloride	ND	** 9.3	ug/kg
Chlorobenzene	ND	** 9.3	ug/kg
Dibromochloromethane	ND	** 9.3	ug/kg
Chloroethane	ND	** 9.3	ug/kg
Chloroform	ND	** 9.3	ug/kg
Chloromethane	ND	** 9.3	ug/kg
1,1-Dichloroethane	ND	** 9.3	ug/kg
1,2-Dichloroethane	ND	** 9.3	ug/kg
1,1-Dichloroethene	ND	** 9.3	ug/kg
1,2 Dichloroethene (total)	ND	** 9.3	ug/kg
1,2 Dichloropropane	ND	** 9.3	ug/kg
cis-1,3-Dichloropropene	ND	** 9.3	ug/kg
trans-1,3-Dichloropropene	ND	** 9.3	ug/kg
Ethylbenzene	ND	** 9.3	ug/kg
2-Hexanone	ND	** 9.3	ug/kg
Methylene chloride	ND	** 9.3	ug/kg
4-Methyl-2-pentanone	ND	** 9.3	ug/kg
Styrene	ND	** 9.3	ug/kg
1,1,2,2-Tetrachloroethane	ND	** 9.3	ug/kg
Tetrachloroethene	ND	** 9.3	ug/kg
Toluene	ND	** 9.3	ug/kg
1,1,1-Trichloroethane	ND	** 9.3	ug/kg
1,1,2-Trichloroethane	ND	** 9.3	ug/kg
Trichloroethene	ND	** 9.3	ug/kg
Vinyl chloride	ND	** 9.3	ug/kg
Xylenes (total)	ND	** 9.3	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	100	(73 - 147)
Toluene-d8	107	(81 - 139)
Dibromofluoromethane	96	(89 - 148)

(Continued on next page)

TETRA TECH EM INC.

Client Sample ID: 5SB 1 5

GC/MS Volatiles

Lot-Sample #...: F9K170192-002 **Work Order #...:** D55H8102 **Matrix.....:** SOLID

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 6SB 1 5

GC/MS Volatiles

Lot-Sample #...: F9K170192-003 **Work Order #...:** D55HG102 **Matrix.....:** SOLID
Date Sampled...: 11/16/99 15:00 **Date Received..:** 11/17/99
Prep Date.....: 11/29/99 **Analysis Date..:** 11/29/99
Prep Batch #...: 9334167 **Analysis Time..:** 14:45
Dilution Factor: 0.83
% Moisture.....: 100 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	** 8.3	ug/kg
Vinyl chloride	**2.1 J**	** 8.3	**ug/kg**
Bromomethane	ND	** 8.3	ug/kg
Chloroethane	ND	** 8.3	ug/kg
Acetone	**150 B**	** 8.3	**ug/kg**
1,1-Dichloroethene	ND	** 8.3	ug/kg
Methylene chloride	ND	** 8.3	ug/kg
Carbon disulfide	**3.1 J**	** 8.3	**ug/kg**
1,1-Dichloroethane	ND	** 8.3	ug/kg
2-Butanone	**41**	** 8.3	**ug/kg**
1,2-Dichloroethene (total)	ND	** 8.3	ug/kg
Chloroform	ND	** 8.3	ug/kg
1,1,1-Trichloroethane	ND	** 8.3	ug/kg
Carbon tetrachloride	ND	** 8.3	ug/kg
1,2 Dichloroethane	ND	** 8.3	ug/kg
Benzene	ND	** 8.3	ug/kg
Trichloroethene	**1.5 J**	** 8.3	**ug/kg**
1,2-Dichloropropane	ND	** 8.3	ug/kg
Bromodichloromethane	ND	** 8.3	ug/kg
4-Methyl-2-pentanone	ND	** 8.3	ug/kg
cis-1,3-Dichloropropene	ND	** 8.3	ug/kg
Toluene	**1.6 J**	** 8.3	**ug/kg**
trans-1,3-Dichloropropene	ND	** 8.3	ug/kg
1,1,2-Trichloroethane	ND	** 8.3	ug/kg
2-Hexanone	ND	** 8.3	ug/kg
Tetrachloroethene	ND	** 8.3	ug/kg
Dibromochloromethane	ND	** 8.3	ug/kg
Chlorobenzene	ND	** 8.3	ug/kg
Ethylbenzene	ND	** 8.3	ug/kg
Xylenes (total)	ND	** 8.3	ug/kg
Styrene	ND	** 8.3	ug/kg
Bromoform	ND	** 8.3	ug/kg
1,1,2,2-Tetrachloroethane	ND	** 8.3	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	112	(73 - 147)
Toluene-d8	110	(81 - 139)
Dibromofluoromethane	104	(89 - 148)

(Continued on next page)

TETRA TECH EM INC

Client Sample ID: 6SB-1 5

GC/MS Volatiles

Lot-Sample #...: F9K170192-003 **Work Order #...:** D55HG102 **Matrix.....:** SOLID

NOTE(S):

Results and reporting limits have been adjusted for dry weight

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

TETRA TECH EM INC.

Client Sample ID: 3SB-2 9

GC/MS Volatiles

Lot-Sample #...: F9K170192-004 **Work Order #...:** D55HN102 **Matrix.....:** SOLID
Date Sampled...: 11/16/99 13:45 **Date Received..:** 11/17/99
Prep Date.....: 11/29/99 **Analysis Date..:** 11/29/99
Prep Batch #...: 9334167 **Analysis Time..:** 12:56
Dilution Factor: 1
% Moisture.....: 100 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	** 10	ug/kg
Vinyl chloride	**2.3 J**	**** 10**	**ug/kg**
Bromomethane	ND	** 10	ug/kg
Chloroethane	ND	** 10	ug/kg
Acetone	**20 J,B**	**** 10**	**ug/kg**
1,1 Dichloroethene	ND	** 10	ug/kg
Methylene chloride	ND	** 10	ug/kg
Carbon disulfide	ND	** 10	ug/kg
1,1-Dichloroethane	ND	** 10	ug/kg
2-Butanone	**5.2 J**	**** 10**	**ug/kg**
1,2-Dichloroethene (total)	ND	** 10	ug/kg
Chloroform	ND	** 10	ug/kg
1,1,1-Trichloroethane	ND	** 10	ug/kg
Carbon tetrachloride	ND	** 10	ug/kg
1,2-Dichloroethane	ND	** 10	ug/kg
Benzene	ND	** 10	ug/kg
Trichloroethene	ND	** 10	ug/kg
1,2-Dichloropropane	ND	** 10	ug/kg
Bromodichloromethane	ND	** 10	ug/kg
4 Methyl-2-pentanone	ND	** 10	ug/kg
cis-1,3-Dichloropropene	ND	** 10	ug/kg
Toluene	ND	** 10	ug/kg
trans-1,3-Dichloropropene	ND	** 10	ug/kg
1,1,2-Trichloroethane	ND	** 10	ug/kg
2-Hexanone	ND	** 10	ug/kg
Tetrachloroethene	ND	** 10	ug/kg
Dibromochloromethane	ND	** 10	ug/kg
Chlorobenzene	ND	** 10	ug/kg
Ethylbenzene	ND	** 10	ug/kg
Xylenes (total)	ND	** 10	ug/kg
Styrene	ND	** 10	ug/kg
Bromoform	ND	** 10	ug/kg
1,1,2,2-Tetrachloroethane	ND	** 10	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	102	(73 - 147)
Toluene-d8	105	(81 - 139)
Dibromofluoromethane	102	(89 - 148)

(Continued on next page)

TETRA TECH EM INC.

Client Sample ID: 3SB 2-9

GC/MS Volatiles

Lot-Sample #...: F9K170192-004 **Work Order #...:** D55HN102 **Matrix.....:** SOLID

NOTE(S):

Results and reporting limits have been adjusted for dry weight

J Estimated result: Result is less than RL

B Method blank contamination: The associated method blank contains the target analyte at a reportable level

TETRA TECH EM INC.

Client Sample ID: 3SB-3-3

GC/MS Volatiles

Lot-Sample #...: F9K170192-006 **Work Order #...:** D55C2202 **Matrix.....:** SOLID
Date Sampled...: 11/16/99 10:15 **Date Received..:** 11/17/99
Prep Date.....: 11/22/99 **Analysis Date..:** 11/22/99
Prep Batch #...: 9327260 **Analysis Time..:** 22.44
Dilution Factor: 0.97
% Moisture.....: 100 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	** 9.7	ug/kg
Benzene	ND	** 9.7	ug/kg
Bromodichloromethane	ND	** 9.7	ug/kg
Bromoform	ND	** 9.7	ug/kg
Bromomethane	ND	** 9.7	ug/kg
2-Butanone	ND	** 9.7	ug/kg
Carbon disulfide	ND	** 9.7	ug/kg
Carbon tetrachloride	ND	** 9.7	ug/kg
Chlorobenzene	ND	** 9.7	ug/kg
Dibromochloromethane	ND	** 9.7	ug/kg
Chloroethane	ND	** 9.7	ug/kg
Chloroform	**2.0 J**	**** 9.7**	**ug/kg**
Chloromethane	ND	** 9.7	ug/kg
1,1-Dichloroethane	ND	** 9.7	ug/kg
1,2-Dichloroethane	ND	** 9.7	ug/kg
1,1-Dichloroethene	ND	** 9.7	ug/kg
1,2-Dichloroethene (total)	ND	** 9.7	ug/kg
1,2-Dichloropropane	ND	** 9.7	ug/kg
cis-1,3-Dichloropropene	ND	** 9.7	ug/kg
trans-1,3-Dichloropropene	ND	** 9.7	ug/kg
Ethylbenzene	ND	** 9.7	ug/kg
2-Hexanone	ND	** 9.7	ug/kg
Methylene chloride	ND	** 9.7	ug/kg
4-Methyl-2-pentanone	ND	** 9.7	ug/kg
Styrene	ND	** 9.7	ug/kg
1,1,2,2-Tetrachloroethane	ND	** 9.7	ug/kg
Tetrachloroethene	ND	** 9.7	ug/kg
Toluene	**2.1 J,B**	**** 9.7**	**ug/kg**
1,1,1-Trichloroethane	**1.5 J**	**** 9.7**	**ug/kg**
1,1,2-Trichloroethane	ND	** 9.7	ug/kg
Trichloroethene	ND	** 9.7	ug/kg
Vinyl chloride	ND	** 9.7	ug/kg
Xylenes (total)	ND	** 9.7	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	134	(73 - 147)
Toluene-d8	138	(81 - 139)
Dibromofluoromethane	98	(89 - 148)

(Continued on next page)

TETRA TECH EM INC.

Client Sample ID: 3SB 3 3

GC/MS Volatiles

Lot-Sample #...: F9K170192-006 **Work Order #...:** D55J2202 **Matrix.....:** SOLID

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

TETRA TECH EM INC.

Client Sample ID: 3SB-4 1

GC/MS Volatiles

Lot-Sample #...: F9K170192-007 **Work Order #...:** D55J4102 **Matrix.....:** SOLID
Date Sampled...: 11/16/99 09:40 **Date Received..:** 11/17/99
Prep Date.....: 11/28/99 **Analysis Date..:** 11/28/99
Prep Batch #...: 9333314 **Analysis Time..:** 14:07
Dilution Factor: 0.87
% Moisture.....: 100 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Chloromethane	ND	** 8.7	ug/kg
Vinyl chloride	ND	** 8.7	ug/kg
Bromomethane	ND	** 8.7	ug/kg
Chloroethane	ND	** 8.7	ug/kg
Acetone	**43 B**	**** 8.7**	**ug/kg**
1,1-Dichloroethene	ND	** 8.7	ug/kg
Methylene chloride	ND J	** 8.7	ug/kg
Carbon disulfide	**2.8 J**	**** 8.7**	**ug/kg**
1,1-Dichloroethane	ND	** 8.7	ug/kg
2-Butanone	**7.6 J**	**** 8.7**	**ug/kg**
1,2-Dichloroethene (total)	ND	** 8.7	ug/kg
Chloroform	ND	** 8.7	ug/kg
1,1,1-Trichloroethane	ND	** 8.7	ug/kg
Carbon tetrachloride	ND	** 8.7	ug/kg
1,2-Dichloroethane	ND	** 8.7	ug/kg
Benzene	**6.2 J**	**** 8.7**	**ug/kg**
Trichloroethene	ND	** 8.7	ug/kg
1,2-Dichloropropane	ND	** 8.7	ug/kg
Bromodichloromethane	ND	** 8.7	ug/kg
4-Methyl-2-pentanone	ND	** 8.7	ug/kg
cis 1,3-Dichloropropene	ND	** 8.7	ug/kg
Toluene	**14**	**** 8.7**	**ug/kg**
trans-1,3-Dichloropropene	ND	** 8.7	ug/kg
1,1,2-Trichloroethane	ND	** 8.7	ug/kg
2-Hexanone	ND	** 8.7	ug/kg
Tetrachloroethene	ND	** 8.7	ug/kg
Dibromochloromethane	ND	** 8.7	ug/kg
Chlorobenzene	ND	** 8.7	ug/kg
Ethylbenzene	**4.2 J**	**** 8.7**	**ug/kg**
Xylenes (total)	**11 B**	**** 8.7**	**ug/kg**
Styrene	ND	** 8.7	ug/kg
Bromoform	ND	** 8.7	ug/kg
1,1,2,2-Tetrachloroethane	ND	** 8.7	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	132	(73 - 147)
Toluene-d8	114	(81 - 139)
Dibromofluoromethane	94	(89 - 148)

(Continued on next page)

TETRA TECH EM INC.

Client Sample ID: 3SB-4 1

GC/MS Volatiles

Lot-Sample #...: F9K170192-007 **Work Order #...:** D5534102 **Matrix.....:** SOLID

NOTE(S):

Results and reporting limits have been adjusted for dry weight

B Method blank contamination. The associated method blank contains the target analyte at a reportable level

J Estimated result. Result is less than RL

TETRA TECH EM INC.

Client Sample ID: 1116EQ1

HPLC

Lot-Sample #...: F9K170192-C08 **Work Order #...:** D55JW10D **Matrix.....:** WATER
Date Sampled...: 11/16/99 17:30 **Date Received..:** 11/17/99
Prep Date.....: 11/22/99 **Analysis Date..:** 11/23/99
Prep Batch #...: 9326242 **Analysis Time..:** 23.09
Dilution Factor: 1

Method.....: SW846 8330

PARAMETER	RESULT	REPORTING LIMIT	UNITS
2-Amino-4,6-dinitrotoluene	ND	0.20	ug/L
4-Amino-2,6-dinitrotoluene	ND	0.20	ug/L
1,3-Dinitrobenzene	ND	0.20	ug/L
2,4-Dinitrotoluene	ND	0.20	ug/L
2,6-Dinitrotoluene	ND	0.20	ug/L
2-Nitrotoluene	ND	0.20	ug/L
3-Nitrotoluene	ND	0.20	ug/L
4 Nitrotoluene	ND	0.20	ug/L
HMX	ND	0.20	ug/L
Nitrobenzene	ND	0.20	ug/L
RDX	ND	0.20	ug/L
Tetryl	ND	0.20	ug/L
1,3,5-Trinitrobenzene	ND	0.20	ug/L
2,4,6-Trinitrotoluene	ND	0.20	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2 Dinitrobenzene	56	30 - 130

TETRA TECH EM INC.

Client Sample ID: 1116EQ1

GC Semivolatiles

Lot-Sample #...: F9K170192-008 **Work Order #...:** D55CW10F **Matrix.....:** WATER
Date Sampled...: 11/16/99 17:30 **Date Received..:** 11/17/99
Prep Date.....: 11/23/99 **Analysis Date..:** 11/29/99
Prep Batch #...: 9328193 **Analysis Time..:** 20:24
Dilution Factor: 1

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	1.0	ug/L
Aroclor 1221	ND	1.0	ug/L
Aroclor 1232	ND	1.0	ug/L
Aroclor 1242	ND	1.0	ug/L
Aroclor 1248	ND	1.0	ug/L
Aroclor 1254	ND	1.0	ug/L
Aroclor 1260	ND	1.0	ug/L
Aroclor 1262	ND	1.0	ug/L
Aroclor 1268	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	97	(26 - 152)
Decachlorobiphenyl	44	(23 - 147)

TETRA TECH EM INC.

Client Sample ID: 1116EQ1

GC/MS Volatiles

Lot-Sample #...: F9K170192-008 **Work Order #...:** D55CW101 **Matrix.....:** WATER
Date Sampled...: 11/16/99 17:30 **Date Received..:** 11/17/99
Prep Date.....: 11/20/99 **Analysis Date..:** 11/20/99
Prep Batch #...: 9325126 **Analysis Time..:** 16:40
Dilution Factor: 1

Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Xylenes (total)	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2 pentanone	ND	5.0	ug/L
2-Hexanone	ND	5.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
Bromomethane	ND	2.0	ug/L
Vinyl chloride	ND	2.0	ug/L
Chloroethane	ND	2.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	**6.1 J**	**10**	**ug/L**
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
2-Butanone	**6.8**	**5.0**	**ug/L**
1,1,1-Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichlorobenzene	ND	1.0	ug/L
1,3-Dichlorobenzene	ND	1.0	ug/L
1,4-Dichlorobenzene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L

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TETRA TECH EM INC.

Client Sample ID: 1116EQ1

GC/MS Volatiles

Lot-Sample #...: F9K170192-008 **Work Order #...:** D55JW101 **Matrix.....:** WATER

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	104	(78 - 124)
Toluene-d8	109	(71 - 129)
Dibromofluoromethane	128	(74 - 135)

NOTE(S):

J Estimated result. Result is less than RL.

TETRA TECH EM INC.

Client Sample ID: 1116EQ1

GC/MS Semivolatiles

Lot Sample #...: F9K170192-008 **Work Order #...:** D55JW10C **Matrix.....:** WATER
Date Sampled...: 11/16/99 17:30 **Date Received..:** 11/17/99
Prep Date.....: 11/22/99 **Analysis Date..:** 11/29/99
Prep Batch #...: 9328188 **Analysis Time..:** 02:34
Dilution Factor: 1

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo(ghi)perylene	ND	5.0	ug/L
Di-n-butyl phthalate	ND	5.0	ug/L
Fluoranthene	ND	5.0	ug/L
Pyrene	ND	5.0	ug/L
Butyl benzyl phthalate	ND	5.0	ug/L
3,3'-Dichlorobenzidine	ND	5.0	ug/L
Chrysene	ND	5.0	ug/L
bis(2-Ethylhexyl) phthalate	**1.7 J**	**5.0**	**ug/L**
Di n-octyl phthalate	ND	5.0	ug/L
Benzo(k)fluoranthene	ND	5.0	ug/L
Acenaphthene	ND	5.0	ug/L
2,4-Dinitrophenol	ND	20	ug/L
4-Nitrophenol	ND	20	ug/L
Dibenzofuran	ND	5.0	ug/L
2,4-Dinitrotoluene	ND	5.0	ug/L
Diethyl phthalate	ND	5.0	ug/L
4-Chlorophenyl phenyl ether	ND	5.0	ug/L
Fluorene	ND	5.0	ug/L
4-Nitroaniline	ND	20	ug/L
4,6-Dinitro-2-methylphenol	ND	20	ug/L
N-Nitrosodiphenylamine	ND	10	ug/L
Hexachlorobenzene	ND	5.0	ug/L
Phenanthrene	ND	5.0	ug/L
Anthracene	ND	5.0	ug/L
2,4-Dichlorophenol	ND	5.0	ug/L
1,2,4 Trichlorobenzene	ND	5.0	ug/L
Naphthalene	ND	5.0	ug/L
4 Chloroaniline	ND	5.0	ug/L
Hexachlorobutadiene	ND	5.0	ug/L
4-Chloro-3-methylphenol	ND	5.0	ug/L
2-Methylnaphthalene	ND	5.0	ug/L
Hexachlorocyclopentadiene	ND	5.0	ug/L
2,4,6-Trichlorophenol	ND	5.0	ug/L
2,4,5 Trichlorophenol	ND	5.0	ug/L

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TETRA TECH EM INC.

Client Sample ID: 1116KQ1

GC/MS Semivolatiles

Lot-Sample #...: F9K170192 008 **Work Order #...:** D55JW1CC **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS
2-Chloronaphthalene	ND	5.0	ug/L
2-Nitroaniline	ND	20	ug/L
Dimethyl phthalate	ND	5.0	ug/L
Acenaphthylene	ND	5.0	ug/L
2,6-Dinitrotoluene	ND	5.0	ug/L
3-Nitroaniline	ND	20	ug/L
Phenol	ND	5.0	ug/L
bis(2-Chloroethyl)-ether	ND	5.0	ug/L
2-Chlorophenol	ND	5.0	ug/L
2-Methylphenol	ND	5.0	ug/L
2,2'-oxybis(1-Chloropropane)	ND	5.0	ug/L
4-Methylphenol	ND	5.0	ug/L
N-Nitrosodi-n-propyl-amine	ND	5.0	ug/L
Hexachloroethane	ND	5.0	ug/L
Nitrobenzene	ND	5.0	ug/L
Isophorone	ND	5.0	ug/L
2-Nitrophenol	ND	5.0	ug/L
2,4-Dimethylphenol	ND	5.0	ug/L
bis(2-Chloroethoxy) methane	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	34	(10 - 111)
Phenol-d5	27	(10 - 118)
Nitrobenzene d5	59	(18 - 116)
2-Fluorobiphenyl	64	(10 - 124)
2,4,6-Tribromophenol	92	(24 - 118)
Terphenyl-d14	77	(24 - 140)

NOTE(S):

J Estimated result. Result is less than RL.

TETRA TECH EM INC.

Client Sample ID: 1116EQ2

GC/MS Volatiles

Lot-Sample #...: F9K170192-009 **Work Order #...:** D5SKC101 **Matrix.....:** WATER
Date Sampled...: 11/16/99 17:45 **Date Received..:** 11/17/99
Prep Date.....: 11/23/99 **Analysis Date..:** 11/23/99
Prep Batch #...: 9328187 **Analysis Time..:** 12:21
Dilution Factor: 1

Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Xylenes (total)	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
2-Hexanone	ND	5.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
Bromomethane	ND	2.0	ug/L
Vinyl chloride	ND	2.0	ug/L
Chloroethane	ND	2.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	**6.5 J**	**10**	**ug/L**
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
2-Butanone	**8.4**	**5.0**	**ug/L**
1,1,1-Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2 Dichlorobenzene	ND	1.0	ug/L
1,3-Dichlorobenzene	ND	1.0	ug/L
1,4-Dichlorobenzene	ND	1.0	ug/L
cis 1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L

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TETRA TECH EM INC.

Client Sample ID: 1116EQ2

GC/MS Volatiles

Lot-Sample #...: F9K170192 009 **Work Order #...:** D55KC101 **Matrix.....:** WATER

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	98	(78 - 124)
Toluene-d8	99	(71 - 129)
Dibromofluoromethane	112	(74 - 135)

NOTE(S):

J Estimated result. Result is less than RL.

TETRA TECH EM INC.

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #...: F9K170192-010 **Work Order #...:** D55KK101 **Matrix.....:** WATER
Date Sampled...: 11/16/99 17:45 **Date Received..:** 11/17/99
Prep Date.....: 11/20/99 **Analysis Date..:** 11/20/99
Prep Batch #...: 9325126 **Analysis Time..:** 17:47
Dilution Factor: 1

Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Xylenes (total)	ND	1.0	ug/L
1,2 Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2 Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
2 Hexanone	ND	5.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
Bromomethane	ND	2.0	ug/L
Vinyl chloride	ND	2.0	ug/L
Chloroethane	ND	2.0	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1 Dichloroethane	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	**7.7 J**	**10**	**ug/L**
Chloroform	ND	1.0	ug/L
1,2 Dichloroethane	ND	1.0	ug/L
2-Butanone	ND	5.0	ug/L
1,1,1 Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichlorobenzene	ND	1.0	ug/L
1,3-Dichlorobenzene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,4-Dichlorobenzene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L

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TETRA TECH EM INC.

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot Sample #...: F9K170192-010 **Work Order #...:** D55KK101 **Matrix.....:** WATER

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	108	(78 - 124)
Toluene-d8	121	(71 - 129)
Dibromofluoromethane	123	(74 - 135)

NOTE(S):

J Estimated result. Result is less than RL

TETRA TECH EM INC.

Client Sample ID: SSB-2 0-2

HPLC

Lot-Sample #...: F9K170192-021 **Work Order #...:** D562C103 **Matrix.....:** SOLID
Date Sampled...: 11/16/99 17:00 **Date Received..:** 11/17/99
Prep Date.....: 11/29/99 **Analysis Date..:** 12/01/99
Prep Batch #...: 9333295 **Analysis Time..:** 13:24
Dilution Factor: 1
% Moisture.....: 26 **Method.....:** SW846 8330

PARAMETER	RESULT	REPORTING LIMIT	UNITS
2-Amino-4,6-dinitrotoluene	ND	340	ug/kg
4-Amino-2,6-dinitrotoluene	ND	340	ug/kg
1,3-Dinitrobenzene	ND	340	ug/kg
2,4-Dinitrotoluene	ND	340	ug/kg
2,6-Dinitrotoluene	ND	340	ug/kg
HMX	ND	340	ug/kg
Nitrobenzene	ND	340	ug/kg
2 Nitrotoluene	ND	340	ug/kg
3-Nitrotoluene	ND	340	ug/kg
4-Nitrotoluene	ND	340	ug/kg
RDX	ND	340	ug/kg
Tetryl	ND	340	ug/kg
1,3,5-Trinitrobenzene	ND	340	ug/kg
2,4,6-Trinitrotoluene	ND	340	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dinitrobenzene	102	(30 - 150)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 5SB 2 0 2

GC Semivolatiles

Lot-Sample #...: F9K170192-021 **Work Order #...:** D562C10F **Matrix.....:** SOLID
Date Sampled...: 11/16/99 17:00 **Date Received..:** 11/17/99
Prep Date.....: 11/29/99 **Analysis Date..:** 12/01/99
Prep Batch #...: 9333385 **Analysis Time..:** 21:37
Dilution Factor: 1
% Moisture.....: 26 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	44	ug/kg
Aroclor 1016	ND	44	ug/kg
Aroclor 1221	ND	90	ug/kg
Aroclor 1232	ND	44	ug/kg
Aroclor 1242	ND	44	ug/kg
Aroclor 1248	ND	44	ug/kg
Aroclor 1254	ND	44	ug/kg
Aroclor 1260	ND	44	ug/kg
Aroclor 1262	ND	44	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	70	(15 168)
Decachlorobiphenyl	86	(10 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: SSB-2 0 2

GC/MS Semivolatiles

Lot-Sample #...: F9K170192 021 **Work Order #...:** D562C102 **Matrix.....:** SOLID
Date Sampled...: 11/16/99 17:00 **Date Received..:** 11/17/99
Prep Date.....: 11/30/99 **Analysis Date..:** 12/06/99
Prep Batch #...: 9334404 **Analysis Time..:** 17:16
Dilution Factor: 1
% Moisture.....: 26 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthylene	ND	440	ug/kg
bis(2-Chloroethoxy) methane	ND	440	ug/kg
bis(2-Chloroethyl)-ether	ND	440	ug/kg
2-Chloronaphthalene	ND	440	ug/kg
2-Chlorophenol	ND	440	ug/kg
2,4-Dimethylphenol	ND	440	ug/kg
Dimethyl phthalate	ND	440	ug/kg
2,6-Dinitrotoluene	ND	440	ug/kg
Hexachloroethane	ND	440	ug/kg
Isophorone	ND	440	ug/kg
2 Methylphenol	ND	440	ug/kg
4-Methylphenol	ND	440	ug/kg
2-Nitroaniline	ND	1100	ug/kg
3-Nitroaniline	ND	1100	ug/kg
Nitrobenzene	ND	440	ug/kg
2-Nitrophenol	ND	440	ug/kg
N-Nitrosodi-n-propyl-amine	ND	440	ug/kg
Phenol	ND	440	ug/kg
2,2'-oxybis(1-Chloropropane)	ND	440	ug/kg
Benzo(a)anthracene	**350 J**	**1100**	**ug/kg**
Benzo(b)fluoranthene	**460 J**	**1100**	**ug/kg**
Benzo(a)pyrene	**330 J**	**1100**	**ug/kg**
1,2-Dichlorobenzene	ND	440	ug/kg
1,3-Dichlorobenzene	ND	440	ug/kg
1,4-Dichlorobenzene	ND	440	ug/kg
Indeno(1,2,3-cd)pyrene	**250 J**	**1100**	**ug/kg**
Pentachlorophenol	ND	1100	ug/kg
Dibenzo(a,h)anthracene	ND	1100	ug/kg
Carbazole	ND	1100	ug/kg
2,4-Dichlorophenol	ND	440	ug/kg
1,2,4-Trichlorobenzene	ND	440	ug/kg
Naphthalene	ND	440	ug/kg
4-Chloroaniline	ND	440	ug/kg
Hexachlorobutadiene	ND	440	ug/kg
4-Chloro-3-methylphenol	ND	440	ug/kg

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TETRA TECH RM INC.

Client Sample ID: 5SB 2 0-2

GC/MS Semivolatiles

Lot-Sample #...: F9K170192-021 **Work Order #...:** D563C102 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
2-Methylnaphthalene	ND	440	ug/kg
2,4,6-Trichlorophenol	ND	440	ug/kg
2,4,5 Trichlorophenol	ND	440	ug/kg
Hexachlorocyclopenta-diene	ND	440	ug/kg
Acenaphthene	ND	440	ug/kg
2,4-Dinitrophenol	ND	1100	ug/kg
4-Nitrophenol	ND	1100	ug/kg
Dibenzofuran	ND	440	ug/kg
2,4-Dinitrotoluene	ND	440	ug/kg
Diethyl phthalate	ND	440	ug/kg
Fluorene	ND	440	ug/kg
4-Chlorophenyl phenyl ether	ND	440	ug/kg
4 Nitroaniline	ND	1100	ug/kg
Phenanthrene	**550**	**440**	**ug/kg**
Anthracene	**46 J**	**440**	**ug/kg**
4,6-Dinitro-2 methylphenol	ND	1100	ug/kg
N-Nitrosodiphenylamine	ND	440	ug/kg
Di-n-butyl phthalate	ND	440	ug/kg
Fluoranthene	**1100**	**440**	**ug/kg**
Pyrene	**790**	**440**	**ug/kg**
Butyl benzyl phthalate	ND	440	ug/kg
Hexachlorobenzene	ND	440	ug/kg
3,3'-Dichlorobenzidine	ND	440	ug/kg
Chrysene	**510**	**440**	**ug/kg**
bis(2-Ethylhexyl) phthalate	**65 J**	**440**	**ug/kg**
Di-n-octyl phthalate	ND	440	ug/kg
Benzo(k)fluoranthene	**330 J**	**440**	**ug/kg**
Benzo(ghi)perylene	**250 J**	**440**	**ug/kg**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	73	(11 - 119)
Phenol-d5	77	(21 - 118)
Nitrobenzene-d5	76	(19 - 111)
2-Fluorobiphenyl	78	(22 - 109)
2,4,6-Tribromophenol	120	(10 - 124)
Terphenyl-d14	50	(10 - 157)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL

TETRA TECH EM INC.

Client Sample ID: 5SB-2 0-2

GC/MS Semivolatiles

Lot-Sample #...: F9K170192-021 **Work Order #...:** D562C202 **Matrix.....:** SOLID
Date Sampled...: 11/16/99 17:00 **Date Received..:** 11/17/99
Prep Date.....: 12/09/99 **Analysis Date..:** 12/11/99
Prep Batch #...: 9343347 **Analysis Time..:** 07:42
Dilution Factor: 1
% Moisture.....: 26 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Pentachlorophenol	ND	1100	ug/kg
Dibenzo(a,h)anthracene	ND	1100	ug/kg
1,2,4-Trichlorobenzene	ND	440	ug/kg
Naphthalene	ND	440	ug/kg
Carbazole	**360 J**	**1100**	**ug/kg**
2,4-Dichlorophenol	ND	440	ug/kg
4-Chloroaniline	ND	440	ug/kg
Hexachlorobutadiene	ND	440	ug/kg
4-Chloro-3-methylphenol	ND	440	ug/kg
2-Methylnaphthalene	ND	440	ug/kg
2,4,6-Trichlorophenol	ND	440	ug/kg
2,4,5-Trichlorophenol	ND	440	ug/kg
Hexachlorocyclopenta-diene	ND	440	ug/kg
Acenaphthene	**150 J**	**440**	**ug/kg**
2,4-Dinitrophenol	ND	1100	ug/kg
4 Nitrophenol	ND	1100	ug/kg
Dibenzofuran	**57 J**	**440**	**ug/kg**
2,4-Dinitrotoluene	ND	440	ug/kg
Diethyl phthalate	ND	440	ug/kg
Fluorene	**140 J**	**440**	**ug/kg**
4-Chlorophenyl phenyl ether	ND	440	ug/kg
4-Nitroaniline	ND	1100	ug/kg
Phenanthrene	**2400**	**440**	**ug/kg**
Anthracene	**280 J**	**440**	**ug/kg**
4,6-Dinitro-2 methylphenol	ND	1100	ug/kg
N-Nitrosodiphenylamine	ND	440	ug/kg
Pyrene	**3600**	**440**	**ug/kg**
Butyl benzyl phthalate	ND	440	ug/kg
bis(2-Ethylhexyl) phthalate	**190 J**	**440**	**ug/kg**
Di-n-octyl phthalate	ND	440	ug/kg
Benzo(k)fluoranthene	**1200**	**440**	**ug/kg**
Di-n-butyl phthalate	ND	440	ug/kg
Fluoranthene	**4100 E**	**440**	**ug/kg**
Hexachlorobenzene	ND	440	ug/kg

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TETRA TECH EM INC.

Client Sample ID: SSB-2 0-2

GC/MS Semivolatiles

Lot-Sample #...: F9K170192-021 **Work Order #...:** D562C202 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
3,3'-Dichlorobenzidine	ND	440	ug/kg
Chrysene	**1700**	**440**	**ug/kg**
Benzo(ghi)perylene	**750**	**440**	**ug/kg**
Acenaphthylene	ND	440	ug/kg
bis(2-Chloroethoxy) methane	ND	440	ug/kg
bis(2-Chloroethyl)-ether	ND	440	ug/kg
2-Chloronaphthalene	ND	440	ug/kg
2-Chlorophenol	ND	440	ug/kg
2,4-Dimethylphenol	ND	440	ug/kg
Dimethyl phthalate	ND	440	ug/kg
2,6-Dinitrotoluene	ND	440	ug/kg
Hexachloroethane	ND	440	ug/kg
Isophorone	ND	440	ug/kg
2-Methylphenol	ND	440	ug/kg
4-Methylphenol	ND	440	ug/kg
2-Nitroaniline	ND	1100	ug/kg
3-Nitroaniline	ND	1100	ug/kg
Nitrobenzene	ND	440	ug/kg
2-Nitrophenol	ND	440	ug/kg
N-Nitrosodi-n-propyl-amine	ND	440	ug/kg
Phenol	ND	440	ug/kg
2,2'-oxybis(1-Chloropropane)	ND	440	ug/kg
Benzo(a)anthracene	**1300**	**1100**	**ug/kg**
Benzo(b)fluoranthene	**1300**	**1100**	**ug/kg**
Benzo(a)pyrene	**1200**	**1100**	**ug/kg**
1,2-Dichlorobenzene	ND	440	ug/kg
1,3-Dichlorobenzene	ND	440	ug/kg
1,4-Dichlorobenzene	ND	440	ug/kg
Indeno(1,2,3-cd)pyrene	**870 J**	**1100**	**ug/kg**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	78	(11 - 119)
Phenol-d5	86	(21 - 118)
Nitrobenzene-d5	82	(19 - 111)
2-Fluorobiphenyl	85	(22 - 109)
2,4,6-Tribromophenol	76	(10 - 124)
Terphenyl-d14	76	(10 - 157)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J - Estimated result. Result is less than RL.

E - Estimated result. Result concentration exceeds the calibration range.

TETRA TECH EM INC.

Client Sample ID: 5SB-2 0 2

GC/MS Semivolatiles

Lot-Sample #...: F9K170192-021 **Work Order #...:** D562C302 **Matrix.....:** SOLID
Date Sampled...: 11/16/99 17:00 **Date Received..:** 11/17/99
Prep Date.....: 12/09/99 **Analysis Date..:** 12/16/99
Prep Batch #...: 9343347 **Analysis Time..:** 08.39
Dilution Factor: 2
% Moisture.....: 26 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Pentachlorophenol	ND	2200	ug/kg
Dibenzo(a,h)anthracene	ND	2200	ug/kg
Carbazole	**290 J**	**2200**	**ug/kg**
2,4-Dichlorophenol	ND	890	ug/kg
1,2,4-Trichlorobenzene	ND	890	ug/kg
Naphthalene	ND	890	ug/kg
4-Chloroaniline	ND	890	ug/kg
Hexachlorobutadiene	ND	890	ug/kg
4-Chloro-3-methylphenol	ND	890	ug/kg
2-Methylnaphthalene	ND	890	ug/kg
2,4,6-Trichlorophenol	ND	890	ug/kg
2,4,5-Trichlorophenol	ND	890	ug/kg
Hexachlorocyclopenta diene	ND	890	ug/kg
Acenaphthene	**120 J**	**890**	**ug/kg**
2,4-Dinitrophenol	ND	2200	ug/kg
4-Nitrophenol	ND	2200	ug/kg
Dibenzofuran	ND	890	ug/kg
2,4-Dinitrotoluene	ND	890	ug/kg
Diethyl phthalate	ND	890	ug/kg
Fluorene	**110 J**	**890**	**ug/kg**
4-Chlorophenyl phenyl ether	ND	890	ug/kg
4-Nitroaniline	ND	2200	ug/kg
Phenanthrene	**2200**	**890**	**ug/kg**
Anthracene	**220 J**	**890**	**ug/kg**
4,6-Dinitro-2-methylphenol	ND	2200	ug/kg
N-Nitrosodiphenylamine	ND	890	ug/kg
Di-n-butyl phthalate	ND	890	ug/kg
Fluoranthene	**3400**	**890**	**ug/kg**
Pyrene	**2800**	**890**	**ug/kg**
Butyl benzyl phthalate	ND	890	ug/kg
Hexachlorobenzene	ND	890	ug/kg
3,3'-Dichlorobenzidine	ND	890	ug/kg
Chrysene	**1500**	**890**	**ug/kg**
bis(2-Ethylhexyl) phthalate	**170 J**	**890**	**ug/kg**

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TETRA TECH EM INC.

Client Sample ID: 5SB 2 0-2

GC/MS Semivolatiles

Lot-Sample #...: F9K170192-021 **Work Order #...:** D562C302 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Di-n-octyl phthalate	ND	890	ug/kg
Benzo(k)fluoranthene	**790 J**	**890**	**ug/kg**
Benzo(ghi)perylene	**640 J**	**890**	**ug/kg**
Acenaphthylene	ND	890	ug/kg
2-Chlorophenol	ND	890	ug/kg
2,4-Dimethylphenol	ND	890	ug/kg
Dimethyl phthalate	ND	890	ug/kg
bis(2-Chloroethoxy) methane	ND	890	ug/kg
bis(2-Chloroethyl)-ether	ND	890	ug/kg
2-Chloronaphthalene	ND	890	ug/kg
2,6-Dinitrotoluene	ND	890	ug/kg
Hexachloroethane	ND	890	ug/kg
Isophorone	ND	890	ug/kg
2-Methylphenol	ND	890	ug/kg
4-Methylphenol	ND	890	ug/kg
2-Nitroaniline	ND	2200	ug/kg
3-Nitroaniline	ND	2200	ug/kg
Nitrobenzene	ND	890	ug/kg
2-Nitrophenol	ND	890	ug/kg
N-Nitrosodi-n-propyl-amine	ND	890	ug/kg
Phenol	ND	890	ug/kg
2,2'-oxybis(1-Chloropropane)	ND	890	ug/kg
Benzo(a)anthracene	**1100 J**	**2200**	**ug/kg**
Benzo(b)fluoranthene	**1100 J**	**2200**	**ug/kg**
Benzo(a)pyrene	**940 J**	**2200**	**ug/kg**
1,2-Dichlorobenzene	ND	890	ug/kg
1,3-Dichlorobenzene	ND	890	ug/kg
1,4-Dichlorobenzene	ND	890	ug/kg
Indeno(1,2,3-cd)pyrene	**670 J**	**2200**	**ug/kg**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	74	(11 - 119)
Phenol-d5	81	(21 - 118)
Nitrobenzene-d5	74	(19 - 111)
2-Fluorobiphenyl	74	(22 - 109)
2,4,6-Tribromophenol	64	(10 - 124)
Terphenyl-d14	56	(10 - 157)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

J Estimated result. Result is less than RL

TETRA TECH EM INC.

Client Sample ID: SSB 1 4-6

HPLC

Lot-Sample #...: F9K170192 022 **Work Order #...:** D568D103 **Matrix.....:** SOLID
Date Sampled...: 11/16/99 16:30 **Date Received..:** 11/17/99
Prep Date.....: 11/29/99 **Analysis Date..:** 12/01/99
Prep Batch #...: 9333295 **Analysis Time..:** 15:01
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8330

PARAMETER	RESULT	REPORTING LIMIT	UNITS
2 Amino-4,6-dinitrotoluene	ND	290	ug/kg
4-Amino-2,6-dinitrotoluene	ND	290	ug/kg
1,3-Dinitrobenzene	ND	290	ug/kg
2,4-Dinitrotoluene	ND	290	ug/kg
2,6-Dinitrotoluene	ND	290	ug/kg
HMX	ND	290	ug/kg
Nitrobenzene	ND	290	ug/kg
2-Nitrotoluene	ND	290	ug/kg
3-Nitrotoluene	ND	290	ug/kg
4-Nitrotoluene	ND	290	ug/kg
RDX	ND	290	ug/kg
Tetryl	ND	290	ug/kg
1,3,5-Trinitrobenzene	ND	290	ug/kg
2,4,6-Trinitrotoluene	ND	290	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2 Dinitrobenzene	103	(30 - 130)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 5SB-1 4 6

GC Semivolatiles

Lot-Sample #...: F9K170192-022 **Work Order #...:** D568D10F **Matrix.....:** SOLID
Date Sampled...: 11/16/99 16:30 **Date Received..:** 11/17/99
Prep Date.....: 11/29/99 **Analysis Date..:** 12/01/99
Prep Batch #...: 9333385 **Analysis Time..:** 22:14
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	38	ug/kg
Aroclor 1016	ND	38	ug/kg
Aroclor 1221	ND	78	ug/kg
Aroclor 1232	ND	38	ug/kg
Aroclor 1242	ND	38	ug/kg
Aroclor 1248	ND	38	ug/kg
Aroclor 1254	ND	38	ug/kg
Aroclor 1260	ND	38	ug/kg
Aroclor 1262	ND	38	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	67	(15 - 168)
Decachlorobiphenyl	79	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

Data is Incomplete without Case Narrative

TETRA TECH EM INC.

Client Sample ID: 5SB-1 4-6

GC/MS Semivolatiles

Lot-Sample #...: F9K170192 022 **Work Order #...:** D568D102 **Matrix.....:** SOLID
Date Sampled...: 11/16/99 16:30 **Date Received..:** 11/17/99
Prep Date.....: 11/30/99 **Analysis Date..:** 12/06/99
Prep Batch #...: 9334404 **Analysis Time..:** 17:49
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthylene	ND	380	ug/kg
bis(2-Chloroethoxy) methane	ND	380	ug/kg
bis(2-Chloroethyl)-ether	ND	380	ug/kg
2-Chloronaphthalene	ND	380	ug/kg
2-Chlorophenol	ND	380	ug/kg
2,4-Dimethylphenol	ND	380	ug/kg
Dimethyl phthalate	ND	380	ug/kg
2,6-Dinitrotoluene	ND	380	ug/kg
Hexachloroethane	ND	380	ug/kg
Isophorone	ND	380	ug/kg
2-Methylphenol	ND	380	ug/kg
4-Methylphenol	ND	380	ug/kg
2-Nitroaniline	ND	970	ug/kg
3-Nitroaniline	ND	970	ug/kg
Nitrobenzene	ND	380	ug/kg
2-Nitrophenol	ND	380	ug/kg
N-Nitrosodi-n-propyl-amine	ND	380	ug/kg
Phenol	ND	380	ug/kg
2,2'-oxybis(1-Chloropropane)	ND	380	ug/kg
Benzo(a)anthracene	**170 J**	**970**	**ug/kg**
Benzo(b)fluoranthene	**120 J**	**970**	**ug/kg**
Benzo(a)pyrene	**140 J**	**970**	**ug/kg**
1,2-Dichlorobenzene	ND	380	ug/kg
1,3-Dichlorobenzene	ND	380	ug/kg
1,4-Dichlorobenzene	ND	380	ug/kg
Indeno(1,2,3-cd)pyrene	ND	970	ug/kg
Pentachlorophenol	ND	970	ug/kg
Dibenzo(a,h)anthracene	ND	970	ug/kg
Carbazole	ND	970	ug/kg
2,4-Dichlorophenol	ND	380	ug/kg
1,2,4-Trichlorobenzene	ND	380	ug/kg
Naphthalene	ND	380	ug/kg
4-Chloroaniline	ND	380	ug/kg
Hexachlorobutadiene	ND	380	ug/kg
4-Chloro 3-methylphenol	ND	380	ug/kg

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TETRA TECH EM INC.

Client Sample ID: 5SB-1 4-6

GC/MS Semivolatiles

Lot-Sample #...: F9K170192-022 **Work Order #...:** D568D107 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
2-Methylnaphthalene	ND	380	ug/kg
2,4,6-Trichlorophenol	ND	380	ug/kg
2,4,5-Trichlorophenol	ND	380	ug/kg
Hexachlorocyclopenta-diene	ND	380	ug/kg
Acenaphthene	ND	380	ug/kg
2,4-Dinitrophenol	ND	970	ug/kg
4-Nitrophenol	ND	970	ug/kg
Dibenzofuran	ND	380	ug/kg
2,4-Dinitrotoluene	ND	380	ug/kg
Diethyl phthalate	ND	380	ug/kg
Fluorene	ND	380	ug/kg
4-Chlorophenyl phenyl ether	ND	380	ug/kg
4-Nitroaniline	ND	970	ug/kg
Phenanthrene	**390**	**380**	**ug/kg**
Anthracene	**90 J**	**380**	**ug/kg**
4,6-Dinitro-2-methylphenol	ND	970	ug/kg
N-Nitrosodiphenylamine	ND	380	ug/kg
Di-n-butyl phthalate	ND	380	ug/kg
Fluoranthene	**490**	**380**	**ug/kg**
Pyrene	**420**	**380**	**ug/kg**
Butyl benzyl phthalate	ND	380	ug/kg
Hexachlorobenzene	ND	380	ug/kg
3,3'-Dichlorobenzidine	ND	380	ug/kg
Chrysene	**160 J**	**380**	**ug/kg**
bis(2 Ethylhexyl) phthalate	**85 J**	**380**	**ug/kg**
Di-n-octyl phthalate	ND	380	ug/kg
Benzo(k)fluoranthene	**120 J**	**380**	**ug/kg**
Benzo(ghi)perylene	ND	380	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	79	(11 - 119)
Phenol-d5	83	(21 - 118)
Nitrobenzene-d5	77	(19 - 111)
2-Fluorobiphenyl	76	(22 - 109)
2,4,6-Tribromophenol	93	(10 - 124)
Terphenyl-d14	56	(10 - 157)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J - Estimated result. Result is less than RL.

TETRA TECH EM INC.

Client Sample ID: 5SB-1 4 6

GC/MS Semivolatiles

Lot-Sample #...: F9K170192-022 **Work Order #...:** D568D202 **Matrix.....:** SOLID
Date Sampled...: 11/16/99 16:30 **Date Received..:** 11/17/99
Prep Date.....: 12/09/99 **Analysis Date..:** 12/11/99
Prep Batch #...: 9343347 **Analysis Time..:** 08:16
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthylene	ND	380	ug/kg
bis(2-Chloroethoxy) methane	ND	380	ug/kg
bis(2-Chloroethyl)-ether	ND	380	ug/kg
2-Chloronaphthalene	ND	380	ug/kg
2-Chlorophenol	ND	380	ug/kg
2,4-Dimethylphenol	ND	380	ug/kg
Dimethyl phthalate	ND	380	ug/kg
2,6-Dinitrotoluene	ND	380	ug/kg
Hexachloroethane	ND	380	ug/kg
Isophorone	ND	380	ug/kg
2-Methylphenol	ND	380	ug/kg
4-Methylphenol	ND	380	ug/kg
2-Nitroaniline	ND	970	ug/kg
3-Nitroaniline	ND	970	ug/kg
Nitrobenzene	ND	380	ug/kg
2-Nitrophenol	ND	380	ug/kg
N-Nitrosodi-n-propyl-amine	ND	380	ug/kg
Phenol	ND	380	ug/kg
2,2'-oxybis(1-Chloropropane)	ND	380	ug/kg
Benzo(a)anthracene	**150 J**	**970**	**ug/kg**
Benzo(b)fluoranthene	**140 J**	**970**	**ug/kg**
Benzo(a)pyrene	**140 J**	**970**	**ug/kg**
1,2-Dichlorobenzene	ND	380	ug/kg
1,3-Dichlorobenzene	ND	380	ug/kg
1,4-Dichlorobenzene	ND	380	ug/kg
Indeno(1,2,3-cd)pyrene	**100 J**	**970**	**ug/kg**
Pentachlorophenol	ND	970	ug/kg
Dibenzo(a,h)anthracene	ND	970	ug/kg
Carbazole	ND	970	ug/kg
2,4-Dichlorophenol	ND	380	ug/kg
1,2,4 Trichlorobenzene	ND	380	ug/kg
Naphthalene	ND	380	ug/kg
4-Chloroaniline	ND	380	ug/kg
Hexachlorobutadiene	ND	380	ug/kg
4-Chloro-3-methylphenol	ND	380	ug/kg

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TETRA TECH EM INC.

Client Sample ID: 5SB-1 4 6

GC/MS Semivolatiles

Lot-Sample #...: F9K170192-022 **Work Order #...:** D568D202 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
2-Methylnaphthalene	ND	380	ug/kg
2,4,6-Trichlorophenol	ND	380	ug/kg
2,4,5 Trichlorophenol	ND	380	ug/kg
Hexachlorocyclopenta-diene	ND	380	ug/kg
Acenaphthene	ND	380	ug/kg
2,4-Dinitrophenol	ND	970	ug/kg
4-Nitrophenol	ND	970	ug/kg
Dibenzofuran	ND	380	ug/kg
2,4-Dinitrotoluene	ND	380	ug/kg
Diethyl phthalate	ND	380	ug/kg
Fluorene	ND	380	ug/kg
4-Chlorophenyl phenyl ether	ND	380	ug/kg
4-Nitroaniline	ND	970	ug/kg
Phenanthrene	**180 J**	**380**	**ug/kg**
Anthracene	ND	380	ug/kg
4,6-Dinitro-2-methylphenol	ND	970	ug/kg
N-Nitrosodiphenylamine	ND	380	ug/kg
Di-n-butyl phthalate	ND	380	ug/kg
Fluoranthene	**360 J**	**380**	**ug/kg**
Pyrene	**290 J**	**380**	**ug/kg**
Butyl benzyl phthalate	ND	380	ug/kg
Hexachlorobenzene	ND	380	ug/kg
3,3'-Dichlorobenzidine	ND	380	ug/kg
Chrysene	**170 J**	**380**	**ug/kg**
bis(2-Ethylhexyl) phthalate	**180 J**	**380**	**ug/kg**
Di-n-octyl phthalate	ND	380	ug/kg
Benzo(k)fluoranthene	**130 J**	**380**	**ug/kg**
Benzo(ghi)perylene	ND	380	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	69	(11 - 119)
Phenol d5	76	(21 - 118)
Nitrobenzene-d5	73	(19 - 111)
2-Fluorobiphenyl	74	(22 - 109)
2,4,6-Tribromophenol	69	(10 - 124)
Terphenyl-d14	60	(10 - 157)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

TETRA TECH EM INC.

Client Sample ID: 6SB-1 4 6

HPLC

Lot-Sample #...: F9K170192-023 **Work Order #...:** D568C103 **Matrix.....:** SOLID
Date Sampled...: 11/16/99 15:30 **Date Received..:** 11/17/99
Prep Date.....: 11/29/99 **Analysis Date..:** 12/01/99
Prep Batch #...: 9333295 **Analysis Time..:** 15:33
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8330

PARAMETER	RESULT	REPORTING LIMIT	UNITS
2 Amino-4,6-dinitrotoluene	ND	290	ug/kg
4-Amino-2,6-dinitrotoluene	ND	290	ug/kg
1,3-Dinitrobenzene	ND	290	ug/kg
2,4 Dinitrotoluene	ND	290	ug/kg
2,6-Dinitrotoluene	ND	290	ug/kg
HMX	ND	290	ug/kg
Nitrobenzene	ND	290	ug/kg
2-Nitrotoluene	ND	290	ug/kg
3-Nitrotoluene	ND	290	ug/kg
4-Nitrotoluene	ND	290	ug/kg
RDX	ND	290	ug/kg
Tetryl	ND	290	ug/kg
1,3,5-Trinitrobenzene	ND	290	ug/kg
2,4,6-Trinitrotoluene	ND	290	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dinitrobenzene	101	(30 - 130)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 6SB-1 4 6

GC Semivolatiles

Lot-Sample #...: F9K170192-023 **Work Order #...:** D568G10F **Matrix.....:** SOLID
Date Sampled...: 11/16/99 15:30 **Date Received..:** 11/17/99
Prep Date.....: 11/29/99 **Analysis Date..:** 12/01/99
Prep Batch #...: 9333385 **Analysis Time..:** 22:51
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	39	ug/kg
Aroclor 1016	ND	38	ug/kg
Aroclor 1221	ND	78	ug/kg
Aroclor 1232	ND	38	ug/kg
Aroclor 1242	ND	38	ug/kg
Aroclor 1248	ND	38	ug/kg
Aroclor 1254	ND	38	ug/kg
Aroclor 1260	ND	38	ug/kg
Aroclor 1262	ND	38	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	47	(15 - 168)
Decachlorobiphenyl	62	(16 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 6SB 1 4-6

GC/MS Semivolatiles

Lot-Sample #...: F9K170192-023 **Work Order #...:** D568G102 **Matrix.....:** SOLID
Date Sampled...: 11/16/99 15:30 **Date Received..:** 11/17/99
Prep Date.....: 11/30/99 **Analysis Date..:** 12/06/99
Prep Batch #...: 9334404 **Analysis Time..:** 18:23
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthylene	ND	380	ug/kg
bis(2-Chloroethoxy) methane	ND	380	ug/kg
bis(2-Chloroethyl)-ether	ND	380	ug/kg
2-Chloronaphthalene	ND	380	ug/kg
2-Chlorophenol	ND	380	ug/kg
2,4-Dimethylphenol	ND	380	ug/kg
Dimethyl phthalate	ND	380	ug/kg
2,6-Dinitrotoluene	ND	380	ug/kg
Hexachloroethane	ND	380	ug/kg
Isophorone	ND	380	ug/kg
2-Methylphenol	ND	380	ug/kg
4-Methylphenol	ND	380	ug/kg
2-Nitroaniline	ND	970	ug/kg
3-Nitroaniline	ND	970	ug/kg
Nitrobenzene	ND	380	ug/kg
2-Nitrophenol	ND	380	ug/kg
N-Nitrosodi-n-propyl-amine	ND	380	ug/kg
Phenol	ND	380	ug/kg
2,2'-oxybis(1-Chloropropane)	ND	380	ug/kg
Benzo(a)anthracene	**59 J**	**970**	**ug/kg**
Benzo(b)fluoranthene	**65 J**	**970**	**ug/kg**
Benzo(a)pyrene	**61 J**	**970**	**ug/kg**
1,2-Dichlorobenzene	ND	380	ug/kg
1,3-Dichlorobenzene	ND	380	ug/kg
1,4-Dichlorobenzene	ND	380	ug/kg
Indeno(1,2,3-cd)pyrene	ND	970	ug/kg
Pentachlorophenol	ND	970	ug/kg
Dibenzo(a,h)anthracene	ND	970	ug/kg
Carbazole	ND	970	ug/kg
2,4-Dichlorophenol	ND	380	ug/kg
1,2,4-Trichlorobenzene	ND	380	ug/kg
Naphthalene	ND	380	ug/kg
4-Chloroaniline	ND	380	ug/kg
Hexachlorobutadiene	ND	380	ug/kg
4-Chloro-3-methylphenol	ND	380	ug/kg

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TETRA TECH EM INC.

Client Sample ID: 6SB-1 4-6

GC/MS Semivolatiles

Lot-Sample #...: F9K170192-023 **Work Order #...:** D568G102 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
2-Methylnaphthalene	ND	380	ug/kg
2,4,6-Trichlorophenol	ND	380	ug/kg
2,4,5-Trichlorophenol	ND	380	ug/kg
Hexachlorocyclopenta-diene	ND	380	ug/kg
Acenaphthene	ND	380	ug/kg
2,4-Dinitrophenol	ND	970	ug/kg
4-Nitrophenol	ND	970	ug/kg
Dibenzofuran	ND	380	ug/kg
2,4-Dinitrotoluene	ND	380	ug/kg
Diethyl phthalate	ND	380	ug/kg
Fluorene	ND	380	ug/kg
4-Chlorophenyl phenyl ether	ND	380	ug/kg
4 Nitroaniline	ND	970	ug/kg
Phenanthrene	**60 J**	**380**	**ug/kg**
Anthracene	ND	380	ug/kg
4,6-Dinitro-2-methylphenol	ND	970	ug/kg
N-Nitrosodiphenylamine	ND	380	ug/kg
Di-n butyl phthalate	ND	380	ug/kg
Fluoranthene	**110 J**	**380**	**ug/kg**
Pyrene	**110 J**	**380**	**ug/kg**
Butyl benzyl phthalate	ND	380	ug/kg
Hexachlorobenzene	ND	380	ug/kg
3,3'-Dichlorobenzidine	ND	380	ug/kg
Chrysene	**66 J**	**380**	**ug/kg**
bis(2-Ethylhexyl) phthalate	**85 J**	**380**	**ug/kg**
Di n-octyl phthalate	ND	380	ug/kg
Benzo(k)fluoranthene	**42 J**	**380**	**ug/kg**
Benzo(ghi)perylene	ND	380	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	68	(11 - 119)
Phenol-d5	75	(21 - 118)
Nitrobenzene-d5	69	(19 - 111)
2-Fluorobiphenyl	74	(22 - 109)
2,4,6-Tribromophenol	94	(10 - 124)
Terphenyl-d14	53	(10 - 157)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

J - Estimated result. Result is less than RL

TETRA TECH EM INC.

Client Sample ID: 6SB-1 4 6

GC/MS Semivolatiles

Lot-Sample #...: F9K170192-023 **Work Order #...:** D568G202 **Matrix.....:** SOLID
Date Sampled...: 11/16/99 15:30 **Date Received..:** 11/17/99
Prep Date.....: 12/09/99 **Analysis Date..:** 12/11/99
Prep Batch #...: 9343347 **Analysis Time..:** 08:49
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthylene	ND	380	ug/kg
bis(2-Chloroethoxy) methane	ND	380	ug/kg
bis(2-Chloroethyl) ether	ND	380	ug/kg
2-Chloronaphthalene	ND	380	ug/kg
2-Chlorophenol	ND	380	ug/kg
2,4-Dimethylphenol	ND	380	ug/kg
Dimethyl phthalate	ND	380	ug/kg
2,6-Dinitrotoluene	ND	380	ug/kg
Hexachloroethane	ND	380	ug/kg
Isophorone	ND	380	ug/kg
2-Methylphenol	ND	380	ug/kg
4-Methylphenol	ND	380	ug/kg
2-Nitroaniline	ND	970	ug/kg
3-Nitroaniline	ND	970	ug/kg
Nitrobenzene	ND	380	ug/kg
2-Nitrophenol	ND	380	ug/kg
N-Nitrosodi-n-propyl-amine	ND	380	ug/kg
Phenol	ND	380	ug/kg
2,2'-oxybis(1-Chloropropane)	ND	380	ug/kg
Benzo(a)anthracene	**740 J**	**970**	**ug/kg**
Benzo(b)fluoranthene	**410 J**	**970**	**ug/kg**
Benzo(a)pyrene	**560 J**	**970**	**ug/kg**
1,2-Dichlorobenzene	ND	380	ug/kg
1,3-Dichlorobenzene	ND	380	ug/kg
1,4-Dichlorobenzene	ND	380	ug/kg
Indeno(1,2,3-cd)pyrene	**340 J**	**970**	**ug/kg**
Pentachlorophenol	ND	970	ug/kg
Dibenzo(a,h)anthracene	ND	970	ug/kg
Carbazole	**280 J**	**970**	**ug/kg**
2,4-Dichlorophenol	ND	380	ug/kg
1,2,4-Trichlorobenzene	ND	380	ug/kg
Naphthalene	ND	380	ug/kg
4-Chloroaniline	ND	380	ug/kg
Hexachlorobutadiene	ND	380	ug/kg
4-Chloro-3-methylphenol	ND	380	ug/kg

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TETRA TECH EM INC.

Client Sample ID: 6SB 1 4 6

GC/MS Semivolatiles

Lot-Sample #...: F9K170192-023 **Work Order #...:** D568G202 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
2-Methylnaphthalene	ND	380	ug/kg
2,4,6-Trichlorophenol	ND	380	ug/kg
2,4,5-Trichlorophenol	ND	380	ug/kg
Hexachlorocyclopenta-diene	ND	380	ug/kg
Acenaphthene	**230 J**	**380**	**ug/kg**
2,4-Dinitrophenol	ND	970	ug/kg
4 Nitrophenol	ND	970	ug/kg
Dibenzofuran	**120 J**	**380**	**ug/kg**
2,4-Dinitrotoluene	ND	380	ug/kg
Diethyl phthalate	ND	380	ug/kg
Fluorene	**210 J**	**380**	**ug/kg**
4-Chlorophenyl phenyl ether	ND	380	ug/kg
4-Nitroaniline	ND	970	ug/kg
Phenanthrene	**2100**	**380**	**ug/kg**
Anthracene	**510**	**380**	**ug/kg**
4,6-Dinitro-2-methylphenol	ND	970	ug/kg
N-Nitrosodiphenylamine	ND	380	ug/kg
Di-n-butyl phthalate	ND	380	ug/kg
Fluoranthene	**2100**	**380**	**ug/kg**
Pyrene	**1700**	**380**	**ug/kg**
Butyl benzyl phthalate	ND	380	ug/kg
Hexachlorobenzene	ND	380	ug/kg
3,3'-Dichlorobenzidine	ND	380	ug/kg
Chrysene	**680**	**380**	**ug/kg**
bis(2-Ethylhexyl) phthalate	**130 J**	**380**	**ug/kg**
Di-n-octyl phthalate	ND	380	ug/kg
Benzo(k)fluoranthene	**520**	**380**	**ug/kg**
Benzo(ghi)perylene	**290 J**	**380**	**ug/kg**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	64	(11 - 119)
Phenol-d5	70	(21 - 118)
Nitrobenzene-d5	70	(19 - 111)
2 Fluorobiphenyl	72	(22 - 109)
2,4,6-Tribromophenol	74	(10 - 124)
Terphenyl-d14	68	(10 - 157)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

TETRA TECH EM INC.

Client Sample ID: 3SB-3 2-4

GC/MS Semivolatiles

Lot-Sample #...: F9K170192-026 **Work Order #...:** D5695102 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
2-Methylnaphthalene	ND	3600	ug/kg
2,4,6-Trichlorophenol	ND	3600	ug/kg
2,4,5-Trichlorophenol	ND	3600	ug/kg
Hexachlorocyclopenta-diene	ND	3600	ug/kg
Acenaphthene	ND	3600	ug/kg
2,4-Dinitrophenol	ND	9000	ug/kg
4 Nitrophenol	ND	9000	ug/kg
Dibenzofuran	ND	3600	ug/kg
2,4-Dinitrotoluene	ND	3600	ug/kg
Diethyl phthalate	ND	3600	ug/kg
Fluorene	ND	3600	ug/kg
4-Chlorophenyl phenyl ether	ND	3600	ug/kg
4-Nitroaniline	ND	9000	ug/kg
Phenanthrene	**1600 J**	**3600**	**ug/kg**
Anthracene	ND	3600	ug/kg
4,6-Dinitro-2-methylphenol	ND	9000	ug/kg
N-Nitrosodiphenylamine	ND	3600	ug/kg
Di-n-butyl phthalate	ND	3600	ug/kg
Fluoranthene	**4000**	**3600**	**ug/kg**
Pyrene	**2200 J**	**3600**	**ug/kg**
Butyl benzyl phthalate	ND	3600	ug/kg
Hexachlorobenzene	ND	3600	ug/kg
3,3'-Dichlorobenzidine	ND	3600	ug/kg
Chrysene	**1700 J**	**3600**	**ug/kg**
bis(2-Ethylhexyl) phthalate	ND	3600	ug/kg
Di-n-octyl phthalate	ND	3600	ug/kg
Benzo(k)fluoranthene	**1200 J**	**3600**	**ug/kg**
Benzo(ghi)perylene	**1700 J**	**3600**	**ug/kg**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2 Fluorophenol	65	(11 - 119)
Phenol-d5	69	(21 - 118)
Nitrobenzene-d5	72	(19 - 111)
2-Fluorobiphenyl	70	(22 - 109)
2,4,6-Tribromophenol	58	(10 - 124)
Terphenyl-d14	36	(10 - 157)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

J Estimated result. Result is less than RL

TETRA TECH EM INC.

Client Sample ID: 3SB-3 2 4

GC/MS Semivolatiles

Lot-Sample #...: F9K170192-026 **Work Order #...:** D5695102 **Matrix.....:** SOLID
Date Sampled...: 11/16/99 10:30 **Date Received..:** 11/17/99
Prep Date.....: 11/30/99 **Analysis Date..:** 12/07/99
Prep Batch #...: 9334404 **Analysis Time..:** 19:11
Dilution Factor: 10
% Moisture.....: 8.2 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthylene	ND	3600	ug/kg
bis(2-Chloroethoxy) methane	ND	3600	ug/kg
bis(2-Chloroethyl)-ether	ND	3600	ug/kg
2-Chloronaphthalene	ND	3600	ug/kg
2 Chlorophenol	ND	3600	ug/kg
2,4-Dimethylphenol	ND	3600	ug/kg
Dimethyl phthalate	ND	3600	ug/kg
2,6-Dinitrotoluene	ND	3600	ug/kg
Hexachloroethane	ND	3600	ug/kg
Isophorone	ND	3600	ug/kg
2-Methylphenol	ND	3600	ug/kg
4-Methylphenol	ND	3600	ug/kg
2-Nitroaniline	ND	9000	ug/kg
3-Nitroaniline	ND	9000	ug/kg
Nitrobenzene	ND	3600	ug/kg
2-Nitrophenol	ND	3600	ug/kg
N-Nitrosodi-n-propyl-amine	ND	3600	ug/kg
Phenol	ND	3600	ug/kg
2,2' oxybis(1-Chloropropane)	ND	3600	ug/kg
Benzo(a)anthracene	**1500 J**	**9000**	**ug/kg**
Benzo(b)fluoranthene	**1700 J**	**9000**	**ug/kg**
Benzo(a)pyrene	**1600 J**	**9000**	**ug/kg**
1,2-Dichlorobenzene	ND	3600	ug/kg
1,3 Dichlorobenzene	ND	3600	ug/kg
1,4-Dichlorobenzene	ND	3600	ug/kg
Indeno(1,2,3 cd)pyrene	**1400 J**	**9000**	**ug/kg**
Pentachlorophenol	ND	9000	ug/kg
Dibenzo(a,h)anthracene	ND	9000	ug/kg
Carbazole	ND	9000	ug/kg
2,4-Dichlorophenol	ND	3600	ug/kg
1,2,4-Trichlorobenzene	**7400**	**3600**	**ug/kg**
Naphthalene	ND	3600	ug/kg
4-Chloroaniline	ND	3600	ug/kg
Hexachlorobutadiene	ND	3600	ug/kg
4-Chloro-3-methylphenol	ND	3600	ug/kg

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TETRA TECH EM INC.

Client Sample ID: 3SB 3 2 4

GC Semivolatiles

Lot-Sample #...: F9K170192-026 **Work Order #...:** D569510F **Matrix.....:** SOLID
Date Sampled...: 11/16/99 10:30 **Date Received..:** 11/17/99
Prep Date.....: 11/29/99 **Analysis Date..:** 12/02/99
Prep Batch #...: 9333385 **Analysis Time..:** 13:34
Dilution Factor: 4000
% Moisture.....: 8.2 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	140000	ug/kg
Aroclor 1016	ND	140000	ug/kg
Aroclor 1221	ND	290000	ug/kg
Aroclor 1232	ND	140000	ug/kg
Aroclor 1242	ND	140000	ug/kg
Aroclor 1248	ND	140000	ug/kg
Aroclor 1254	ND	140000	ug/kg
Aroclor 1260	**830000**	**140000**	**ug/kg**
Aroclor 1262	ND	140000	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(15 - 168)
Decachlorobiphenyl	0.0 DIL	(10 - 207)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SB-3 2 4

GC/MS Semivolatiles

Lot-Sample #...: P9K170192-026 **Work Order #...:** D5695202 **Matrix.....:** SOLID
Date Sampled...: 11/16/99 10:30 **Date Received..:** 11/17/99
Prep Date.....: 12/09/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9343347 **Analysis Time..:** 00:45
Dilution Factor: 10
% Moisture.....: 8.2 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
4,6-Dinitro-2-methylphenol	ND	9000	ug/kg
Diethyl phthalate	ND	3600	ug/kg
Fluorene	ND	3600	ug/kg
4 Chlorophenyl phenyl ether	ND	3600	ug/kg
4-Nitroaniline	ND	9000	ug/kg
Phenanthrene	**2200 J**	**3600**	**ug/kg**
Anthracene	**460 J**	**3600**	**ug/kg**
Acenaphthylene	ND	3600	ug/kg
bis(2-Chloroethoxy) methane	ND	3600	ug/kg
bis(2-Chloroethyl)-ether	ND	3600	ug/kg
2-Chloronaphthalene	ND	3600	ug/kg
2-Chlorophenol	ND	3600	ug/kg
2,4-Dimethylphenol	ND	3600	ug/kg
Dimethyl phthalate	ND	3600	ug/kg
2,6-Dinitrotoluene	ND	3600	ug/kg
Hexachloroethane	ND	3600	ug/kg
Isophorone	ND	3600	ug/kg
2-Methylphenol	ND	3600	ug/kg
4-Methylphenol	ND	3600	ug/kg
2-Nitroaniline	ND	9000	ug/kg
3-Nitroaniline	ND	9000	ug/kg
Nitrobenzene	ND	3600	ug/kg
2-Nitrophenol	ND	3600	ug/kg
N-Nitrosodi-n-propyl-amine	ND	3600	ug/kg
Phenol	ND	3600	ug/kg
2,2'-oxybis(1-Chloropropane)	ND	3600	ug/kg
Benzo(a)anthracene	**1900 J**	**9000**	**ug/kg**
Benzo(b)fluoranthene	**2300 J**	**9000**	**ug/kg**
Benzo(a)pyrene	**2100 J**	**9000**	**ug/kg**
1,2-Dichlorobenzene	ND	3600	ug/kg
1,3-Dichlorobenzene	ND	3600	ug/kg
1,4-Dichlorobenzene	ND	3600	ug/kg
Indeno(1,2,3-cd)pyrene	**2300 J**	**9000**	**ug/kg**

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TETRA TECH EM INC.

Client Sample ID: 3SB 3 2-4

GC/MS Semivolatiles

Lot-Sample #...: F9K170192-026 **Work Order #...:** D5695202 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Pentachlorophenol	ND	9000	ug/kg
Dibenzo(a,h)anthracene	ND	9000	ug/kg
Carbazole	ND	9000	ug/kg
2,4-Dichlorophenol	ND	3600	ug/kg
1,2,4-Trichlorobenzene	**10000**	**3600**	**ug/kg**
Naphthalene	ND	3600	ug/kg
4-Chloroaniline	ND	3600	ug/kg
Hexachlorobutadiene	ND	3600	ug/kg
4-Chloro-3-methylphenol	ND	3600	ug/kg
2-Methylnaphthalene	ND	3600	ug/kg
2,4,6-Trichlorophenol	ND	3600	ug/kg
2,4,5-Trichlorophenol	ND	3600	ug/kg
Hexachlorocyclopenta-diene	ND	3600	ug/kg
Acenaphthene	ND	3600	ug/kg
2,4 Dinitrophenol	ND	9000	ug/kg
4-Nitrophenol	ND	9000	ug/kg
Dibenzofuran	ND	3600	ug/kg
2,4-Dinitrotoluene	ND	3600	ug/kg
N-Nitrosodiphenylamine	ND	3600	ug/kg
Di-n-butyl phthalate	ND	3600	ug/kg
Fluoranthene	**4200**	**3600**	**ug/kg**
Pyrene	**3900**	**3600**	**ug/kg**
Butyl benzyl phthalate	ND	3600	ug/kg
Hexachlorobenzene	ND	3600	ug/kg
3,3'-Dichlorobenzidine	ND	3600	ug/kg
Chrysene	**2400 J**	**3600**	**ug/kg**
bis(2-Ethylhexyl) phthalate	ND	3600	ug/kg
Di-n-octyl phthalate	ND	3600	ug/kg
Benzo(k)fluoranthene	**1800 J**	**3600**	**ug/kg**
Benzo(ghi)perylene	**2800 J**	**3600**	**ug/kg**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	72	(11 - 119)
Phenol-d5	82	(21 - 118)
Nitrobenzene-d5	74	(19 - 111)
2-Fluorobiphenyl	78	(22 - 109)
2,4,6-Tribromophenol	64	(10 - 124)
Terphenyl-d14	66	(10 - 157)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

J Estimated result. Result is less than RL

TETRA TECH EM INC.

Client Sample ID: 3SB-4 0-2

GC Semivolatiles

Lot-Sample #...: F9K170192-027 **Work Order #...:** D569A1CF **Matrix.....:** SOLID
Date Sampled...: 11/16/99 09:45 **Date Received..:** 11/17/99
Prep Date.....: 11/29/99 **Analysis Date..:** 12/02/99
Prep Batch #...: 9333385 **Analysis Time..:** 13:46
Dilution Factor: 1
% Moisture.....: 4.8 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	35	ug/kg
Aroclor 1016	ND	35	ug/kg
Aroclor 1221	ND	70	ug/kg
Aroclor 1232	ND	35	ug/kg
Aroclor 1242	ND	35	ug/kg
Aroclor 1248	ND	35	ug/kg
Aroclor 1254	ND	35	ug/kg
Aroclor 1260	**160**	**35**	**ug/kg**
Aroclor 1262	ND	35	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	54	(15 - 168)
Decachlorobiphenyl	43	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SB-4 0 2

GC/MS Semivolatiles

Lot-Sample #...: F9K170192-027 **Work Order #...:** D569A102 **Matrix.....:** SOLID
Date Sampled...: 11/16/99 09:45 **Date Received..:** 11/17/99
Prep Date.....: 11/30/99 **Analysis Date..:** 12/02/99
Prep Batch #...: 9334404 **Analysis Time..:** 23:29
Dilution Factor: 1
% Moisture.....: 4.8 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthylene	ND	3500	ug/kg
bis(2-Chloroethoxy) methane	ND	3500	ug/kg
bis(2-Chloroethyl)-ether	ND	3500	ug/kg
2 Chloronaphthalene	ND	3500	ug/kg
2 Chlorophenol	ND	3500	ug/kg
2,4-Dimethylphenol	ND	3500	ug/kg
Dimethyl phthalate	ND	3500	ug/kg
2,6-Dinitrotoluene	ND	3500	ug/kg
Hexachloroethane	ND	3500	ug/kg
Isophorone	ND	3500	ug/kg
2-Methylphenol	ND	3500	ug/kg
4-Methylphenol	ND	3500	ug/kg
2-Nitroaniline	ND	8700	ug/kg
3-Nitroaniline	ND	8700	ug/kg
Nitrobenzene	ND	3500	ug/kg
2-Nitrophenol	ND	3500	ug/kg
N-Nitrosodi-n-propyl-amine	ND	3500	ug/kg
Phenol	ND	3500	ug/kg
2,2'-oxybis(1-Chloropropane)	ND	3500	ug/kg
Benzo(a)anthracene	**460 J**	**8700**	**ug/kg**
Benzo(b)fluoranthene	ND	8700	ug/kg
Benzo(a)pyrene	ND	8700	ug/kg
1,2-Dichlorobenzene	ND	3500	ug/kg
1,3 Dichlorobenzene	ND	3500	ug/kg
1,4-Dichlorobenzene	ND	3500	ug/kg
Indeno(1,2,3-cd)pyrene	ND	8700	ug/kg
Pentachlorophenol	ND	8700	ug/kg
Dibenzo(a,h)anthracene	ND	8700	ug/kg
Carbazole	ND	8700	ug/kg
2,4-Dichlorophenol	ND	3500	ug/kg
1,2,4-Trichlorobenzene	ND	3500	ug/kg
Naphthalene	ND	3500	ug/kg
4-Chloroaniline	ND	3500	ug/kg
Hexachlorobutadiene	ND	3500	ug/kg
4-Chloro-3-methylphenol	ND	3500	ug/kg

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TETRA TECH EM INC.

Client Sample ID: 3SB-4 0 2

GC/MS Semivolatiles

Lot-Sample #...: F9K170192-027 **Work Order #...:** D569A102 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
2-Methylnaphthalene	ND	3500	ug/kg
2,4,6-Trichlorophenol	ND	3500	ug/kg
2,4,5-Trichlorophenol	ND	3500	ug/kg
Hexachlorocyclopenta-diene	ND	3500	ug/kg
Acenaphthene	ND	3500	ug/kg
2,4-Dinitrophenol	ND	8700	ug/kg
4-Nitrophenol	ND	8700	ug/kg
Dibenzofuran	ND	3500	ug/kg
2,4-Dinitrotoluene	ND	3500	ug/kg
Diethyl phthalate	ND	3500	ug/kg
Fluorene	ND	3500	ug/kg
4-Chlorophenyl phenyl ether	ND	3500	ug/kg
4-Nitroaniline	ND	8700	ug/kg
Phenanthrene	**670 J**	**3500**	**ug/kg**
Anthracene	ND	3500	ug/kg
4,6-Dinitro-2 methylphenol	ND	8700	ug/kg
N-Nitrosodiphenylamine	ND	3500	ug/kg
Di-n-butyl phthalate	ND	3500	ug/kg
Fluoranthene	**1400 J**	**3500**	**ug/kg**
Pyrene	**730 J**	**3500**	**ug/kg**
Butyl benzyl phthalate	ND	3500	ug/kg
Hexachlorobenzene	ND	3500	ug/kg
3,3'-Dichlorobenzidine	ND	3500	ug/kg
Chrysene	**490 J**	**3500**	**ug/kg**
bis(2-Ethylhexyl) phthalate	ND	3500	ug/kg
Di-n-octyl phthalate	ND	3500	ug/kg
Benzo(k)fluoranthene	ND	3500	ug/kg
Benzo(ghi)perylene	ND	3500	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	71	(11 - 119)
Phenol-d5	72	(21 - 118)
Nitrobenzene-d5	78	(19 - 111)
2-Fluorobiphenyl	81	(22 - 109)
2,4,6-Tribromophenol	39	(10 - 124)
Terphenyl-d14	35	(10 - 157)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J - Estimated result. Result is less than RL.

TETRA TECH EM INC.

Client Sample ID: 3SB-4 0-2

GC/MS Semivolatiles

Lot-Sample #...: F9K170192-027 **Work Order #...:** D569A202 **Matrix.....:** SOLID
Date Sampled...: 11/16/99 09:45 **Date Received..:** 11/17/99
Prep Date.....: 12/09/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9343347 **Analysis Time..:** 01:18
Dilution Factor: 1
% Moisture.....: 4.8 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthylene	ND	350	ug/kg
bis(2-Chloroethoxy) methane	ND	350	ug/kg
bis(2-Chloroethyl)-ether	ND	350	ug/kg
2-Chloronaphthalene	ND	350	ug/kg
2-Chlorophenol	ND	350	ug/kg
2,4-Dimethylphenol	ND	350	ug/kg
Dimethyl phthalate	ND	350	ug/kg
2,6-Dinitrotoluene	ND	350	ug/kg
Hexachloroethane	ND	350	ug/kg
Isophorone	ND	350	ug/kg
2 Methylphenol	ND	350	ug/kg
4-Methylphenol	ND	350	ug/kg
2-Nitroaniline	ND	870	ug/kg
3-Nitroaniline	ND	870	ug/kg
Nitrobenzene	ND	350	ug/kg
2-Nitrophenol	ND	350	ug/kg
N-Nitrosodi-n-propyl-amine	ND	350	ug/kg
Phenol	ND	350	ug/kg
2,2'-oxybis(1-Chloropropane)	ND	350	ug/kg
Benzo(a)anthracene	ND	870	ug/kg
Benzo(b)fluoranthene	**190 J**	**870**	**ug/kg**
Benzo(a)pyrene	ND	870	ug/kg
1,2-Dichlorobenzene	ND	350	ug/kg
1,3-Dichlorobenzene	ND	350	ug/kg
1,4-Dichlorobenzene	ND	350	ug/kg
Indeno(1,2,3-cd)pyrene	ND	870	ug/kg
Pentachlorophenol	ND	870	ug/kg
Dibenzo(a,h)anthracene	ND	870	ug/kg
Carbazole	ND	870	ug/kg
2,4-Dichlorophenol	ND	350	ug/kg
1,2,4-Trichlorobenzene	ND	350	ug/kg
Naphthalene	ND	350	ug/kg
4-Chloroaniline	ND	350	ug/kg
Hexachlorobutadiene	ND	350	ug/kg
4-Chloro-3-methylphenol	ND	350	ug/kg

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TETRA TECH EM INC.

Client Sample ID: 3SB-4 0 2

GC/MS Semivolatiles

Lot-Sample #...: F9K170192-027 **Work Order #...:** D569A202 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
2-Methylnaphthalene	ND	350	ug/kg
2,4,6-Trichlorophenol	ND	350	ug/kg
2,4,5-Trichlorophenol	ND	350	ug/kg
Hexachlorocyclopenta-diene	ND	350	ug/kg
Acenaphthene	ND	350	ug/kg
2,4-Dinitrophenol	ND	870	ug/kg
4-Nitrophenol	ND	870	ug/kg
Dibenzofuran	ND	350	ug/kg
2,4-Dinitrotoluene	ND	350	ug/kg
Diethyl phthalate	ND	350	ug/kg
Fluorene	ND	350	ug/kg
4-Chlorophenyl phenyl ether	ND	350	ug/kg
4-Nitroaniline	ND	870	ug/kg
Phenanthrene	**400**	**350**	**ug/kg**
Anthracene	**72 J**	**350**	**ug/kg**
4,6-Dinitro-2-methylphenol	ND	870	ug/kg
N-Nitrosodiphenylamine	ND	350	ug/kg
Di n-butyl phthalate	ND	350	ug/kg
Fluoranthene	**880**	**350**	**ug/kg**
Pyrene	**670**	**350**	**ug/kg**
Butyl benzyl phthalate	ND	350	ug/kg
Hexachlorobenzene	ND	350	ug/kg
3,3'-Dichlorobenzidine	ND	350	ug/kg
Chrysene	**780**	**350**	**ug/kg**
bis(2-Ethylhexyl) phthalate	ND	350	ug/kg
Di-n-octyl phthalate	ND	350	ug/kg
Benzo(k)fluoranthene	**500**	**350**	**ug/kg**
Benzo(ghi)perylene	ND	350	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	50	(11 - 119)
Phenol-d5	49	(21 - 118)
Nitrobenzene-d5	59	(19 - 111)
2-Fluorobiphenyl	76	(22 - 109)
2,4,6-Tribromophenol	42	(10 - 124)
Terphenyl-d14	58	(10 - 157)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

TETRA TECH EM INC.

Client Sample ID: 3SB-3-3

GC/MS Volatiles

Lot-Sample #...: F9K170192-006 **Work Order #...:** D55J2102 **Matrix.....:** SOLID
Date Sampled...: 11/16/99 10:15 **Date Received..:** 11/17/99
Prep Date.....: 11/23/99 **Analysis Date..:** 11/23/99
Prep Batch #...: 9328181 **Analysis Time..:** 20:07
Dilution Factor: 1.04
% Moisture.....: 100 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	**15**	** **10**	**ug/kg**
Benzene	ND	** 10	ug/kg
Bromodichloromethane	ND	** 10	ug/kg
Bromoform	ND	** 10	ug/kg
Bromomethane	ND	** 10	ug/kg
2-Butanone	ND	** 10	ug/kg
Carbon disulfide	ND	** 10	ug/kg
Carbon tetrachloride	ND	** 10	ug/kg
Chlorobenzene	ND	** 10	ug/kg
Dibromochloromethane	ND	** 10	ug/kg
Chloroethane	ND	** 10	ug/kg
Chloroform	**1.7 J**	** **10**	**ug/kg**
Chloromethane	ND	** 10	ug/kg
1,1-Dichloroethane	ND	** 10	ug/kg
1,2-Dichloroethane	ND	** 10	ug/kg
1,1-Dichloroethene	ND	** 10	ug/kg
1,2-Dichloroethene (total)	ND	** 10	ug/kg
1,2-Dichloropropane	ND	** 10	ug/kg
cis-1,3-Dichloropropene	ND	** 10	ug/kg
trans-1,3-Dichloropropene	ND	** 10	ug/kg
Ethylbenzene	ND	** 10	ug/kg
2-Hexanone	ND	** 10	ug/kg
Methylene chloride	ND	** 10	ug/kg
4-Methyl-2-pentanone	ND	** 10	ug/kg
Styrene	ND	** 10	ug/kg
1,1,2,2-Tetrachloroethane	ND	** 10	ug/kg
Tetrachloroethene	ND	** 10	ug/kg
Toluene	**1.8 J**	** **10**	**ug/kg**
1,1,1-Trichloroethane	**1.6 J**	** **10**	**ug/kg**
1,1,2-Trichloroethane	ND	** 10	ug/kg
Trichloroethene	ND	** 10	ug/kg
Vinyl chloride	ND	** 10	ug/kg
Xylenes (total)	ND	** 10	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	155 *	(73 - 147)
Toluene-d8	127	(81 - 139)
Dibromofluoromethane	106	(89 - 148)

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TETRA TECH EM INC.

Client Sample ID: 3SB 3 3

GC/MS Volatiles

Lot-Sample #...: F9K170192-006 **Work Order #...:** D55J2[illegible]2 **Matrix.....:** SOLID

NOTE(S):

* Surrogate recovery is outside stated control limits

Results and reporting limits have been adjusted for dry weight

J Estimated result. Result is less than RL

METHOD BLANK REPORT

HPLC

Client Lot #...: F9K170192 **Work Order #...:** D5DT7101 **Matrix.....:** WATER
MB Lot-Sample #: F9K220000-242

Prep Date.....: 11/22/99 **Analysis Time..:** 16:09
Analysis Date..: 11/23/99 **Prep Batch #...:** 9326242
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
1,3-Dinitrobenzene	ND	0.20	ug/L	SW846 8330
2,4-Dinitrotoluene	ND	0.20	ug/L	SW846 8330
2,6-Dinitrotoluene	ND	0.20	ug/L	SW846 8330
Nitrobenzene	ND	0.20	ug/L	SW846 8330
1,3,5-Trinitrobenzene	ND	0.20	ug/L	SW846 8330
2,4,6-Trinitrotoluene	ND	0.20	ug/L	SW846 8330
HMX	ND	0.20	ug/L	SW846 8330
RDX	ND	0.20	ug/L	SW846 8330
Tetryl	ND	0.20	ug/L	SW846 8330
2-Nitrotoluene	ND	0.20	ug/L	SW846 8330
3-Nitrotoluene	ND	0.20	ug/L	SW846 8330
4-Nitrotoluene	ND	0.20	ug/L	SW846 8330
4-Amino-2,6-dinitrotoluene	ND	0.20	ug/L	SW846 8330
2-Amino-4,6-dinitrotoluene	ND	0.20	ug/L	SW846 8330

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dinitrobenzene	58	(30 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: F9K170192 **Work Order #...:** D5D[illegible]M101 **Matrix.....:** WATER
MB Lot-Sample #: F9K210000-126

Prep Date.....: 11/20/99 **Analysis Time..:** 11:00
Analysis Date..: 11/20/99 **Prep Batch #...:** 9325126
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Acetone	ND	10	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	2.0	ug/L	SW846 8260B
2-Butanone	ND	5.0	ug/L	SW846 8260B
Carbon disulfide	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	2.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	2.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	0.50	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	0.50	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
2-Hexanone	ND	5.0	ug/L	SW846 8260B
Methylene chloride	ND	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	5.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2 Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	2.0	ug/L	SW846 8260B

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GC/MS Volatiles

Client Lot #...: F9K170192 **Work Order #...:** D5D7M101 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	98	(78 - 124)
Toluene-d8	95	(71 - 129)
Dibromofluoromethane	103	(74 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

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GC/MS Volatiles

Client Lot #...: F9K170192 **Work Order #...:** D5F3V101 **Matrix.....:** SOLID
MB Lot-Sample #: F9K230000-260

Prep Date.....: 11/22/99 **Analysis Time..:** 12:57
Analysis Date..: 11/22/99 **Prep Batch #...:** 9327260
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acetone	ND	10	ug/kg	SW846 8260B
Benzene	ND	10	ug/kg	SW846 8260B
Bromodichloromethane	ND	10	ug/kg	SW846 8260B
Bromoform	ND	10	ug/kg	SW846 8260B
Bromomethane	ND	10	ug/kg	SW846 8260B
2-Butanone	ND	10	ug/kg	SW846 8260B
Carbon disulfide	ND	10	ug/kg	SW846 8260B
Carbon tetrachloride	ND	10	ug/kg	SW846 8260B
Chlorobenzene	ND	10	ug/kg	SW846 8260B
Dibromochloromethane	ND	10	ug/kg	SW846 8260B
Chloroethane	ND	10	ug/kg	SW846 8260B
Chloroform	ND	10	ug/kg	SW846 8260B
Chloromethane	ND	10	ug/kg	SW846 8260B
1,1-Dichloroethane	ND	10	ug/kg	SW846 8260B
1,2-Dichloroethane	ND	10	ug/kg	SW846 8260B
1,1-Dichloroethene	**1.4 J**	**10**	**ug/kg**	**SW846 8260B**
1,2-Dichloroethene (total)	ND	10	ug/kg	SW846 8260B
1,2-Dichloropropane	ND	10	ug/kg	SW846 8260B
cis-1,3-Dichloropropene	ND	10	ug/kg	SW846 8260B
trans-1,3-Dichloropropene	ND	10	ug/kg	SW846 8260B
Ethylbenzene	ND	10	ug/kg	SW846 8260B
2-Hexanone	ND	10	ug/kg	SW846 8260B
Methylene chloride	ND	10	ug/kg	SW846 8260B
4-Methyl-2-pentanone	ND	10	ug/kg	SW846 8260B
Styrene	ND	10	ug/kg	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	10	ug/kg	SW846 8260B
Tetrachloroethene	ND	10	ug/kg	SW846 8260B
Toluene	**4.1 J**	**10**	**ug/kg**	**SW846 8260B**
1,1,1-Trichloroethane	ND	10	ug/kg	SW846 8260B
1,1,2-Trichloroethane	ND	10	ug/kg	SW846 8260B
Trichloroethene	**1.4 J**	**10**	**ug/kg**	**SW846 8260B**
Vinyl chloride	ND	10	ug/kg	SW846 8260B
Xylenes (total)	ND	10	ug/kg	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	98	(73 - 147)
Toluene-d8	101	(81 - 139)
Dibromofluoromethane	101	(89 - 148)

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GC/MS Volatiles

Client Lot #...: F9K170192 **Work Order #...:** D5F3V101 **Matrix.....:** SOLID

NOTE(S):

Calculations are performed before rounding to avoid round off errors in calculated results

J Estimated result. Result is less than RL.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: F9K170192 **Work Order #...:** D5G5D101 **Matrix.....:** SOLID
MB Lot-Sample #: F9K240000-181

Prep Date.....: 11/23/99 **Analysis Time..:** 18:17
Analysis Date..: 11/23/99 **Prep Batch #...:** 932818.
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acetone	ND	10	ug/kg	SW846 8260B
Benzene	ND	10	ug/kg	SW846 8260B
Bromodichloromethane	ND	10	ug/kg	SW846 8260B
Bromoform	ND	10	ug/kg	SW846 8260B
Bromomethane	ND	10	ug/kg	SW846 8260B
2-Butanone	ND	10	ug/kg	SW846 8260B
Carbon disulfide	ND	10	ug/kg	SW846 8260B
Carbon tetrachloride	ND	10	ug/kg	SW846 8260B
Chlorobenzene	ND	10	ug/kg	SW846 8260B
Dibromochloromethane	ND	10	ug/kg	SW846 8260B
Chloroethane	ND	10	ug/kg	SW846 8260B
Chloroform	ND	10	ug/kg	SW846 8260B
Chloromethane	ND	10	ug/kg	SW846 8260B
1,1-Dichloroethane	ND	10	ug/kg	SW846 8260B
1,2-Dichloroethane	ND	10	ug/kg	SW846 8260B
1,1-Dichloroethene	ND	10	ug/kg	SW846 8260B
1,2-Dichloroethene (total)	ND	10	ug/kg	SW846 8260B
1,2-Dichloropropane	ND	10	ug/kg	SW846 8260B
cis-1,3-Dichloropropene	ND	10	ug/kg	SW846 8260B
trans-1,3-Dichloropropene	ND	10	ug/kg	SW846 8260B
Ethylbenzene	ND	10	ug/kg	SW846 8260B
2-Hexanone	ND	10	ug/kg	SW846 8260B
Methylene chloride	ND	10	ug/kg	SW846 8260B
4-Methyl-2-pentanone	ND	10	ug/kg	SW846 8260B
Styrene	ND	10	ug/kg	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	10	ug/kg	SW846 8260B
Tetrachloroethene	ND	10	ug/kg	SW846 8260B
Toluene	ND	10	ug/kg	SW846 8260B
1,1,1-Trichloroethane	ND	10	ug/kg	SW846 8260B
1,1,2-Trichloroethane	ND	10	ug/kg	SW846 8260B
Trichloroethene	ND	10	ug/kg	SW846 8260B
Vinyl chloride	ND	10	ug/kg	SW846 8260B
Xylenes (total)	ND	10	ug/kg	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	99	(73 - 147)
Toluene-d8	100	(81 - 139)
Dibromofluoromethane	103	(89 - 148)

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GC/MS Volatiles

Client Lot #...: F9K170192 **Work Order #...:** D5G5D101 **Matrix.....:** SOLID

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: F9K170192 **Work Order #...:** D5G5N101 **Matrix.....:** WATER
MB Lot-Sample #: F9K240000-187
Prep Date.....: 11/23/99 **Analysis Time..:** 10:08
Analysis Date..: 11/23/99 **Prep Batch #...:** 9326187
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B
Acetone	ND	10	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	2.0	ug/L	SW846 8260B
2-Butanone	ND	5.0	ug/L	SW846 8260B
Carbon disulfide	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	2.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	2.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	0.50	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
1,1 Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	0.50	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
2-Hexanone	ND	5.0	ug/L	SW846 8260B
Methylene chloride	ND	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	5.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	2.0	ug/L	SW846 8260B

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GC/MS Volatiles

Client Lot #...: F9K170192 **Work Order #...:** D5G5N101 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	100	(78 - 124)
Toluene-d8	101	(71 - 129)
Dibromofluoromethane	108	(74 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round off errors in calculated results

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: F9K170192 **Work Order #...:** D5G5P101 **Matrix.....:** WATER
MB Lot-Sample #: F9K240000-188

Prep Date.....: 11/22/99 **Analysis Time..:** 00:45
Analysis Date..: 11/29/99 **Prep Batch #...:** 9328188
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acenaphthene	ND	5.0	ug/L	SW846 8270C
Acenaphthylene	ND	5.0	ug/L	SW846 8270C
Anthracene	ND	5.0	ug/L	SW846 8270C
Benzo(k)fluoranthene	ND	5.0	ug/L	SW846 8270C
Benzo(ghi)perylene	ND	5.0	ug/L	SW846 8270C
bis(2-Chloroethoxy) methane	ND	5.0	ug/L	SW846 8270C
bis(2-Chloroethyl)-ether	ND	5.0	ug/L	SW846 8270C
bis(2-Ethylhexyl) phthalate	ND	5.0	ug/L	SW846 8270C
Butyl benzyl phthalate	ND	5.0	ug/L	SW846 8270C
4-Chloroaniline	ND	5.0	ug/L	SW846 8270C
4 Chloro-3-methylphenol	ND	5.0	ug/L	SW846 8270C
2-Chloronaphthalene	ND	5.0	ug/L	SW846 8270C
2-Chlorophenol	ND	5.0	ug/L	SW846 8270C
4-Chlorophenyl phenyl ether	ND	5.0	ug/L	SW846 8270C
Chrysene	ND	5.0	ug/L	SW846 8270C
Dibenzofuran	ND	5.0	ug/L	SW846 8270C
Di-n-butyl phthalate	ND	5.0	ug/L	SW846 8270C
3,3'-Dichlorobenzidine	ND	5.0	ug/L	SW846 8270C
2,4-Dichlorophenol	ND	5.0	ug/L	SW846 8270C
Diethyl phthalate	ND	5.0	ug/L	SW846 8270C
2,4-Dimethylphenol	ND	5.0	ug/L	SW846 8270C
Dimethyl phthalate	ND	5.0	ug/L	SW846 8270C
Di-n-octyl phthalate	ND	5.0	ug/L	SW846 8270C
4,6-Dinitro-2-methylphenol	ND	20	ug/L	SW846 8270C
2,4-Dinitrophenol	ND	20	ug/L	SW846 8270C
2,4-Dinitrotoluene	ND	5.0	ug/L	SW846 8270C
2,6-Dinitrotoluene	ND	5.0	ug/L	SW846 8270C
Fluoranthene	ND	5.0	ug/L	SW846 8270C
Fluorene	ND	5.0	ug/L	SW846 8270C
Hexachlorobenzene	ND	5.0	ug/L	SW846 8270C
Hexachlorobutadiene	ND	5.0	ug/L	SW846 8270C
Hexachlorocyclopenta-diene	ND	5.0	ug/L	SW846 8270C
Hexachloroethane	ND	5.0	ug/L	SW846 8270C
Isophorone	ND	5.0	ug/L	SW846 8270C
2-Methylnaphthalene	ND	5.0	ug/L	SW846 8270C

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METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: F9K170192 **Work Order #...:** D5G5P101 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
2-Methylphenol	ND	5.0	ug/L	SW846 8270C
4-Methylphenol	ND	5.0	ug/L	SW846 8270C
Naphthalene	ND	5.0	ug/L	SW846 8270C
2-Nitroaniline	ND	20	ug/L	SW846 8270C
3-Nitroaniline	ND	20	ug/L	SW846 8270C
4-Nitroaniline	ND	20	ug/L	SW846 8270C
Nitrobenzene	ND	5.0	ug/L	SW846 8270C
2-Nitrophenol	ND	5.0	ug/L	SW846 8270C
4-Nitrophenol	ND	20	ug/L	SW846 8270C
N-Nitrosodi-n-propyl-amine	ND	5.0	ug/L	SW846 8270C
N-Nitrosodiphenylamine	ND	10	ug/L	SW846 8270C
Phenanthrene	ND	5.0	ug/L	SW846 8270C
Phenol	ND	5.0	ug/L	SW846 8270C
Pyrene	ND	5.0	ug/L	SW846 8270C
1,2,4-Trichlorobenzene	ND	5.0	ug/L	SW846 8270C
2,4,5-Trichlorophenol	ND	5.0	ug/L	SW846 8270C
2,4,6-Trichlorophenol	ND	5.0	ug/L	SW846 8270C
2,2'-oxybis(1-Chloropropa	ND	5.0	ug/L	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	63	(10 - 111)
Phenol-d5	72	(10 - 118)
Nitrobenzene-d5	67	(18 - 116)
2 Fluorobiphenyl	78	(10 - 124)
2,4,6-Tribromophenol	94	(24 - 118)
Terphenyl-d14	80	(24 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round off errors in calculated results

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F9K170192 **Work Order #...:** D5G67101 **Matrix.....:** WATER
MB Lot-Sample #: F9K240000-193

Prep Date.....: 11/23/99 **Analysis Time..:** 19:22
Analysis Date..: 11/29/99 **Prep Batch #...:** 9328193
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	1.0	ug/L	SW846 8082
Aroclor 1221	ND	1.0	ug/L	SW846 8082
Aroclor 1232	ND	1.0	ug/L	SW846 8082
Aroclor 1242	ND	1.0	ug/L	SW846 8082
Aroclor 1248	ND	1.0	ug/L	SW846 8082
Aroclor 1254	ND	1.0	ug/L	SW846 8082
Aroclor 1260	ND	1.0	ug/L	SW846 8082
Aroclor 1262	ND	1.0	ug/L	SW846 8082
Aroclor 1268	ND	1.0	ug/L	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	93	(26 - 157)
Decachlorobiphenyl	33	(13 - 147)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

HPLC

Client Lot #...: F9K170192 **Work Order #...:** D5JXH101 **Matrix.....:** SOLID
MB Lot-Sample #: F9K290000-295

Prep Date.....: 11/29/99 **Analysis Time..:** 11:47
Analysis Date..: 12/01/99 **Prep Batch #...:** 9333295
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
2-Amino-4,6-dinitrotoluene	ND	250	ug/kg	SW846 8330
4-Amino-2,6-dinitrotoluene	ND	250	ug/kg	SW846 8330
1,3-Dinitrobenzene	ND	250	ug/kg	SW846 8330
2,4-Dinitrotoluene	ND	250	ug/kg	SW846 8330
2,6-Dinitrotoluene	ND	250	ug/kg	SW846 8330
HMX	ND	250	ug/kg	SW846 8330
Nitrobenzene	ND	250	ug/kg	SW846 8330
2-Nitrotoluene	ND	250	ug/kg	SW846 8330
3-Nitrotoluene	ND	250	ug/kg	SW846 8330
4-Nitrotoluene	ND	250	ug/kg	SW846 8330
RDX	ND	250	ug/kg	SW846 8330
Tetryl	ND	250	ug/kg	SW846 8330
1,3,5-Trinitrobenzene	ND	250	ug/kg	SW846 8330
2,4,6-Trinitrotoluene	ND	250	ug/kg	SW846 8330

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dinitrobenzene	98	(30 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round off errors in calculated results

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: F9K170192 **Work Order #...:** D5KFP101 **Matrix.....:** SOLID
MB Lot-Sample #: F9K300000-167

Prep Date.....: 11/29/99 **Analysis Time..:** 10:29
Analysis Date..: 11/29/99 **Prep Batch #...:** 9334167
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/kg	SW846 8260B
Vinyl chloride	ND	10	ug/kg	SW846 8260B
Bromomethane	ND	10	ug/kg	SW846 8260B
Chloroethane	ND	10	ug/kg	SW846 8260B
Acetone	**7.9 J**	**10**	**ug/kg**	**SW846 8260B**
1,1-Dichloroethene	ND	10	ug/kg	SW846 8260B
Methylene chloride	ND	10	ug/kg	SW846 8260B
Carbon disulfide	ND	10	ug/kg	SW846 8260B
1,1-Dichloroethane	ND	10	ug/kg	SW846 8260B
2-Butanone	ND	10	ug/kg	SW846 8260B
1,2-Dichloroethene (total)	ND	10	ug/kg	SW846 8260B
Chloroform	ND	10	ug/kg	SW846 8260B
1,1,1-Trichloroethane	ND	10	ug/kg	SW846 8260B
Carbon tetrachloride	ND	10	ug/kg	SW846 8260B
1,2-Dichloroethane	ND	10	ug/kg	SW846 8260B
Benzene	ND	10	ug/kg	SW846 8260B
Trichloroethene	ND	10	ug/kg	SW846 8260B
1,2-Dichloropropane	ND	10	ug/kg	SW846 8260B
Bromodichloromethane	ND	10	ug/kg	SW846 8260B
4-Methyl-2-pentanone	ND	10	ug/kg	SW846 8260B
cis-1,3-Dichloropropene	ND	10	ug/kg	SW846 8260B
Toluene	ND	10	ug/kg	SW846 8260B
trans-1,3-Dichloropropene	ND	10	ug/kg	SW846 8260B
1,1,2-Trichloroethane	ND	10	ug/kg	SW846 8260B
2-Hexanone	ND	10	ug/kg	SW846 8260B
Tetrachloroethene	ND	10	ug/kg	SW846 8260B
Dibromochloromethane	ND	10	ug/kg	SW846 8260B
Chlorobenzene	ND	10	ug/kg	SW846 8260B
Ethylbenzene	ND	10	ug/kg	SW846 8260B
Xylenes (total)	ND	10	ug/kg	SW846 8260B
Styrene	ND	10	ug/kg	SW846 8260B
Bromoform	ND	10	ug/kg	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	10	ug/kg	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	102	(73 - 147)
Toluene-d8	103	(81 - 139)
Dibromofluoromethane	106	(89 - 148)

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: F9K170192 **Work Order #...:** D5KFP101 **Matrix.....:** SOLID

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

J Estimated result Result is less than RL

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: F9K170192 **Work Order #...:** D5K09101 **Matrix.....:** SOLID
MB Lot-Sample #: F9K290000-314

Prep Date.....: 11/28/99 **Analysis Time..:** 11:53
Analysis Date..: 11/28/99 **Prep Batch #...:** 9333314
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/kg	SW846 8260B
Vinyl chloride	ND	10	ug/kg	SW846 8260B
Bromomethane	ND	10	ug/kg	SW846 8260B
Chloroethane	ND	10	ug/kg	SW846 8260B
Acetone	**14 J**	**10**	**ug/kg**	**SW846 8260B**
1,1-Dichloroethene	ND	10	ug/kg	SW846 8260B
Methylene chloride	ND	10	ug/kg	SW846 8260B
Carbon disulfide	ND	10	ug/kg	SW846 8260B
1,1-Dichloroethane	ND	10	ug/kg	SW846 8260B
2-Butanone	ND	10	ug/kg	SW846 8260B
1,2-Dichloroethene (total)	ND	10	ug/kg	SW846 8260B
Chloroform	ND	10	ug/kg	SW846 8260B
1,1,1-Trichloroethane	ND	10	ug/kg	SW846 8260B
Carbon tetrachloride	ND	10	ug/kg	SW846 8260B
1,2-Dichloroethane	ND	10	ug/kg	SW846 8260B
Benzene	ND	10	ug/kg	SW846 8260B
Trichloroethene	ND	10	ug/kg	SW846 8260B
1,2-Dichloropropane	ND	10	ug/kg	SW846 8260B
Bromodichloromethane	ND	10	ug/kg	SW846 8260B
4-Methyl-2-pentanone	ND	10	ug/kg	SW846 8260B
cis-1,3-Dichloropropene	ND	10	ug/kg	SW846 8260B
Toluene	ND	10	ug/kg	SW846 8260B
trans-1,3-Dichloropropene	ND	10	ug/kg	SW846 8260B
1,1,2 Trichloroethane	ND	10	ug/kg	SW846 8260B
2-Hexanone	ND	10	ug/kg	SW846 8260B
Tetrachloroethene	ND	10	ug/kg	SW846 8260B
Dibromochloromethane	ND	10	ug/kg	SW846 8260B
Chlorobenzene	ND	10	ug/kg	SW846 8260B
Ethylbenzene	ND	10	ug/kg	SW846 8260B
Xylenes (total)	**4.8 J**	**10**	**ug/kg**	**SW846 8260B**
Styrene	ND	10	ug/kg	SW846 8260B
Bromoform	ND	10	ug/kg	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	10	ug/kg	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	104	(73 - 147)
Toluene-d8	104	(81 - 139)
Dibromofluoromethane	104	(89 - 148)

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: F9K170192 **Work Order #...:** D5K09101 **Matrix.....:** SOLID

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

J Estimated result Result is less than RL

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F9K170192 **Work Order #...:** D5K7N101 **Matrix.....:** SOLID
MB Lot-Sample #: F9K290000-385

Prep Date.....: 11/29/99 **Analysis Time..:** 20:20
Analysis Date..: 12/01/99 **Prep Batch #...:** 9333385
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1232	ND	33	ug/kg	SW846 8082
Aroclor 1242	ND	33	ug/kg	SW846 8082
Aroclor 1016	ND	33	ug/kg	SW846 8082
Aroclor 1221	ND	67	ug/kg	SW846 8082
Aroclor 1248	ND	33	ug/kg	SW846 8082
Aroclor 1254	ND	33	ug/kg	SW846 8082
Aroclor 1260	ND	33	ug/kg	SW846 8082
Aroclor 1262	ND	33	ug/kg	SW846 8082
Aroclor 1268	ND	33	ug/kg	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	94	(15 - 168)
Decachlorobiphenyl	91	(10 - 207)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: F9K170192 **Work Order #...:** D5LGM102 **Matrix.....:** SOLID
MB Lot-Sample #: F9K300000-404

Prep Date.....: 11/30/99 **Analysis Time..:** 15:35
Analysis Date..: 12/06/99 **Prep Batch #...:** 9334404
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acenaphthene	ND	330	ug/kg	SW846 8270C
Acenaphthylene	ND	330	ug/kg	SW846 8270C
Anthracene	ND	330	ug/kg	SW846 8270C
Benzo(a)anthracene	ND	830	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	830	ug/kg	SW846 8270C
Benzo(k)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(ghi)perylene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	830	ug/kg	SW846 8270C
bis(2-Chloroethoxy) methane	ND	330	ug/kg	SW846 8270C
bis(2-Chloroethyl)-ether	ND	330	ug/kg	SW846 8270C
bis(2-Ethylhexyl) phthalate	ND	330	ug/kg	SW846 8270C
Butyl benzyl phthalate	ND	330	ug/kg	SW846 8270C
4-Chloroaniline	ND	330	ug/kg	SW846 8270C
4-Chloro-3-methylphenol	ND	330	ug/kg	SW846 8270C
2-Chloronaphthalene	ND	330	ug/kg	SW846 8270C
2-Chlorophenol	ND	330	ug/kg	SW846 8270C
4-Chlorophenyl phenyl ether	ND	330	ug/kg	SW846 8270C
Chrysene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Di-n-butyl phthalate	ND	330	ug/kg	SW846 8270C
1,2-Dichlorobenzene	ND	330	ug/kg	SW846 8270C
1,3-Dichlorobenzene	ND	330	ug/kg	SW846 8270C
1,4-Dichlorobenzene	ND	330	ug/kg	SW846 8270C
3,3'-Dichlorobenzidine	ND	330	ug/kg	SW846 8270C
2,4-Dichlorophenol	ND	330	ug/kg	SW846 8270C
Diethyl phthalate	ND	330	ug/kg	SW846 8270C
2,4-Dimethylphenol	ND	330	ug/kg	SW846 8270C
Dimethyl phthalate	ND	330	ug/kg	SW846 8270C
Di n-octyl phthalate	ND	330	ug/kg	SW846 8270C
4,6-Dinitro-2-methylphenol	ND	830	ug/kg	SW846 8270C
2,4-Dinitrophenol	ND	830	ug/kg	SW846 8270C
2,4-Dinitrotoluene	ND	330	ug/kg	SW846 8270C
2,6-Dinitrotoluene	ND	330	ug/kg	SW846 8270C
Fluoranthene	ND	330	ug/kg	SW846 8270C
Fluorene	ND	330	ug/kg	SW846 8270C
Hexachlorobenzene	ND	330	ug/kg	SW846 8270C

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METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: F9K170192 **Work Order #...:** D5LGM101 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Hexachlorobutadiene	ND	330	ug/kg	SW846 8270C
Hexachlorocyclopenta-diene	ND	330	ug/kg	SW846 8270C
Hexachloroethane	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	830	ug/kg	SW846 8270C
Isophorone	ND	330	ug/kg	SW846 8270C
2-Methylnaphthalene	ND	330	ug/kg	SW846 8270C
2-Methylphenol	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C
2-Nitroaniline	ND	830	ug/kg	SW846 8270C
3-Nitroaniline	ND	830	ug/kg	SW846 8270C
4-Nitroaniline	ND	830	ug/kg	SW846 8270C
Nitrobenzene	ND	330	ug/kg	SW846 8270C
2-Nitrophenol	ND	330	ug/kg	SW846 8270C
4-Nitrophenol	ND	830	ug/kg	SW846 8270C
N-Nitrosodi-n-propyl-amine	ND	330	ug/kg	SW846 8270C
N-Nitrosodiphenylamine	ND	330	ug/kg	SW846 8270C
Pentachlorophenol	ND	830	ug/kg	SW846 8270C
Phenanthrene	ND	330	ug/kg	SW846 8270C
Phenol	ND	330	ug/kg	SW846 8270C
Pyrene	ND	330	ug/kg	SW846 8270C
1,2,4-Trichlorobenzene	ND	330	ug/kg	SW846 8270C
2,4,5-Trichlorophenol	ND	330	ug/kg	SW846 8270C
2,4,6-Trichlorophenol	ND	330	ug/kg	SW846 8270C
Dibenzo(a,h)anthracene	ND	830	ug/kg	SW846 8270C
Carbazole	ND	830	ug/kg	SW846 8270C
2,2'-oxybis(1-Chloropropa	ND	330	ug/kg	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	75	(11 - 119)
Phenol-d5	80	(21 - 118)
Nitrobenzene-d5	72	(19 - 111)
2-Fluorobiphenyl	74	(22 - 109)
2,4,6-Tribromophenol	120	(10 - 124)
Terphenyl-d14	53	(10 - 157)

NOTE(S):

Calculations are performed before rounding to avoid round off errors in calculated results

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: F9K170192 **Work Order #...:** D634K101 **Matrix.....:** SOLID
MB Lot-Sample #: F9L090000-347

Prep Date.....: 12/09/99 **Analysis Time..:** 06:36
Analysis Date..: 12/11/99 **Prep Batch #...:** 9343347
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acenaphthene	ND	330	ug/kg	SW846 8270C
Acenaphthylene	ND	330	ug/kg	SW846 8270C
Anthracene	ND	330	ug/kg	SW846 8270C
Benzo(a)anthracene	ND	830	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	830	ug/kg	SW846 8270C
Benzo(k)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(ghi)perylene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	830	ug/kg	SW846 8270C
bis(2-Chloroethoxy) methane	ND	330	ug/kg	SW846 8270C
bis(2-Chloroethyl)-ether	ND	330	ug/kg	SW846 8270C
bis(2-Ethylhexyl) phthalate	ND	330	ug/kg	SW846 8270C
Butyl benzyl phthalate	ND	330	ug/kg	SW846 8270C
4-Chloroaniline	ND	330	ug/kg	SW846 8270C
4-Chloro-3-methylphenol	ND	330	ug/kg	SW846 8270C
2-Chloronaphthalene	ND	330	ug/kg	SW846 8270C
2-Chlorophenol	ND	330	ug/kg	SW846 8270C
4-Chlorophenyl phenyl ether	ND	330	ug/kg	SW846 8270C
Chrysene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Di-n-butyl phthalate	ND	330	ug/kg	SW846 8270C
1,2-Dichlorobenzene	ND	330	ug/kg	SW846 8270C
1,3-Dichlorobenzene	ND	330	ug/kg	SW846 8270C
1,4-Dichlorobenzene	ND	330	ug/kg	SW846 8270C
3,3'-Dichlorobenzidine	ND	330	ug/kg	SW846 8270C
2,4-Dichlorophenol	ND	330	ug/kg	SW846 8270C
Diethyl phthalate	ND	330	ug/kg	SW846 8270C
2,4-Dimethylphenol	ND	330	ug/kg	SW846 8270C
Dimethyl phthalate	ND	330	ug/kg	SW846 8270C
Di-n-octyl phthalate	ND	330	ug/kg	SW846 8270C
4,6-Dinitro-2-methylphenol	ND	830	ug/kg	SW846 8270C
2,4-Dinitrophenol	ND	830	ug/kg	SW846 8270C
2,4-Dinitrotoluene	ND	330	ug/kg	SW846 8270C
2,6-Dinitrotoluene	ND	330	ug/kg	SW846 8270C
Fluoranthene	ND	330	ug/kg	SW846 8270C
Fluorene	ND	330	ug/kg	SW846 8270C
Hexachlorobenzene	ND	330	ug/kg	SW846 8270C

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METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: F9K170192 **Work Order #...:** D634K101 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Hexachlorobutadiene	ND	330	ug/kg	SW846 8270C
Hexachlorocyclopenta-diene	ND	330	ug/kg	SW846 8270C
Hexachloroethane	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	830	ug/kg	SW846 8270C
Isophorone	ND	330	ug/kg	SW846 8270C
2-Methylnaphthalene	ND	330	ug/kg	SW846 8270C
2-Methylphenol	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C
2-Nitroaniline	ND	830	ug/kg	SW846 8270C
3-Nitroaniline	ND	830	ug/kg	SW846 8270C
4-Nitroaniline	ND	830	ug/kg	SW846 8270C
Nitrobenzene	ND	330	ug/kg	SW846 8270C
2-Nitrophenol	ND	330	ug/kg	SW846 8270C
4-Nitrophenol	ND	830	ug/kg	SW846 8270C
N-Nitrosodi-n-propyl-amine	ND	330	ug/kg	SW846 8270C
N-Nitrosodiphenylamine	ND	330	ug/kg	SW846 8270C
Pentachlorophenol	ND	830	ug/kg	SW846 8270C
Phenanthrene	ND	330	ug/kg	SW846 8270C
Phenol	ND	330	ug/kg	SW846 8270C
Pyrene	ND	330	ug/kg	SW846 8270C
1,2,4-Trichlorobenzene	ND	330	ug/kg	SW846 8270C
2,4,5-Trichlorophenol	ND	330	ug/kg	SW846 8270C
2,4,6-Trichlorophenol	ND	330	ug/kg	SW846 8270C
Dibenzo(a,h)anthracene	ND	830	ug/kg	SW846 8270C
Carbazole	ND	830	ug/kg	SW846 8270C
2,2'-oxybis(1-Chloropropa	ND	330	ug/kg	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	76	(11 - 119)
Phenol-d5	88	(21 - 118)
Nitrobenzene-d5	73	(19 - 111)
2-Fluorobiphenyl	78	(22 - 109)
2,4,6-Tribromophenol	77	(10 - 124)
Terphenyl-d14	70	(10 - 157)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

LABORATORY CONTROL SAMPLE EVALUATION REPORT

HPLC

Client Lot #...: F9K170192 **Work Order #...:** D5DT7102 LCS **Matrix.....:** WATER
LCS Lot-Sample#: F9K220000-242 D5DT7103 LCSD
Prep Date.....: 11/22/99 **Analysis Date..:** 11/23/99
Prep Batch #...: 9326242 **Analysis Time..:** 16:42
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,3,5-Trinitrobenzene	**46**	(30 - 130)			**SW846 8330**
	57	(30 - 130)	21	(0 40)	**SW846 8330**
1,3-Dinitrobenzene	**43**	(30 - 130)			**SW846 8330**
	58	(30 - 130)	31	(0-40)	**SW846 8330**
Tetryl	**64**	(30 - 130)			**SW846 8330**
	55	(30 - 130)	16	(0 40)	**SW846 8330**
Nitrobenzene	**40**	(30 - 130)			**SW846 8330**
	58	(30 - 130)	36	(0-40)	**SW846 8330**
2,4,6-Trinitrotoluene	**58**	(30 - 130)			**SW846 8330**
	59	(30 - 130)	0.93	(0-40)	**SW846 8330**
4-Amino-2,6-dinitrotoluene	**65**	(30 - 130)			**SW846 8330**
	61	(30 - 130)	6.6	(0-40)	**SW846 8330**
2-Amino-4,6-dinitrotoluene	**55**	(30 - 130)			**SW846 8330**
	60	(30 - 130)	7.9	(0-40)	**SW846 8330**
2-Nitrotoluene	**45**	(30 - 130)			**SW846 8330**
	54	(30 - 130)	17	(0-40)	**SW846 8330**
4-Nitrotoluene	**51**	(30 - 130)			**SW846 8330**
	62	(30 - 130)	19	(0-40)	**SW846 8330**
3-Nitrotoluene	**51**	(30 - 130)			**SW846 8330**
	65	(30 - 130)	25	(0-40)	**SW846 8330**
2,6-Dinitrotoluene	**57**	(30 - 130)			**SW846 8330**
	67	(30 - 130)	16	(0 40)	**SW846 8330**
2,4-Dinitrotoluene	**53**	(30 - 130)			**SW846 8330**
	60	(30 - 130)	14	(0-40)	**SW846 8330**
HMX	**40**	(30 - 130)			**SW846 8330**
	56	(30 - 130)	34	(0-40)	**SW846 8330**
RDX	**38**	(30 - 130)			**SW846 8330**
	52	(30 - 130)	30	(0-40)	**SW846 8330**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dinitrobenzene	51	(30 - 130)
	61	(30 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: F9K170192 **Work Order #...:** D5G5D102-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: F9K240000-181 D5G5D103-LCSD
Prep Date.....: 11/23/99 **Analysis Date..:** 11/23/99
Prep Batch #...: 9328181 **Analysis Time..:** 18:54
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**118**	**(37 - 151)**			**SW846 8260B**
	112	**(37 - 151)**	**5.3**	**(0-21)**	**SW846 8260B**
Chlorobenzene	**111**	**(37 - 160)**			**SW846 8260B**
	108	**(37 - 160)**	**2.6**	**(0-21)**	**SW846 8260B**
1,1-Dichloroethene	**133**	**(10 - 234)**			**SW846 8260B**
	125	**(10 - 234)**	**6.3**	**(0-22)**	**SW846 8260B**
Toluene	**119**	**(47 - 150)**			**SW846 8260B**
	113	**(47 - 150)**	**4.9**	**(0-21)**	**SW846 8260B**
Trichloroethene	**124**	**(71 - 157)**			**SW846 8260B**
	115	**(71 - 157)**	**7.2**	**(0-24)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4 Bromofluorobenzene	101	(73 - 147)
	100	(73 - 147)
Toluene-d8	100	(81 - 139)
	100	(81 - 139)
Dibromofluoromethane	101	(89 - 148)
	101	(89 - 148)

NOTE(S):

Calculations are performed before rounding to avoid round off errors in calculated results

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: F9K170192 **Work Order #...:** D5G5N102-LCS **Matrix.....:** WATER
LCS Lot-Sample#: F9K240000-187 D5G5N103-LCSD
Prep Date.....: 11/23/99 **Analysis Date..:** 11/23/99
Prep Batch #...: 9328187 **Analysis Time..:** 10:41
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**108**	**(76 - 127)**			**SW846 8260B**
	107	**(76 - 127)**	**1.4**	**(0-21)**	**SW846 8260B**
Chlorobenzene	**99**	**(75 - 130)**			**SW846 8260B**
	98	**(75 - 130)**	**0.55**	**(0-21)**	**SW846 8260B**
1,1-Dichloroethene	**108**	**(61 - 145)**			**SW846 8260B**
	102	**(61 - 145)**	**5.6**	**(0-22)**	**SW846 8260B**
Toluene	**94**	**(76 - 125)**			**SW846 8260B**
	92	**(76 - 125)**	**1.8**	**(0-21)**	**SW846 8260B**
Trichloroethene	**95**	**(71 - 120)**			**SW846 8260B**
	99	**(71 - 120)**	**3.5**	**(0-24)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	104	(78 - 124)
	98	(78 - 124)
Toluene-d8	101	(71 - 129)
	99	(71 - 129)
Dibromofluoromethane	112	(74 - 135)
	108	(74 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round off errors in calculated results

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: F9K170192 **Work Order #...:** D5G5P102-LCS **Matrix.....:** WATER
LCS Lot-Sample#: F9K240000-188 D5G5P103-LCSD
Prep Date.....: 11/22/99 **Analysis Date..:** 11/29/99
Prep Batch #...: 9328188 **Analysis Time..:** 01:18
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Phenol	**68**	**(10 - 75)**			**SW846 8270C**
	70	**(10 - 75)**	**4.0**	**(0 23)**	**SW846 8270C**
2-Chlorophenol	**75**	**(32 - 89)**			**SW846 8270C**
	78	**(32 - 89)**	**3.0**	**(0-27)**	**SW846 8270C**
N-Nitrosodi-n-propyl-amine	**76**	**(21 - 118)**			**SW846 8270C**
	79	**(21 - 118)**	**3.7**	**(0 34)**	**SW846 8270C**
1,2,4-Trichlorobenzene	**87**	**(31 - 95)**			**SW846 8270C**
	90	**(31 - 95)**	**3.6**	**(0-20)**	**SW846 8270C**
4-Chloro-3-methylphenol	**81**	**(40 - 96)**			**SW846 8270C**
	83	**(40 - 96)**	**1.9**	**(0-21)**	**SW846 8270C**
Acenaphthene	**80**	**(34 - 99)**			**SW846 8270C**
	83	**(34 - 99)**	**3.7**	**(0-18)**	**SW846 8270C**
4-Nitrophenol	**70**	**(10 - 83)**			**SW846 8270C**
	70	**(10 - 83)**	**0.76**	**(0 33)**	**SW846 8270C**
2,4-Dinitrotoluene	**84**	**(35 - 104)**			**SW846 8270C**
	88	**(35 - 104)**	**3.9**	**(0-28)**	**SW846 8270C**
Pyrene	**73**	**(31 - 114)**			**SW846 8270C**
	77	**(31 - 114)**	**4.8**	**(0-20)**	**SW846 8270C**
1,4-Dichlorobenzene	**78**	**(23 - 96)**			**SW846 8270C**
	79	**(23 - 96)**	**2.5**	**(0-25)**	**SW846 8270C**
Pentachlorophenol	**83**	**(22 - 115)**			**SW846 8270C**
	87	**(22 - 115)**	**4.4**	**(0 20)**	**SW846 8270C**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	72	(10 - 111)
	75	(10 - 111)
Phenol d5	78	(10 - 118)
	78	(10 - 118)
Nitrobenzene-d5	72	(18 - 116)
	76	(18 - 116)
2-Fluorobiphenyl	80	(10 - 124)
	82	(10 - 124)
2,4,6-Tribromophenol	112	(24 - 118)
	107	(24 - 118)
Terphenyl d14	83	(24 - 140)
	83	(24 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F9K170192 **Work Order #...:** D5G67102-LCS **Matrix.....:** WATER
LCS Lot-Sample#: F9K240000-193 D5G67103-LCSD
Prep Date.....: 11/23/99 **Analysis Date..:** 11/29/99
Prep Batch #...: 9328193 **Analysis Time..:** 19:35
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	**89**	**(24 - 199)**			**SW846 8082**
	93	**(24 - 199)**	**4.5**	**(0-20)**	**SW846 8082**
Aroclor 1260	**79**	**(58 - 134)**			**SW846 8082**
	84	**(58 - 134)**	**6.1**	**(0 20)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	100	(26 - 157)
	105	(26 - 157)
Decachlorobiphenyl	36	(13 - 147)
	34	(13 - 147)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

HPLC

Client Lot #...: F9K170192 **Work Order #...:** D5JXH102-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: F9K290000-295 D5JXH103-LCSD
Prep Date.....: 11/29/99 **Analysis Date..:** 12/01/99
Prep Batch #...: 9333295 **Analysis Time..:** 12:19
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
2-Amino-4,6-dinitrotoluene	**103**	**(30 - 130)**			**SW846 8330**
	99	**(30 - 130)**	**3.8**	**(0-40)**	**SW846 8330**
4-Amino-2,6-dinitrotoluene	**103**	**(30 - 130)**			**SW846 8330**
	100	**(30 - 130)**	**3.4**	**(0-40)**	**SW846 8330**
1,3-Dinitrobenzene	**88**	**(30 - 130)**			**SW846 8330**
	87	**(30 - 130)**	**0.95**	**(0-40)**	**SW846 8330**
2,4-Dinitrotoluene	**95**	**(30 - 130)**			**SW846 8330**
	91	**(30 - 130)**	**4.3**	**(0-40)**	**SW846 8330**
2,6-Dinitrotoluene	**113**	**(30 - 130)**			**SW846 8330**
	107	**(30 - 130)**	**5.9**	**(0-40)**	**SW846 8330**
HMX	**95**	**(30 - 130)**			**SW846 8330**
	94	**(30 - 130)**	**1.0**	**(0-40)**	**SW846 8330**
Nitrobenzene	**106**	**(30 - 130)**			**SW846 8330**
	98	**(30 - 130)**	**7.9**	**(0-40)**	**SW846 8330**
2 Nitrotoluene	**93**	**(30 - 130)**			**SW846 8330**
	92	**(30 - 130)**	**1.6**	**(0-40)**	**SW846 8330**
3-Nitrotoluene	**93**	**(30 - 130)**			**SW846 8330**
	98	**(30 - 130)**	**4.3**	**(0-40)**	**SW846 8330**
4-Nitrotoluene	**88**	**(30 - 130)**			**SW846 8330**
	94	**(30 - 130)**	**6.1**	**(0-40)**	**SW846 8330**
RDX	**99**	**(30 - 130)**			**SW846 8330**
	103	**(30 - 130)**	**4.6**	**(0-40)**	**SW846 8330**
Tetryl	**82**	**(30 - 130)**			**SW846 8330**
	89	**(30 - 130)**	**8.8**	**(0-40)**	**SW846 8330**
1,3,5 Trinitrobenzene	**92**	**(30 - 130)**			**SW846 8330**
	94	**(30 - 130)**	**1.6**	**(0-40)**	**SW846 8330**
2,4,6 Trinitrotoluene	**100**	**(30 - 130)**			**SW846 8330**
	88	**(30 - 130)**	**13**	**(0-40)**	**SW846 8330**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dinitrobenzene	93	(30 - 130)
	94	(30 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: F9K170192 **Work Order #...:** D5KFP104-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: F9K300000-167 D5KFP105 LCSD
Prep Date.....: 11/29/99 **Analysis Date..:** 11/29/99
Prep Batch #...: 9334167 **Analysis Time..:** 11:06
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**99**	**(10 - 234)**			**SW846 8260B**
	100	**(10 - 234)**	**0.66**	**(0-22)**	**SW846 8260B**
Benzene	**102**	**(37 - 151)**			**SW846 8260B**
	101	**(37 - 151)**	**1.2**	**(0-21)**	**SW846 8260B**
Trichloroethene	**91**	**(71 - 157)**			**SW846 8260B**
	90	**(71 - 157)**	**1.6**	**(0-24)**	**SW846 8260B**
Toluene	**100**	**(47 - 150)**			**SW846 8260B**
	99	**(47 - 150)**	**0.98**	**(0-21)**	**SW846 8260B**
Chlorobenzene	**96**	**(37 - 160)**			**SW846 8260B**
	95	**(37 160)**	**1.3**	**(0-21)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	101	(73 - 147)
	102	(73 - 147)
Toluene-d8	102	(81 - 139)
	104	(81 - 139)
Dibromofluoromethane	102	(89 - 148)
	102	(89 148)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: F9K170192 **Work Order #...:** D5K09102-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: F9K290000-314 D5K09103 LCSD
Prep Date.....: 11/28/99 **Analysis Date..:** 11/28/99
Prep Batch #...: 9333314 **Analysis Time..:** 12:29
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**125**	**(10 - 234)**			**SW846 8260B**
	115	**(10 - 234)**	**8.1**	**(0 22)**	**SW846 8260B**
Benzene	**119**	**(37 - 151)**			**SW846 8260B**
	104	**(37 - 151)**	**14**	**(0-21)**	**SW846 8260B**
Trichloroethene	**111**	**(71 - 157)**			**SW846 8260B**
	96	**(71 - 157)**	**15**	**(0-24)**	**SW846 8260B**
Toluene	**118**	**(47 - 150)**			**SW846 8260B**
	116	**(47 - 150)**	**1.7**	**(0-21)**	**SW846 8260B**
Chlorobenzene	**110**	**(37 - 160)**			**SW846 8260B**
	116	**(37 - 160)**	**5.2**	**(0-21)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	101	(73 - 147)
	90	(73 - 147)
Toluene-d8	103	(81 - 139)
	113	(81 - 139)
Dibromofluoromethane	101	(89 - 148)
	97	(89 - 148)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F9K170192 **Work Order #...:** D5K7N102-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: F9K290000 385 D5K7N103 LCSD
Prep Date.....: 11/29/99 **Analysis Date..:** 12/01/99
Prep Batch #...: 9333385 **Analysis Time..:** 20:36
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	**82**	**(24 - 158)**			**SW846 8082**
	97	**(24 - 158)**	**17**	**(0-20)**	**SW846 8082**
Aroclor 1260	**76**	**(41 - 159)**			**SW846 8082**
	91	**(41 159)**	**18**	**(0 20)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	96	(15 - 168)
	111	(15 - 168)
Decachlorobiphenyl	79	(10 - 207)
	86	(10 - 207)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: F9K170192 **Work Order #...:** D5LGM102 LCS **Matrix.....:** SOLID
LCS Lot-Sample#: F9K300000-404 D5LGM103 LCSD
Prep Date.....: 11/30/99 **Analysis Date..:** 12/07/99
Prep Batch #...: 9334404 **Analysis Time..:** 16:58
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Phenol	**34**	**(32 - 86)**			**SW846 8270C**
	38	**(32 - 86)**	11	(0-27)	**SW846 8270C**
2-Chlorophenol	**37 a**	**(39 - 85)**			**SW846 8270C**
	41	**(39 - 85)**	11	(0-33)	**SW846 8270C**
1,4-Dichlorobenzene	**35**	**(29 - 92)**			**SW846 8270C**
	38	**(29 - 92)**	8.8	(0-35)	**SW846 8270C**
N-Nitrosodi-n-propyl-amine	**40**	**(29 - 107)**			**SW846 8270C**
	44	**(29 - 107)**	11	(0-33)	**SW846 8270C**
1,2,4-Trichlorobenzene	**35 a**	**(40 - 90)**			**SW846 8270C**
	39 a	**(40 - 90)**	9.8	(0-35)	**SW846 8270C**
4-Chloro 3-methylphenol	**40**	**(38 - 98)**			**SW846 8270C**
	45	**(38 - 98)**	12	(0-30)	**SW846 8270C**
Acenaphthene	**38**	**(26 - 103)**			**SW846 8270C**
	41	**(26 - 103)**	8.8	(0-27)	**SW846 8270C**
4-Nitrophenol	**41**	**(30 - 110)**			**SW846 8270C**
	48	**(30 - 110)**	15	(0 37)	**SW846 8270C**
2,4 Dinitrotoluene	**40**	**(37 - 102)**			**SW846 8270C**
	46	**(37 - 102)**	13	(0-25)	**SW846 8270C**
Pentachlorophenol	**31**	**(23 - 100)**			**SW846 8270C**
	35	**(23 - 100)**	13	(0 35)	**SW846 8270C**
Pyrene	**38 a**	**(39 - 105)**			**SW846 8270C**
	46	**(39 - 105)**	19	(0-31)	**SW846 8270C**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	79	(11 - 119)
	86	(11 - 119)
Phenol-d5	78	(21 - 118)
	88	(21 - 118)
Nitrobenzene-d5	74	(19 - 111)
	81	(19 - 111)
2 Fluorobiphenyl	78	(22 - 109)
	82	(22 - 109)
2,4,6-Tribromophenol	88	(10 - 124)
	98	(10 - 124)
Terphenyl-d14	49	(10 - 157)
	56	(10 - 157)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: F9K170192 **Work Order #...:** D5D7M1C2 **Matrix.....:** WATER
LCS Lot-Sample#: F9K210000-126
Prep Date.....: 11/20/99 **Analysis Date..:** 11/20/99
Prep Batch #...: 9325126 **Analysis Time..:** 11:32
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Benzene	**106**	**(76 - 127)**	**SW846 8260B**
Chlorobenzene	**100**	**(75 - 130)**	**SW846 8260B**
1,1 Dichloroethene	**103**	**(61 - 145)**	**SW846 8260B**
Toluene	**94**	**(76 - 125)**	**SW846 8260B**
Trichloroethene	**99**	**(71 - 120)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	88	(78 - 124)
Toluene-d8	88	(71 - 129)
Dibromofluoromethane	101	(74 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round off errors in calculated results

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: F9K170192 **Work Order #...:** D5F3V102 **Matrix.....:** SOLID
LCS Lot-Sample#: F9K230000 260
Prep Date.....: 11/22/99 **Analysis Date..:** 11/22/99
Prep Batch #...: 9327260 **Analysis Time..:** 13:34
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Benzene	**109**	**(37 151)**	**SW846 8260B**
Chlorobenzene	**105**	**(37 160)**	**SW846 8260B**
1,1-Dichloroethene	**118**	**(10 - 234)**	**SW846 8260B**
Toluene	**107**	**(47 - 150)**	**SW846 8260B**
Trichloroethene	**109**	**(71 - 157)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	100	(73 - 147)
Toluene-d8	98	(81 139)
Dibromofluoromethane	100	(89 - 148)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: F9K170192 **Work Order #...:** D634K102 **Matrix.....:** SOLID
LCS Lot-Sample#: F9L090000 347
Prep Date.....: 12/09/99 **Analysis Date..:** 12/11/99
Prep Batch #...: 9343347 **Analysis Time..:** 07:09
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Phenol	**80**	**(32 - 86)**	**SW846 8270C**
2-Chlorophenol	**82**	**(39 - 85)**	**SW846 8270C**
1,4-Dichlorobenzene	**72**	**(29 - 92)**	**SW846 8270C**
N-Nitrosodi-n-propyl-amine	**90**	**(29 - 107)**	**SW846 8270C**
1,2,4-Trichlorobenzene	**75**	**(40 - 90)**	**SW846 8270C**
4-Chloro-3-methylphenol	**92**	**(38 - 98)**	**SW846 8270C**
Acenaphthene	**81**	**(26 - 103)**	**SW846 8270C**
4-Nitrophenol	**82**	**(30 - 110)**	**SW846 8270C**
2,4-Dinitrotoluene	**93**	**(37 - 102)**	**SW846 8270C**
Pentachlorophenol	**60**	**(23 - 100)**	**SW846 8270C**
Pyrene	**74**	**(39 - 105)**	**SW846 8270C**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	83	(11 - 119)
Phenol-d5	91	(21 - 118)
Nitrobenzene-d5	84	(19 - 111)
2-Fluorobiphenyl	85	(22 - 109)
2,4,6-Tribromophenol	87	(10 - 124)
Terphenyl d14	80	(10 - 157)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: F9K170192 **Work Order #...:** D4X85105 MS **Matrix.....:** WATER
MS Lot-Sample #: I9K120117-002 D4X85106-MSD
Date Sampled...: 11/11/99 15:40 **Date Received..:** 11/12/99
Prep Date.....: 11/20/99 **Analysis Date..:** 11/20/99
Prep Batch #...: 9325126 **Analysis Time..:** 21:02
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**123**	**(76 - 127)**			**SW846 8260B**
	121	**(76 - 127)**	**1.7**	**(0 21)**	**SW846 8260B**
Chlorobenzene	**113**	**(75 - 130)**			**SW846 8260B**
	113	**(75 - 130)**	**0.08**	**(0-21)**	**SW846 8260B**
1,1-Dichloroethene	**121**	**(61 - 145)**			**SW846 8260B**
	119	**(61 - 145)**	**1.6**	**(0-22)**	**SW846 8260B**
Toluene	**108**	**(76 - 125)**			**SW846 8260B**
	110	**(76 - 125)**	**1.8**	**(0 21)**	**SW846 8260B**
Trichloroethene	**114**	**(71 - 120)**			**SW846 8260B**
	112	**(71 - 120)**	**1.9**	**(0-24)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	110	(78 - 124)
	114	(78 - 124)
Toluene-d8	110	(71 - 129)
	117	(71 - 129)
Dibromofluoromethane	128	(74 - 135)
	126	(74 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: F9K170192 **Work Order #...:** D53QF102 MS **Matrix.....:** SOLID
MS Lot-Sample #: A9K160173-006 D53QF103 MSD
Date Sampled...: 11/16/99 10:30 **Date Received..:** 11/16/99
Prep Date.....: 11/22/99 **Analysis Date..:** 11/22/99
Prep Batch #...: 9327260 **Analysis Time..:** 17:51
Dilution Factor: 0.82 **% Moisture.....:** 13

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**106**	**(37 - 151)**			**SW846 8260B**
	109	**(37 - 151)**	**2.7**	**(0-21)**	**SW846 8260B**
Chlorobenzene	**109**	**(37 - 160)**			**SW846 8260B**
	108	**(37 - 160)**	**0.45**	**(0-21)**	**SW846 8260B**
1,1-Dichloroethene	**123**	**(10 - 234)**			**SW846 8260B**
	121	**(10 - 234)**	**1.9**	**(0-22)**	**SW846 8260B**
Toluene	**110**	**(47 - 150)**			**SW846 8260B**
	108	**(47 - 150)**	**2.1**	**(0 21)**	**SW846 8260B**
Trichloroethene	**109**	**(71 - 157)**			**SW846 8260B**
	112	**(71 - 157)**	**2.3**	**(0-24)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	102	(73 - 147)
	98	(73 - 147)
Toluene-d8	103	(81 - 139)
	101	(81 - 139)
Dibromofluoromethane	98	(89 - 148)
	101	(89 - 148)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: F9K170192 **Work Order #...:** D53QQ102-MS **Matrix.....:** SOLID
MS Lot-Sample #: A9K160173-007 D53QQ103-MSD
Date Sampled...: 11/16/99 10:50 **Date Received..:** 11/16/99
Prep Date.....: 11/23/99 **Analysis Date..:** 11/23/99
Prep Batch #...: 9328181 **Analysis Time..:** 21:57
Dilution Factor: 0.73 **% Moisture.....:** 12

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**102**	**(37 - 151)**			**SW846 8260B**
	108	**(37 - 151)**	5.6	(0 21)	**SW846 8260B**
Chlorobenzene	**113**	**(37 - 160)**			**SW846 8260B**
	109	**(37 - 160)**	3.5	(0 21)	**SW846 8260B**
1,1-Dichloroethene	**115**	**(10 - 234)**			**SW846 8260B**
	118	**(10 - 234)**	2.1	(0-22)	**SW846 8260B**
Toluene	**107**	**(47 - 150)**			**SW846 8260B**
	112	**(47 - 150)**	3.5	(0 21)	**SW846 8260B**
Trichloroethene	**100**	**(71 - 157)**			**SW846 8260B**
	110	**(71 - 157)**	9.2	(0 24)	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4 Bromofluorobenzene	94	(73 - 147)
	106	(73 - 147)
Toluene-d8	103	(81 - 139)
	102	(81 - 139)
Dibromofluoromethane	96	(89 - 148)
	100	(89 - 148)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: F9K170192 **Work Order #...:** D55HV103-MS **Matrix.....:** SOLID
MS Lot-Sample #: F9K170192-005 D55HV104 MSD
Date Sampled...: 11/16/99 10:30 **Date Received..:** 11/17/99
Prep Date.....: 11/29/99 **Analysis Date..:** 11/29/99
Prep Batch #...: 9334167 **Analysis Time..:** 13:32
Dilution Factor: 0.85 **% Moisture.....:** 0.0

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**95**	**(10 - 234)**			**SW846 8260B**
	99	**(10 - 234)**	3.6	(0-22)	**SW846 8260B**
Benzene	**93**	**(37 - 151)**			**SW846 8260B**
	101	**(37 - 151)**	7.7	(0-21)	**SW846 8260B**
Trichloroethene	**84**	**(71 - 157)**			**SW846 8260B**
	89	**(71 - 157)**	5.8	(0-24)	**SW846 8260B**
Toluene	**101**	**(47 - 150)**			**SW846 8260B**
	104	**(47 - 150)**	2.9	(0-21)	**SW846 8260B**
Chlorobenzene	**103**	**(37 - 160)**			**SW846 8260B**
	103	**(37 - 160)**	0.55	(0-21)	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	102	(73 - 147)
	111	(73 - 147)
Toluene-d8	116	(81 - 139)
	111	(81 - 139)
Dibromofluoromethane	98	(89 - 148)
	100	(89 - 148)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight

MATRIX SPIKE SAMPLE EVALUATION REPORT

HPLC

Client Lot #...: F9K170192 **Work Order #...:** D562C10H-MS **Matrix.....:** SOLID
MS Lot-Sample #: F9K170192-021 D562C10J-MSD
Date Sampled...: 11/16/99 17:00 **Date Received..:** 11/17/99
Prep Date.....: 11/29/99 **Analysis Date..:** 12/01/99
Prep Batch #...: 9333295 **Analysis Time..:** 13:56
Dilution Factor: 1 **% Moisture.....:** 26

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
2-Amino-4,6-dinitrotoluene	**92**	**(30 - 130)**			**SW846 8330**
	107	**(30 - 130)**	**16**	**(0-40)**	**SW846 8330**
4-Amino-2,6-dinitrotoluene	**96**	**(30 - 130)**			**SW846 8330**
	119	**(30 - 130)**	**21**	**(0-40)**	**SW846 8330**
1,3-Dinitrobenzene	**85**	**(30 - 130)**			**SW846 8330**
	85	**(30 - 130)**	**0.21**	**(0-40)**	**SW846 8330**
2,4-Dinitrotoluene	**91**	**(30 - 130)**			**SW846 8330**
	87	**(30 - 130)**	**4.3**	**(0-40)**	**SW846 8330**
2,6-Dinitrotoluene	**98**	**(30 - 130)**			**SW846 8330**
	102	**(30 - 130)**	**4.0**	**(0-40)**	**SW846 8330**
HMX	**94**	**(30 - 130)**			**SW846 8330**
	90	**(30 - 130)**	**4.1**	**(0 40)**	**SW846 8330**
Nitrobenzene	**90**	**(30 - 130)**			**SW846 8330**
	93	**(30 - 130)**	**2.8**	**(0-40)**	**SW846 8330**
2-Nitrotoluene	**84**	**(30 - 130)**			**SW846 8330**
	87	**(30 - 130)**	**3.3**	**(0-40)**	**SW846 8330**
3-Nitrotoluene	**107**	**(30 - 130)**			**SW846 8330**
	87	**(30 - 130)**	**20**	**(0 40)**	**SW846 8330**
4-Nitrotoluene	**86**	**(30 - 130)**			**SW846 8330**
	81	**(30 - 130)**	**5.7**	**(0 40)**	**SW846 8330**
RDX	**98**	**(30 - 130)**			**SW846 8330**
	96	**(30 - 130)**	**2.0**	**(0 40)**	**SW846 8330**
Tetryl	**99**	**(30 - 130)**			**SW846 8330**
	93	**(30 - 130)**	**6.7**	**(0-40)**	**SW846 8330**
1,3,5-Trinitrobenzene	**94**	**(30 - 130)**			**SW846 8330**
	90	**(30 - 130)**	**4.0**	**(0-40)**	**SW846 8330**
2,4,6-Trinitrotoluene	**89**	**(30 - 130)**			**SW846 8330**
	94	**(30 - 130)**	**5.6**	**(0 40)**	**SW846 8330**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dinitrobenzene	93	(30 - 130)
	92	(30 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F9K170192 **Work Order #...:** D562C10K MS **Matrix.....:** SOLID
MS Lot-Sample #: F9K170192-021 D562C10L-MSD
Date Sampled...: 11/16/99 17:00 **Date Received..:** 11/17/99
Prep Date.....: 11/29/99 **Analysis Date..:** 12/01/99
Prep Batch #...: 9333385 **Analysis Time..:** 21:49
Dilution Factor: 1 **% Moisture.....:** 26

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	**68**	**(10 - 174)**			**SW846 8082**
	60	**(10 - 174)**	**12**	**(0-20)**	**SW846 8082**
Aroclor 1260	**70**	**(10 - 222)**			**SW846 8082**
	62	**(10 - 222)**	**12**	**(0-20)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	77	(15 - 168)
	70	(15 - 168)
Decachlorobiphenyl	106	(10 - 207)
	98	(10 - 207)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: F9K170192 **Work Order #...:** D569210G-MS **Matrix.....:** SOLID
MS Lot-Sample #: F9K170192-025 D569210H MSD
Date Sampled...: 11/16/99 10:45 **Date Received..:** 11/17/99
Prep Date.....: 11/30/99 **Analysis Date..:** 12/07/99
Prep Batch #...: 9334404 **Analysis Time..:** 18:04
Dilution Factor: 1 **% Moisture.....:** 18

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Phenol	36	(32 - 86)			SW846 8270C
	36	(32 - 86)	0.79	(0-27)	SW846 8270C
2-Chlorophenol	38 a	(39 - 85)			SW846 8270C
	38 a	(39 - 85)	1.9	(0-33)	SW846 8270C
1,4-Dichlorobenzene	33	(29 - 92)			SW846 8270C
	31	(29 - 92)	5.2	(0-35)	SW846 8270C
N-Nitrosodi-n-propyl-amine	39	(29 - 107)			SW846 8270C
	38	(29 - 107)	4.9	(0-33)	SW846 8270C
1,2,4-Trichlorobenzene	23 a	(40 - 90)			SW846 8270C
	11 a	(40 - 90)	18	(0-35)	SW846 8270C
4-Chloro-3-methylphenol	40	(38 - 98)			SW846 8270C
	38	(38 - 98)	4.9	(0-30)	SW846 8270C
Acenaphthene	38	(26 - 103)			SW846 8270C
	37	(26 - 103)	4.5	(0-27)	SW846 8270C
4-Nitrophenol	48	(30 - 110)			SW846 8270C
	41	(30 - 110)	16	(0-37)	SW846 8270C
2,4-Dinitrotoluene	42	(37 - 102)			SW846 8270C
	39	(37 - 102)	5.8	(0-25)	SW846 8270C
Pentachlorophenol	36	(23 - 100)			SW846 8270C
	36	(23 - 100)	1.7	(0-35)	SW846 8270C
Pyrene	35 a	(39 - 105)			SW846 8270C
	31 a	(39 - 105)	11	(0-31)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	81	(11 - 119)
	78	(11 - 119)
Phenol-d5	77	(21 - 118)
	76	(21 - 118)
Nitrobenzene-d5	76	(19 - 111)
	70	(19 - 111)
2-Fluorobiphenyl	71	(22 - 109)
	68	(22 - 109)
2,4,6-Tribromophenol	83	(10 - 124)
	79	(10 - 124)
Terphenyl-d14	43	(10 - 157)
	39	(10 - 157)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: F9K170192 **Work Order #...:** D569210G MS **Matrix.....:** SOLID
MS Lot-Sample #: F9K170192-025 D569210H-MSD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

NOTE(S):

Calculations are performed before rounding to avoid round off errors in calculated results

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight

a Spiked analyte recovery is outside stated control limits

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: F9K170192 **Work Order #...:** D5692100-MS **Matrix.....:** SOLID
MS Lot-Sample #: F9K170192-025 D5692100-MSD
Date Sampled...: 11/16/99 10:45 **Date Received..:** 11/17/99
Prep Date.....: 12/09/99 **Analysis Date..:** 12/12/99
Prep Batch #...: 9343347 **Analysis Time..:** 23:37
Dilution Factor: 1 **% Moisture.....:** 18

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Phenol	69	(32 - 86)			SW846 8270C
	71	(32 - 86)	3.4	(0 27)	SW846 8270C
2-Chlorophenol	70	(39 - 85)			SW846 8270C
	75	(39 - 85)	6.5	(0 33)	SW846 8270C
1,4-Dichlorobenzene	61	(29 - 92)			SW846 8270C
	67	(29 - 92)	9.8	(0-35)	SW846 8270C
N Nitrosodi-n-propyl-amine	75	(29 - 107)			SW846 8270C
	84	(29 - 107)	11	(0-33)	SW846 8270C
1,2,4-Trichlorobenzene	79	(40 - 90)			SW846 8270C
	104 a	(40 - 90)	21	(0-35)	SW846 8270C
4-Chloro-3-methylphenol	80	(38 - 98)			SW846 8270C
	91	(38 - 98)	12	(0-30)	SW846 8270C
Acenaphthene	75	(26 - 103)			SW846 8270C
	85	(26 - 103)	12	(0-27)	SW846 8270C
4-Nitrophenol	90	(30 - 110)			SW846 8270C
	94	(30 - 110)	4.2	(0 37)	SW846 8270C
2,4-Dinitrotoluene	83	(37 - 102)			SW846 8270C
	94	(37 - 102)	12	(0-25)	SW846 8270C
Pentachlorophenol	84	(23 - 100)			SW846 8270C
	82	(23 - 100)	2.9	(0-35)	SW846 8270C
Pyrene	60	(39 - 105)			SW846 8270C
	72	(39 - 105)	17	(0-31)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	72	(21 - 119)
	72	(21 - 119)
Phenol-d5	78	(21 - 118)
	78	(21 - 118)
Nitrobenzene-d5	69	(19 - 111)
	70	(19 - 111)
2-Fluorobiphenyl	73	(22 - 109)
	74	(22 - 109)
2,4,6 Tribromophenol	88	(10 - 124)
	85	(10 - 124)
Terphenyl-d14	67	(10 - 157)
	73	(10 - 157)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: F9K170192 **Work Order #...:** D569210J MS **Matrix.....:** SOLID
MS Lot Sample #: F9K170192-025 D569210K MSD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight

a Spiked analyte recovery is outside stated control limits

Quanterra - St. Louis

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298-8566 Telephone
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Quanterra
Environmental Services

ANALYTICAL REPORT

PROJECT NO. G0011-0054KWP02

4800 Goodfellow Blvd. (SLAAP)

Lot #: F9K190188

Eduardo Gasca

Tetra Tech EM Inc.

QUANTERRA INCORPORATED

Mark J. Loeb
Project Manager

December 28, 1999

Data is Incomplete without Case Narrative

CASE NARRATIVE
Lot F9K190188

On November 19, 1999, eleven (11) soil samples, thirteen (13) water samples, and one (1) trip blank were received at the Quanterra St. Louis laboratory from Tetra Tech EM, Inc., St. Louis Army Ammunitions Plant site. Upon receipt, the samples were given laboratory ID numbers to correspond with the specific client ID's. The cross-reference table can be found on a separate page as part of this report.

Analytical results are provided in two sections. A certificate of analysis that summarizes all reported analytical results inclusive of any QC associated with the analyses is included in a non-paginated section. A paginated full data package with the associated raw data immediately follows this section.

Volatiles

Samples F9K190188-014, -015, and -016 have a Laboratory Control Sample / Laboratory Control Sample Duplicate (LCS/LCSD) set as batch QC. Other samples have MS/MSD as batch QC.

Base/Neutral Acids

A Non-Conformance Memo (# 6057) was issued for samples –001and –002. The Laboratory Control Sample (LCS) analysis associated with these samples showed 1,2,4-Trichlorobenzene at 39%. The stated laboratory control limit is 40%. The Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses associated with these samples were below laboratory stated control limits. The Laboratory Control Sample Duplicate (LCSD) analysis was within laboratory stated control limits. No further corrective action was performed.

Due to sample matrix, sample number -002 could not be concentrated below 10 mLs. The sample was run at 1 to 10 dilution after concentration. The surrogates are diluted out.

PCBs

The RPD's in the LCS/LCSD for batch 9336219 are outside of control limits. Method 3545 (ASE) was used as the extraction method for the soils. Sample -007 (wipe) cannot be reported due to a laboratory accident. For the water and wipes samples, a LCS/LCSD was prepared and analyzed.

Metals

No nonconformances are associated with this analysis.

METHODS SUMMARY

F9K190188

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3050B
Mercury in Liquid Waste (Manual Cold-Vapor)	SW846 7470A	SW846 7470A
Mercury in Solids by Modified 7470A	SW846 Hg Mod 74	
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD
PCBs by SW-846 8082	SW846 8082	SW846 3541
PCBs by SW-846 8082	SW846 8082	SW846 3580
PCBs by SW-846 8082	SW846 8082	SW846 8082
Semivolatile Organic Compounds by GC/MS	SW846 8270C	SW846 3510C
Semivolatile Organic Compounds by GC/MS	SW846 8270C	SW846 3550B
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3010A
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3050B
Volatile Organics by GC/MS	SW846 8260B	SW846 5030B/826
Volatile Organics by GC/MS	SW846 8260B	SW846 5035

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

F9K190188

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
D5A0W	001	4SB-1 0-3	11/18/99	08:45
D5A2J	002	4SS-1	11/18/99	09:10
D5A44	003	4SB-1 1	11/18/99	09:30
D5A5H	004	13SW-13A	11/18/99	16:40
D5A5R	005	13SW-13B	11/18/99	16:40
D5A5X	006	3SW-13C	11/18/99	16:45
D5A6E	008	3SW-14C	11/18/99	16:20
D5A6P	009	3SW-14B	11/18/99	16:15
D5A72	010	5SW-A	11/18/99	15:50
D5A75	011	5SW-1A	11/18/99	15:45
D5A78	012	5SW-1B	11/18/99	15:52
D5A7D	013	5SW-1C	11/18/99	15:55
D5AAT	014	TRIP BLANK	11/18/99	
D5ACT	015	4SS-EQ1	11/18/99	14:30
D5AD4	016	4SB1-EQ1	11/18/99	14:40
D5ADA	017	4SS-EQ2	11/18/99	14:30
D5AE1	018	4SS-EQ1	11/18/99	14:30
D5AE4	019	2SP-1A EQ1	11/18/99	15:10
D5AEC	020	DUP 5	11/18/99	15:0[illegible]
D5AEN	021	2SP1A	11/18/99	14:
D5AF1	022	4SS-EQ1	11/18/99	14:30
D5AFF	023	4SB-1 EQ1	11/18/99	14:40

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

TETRA TECH EM INC.

Client Sample ID: 4SB-1 0-3

GC Semivolatiles

Lot-Sample #...: F9K190188-001 **Work Order #...:** D5A0W103 **Matrix.....:** SOLID
Date Sampled...: 11/18/99 08:45 **Date Received..:** 11/19/99
Prep Date.....: 12/01/99 **Analysis Date..:** 12/02/99
Prep Batch #...: 9336219 **Analysis Time..:** 19:28
Dilution Factor: 1
% Moisture.....: 22 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	42	ug/kg
Aroclor 1016	ND	42	ug/kg
Aroclor 1221	ND	86	ug/kg
Aroclor 1232	ND	42	ug/kg
Aroclor 1242	ND	42	ug/kg
Aroclor 1248	ND	42	ug/kg
Aroclor 1254	ND	42	ug/kg
Aroclor 1260	ND	42	ug/kg
Aroclor 1262	ND	42	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	522 *	(15 - 168)
Decachlorobiphenyl	35	(10 - 207)

NOTE(S):

* Surrogate recovery is outside stated control limits

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 4SB-1 0-3

GC/MS Semivolatiles

Lot-Sample #...: F9K190188-001 **Work Order #...:** D5A0W102 **Matrix.....:** SOLID
Date Sampled...: 11/18/99 08:45 **Date Received..:** 11/19/99
Prep Date.....: 12/01/99 **Analysis Date..:** 12/09/99
Prep Batch #...: 9336365 **Analysis Time..:** 10:37
Dilution Factor: 1
% Moisture.....: 22 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthylene	ND	420	ug/kg
bis(2-Chloroethoxy) methane	ND	420	ug/kg
bis(2-Chloroethyl)-ether	ND	420	ug/kg
2-Chloronaphthalene	ND	420	ug/kg
2-Chlorophenol	ND	420	ug/kg
2,4-Dimethylphenol	ND	420	ug/kg
Dimethyl phthalate	ND	420	ug/kg
2,6-Dinitrotoluene	ND	420	ug/kg
Hexachloroethane	ND	420	ug/kg
Isophorone	ND	420	ug/kg
2-Methylphenol	ND	420	ug/kg
4-Methylphenol	ND	420	ug/kg
2-Nitroaniline	ND	1100	ug/kg
3-Nitroaniline	ND	1100	ug/kg
Nitrobenzene	ND	420	ug/kg
2-Nitrophenol	ND	420	ug/kg
N-Nitrosodi-n-propyl-amine	ND	420	ug/kg
Phenol	ND	420	ug/kg
2,2'-oxybis(1-Chloropropane)	ND	420	ug/kg
Benzo(a)anthracene	**180 J**	**1100**	**ug/kg**
Benzo(b)fluoranthene	**150 J**	**1100**	**ug/kg**
Benzo(a)pyrene	**170 J**	**1100**	**ug/kg**
1,2-Dichlorobenzene	ND	420	ug/kg
1,3-Dichlorobenzene	ND	420	ug/kg
1,4-Dichlorobenzene	ND	420	ug/kg
Indeno(1,2,3-cd)pyrene	**130 J**	**1100**	**ug/kg**
Pentachlorophenol	ND	1100	ug/kg
Dibenzo(a,h)anthracene	ND	1100	ug/kg
Carbazole	ND	1100	ug/kg
2,4-Dichlorophenol	ND	420	ug/kg
1,2,4-Trichlorobenzene	ND	420	ug/kg
Naphthalene	ND	420	ug/kg
4-Chloroaniline	ND	420	ug/kg
Hexachlorobutadiene	ND	420	ug/kg
4-Chloro-3-methylphenol	ND	420	ug/kg

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TETRA TECH EM INC.

Client Sample ID: 4SB-1 0-3

GC/MS Semivolatiles

Lot-Sample #...: F9K190188-001 **Work Order #...:** D5A0W102 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
2-Methylnaphthalene	ND	420	ug/kg
2,4,6-Trichlorophenol	ND	420	ug/kg
2,4,5-Trichlorophenol	ND	420	ug/kg
Hexachlorocyclopenta-diene	ND	420	ug/kg
Acenaphthene	ND	420	ug/kg
2,4-Dinitrophenol	ND	1100	ug/kg
4-Nitrophenol	ND	1100	ug/kg
Dibenzofuran	ND	420	ug/kg
2,4-Dinitrotoluene	ND	420	ug/kg
Diethyl phthalate	ND	420	ug/kg
Fluorene	ND	420	ug/kg
4-Chlorophenyl phenyl ether	ND	420	ug/kg
4-Nitroaniline	ND	1100	ug/kg
Phenanthrene	**140 J**	**420**	**ug/kg**
Anthracene	**37 J**	**420**	**ug/kg**
4,6-Dinitro-2-methylphenol	ND	1100	ug/kg
N-Nitrosodiphenylamine	ND	420	ug/kg
Di-n-butyl phthalate	ND	420	ug/kg
Fluoranthene	**380 J**	**420**	**ug/kg**
Pyrene	**360 J**	**420**	**ug/kg**
Butyl benzyl phthalate	ND	420	ug/kg
Hexachlorobenzene	ND	420	ug/kg
3,3'-Dichlorobenzidine	ND	420	ug/kg
Chrysene	**190 J**	**420**	**ug/kg**
bis(2-Ethylhexyl) phthalate	**190 J**	**420**	**ug/kg**
Di-n-octyl phthalate	ND	420	ug/kg
Benzo(k)fluoranthene	**120 J**	**420**	**ug/kg**
Benzo(ghi)perylene	ND	420	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	66	(11 - 119)
Phenol-d5	71	(21 - 118)
Nitrobenzene-d5	78	(19 - 111)
2-Fluorobiphenyl	63	(22 - 109)
2,4,6-Tribromophenol	66	(10 - 124)
Terphenyl-d14	49	(10 - 157)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

TETRA TECH EM INC.

Client Sample ID: 4SS-1

GC Semivolatiles

Lot-Sample #...: F9K190188-002 **Work Order #...:** D5A2J103 **Matrix.....:** SOLID
Date Sampled...: 11/18/99 09:10 **Date Received..:** 11/19/99
Prep Date.....: 12/01/99 **Analysis Date..:** 12/02/99
Prep Batch #...: 9336219 **Analysis Time..:** 19:41
Dilution Factor: 100
% Moisture.....: 2.2 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	3400	ug/kg
Aroclor 1016	ND	3400	ug/kg
Aroclor 1221	ND	6800	ug/kg
Aroclor 1232	ND	3400	ug/kg
Aroclor 1242	ND	3400	ug/kg
Aroclor 1248	ND	3400	ug/kg
Aroclor 1254	**17000**	**3400**	**ug/kg**
Aroclor 1260	ND	3400	ug/kg
Aroclor 1262	ND	3400	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(15 - 168)
Decachlorobiphenyl	0.0 DIL	(10 207)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

Results and reporting limits have been adjusted for dry weight.

TETRA TECH EM INC.

Client Sample ID: 4SS-1

GC/MS Volatiles

Lot-Sample #...: F9K190188-002 **Work Order #...:** D5A2J104 **Matrix.....:** SOLID
Date Sampled...: 11/18/99 09:10 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/02/99
Prep Batch #...: 9337266 **Analysis Time..:** 12:49
Dilution Factor: 1.12
% Moisture.....: 2.2 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	**850**	**570**	**ug/kg**
Benzene	ND	570	ug/kg
Bromodichloromethane	ND	570	ug/kg
Bromoform	ND	570	ug/kg
Bromomethane	ND	570	ug/kg
2-Butanone	**510 J**	**570**	**ug/kg**
Carbon disulfide	ND	570	ug/kg
Carbon tetrachloride	ND	570	ug/kg
Chlorobenzene	ND	570	ug/kg
Dibromochloromethane	ND	570	ug/kg
Chloroethane	ND	570	ug/kg
Chloroform	ND	570	ug/kg
Chloromethane	ND	570	ug/kg
1,1-Dichloroethane	ND	570	ug/kg
1,2-Dichloroethane	ND	570	ug/kg
1,1-Dichloroethene	ND	570	ug/kg
1,2-Dichloroethene (total)	ND	570	ug/kg
1,2-Dichloropropane	ND	570	ug/kg
cis-1,3-Dichloropropene	ND	570	ug/kg
trans-1,3-Dichloropropene	ND	570	ug/kg
Ethylbenzene	ND	570	ug/kg
2-Hexanone	ND	570	ug/kg
Methylene chloride	ND	570	ug/kg
4-Methyl-2-pentanone	ND	570	ug/kg
Styrene	ND	570	ug/kg
1,1,2,2-Tetrachloroethane	ND	570	ug/kg
Tetrachloroethene	ND	570	ug/kg
Toluene	ND	570	ug/kg
1,1,1-Trichloroethane	ND	570	ug/kg
1,1,2-Trichloroethane	ND	570	ug/kg
Trichloroethene	ND	570	ug/kg
Vinyl chloride	ND	570	ug/kg
Xylenes (total)	ND	570	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	91	(73 - 147)
Toluene-d8	91	(81 - 139)
Dibromofluoromethane	109	(89 - 148)

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TETRA TECH EM INC.

Client Sample ID: 4SS-1

GC/MS Volatiles

Lot-Sample #...: F9K190188-002 **Work Order #...:** D5A2J104 **Matrix.....:** SOLID

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

TETRA TECH EM INC.

Client Sample ID: 4SS-1

GC/MS Semivolatiles

Lot-Sample #...: F9K190188-002 **Work Order #...:** D5A2J102 **Matrix.....:** SOLID
Date Sampled...: 11/18/99 09:10 **Date Received..:** 11/19/99
Prep Date.....: 12/01/99 **Analysis Date..:** 12/09/99
Prep Batch #...: 9336365 **Analysis Time..:** 11:51
Dilution Factor: 10
% Moisture.....: 2.2 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthylene	ND	34000	ug/kg
bis(2-Chloroethoxy) methane	ND	34000	ug/kg
bis(2-Chloroethyl)-ether	ND	34000	ug/kg
2-Chloronaphthalene	ND	34000	ug/kg
2-Chlorophenol	ND	34000	ug/kg
2,4-Dimethylphenol	ND	34000	ug/kg
Dimethyl phthalate	ND	34000	ug/kg
2,6-Dinitrotoluene	ND	34000	ug/kg
Hexachloroethane	ND	34000	ug/kg
Isophorone	ND	34000	ug/kg
2-Methylphenol	ND	34000	ug/kg
4-Methylphenol	ND	34000	ug/kg
2-Nitroaniline	ND	85000	ug/kg
3-Nitroaniline	ND	85000	ug/kg
Nitrobenzene	ND	34000	ug/kg
2-Nitrophenol	ND	34000	ug/kg
N-Nitrosodi-n-propyl-amine	ND	34000	ug/kg
Phenol	ND	34000	ug/kg
2,2'-oxybis(1-Chloropropane)	ND	34000	ug/kg
Benzo(a)anthracene	ND	85000	ug/kg
Benzo(b)fluoranthene	ND	85000	ug/kg
Benzo(a)pyrene	ND	85000	ug/kg
1,2-Dichlorobenzene	ND	34000	ug/kg
1,3-Dichlorobenzene	ND	34000	ug/kg
1,4-Dichlorobenzene	ND	34000	ug/kg
Indeno(1,2,3-cd)pyrene	ND	85000	ug/kg
Pentachlorophenol	ND	85000	ug/kg
Dibenzo(a,h)anthracene	ND	85000	ug/kg
Carbazole	ND	85000	ug/kg
2,4-Dichlorophenol	ND	34000	ug/kg
1,2,4-Trichlorobenzene	ND	34000	ug/kg
Naphthalene	ND	34000	ug/kg
4-Chloroaniline	ND	34000	ug/kg
Hexachlorobutadiene	ND	34000	ug/kg
4-Chloro-3-methylphenol	ND	34000	ug/kg

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TETRA TECH EM INC.

Client Sample ID: 4SS-1

GC/MS Semivolatiles

Lot-Sample #...: F9K190188-002 **Work Order #...:** D5A2J102 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
2-Methylnaphthalene	ND	34000	ug/kg
2,4,6-Trichlorophenol	ND	34000	ug/kg
2,4,5-Trichlorophenol	ND	34000	ug/kg
Hexachlorocyclopenta-diene	ND	34000	ug/kg
Acenaphthene	ND	34000	ug/kg
2,4-Dinitrophenol	ND	85000	ug/kg
4-Nitrophenol	ND	85000	ug/kg
Dibenzofuran	ND	34000	ug/kg
2,4-Dinitrotoluene	ND	34000	ug/kg
Diethyl phthalate	ND	34000	ug/kg
Fluorene	ND	34000	ug/kg
4-Chlorophenyl phenyl ether	ND	34000	ug/kg
4-Nitroaniline	ND	85000	ug/kg
Phenanthrene	ND	34000	ug/kg
Anthracene	ND	34000	ug/kg
4,6-Dinitro-2-methylphenol	ND	85000	ug/kg
N-Nitrosodiphenylamine	ND	34000	ug/kg
Di-n-butyl phthalate	ND	34000	ug/kg
Fluoranthene	ND	34000	ug/kg
Pyrene	ND	34000	ug/kg
Butyl benzyl phthalate	ND	34000	ug/kg
Hexachlorobenzene	ND	34000	ug/kg
3,3'-Dichlorobenzidine	ND	34000	ug/kg
Chrysene	ND	34000	ug/kg
bis(2-Ethylhexyl) phthalate	ND	34000	ug/kg
Di-n-octyl phthalate	ND	34000	ug/kg
Benzo(k)fluoranthene	ND	34000	ug/kg
Benzo(ghi)perylene	ND	34000	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	0.0 DIL,*	(11 - 119)
Phenol-d5	0.0 DIL,*	(21 - 118)
Nitrobenzene-d5	0.0 DIL,*	(19 - 111)
2-Fluorobiphenyl	0.0 DIL,*	(22 - 109)
2,4,6-Tribromophenol	0.0 DIL,*	(10 - 124)
Terphenyl-d14	0.0 DIL,*	(10 - 157)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

TETRA TECH EM INC.

Client Sample ID: 4SB-1 1

GC/MS Volatiles

Lot-Sample #...: F9K190188-003 **Work Order #...:** D5A44101 **Matrix.....:** SOLID
Date Sampled...: 11/18/99 09:30 **Date Received..:** 11/19/99
Prep Date.....: 11/29/99 **Analysis Date..:** 11/29/99
Prep Batch #...: 9334167 **Analysis Time..:** 19:01
Dilution Factor: 0.93
% Moisture.....: 0.0 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	**17 J**	** 9.3	**ug/kg**
Benzene	ND	** 9.3	ug/kg
Bromodichloromethane	ND	** 9.3	ug/kg
Bromoform	ND	** 9.3	ug/kg
Bromomethane	ND	** 9.3	ug/kg
2-Butanone	ND	** 9.3	ug/kg
Carbon disulfide	ND	** 9.3	ug/kg
Carbon tetrachloride	ND	** 9.3	ug/kg
Chlorobenzene	ND	** 9.3	ug/kg
Dibromochloromethane	ND	** 9.3	ug/kg
Chloroethane	ND	** 9.3	ug/kg
Chloroform	ND	** 9.3	ug/kg
Chloromethane	ND	** 9.3	ug/kg
1,1-Dichloroethane	ND	** 9.3	ug/kg
1,2-Dichloroethane	ND	** 9.3	ug/kg
1,1-Dichloroethene	ND	** 9.3	ug/kg
1,2-Dichloroethene (total)	ND	** 9.3	ug/kg
1,2-Dichloropropane	ND	** 9.3	ug/kg
cis-1,3-Dichloropropene	ND	** 9.3	ug/kg
trans-1,3-Dichloropropene	ND	** 9.3	ug/kg
Ethylbenzene	ND	** 9.3	ug/kg
2-Hexanone	ND	** 9.3	ug/kg
Methylene chloride	ND	** 9.3	ug/kg
4-Methyl-2-pentanone	ND	** 9.3	ug/kg
Styrene	ND	** 9.3	ug/kg
1,1,2,2-Tetrachloroethane	ND	** 9.3	ug/kg
Tetrachloroethene	ND	** 9.3	ug/kg
Toluene	ND	** 9.3	ug/kg
1,1,1-Trichloroethane	ND	** 9.3	ug/kg
1,1,2-Trichloroethane	ND	** 9.3	ug/kg
Trichloroethene	ND	** 9.3	ug/kg
Vinyl chloride	**2.5 J**	** 9.3	**ug/kg**
Xylenes (total)	ND	** 9.3	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	99	(73 - 147)
Toluene-d8	105	(81 - 139)
Dibromofluoromethane	103	(89 - 148)

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TETRA TECH EM INC.

Client Sample ID: 4SB-1 1

GC/MS Volatiles

Lot-Sample #...: F9K190188-003 **Work Order #...:** D5A44101 **Matrix.....:** SOLID

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

TETRA TECH EM INC.

Client Sample ID: 13SW-13A

GC Semivolatiles

Lot-Sample #...: F9K190188-004 **Work Order #...:** D5A5H101 **Matrix.....:** WIPE
Date Sampled...: 11/18/99 16:40 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/07/99
Prep Batch #...: 9336313 **Analysis Time..:** 11:27
Dilution Factor: 1

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	1.0	ug/wipe
Aroclor 1221	ND	1.0	ug/wipe
Aroclor 1232	ND	1.0	ug/wipe
Aroclor 1242	ND	1.0	ug/wipe
Aroclor 1248	ND	1.0	ug/wipe
Aroclor 1254	**2.1**	**1.0**	**ug/wipe**
Aroclor 1260	ND	1.0	ug/wipe
Aroclor 1262	ND	1.0	ug/wipe
Aroclor 1268	ND	1.0	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	109	(52 - 161)
Decachlorobiphenyl	95	(43 - 170)

TETRA TECH EM INC.

Client Sample ID: 13SW-13B

GC Semivolatiles

Lot-Sample #...: F9K190188-005 **Work Order #...:** D5A5R1C1 **Matrix.....:** WIPE
Date Sampled...: 11/18/99 16:40 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/07/99
Prep Batch #...: 9336313 **Analysis Time..:** 11:39
Dilution Factor: 10

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	10	ug/wipe
Aroclor 1221	ND	10	ug/wipe
Aroclor 1232	ND	10	ug/wipe
Aroclor 1242	ND	10	ug/wipe
Aroclor 1248	**54**	**10**	**ug/wipe**
Aroclor 1254	ND	10	ug/wipe
Aroclor 1260	ND	10	ug/wipe
Aroclor 1262	ND	10	ug/wipe
Aroclor 1268	ND	10	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL,*	(52 - 161)
Decachlorobiphenyl	0.0 DIL,*	(43 - 170)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

* Surrogate recovery is outside stated control limits

TETRA TECH EM INC.

Client Sample ID: 3SW-13C

GC Semivolatiles

Lot-Sample #...: F9K190188-006 **Work Order #...:** D5A5X101 **Matrix.....:** WIPE
Date Sampled...: 11/18/99 16:45 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/07/99
Prep Batch #...: 9336313 **Analysis Time..:** 11:59
Dilution Factor: 1

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	1.0	ug/wipe
Aroclor 1221	ND	1.0	ug/wipe
Aroclor 1232	ND	1.0	ug/wipe
Aroclor 1242	ND	1.0	ug/wipe
Aroclor 1248	ND	1.0	ug/wipe
Aroclor 1254	ND	1.0	ug/wipe
Aroclor 1260	ND	1.0	ug/wipe
Aroclor 1262	ND	1.0	ug/wipe
Aroclor 1268	ND	1.0	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	111	(52 - 161)
Decachlorobiphenyl	83	(43 - 170)

TETRA TECH EM INC.

Client Sample ID: 3SW-14C

GC Semivolatiles

Lot-Sample #...: F9K190188-008 **Work Order #...:** D5A6E101 **Matrix.....:** WIPE
Date Sampled...: 11/18/99 16:20 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/07/99
Prep Batch #...: 9336313 **Analysis Time..:** 14:09
Dilution Factor: 20

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	20	ug/wipe
Aroclor 1221	ND	20	ug/wipe
Aroclor 1232	ND	20	ug/wipe
Aroclor 1242	ND	20	ug/wipe
Aroclor 1248	ND	20	ug/wipe
Aroclor 1254	**60**	**20**	**ug/wipe**
Aroclor 1260	ND	20	ug/wipe
Aroclor 1262	ND	20	ug/wipe
Aroclor 1268	ND	20	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL,*	(52 - 161)
Decachlorobiphenyl	0.0 DIL,*	(43 - 170)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

* Surrogate recovery is outside stated control limits.

TETRA TECH EM INC.

Client Sample ID: 3SW-14B

GC Semivolatiles

Lot-Sample #...: F9K190188-009 **Work Order #...:** D5A6P101 **Matrix.....:** WIPE
Date Sampled...: 11/18/99 16:15 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/07/99
Prep Batch #...: 9336313 **Analysis Time..:** 14:21
Dilution Factor: 10

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	10	ug/wipe
Aroclor 1221	ND	10	ug/wipe
Aroclor 1232	ND	10	ug/wipe
Aroclor 1242	ND	10	ug/wipe
Aroclor 1248	**40**	**10**	**ug/wipe**
Aroclor 1254	ND	10	ug/wipe
Aroclor 1260	ND	10	ug/wipe
Aroclor 1262	ND	10	ug/wipe
Aroclor 1268	ND	10	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL,*	(52 - 161)
Decachlorobiphenyl	0.0 DIL,*	(43 - 170)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

* Surrogate recovery is outside stated control limits.

TETRA TECH EM INC.

Client Sample ID: 5SW-A

GC Semivolatiles

Lot-Sample #...: F9K190188-010 **Work Order #...:** D5A72101 **Matrix.....:** WIPE
Date Sampled...: 11/18/99 15:50 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/07/99
Prep Batch #...: 9336313 **Analysis Time..:** 14:33
Dilution Factor: 1

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	1.0	ug/wipe
Aroclor 1221	ND	1.0	ug/wipe
Aroclor 1232	ND	1.0	ug/wipe
Aroclor 1242	ND	1.0	ug/wipe
Aroclor 1248	ND	1.0	ug/wipe
Aroclor 1254	ND	1.0	ug/wipe
Aroclor 1260	ND	1.0	ug/wipe
Aroclor 1262	ND	1.0	ug/wipe
Aroclor 1268	ND	1.0	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	105	(52 - 161)
Decachlorobiphenyl	80	(43 - 170)

TETRA TECH EM INC.

Client Sample ID: 5SW-1A

GC Semivolatiles

Lot-Sample #...: F9K190188-011 **Work Order #...:** D5A75101 **Matrix.....:** WIPE
Date Sampled...: 11/18/99 15:45 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/07/99
Prep Batch #...: 9336313 **Analysis Time..:** 14:45
Dilution Factor: 1

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	1.0	ug/wipe
Aroclor 1221	ND	1.0	ug/wipe
Aroclor 1232	ND	1.0	ug/wipe
Aroclor 1242	ND	1.0	ug/wipe
Aroclor 1248	ND	1.0	ug/wipe
Aroclor 1254	**10**	**1.0**	**ug/wipe**
Aroclor 1260	ND	1.0	ug/wipe
Aroclor 1262	ND	1.0	ug/wipe
Aroclor 1268	ND	1.0	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	101	(52 - 161)
Decachlorobiphenyl	101	(43 - 170)

TETRA TECH EM INC.

Client Sample ID: 5SW-1B

GC Semivolatiles

Lot-Sample #...: F9K190188-012 **Work Order #...:** D5A78101 **Matrix.....:** WIPE
Date Sampled...: 11/18/99 15:52 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/07/99
Prep Batch #...: 9336313 **Analysis Time..:** 15:30
Dilution Factor: 10

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	10	ug/wipe
Aroclor 1221	ND	10	ug/wipe
Aroclor 1232	ND	10	ug/wipe
Aroclor 1242	ND	10	ug/wipe
Aroclor 1248	ND	10	ug/wipe
Aroclor 1254	ND	10	ug/wipe
Aroclor 1260	**16**	**10**	**ug/wipe**
Aroclor 1262	ND	10	ug/wipe
Aroclor 1268	ND	10	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL,*	(52 - 161)
Decachlorobiphenyl	0.0 DIL,*	(43 - 170)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution, or the presence of interfering analytes

* Surrogate recovery is outside stated control limits.

TETRA TECH EM INC.

Client Sample ID: 5SW-1C

GC Semivolatiles

Lot-Sample #...: F9K190188-013 **Work Order #...:** D5A7D101 **Matrix.....:** WIPE
Date Sampled...: 11/18/99 15:55 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/07/99
Prep Batch #...: 9336313 **Analysis Time..:** 15:51
Dilution Factor: 1

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	1.0	ug/wipe
Aroclor 1221	ND	1.0	ug/wipe
Aroclor 1232	ND	1.0	ug/wipe
Aroclor 1242	ND	1.0	ug/wipe
Aroclor 1248	ND	1.0	ug/wipe
Aroclor 1254	**1.5**	**1.0**	**ug/wipe**
Aroclor 1260	ND	1.0	ug/wipe
Aroclor 1262	ND	1.0	ug/wipe
Aroclor 1268	ND	1.0	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	111	(52 - 161)
Decachlorobiphenyl	86	(43 - 170)

TETRA TECH EM INC.

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #...: F9K190188-014 **Work Order #...:** D5AAT101 **Matrix.....:** WATER
Date Sampled...: 11/18/99 **Date Received..:** 11/19/99
Prep Date.....: 11/23/99 **Analysis Date..:** 11/23/99
Prep Batch #...: 9328187 **Analysis Time..:** 14:02
Dilution Factor: 1

Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
2-Hexanone	ND	5.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
Bromomethane	ND	2.0	ug/L
Vinyl chloride	ND	2.0	ug/L
Chloroethane	ND	2.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	**6.9 J**	**10**	**ug/L**
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
2-Butanone	**3.1 J**	**5.0**	**ug/L**
1,1,1-Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichlorobenzene	ND	1.0	ug/L
1,3-Dichlorobenzene	ND	1.0	ug/L
1,4-Dichlorobenzene	ND	1.0	ug/L

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TETRA TECH EM INC.

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #...: F9K190188-014 **Work Order #...:** D5AAT101 **Matrix.....:** WATER

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	98	(80 - 123)
Toluene-d8	101	(77 - 131)
Dibromofluoromethane	113	(88 - 139)

NOTE(S):

J Estimated result Result is less than RL.

TETRA TECH EM INC.

Client Sample ID: 4SS-EQ1

GC/MS Volatiles

Lot-Sample #...: F9K190188-015 **Work Order #...:** D5ACT101 **Matrix.....:** WATER
Date Sampled...: 11/18/99 14:30 **Date Received..:** 11/19/99
Prep Date.....: 11/23/99 **Analysis Date..:** 11/23/99
Prep Batch #...: 9328187 **Analysis Time..:** 14:35
Dilution Factor: 1

Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
2-Hexanone	ND	5.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
Bromomethane	ND	2.0	ug/L
Vinyl chloride	ND	2.0	ug/L
Chloroethane	ND	2.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
2-Butanone	ND	5.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichlorobenzene	ND	1.0	ug/L
1,3-Dichlorobenzene	ND	1.0	ug/L
1,4-Dichlorobenzene	ND	1.0	ug/L

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TETRA TECH EM INC.

Client Sample ID: 4SS-EQ1

GC/MS Volatiles

Lot-Sample #...: F9K190188-015 **Work Order #...:** D5ACT101 **Matrix.....:** WATER

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	100	(80 - 123)
Toluene-d8	104	(77 - 131)
Dibromofluoromethane	114	(88 - 139)

TETRA TECH EM INC.

Client Sample ID: 4SB1-EQ1

GC/MS Volatiles

Lot-Sample #...: F9K190188-016 **Work Order #...:** D5AD4101 **Matrix.....:** WATER
Date Sampled...: 11/18/99 14:40 **Date Received..:** 11/19/99
Prep Date.....: 11/23/99 **Analysis Date..:** 11/23/99
Prep Batch #...: 9328187 **Analysis Time..:** 15:09
Dilution Factor: 1

Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
2-Hexanone	ND	5.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
Bromomethane	ND	2.0	ug/L
Vinyl chloride	ND	2.0	ug/L
Chloroethane	ND	2.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
2-Butanone	ND	5.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichlorobenzene	ND	1.0	ug/L
1,3-Dichlorobenzene	ND	1.0	ug/L
1,4-Dichlorobenzene	ND	1.0	ug/L

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TETRA TECH EM INC.

Client Sample ID: 4SB1-EQ1

GC/MS Volatiles

Lot-Sample #...: F9K190188-016 **Work Order #...:** D5AD41C1 **Matrix.....:** WATER

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	100	(80 - 123)
Toluene-d8	100	(77 - 131)
Dibromofluoromethane	118	(88 - 139)

TETRA TECH EM INC.

Client Sample ID: 4SS-EQ1

GC Semivolatiles

Lot-Sample #...: F9K190188-022 **Work Order #...:** D5AF1102 **Matrix.....:** WATER
Date Sampled...: 11/18/99 14:30 **Date Received..:** 11/19/99
Prep Date.....: 11/23/99 **Analysis Date..:** 11/29/99
Prep Batch #...: 9328193 **Analysis Time..:** 19:59
Dilution Factor: 1

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	1.0	ug/L
Aroclor 1221	ND	1.0	ug/L
Aroclor 1232	ND	1.0	ug/L
Aroclor 1242	ND	1.0	ug/L
Aroclor 1248	ND	1.0	ug/L
Aroclor 1254	ND	1.0	ug/L
Aroclor 1260	ND	1.0	ug/L
Aroclor 1262	ND	1.0	ug/L
Aroclor 1268	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	93	(26 - 157)
Decachlorobiphenyl	19	(13 - 147)

TETRA TECH EM INC.

Client Sample ID: 4SS-EQ1

GC/MS Semivolatiles

Lot-Sample #...: F9K190188-022 **Work Order #...:** D5AF1101 **Matrix.....:** WATER
Date Sampled...: 11/18/99 14:30 **Date Received..:** 11/19/99
Prep Date.....: 11/22/99 **Analysis Date..:** 11/29/99
Prep Batch #...: 9328188 **Analysis Time..:** 05:11
Dilution Factor: 1

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo(ghi)perylene	ND	5.0	ug/L
Di-n-butyl phthalate	ND	5.0	ug/L
Fluoranthene	ND	5.0	ug/L
Pyrene	ND	5.0	ug/L
Butyl benzyl phthalate	ND	5.0	ug/L
3,3'-Dichlorobenzidine	ND	5.0	ug/L
Chrysene	ND	5.0	ug/L
bis(2-Ethylhexyl) phthalate	**2.1 J**	**5.0**	**ug/L**
Di-n-octyl phthalate	ND	5.0	ug/L
Benzo(k)fluoranthene	ND	5.0	ug/L
Acenaphthene	ND	5.0	ug/L
2,4-Dinitrophenol	ND	20	ug/L
4-Nitrophenol	ND	20	ug/L
Dibenzofuran	ND	5.0	ug/L
2,4-Dinitrotoluene	ND	5.0	ug/L
Diethyl phthalate	**1.7 J**	**5.0**	**ug/L**
4-Chlorophenyl phenyl ether	ND	5.0	ug/L
Fluorene	ND	5.0	ug/L
4-Nitroaniline	ND	20	ug/L
4,6-Dinitro-2-methylphenol	ND	20	ug/L
N-Nitrosodiphenylamine	ND	10	ug/L
Hexachlorobenzene	ND	5.0	ug/L
Phenanthrene	ND	5.0	ug/L
Anthracene	ND	5.0	ug/L
2,4-Dichlorophenol	ND	5.0	ug/L
1,2,4-Trichlorobenzene	ND	5.0	ug/L
Naphthalene	ND	5.0	ug/L
4-Chloroaniline	ND	5.0	ug/L
Hexachlorobutadiene	ND	5.0	ug/L
4-Chloro-3-methylphenol	ND	5.0	ug/L
2-Methylnaphthalene	ND	5.0	ug/L
Hexachlorocyclopentadiene	ND	5.0	ug/L
2,4,6-Trichlorophenol	ND	5.0	ug/L
2,4,5-Trichlorophenol	ND	5.0	ug/L

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TETRA TECH EM INC.

Client Sample ID: 4SS-EQ1

GC/MS Semivolatiles

Lot-Sample #...: F9K190188-022 **Work Order #...:** D5AF1101 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS
2-Chloronaphthalene	ND	5.0	ug/L
2-Nitroaniline	ND	20	ug/L
Dimethyl phthalate	ND	5.0	ug/L
Acenaphthylene	ND	5.0	ug/L
2,6-Dinitrotoluene	ND	5.0	ug/L
3-Nitroaniline	ND	20	ug/L
Phenol	ND	5.0	ug/L
bis(2-Chloroethyl)-ether	ND	5.0	ug/L
2-Chlorophenol	ND	5.0	ug/L
2-Methylphenol	ND	5.0	ug/L
2,2'-oxybis(1-Chloropropane)	ND	5.0	ug/L
4-Methylphenol	ND	5.0	ug/L
N-Nitrosodi-n-propyl-amine	ND	5.0	ug/L
Hexachloroethane	ND	5.0	ug/L
Nitrobenzene	ND	5.0	ug/L
Isophorone	ND	5.0	ug/L
2-Nitrophenol	ND	5.0	ug/L
2,4-Dimethylphenol	ND	5.0	ug/L
bis(2-Chloroethoxy) methane	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	53	(10 - 111)
Phenol-d5	45	(10 - 118)
Nitrobenzene-d5	68	(18 - 116)
2-Fluorobiphenyl	77	(10 - 124)
2,4,6-Tribromophenol	111	(24 - 118)
Terphenyl-d14	88	(24 - 140)

NOTE(S):

J Estimated result. Result is less than RL.

TETRA TECH EM INC.

Client Sample ID: 4SB-1 EQ1

GC Semivolatiles

Lot-Sample #...: F9K190188-023 **Work Order #...:** D5AFF102 **Matrix.....:** WATER
Date Sampled...: 11/18/99 14:40 **Date Received..:** 11/19/99
Prep Date.....: 11/23/99 **Analysis Date..:** 11/29/99
Prep Batch #...: 9328193 **Analysis Time..:** 20:12
Dilution Factor: 1

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	1.0	ug/L
Aroclor 1221	ND	1.0	ug/L
Aroclor 1232	ND	1.0	ug/L
Aroclor 1242	ND	1.0	ug/L
Aroclor 1248	ND	1.0	ug/L
Aroclor 1254	ND	1.0	ug/L
Aroclor 1260	ND	1.0	ug/L
Aroclor 1262	ND	1.0	ug/L
Aroclor 1268	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	92	(26 - 157)
Decachlorobiphenyl	14	(13 - 147)

TETRA TECH EM INC.

Client Sample ID: 4SB-1 EQ1

GC/MS Semivolatiles

Lot-Sample #...: F9K190188-023 **Work Order #...:** D5AFF101 **Matrix.....:** WATER
Date Sampled...: 11/18/99 14:40 **Date Received..:** 11/19/99
Prep Date.....: 11/22/99 **Analysis Date..:** 11/29/99
Prep Batch #...: 9328188 **Analysis Time..:** 05:44
Dilution Factor: 1

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo(ghi)perylene	ND	5.0	ug/L
Di-n-butyl phthalate	ND	5.0	ug/L
Fluoranthene	ND	5.0	ug/L
Pyrene	ND	5.0	ug/L
Butyl benzyl phthalate	ND	5.0	ug/L
3,3'-Dichlorobenzidine	ND	5.0	ug/L
Chrysene	ND	5.0	ug/L
bis(2-Ethylhexyl) phthalate	**2.0 J**	**5.0**	**ug/L**
Di-n-octyl phthalate	ND	5.0	ug/L
Benzo(k)fluoranthene	ND	5.0	ug/L
Acenaphthene	ND	5.0	ug/L
2,4-Dinitrophenol	ND	20	ug/L
4-Nitrophenol	ND	20	ug/L
Dibenzofuran	ND	5.0	ug/L
2,4-Dinitrotoluene	ND	5.0	ug/L
Diethyl phthalate	ND	5.0	ug/L
4-Chlorophenyl phenyl ether	ND	5.0	ug/L
Fluorene	ND	5.0	ug/L
4-Nitroaniline	ND	20	ug/L
4,6-Dinitro-2-methylphenol	ND	20	ug/L
N-Nitrosodiphenylamine	ND	10	ug/L
Hexachlorobenzene	ND	5.0	ug/L
Phenanthrene	ND	5.0	ug/L
Anthracene	ND	5.0	ug/L
2,4-Dichlorophenol	ND	5.0	ug/L
1,2,4-Trichlorobenzene	ND	5.0	ug/L
Naphthalene	ND	5.0	ug/L
4-Chloroaniline	ND	5.0	ug/L
Hexachlorobutadiene	ND	5.0	ug/L
4-Chloro-3-methylphenol	ND	5.0	ug/L
2-Methylnaphthalene	ND	5.0	ug/L
Hexachlorocyclopentadiene	ND	5.0	ug/L
2,4,6-Trichlorophenol	ND	5.0	ug/L
2,4,5-Trichlorophenol	ND	5.0	ug/L

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TETRA TECH EM INC.

Client Sample ID: 4SB-1 EQ1

GC/MS Semivolatiles

Lot-Sample #...: F9K190188-023 **Work Order #...:** D5AFF101 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS
2-Chloronaphthalene	ND	5.0	ug/L
2-Nitroaniline	ND	20	ug/L
Dimethyl phthalate	ND	5.0	ug/L
Acenaphthylene	ND	5.0	ug/L
2,6-Dinitrotoluene	ND	5.0	ug/L
3-Nitroaniline	ND	20	ug/L
Phenol	ND	5.0	ug/L
bis(2-Chloroethyl)-ether	ND	5.0	ug/L
2-Chlorophenol	ND	5.0	ug/L
2-Methylphenol	ND	5.0	ug/L
2,2'-oxybis(1-Chloropropane)	ND	5.0	ug/L
4-Methylphenol	ND	5.0	ug/L
N-Nitrosodi-n-propyl-amine	ND	5.0	ug/L
Hexachloroethane	ND	5.0	ug/L
Nitrobenzene	ND	5.0	ug/L
Isophorone	ND	5.0	ug/L
2-Nitrophenol	ND	5.0	ug/L
2,4-Dimethylphenol	ND	5.0	ug/L
bis(2-Chloroethoxy) methane	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	36	(10 - 111)
Phenol-d5	27	(10 - 118)
Nitrobenzene-d5	63	(18 - 116)
2-Fluorobiphenyl	68	(10 - 124)
2,4,6-Tribromophenol	104	(24 - 118)
Terphenyl-d14	79	(24 - 140)

NOTE(S):

J Estimated result. Result is less than RL

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: F9K190188 **Work Order #...:** D5G5N101 **Matrix.....:** WATER
MB Lot-Sample #: F9K240000-187

Prep Date.....: 11/23/99 **Analysis Time..:** 10:08

Analysis Date..: 11/23/99 **Prep Batch #...:** 9328187
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B
Acetone	ND	10	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	2.0	ug/L	SW846 8260B
2-Butanone	ND	5.0	ug/L	SW846 8260B
Carbon disulfide	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	2.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	2.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	0.50	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	0.50	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
2-Hexanone	ND	5.0	ug/L	SW846 8260B
Methylene chloride	ND	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	5.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	2.0	ug/L	SW846 8260B

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: F9K190188 **Work Order #...:** D5G5N101 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	100	(78 - 124)
Toluene-d8	101	(71 - 129)
Dibromofluoromethane	108	(74 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: F9K190188 **Work Order #...:** D5G5P101 **Matrix.....:** WATER
MB Lot-Sample #: F9K240000-188

Prep Date.....: 11/22/99 **Analysis Time..:** 00:45
Analysis Date..: 11/29/99 **Prep Batch #...:** 9328188
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acenaphthene	ND	5.0	ug/L	SW846 8270C
Acenaphthylene	ND	5.0	ug/L	SW846 8270C
Anthracene	ND	5.0	ug/L	SW846 8270C
Benzo(k)fluoranthene	ND	5.0	ug/L	SW846 8270C
Benzo(ghi)perylene	ND	5.0	ug/L	SW846 8270C
bis(2-Chloroethoxy) methane	ND	5.0	ug/L	SW846 8270C
bis(2-Chloroethyl)-ether	ND	5.0	ug/L	SW846 8270C
bis(2-Ethylhexyl) phthalate	ND	5.0	ug/L	SW846 8270C
Butyl benzyl phthalate	ND	5.0	ug/L	SW846 8270C
4-Chloroaniline	ND	5.0	ug/L	SW846 8270C
4-Chloro-3-methylphenol	ND	5.0	ug/L	SW846 8270C
2-Chloronaphthalene	ND	5.0	ug/L	SW846 8270C
2-Chlorophenol	ND	5.0	ug/L	SW846 8270C
4-Chlorophenyl phenyl ether	ND	5.0	ug/L	SW846 8270C
Chrysene	ND	5.0	ug/L	SW846 8270C
Dibenzofuran	ND	5.0	ug/L	SW846 8270C
Di-n-butyl phthalate	ND	5.0	ug/L	SW846 8270C
3,3'-Dichlorobenzidine	ND	5.0	ug/L	SW846 8270C
2,4-Dichlorophenol	ND	5.0	ug/L	SW846 8270C
Diethyl phthalate	ND	5.0	ug/L	SW846 8270C
2,4-Dimethylphenol	ND	5.0	ug/L	SW846 8270C
Dimethyl phthalate	ND	5.0	ug/L	SW846 8270C
Di-n-octyl phthalate	ND	5.0	ug/L	SW846 8270C
4,6-Dinitro-2-methylphenol	ND	20	ug/L	SW846 8270C
2,4-Dinitrophenol	ND	20	ug/L	SW846 8270C
2,4-Dinitrotoluene	ND	5.0	ug/L	SW846 8270C
2,6-Dinitrotoluene	ND	5.0	ug/L	SW846 8270C
Fluoranthene	ND	5.0	ug/L	SW846 8270C
Fluorene	ND	5.0	ug/L	SW846 8270C
Hexachlorobenzene	ND	5.0	ug/L	SW846 8270C
Hexachlorobutadiene	ND	5.0	ug/L	SW846 8270C
Hexachlorocyclopenta-diene	ND	5.0	ug/L	SW846 8270C
Hexachloroethane	ND	5.0	ug/L	SW846 8270C
Isophorone	ND	5.0	ug/L	SW846 8270C
2-Methylnaphthalene	ND	5.0	ug/L	SW846 8270C

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METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: F9K190188 **Work Order #...:** D5G5P101 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
2-Methylphenol	ND	5.0	ug/L	SW846 8270C
3-Nitroaniline	ND	20	ug/L	SW846 8270C
4-Nitroaniline	ND	20	ug/L	SW846 8270C
Nitrobenzene	ND	5.0	ug/L	SW846 8270C
4-Methylphenol	ND	5.0	ug/L	SW846 8270C
Naphthalene	ND	5.0	ug/L	SW846 8270C
2-Nitroaniline	ND	20	ug/L	SW846 8270C
2-Nitrophenol	ND	5.0	ug/L	SW846 8270C
4-Nitrophenol	ND	20	ug/L	SW846 8270C
N-Nitrosodi-n-propyl-amine	ND	5.0	ug/L	SW846 8270C
N-Nitrosodiphenylamine	ND	10	ug/L	SW846 8270C
Phenanthrene	ND	5.0	ug/L	SW846 8270C
Phenol	ND	5.0	ug/L	SW846 8270C
Pyrene	ND	5.0	ug/L	SW846 8270C
1,2,4-Trichlorobenzene	ND	5.0	ug/L	SW846 8270C
2,4,5-Trichlorophenol	ND	5.0	ug/L	SW846 8270C
2,4,6-Trichlorophenol	ND	5.0	ug/L	SW846 8270C
2,2'-oxybis(1-Chloropropa	ND	5.0	ug/L	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	63	(10 - 111)
Phenol-d5	72	(10 - 118)
Nitrobenzene-d5	67	(18 - 116)
2-Fluorobiphenyl	78	(10 - 124)
2,4,6-Tribromophenol	94	(24 - 118)
Terphenyl-d14	80	(24 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F9K190188 **Work Order #...:** D5G67101 **Matrix.....:** WATER
MB Lot-Sample #: F9K240000-193

Prep Date.....: 11/23/99 **Analysis Time..:** 19:22
Analysis Date..: 11/29/99 **Prep Batch #...:** 9328193
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	1.0	ug/L	SW846 8082
Aroclor 1221	ND	1.0	ug/L	SW846 8082
Aroclor 1232	ND	1.0	ug/L	SW846 8082
Aroclor 1242	ND	1.0	ug/L	SW846 8082
Aroclor 1248	ND	1.0	ug/L	SW846 8082
Aroclor 1254	ND	1.0	ug/L	SW846 8082
Aroclor 1260	ND	1.0	ug/L	SW846 8082
Aroclor 1262	ND	1.0	ug/L	SW846 8082
Aroclor 1268	ND	1.0	ug/L	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	93	(26 - 157)
Decachlorobiphenyl	33	(13 - 147)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: F9K190188 **Work Order #...:** D5KFP101 **Matrix.....:** SOLID
MB Lot-Sample #: F9K300000-167

Prep Date.....: 11/29/99 **Analysis Time..:** 10:29

Analysis Date..: 11/29/99 **Prep Batch #...:** 9334167
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acetone	**7.9 J**	**10**	**ug/kg**	**SW846 8260B**
Benzene	ND	10	ug/kg	SW846 8260B
Bromodichloromethane	ND	10	ug/kg	SW846 8260B
Bromoform	ND	10	ug/kg	SW846 8260B
Bromomethane	ND	10	ug/kg	SW846 8260B
2-Butanone	ND	10	ug/kg	SW846 8260B
Carbon disulfide	ND	10	ug/kg	SW846 8260B
Carbon tetrachloride	ND	10	ug/kg	SW846 8260B
Chlorobenzene	ND	10	ug/kg	SW846 8260B
Dibromochloromethane	ND	10	ug/kg	SW846 8260B
Chloroethane	ND	10	ug/kg	SW846 8260B
Chloroform	ND	10	ug/kg	SW846 8260B
Chloromethane	ND	10	ug/kg	SW846 8260B
1,1-Dichloroethane	ND	10	ug/kg	SW846 8260B
1,2-Dichloroethane	ND	10	ug/kg	SW846 8260B
1,1-Dichloroethene	ND	10	ug/kg	SW846 8260B
1,2-Dichloroethene (total)	ND	10	ug/kg	SW846 8260B
1,2-Dichloropropane	ND	10	ug/kg	SW846 8260B
cis-1,3-Dichloropropene	ND	10	ug/kg	SW846 8260B
trans-1,3-Dichloropropene	ND	10	ug/kg	SW846 8260B
Ethylbenzene	ND	10	ug/kg	SW846 8260B
2-Hexanone	ND	10	ug/kg	SW846 8260B
Methylene chloride	ND	10	ug/kg	SW846 8260B
4-Methyl-2-pentanone	ND	10	ug/kg	SW846 8260B
Styrene	ND	10	ug/kg	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	10	ug/kg	SW846 8260B
Tetrachloroethene	ND	10	ug/kg	SW846 8260B
Toluene	ND	10	ug/kg	SW846 8260B
1,1,1-Trichloroethane	ND	10	ug/kg	SW846 8260B
1,1,2-Trichloroethane	ND	10	ug/kg	SW846 8260B
Trichloroethene	ND	10	ug/kg	SW846 8260B
Vinyl chloride	ND	10	ug/kg	SW846 8260B
Xylenes (total)	ND	10	ug/kg	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	102	(73 - 147)
Toluene-d8	103	(81 - 139)
Dibromofluoromethane	106	(89 - 148)

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: F9K190188 **Work Order #...:** D5KFP101 **Matrix.....:** SOLID

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F9K190188 **Work Order #...:** D5NQ2101 **Matrix.....:** SOLID
MB Lot-Sample #: F9L020000-219

Prep Date.....: 12/01/99 **Analysis Time..:** 15:02
Analysis Date..: 12/02/99 **Prep Batch #...:** 9336219
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	33	ug/kg	SW846 8082
Aroclor 1221	ND	67	ug/kg	SW846 8082
Aroclor 1232	ND	33	ug/kg	SW846 8082
Aroclor 1242	ND	33	ug/kg	SW846 8082
Aroclor 1248	ND	33	ug/kg	SW846 8082
Aroclor 1254	ND	33	ug/kg	SW846 8082
Aroclor 1260	ND	33	ug/kg	SW846 8082
Aroclor 1262	ND	33	ug/kg	SW846 8082
Aroclor 1268	ND	33	ug/kg	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	88	(15 - 168)
Decachlorobiphenyl	73	(10 - 207)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F9K190188 **Work Order #...:** D5PD7101 **Matrix.....:** WIPE
MB Lot-Sample #: F9L020000-313

Prep Date.....: 12/02/99 **Analysis Time..:** 10:50
Analysis Date..: 12/07/99 **Prep Batch #...:** 9336313
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	1.0	ug/wipe	SW846 8082
Aroclor 1221	ND	1.0	ug/wipe	SW846 8082
Aroclor 1232	ND	1.0	ug/wipe	SW846 8082
Aroclor 1242	ND	1.0	ug/wipe	SW846 8082
Aroclor 1248	ND	1.0	ug/wipe	SW846 8082
Aroclor 1254	ND	1.0	ug/wipe	SW846 8082
Aroclor 1260	ND	1.0	ug/wipe	SW846 8082
Aroclor 1262	ND	1.0	ug/wipe	SW846 8082
Aroclor 1268	ND	1.0	ug/wipe	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	118	(52 - 161)
Decachlorobiphenyl	82	(43 - 170)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: F9K190188 **Work Order #...:** D5PPH101 **Matrix.....:** SOLID
MB Lot-Sample #: F9L020000-365
Prep Date.....: 12/01/99 **Analysis Time..:** 19:44
Analysis Date..: 12/07/99 **Prep Batch #...:** 9336365
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acenaphthene	ND	330	ug/kg	SW846 8270C
Acenaphthylene	ND	330	ug/kg	SW846 8270C
Anthracene	ND	330	ug/kg	SW846 8270C
Benzo(a)anthracene	ND	830	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	830	ug/kg	SW846 8270C
Benzo(k)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(ghi)perylene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	830	ug/kg	SW846 8270C
bis(2-Chloroethoxy) methane	ND	330	ug/kg	SW846 8270C
bis(2-Chloroethyl)-ether	ND	330	ug/kg	SW846 8270C
bis(2-Ethylhexyl) phthalate	ND	330	ug/kg	SW846 8270C
Butyl benzyl phthalate	ND	330	ug/kg	SW846 8270C
4-Chloroaniline	ND	330	ug/kg	SW846 8270C
4-Chloro-3-methylphenol	ND	330	ug/kg	SW846 8270C
2-Chloronaphthalene	ND	330	ug/kg	SW846 8270C
2-Chlorophenol	ND	330	ug/kg	SW846 8270C
4-Chlorophenyl phenyl ether	ND	330	ug/kg	SW846 8270C
Chrysene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Di-n-butyl phthalate	ND	330	ug/kg	SW846 8270C
1,2-Dichlorobenzene	ND	330	ug/kg	SW846 8270C
1,3-Dichlorobenzene	ND	330	ug/kg	SW846 8270C
1,4-Dichlorobenzene	ND	330	ug/kg	SW846 8270C
3,3'-Dichlorobenzidine	ND	330	ug/kg	SW846 8270C
2,4-Dichlorophenol	ND	330	ug/kg	SW846 8270C
Diethyl phthalate	ND	330	ug/kg	SW846 8270C
2,4-Dimethylphenol	ND	330	ug/kg	SW846 8270C
Dimethyl phthalate	ND	330	ug/kg	SW846 8270C
Di-n-octyl phthalate	ND	330	ug/kg	SW846 8270C
4,6-Dinitro-2-methylphenol	ND	830	ug/kg	SW846 8270C
2,4-Dinitrophenol	ND	830	ug/kg	SW846 8270C
2,4-Dinitrotoluene	ND	330	ug/kg	SW846 8270C
2,6-Dinitrotoluene	ND	330	ug/kg	SW846 8270C
Fluoranthene	ND	330	ug/kg	SW846 8270C
Fluorene	ND	330	ug/kg	SW846 8270C
Hexachlorobenzene	ND	330	ug/kg	SW846 8270C

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METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: P9K190188 **Work Order #...:** D5PPH101 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Hexachlorobutadiene	ND	330	ug/kg	SW846 8270C
Hexachlorocyclopenta-diene	ND	330	ug/kg	SW846 8270C
Hexachloroethane	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	830	ug/kg	SW846 8270C
Isophorone	ND	330	ug/kg	SW846 8270C
2-Methylnaphthalene	ND	330	ug/kg	SW846 8270C
2-Methylphenol	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C
2-Nitroaniline	ND	830	ug/kg	SW846 8270C
3-Nitroaniline	ND	830	ug/kg	SW846 8270C
4-Nitroaniline	ND	830	ug/kg	SW846 8270C
Nitrobenzene	ND	330	ug/kg	SW846 8270C
2-Nitrophenol	ND	330	ug/kg	SW846 8270C
4-Nitrophenol	ND	830	ug/kg	SW846 8270C
N-Nitrosodi-n-propyl-amine	ND	330	ug/kg	SW846 8270C
N-Nitrosodiphenylamine	ND	330	ug/kg	SW846 8270C
Pentachlorophenol	ND	830	ug/kg	SW846 8270C
Phenanthrene	ND	330	ug/kg	SW846 8270C
Phenol	ND	330	ug/kg	SW846 8270C
Pyrene	ND	330	ug/kg	SW846 8270C
1,2,4-Trichlorobenzene	ND	330	ug/kg	SW846 8270C
2,4,5-Trichlorophenol	ND	330	ug/kg	SW846 8270C
2,4,6-Trichlorophenol	ND	330	ug/kg	SW846 8270C
Dibenzo(a,h)anthracene	ND	830	ug/kg	SW846 8270C
Carbazole	ND	830	ug/kg	SW846 8270C
2,2'-oxybis(1-Chloropropa	ND	330	ug/kg	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	59	(11 - 119)
Phenol-d5	60	(21 - 118)
Nitrobenzene-d5	45	(19 - 111)
2-Fluorobiphenyl	42	(22 - 109)
2,4,6-Tribromophenol	50	(10 - 124)
Terphenyl-d14	32	(10 - 157)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: F9K190188 **Work Order #...:** D5QQ6101 **Matrix.....:** SOLID
MB Lot-Sample #: F9L030000-266

Prep Date.....: 12/02/99 **Analysis Time..:** 11:08
Analysis Date..: 12/02/99 **Prep Batch #...:** 9337266
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acetone	ND	500	ug/kg	SW846 8260B
Benzene	ND	500	ug/kg	SW846 8260B
Bromodichloromethane	ND	500	ug/kg	SW846 8260B
Bromoform	ND	500	ug/kg	SW846 8260B
Bromomethane	ND	500	ug/kg	SW846 8260B
2-Butanone	**290 J**	**500**	**ug/kg**	**SW846 8260B**
Carbon disulfide	ND	500	ug/kg	SW846 8260B
Carbon tetrachloride	ND	500	ug/kg	SW846 8260B
Chlorobenzene	ND	500	ug/kg	SW846 8260B
Dibromochloromethane	ND	500	ug/kg	SW846 8260B
Chloroethane	ND	500	ug/kg	SW846 8260B
Chloroform	ND	500	ug/kg	SW846 8260B
Chloromethane	ND	500	ug/kg	SW846 8260B
1,1-Dichloroethane	ND	500	ug/kg	SW846 8260B
1,2-Dichloroethane	ND	500	ug/kg	SW846 8260B
1,1-Dichloroethene	ND	500	ug/kg	SW846 8260B
1,2-Dichloroethene (total)	ND	500	ug/kg	SW846 8260B
1,2-Dichloropropane	ND	500	ug/kg	SW846 8260B
cis-1,3-Dichloropropene	ND	500	ug/kg	SW846 8260B
trans-1,3-Dichloropropene	ND	500	ug/kg	SW846 8260B
Ethylbenzene	ND	500	ug/kg	SW846 8260B
2-Hexanone	ND	500	ug/kg	SW846 8260B
Methylene chloride	ND	500	ug/kg	SW846 8260B
4-Methyl-2-pentanone	ND	500	ug/kg	SW846 8260B
Styrene	ND	500	ug/kg	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	500	ug/kg	SW846 8260B
Tetrachloroethene	ND	500	ug/kg	SW846 8260B
Toluene	ND	500	ug/kg	SW846 8260B
1,1,1-Trichloroethane	ND	500	ug/kg	SW846 8260B
1,1,2-Trichloroethane	ND	500	ug/kg	SW846 8260B
Trichloroethene	ND	500	ug/kg	SW846 8260B
Vinyl chloride	ND	500	ug/kg	SW846 8260B
Xylenes (total)	ND	500	ug/kg	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	95	(73 - 147)
Toluene-d8	111	(81 - 139)
Dibromofluoromethane	106	(89 - 148)

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: F9K190188 **Work Order #...:** D5Q06101 **Matrix.....:** SOLID

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: F9K190188 **Work Order #...:** D5G5N102-LCS **Matrix.....:** WATER
LCS Lot-Sample#: F9K240000-187 D5G5N103-LCSD
Prep Date.....: 11/23/99 **Analysis Date..:** 11/23/99
Prep Batch #...: 9328187 **Analysis Time..:** 10:41
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**108**	**(76 - 127)**			**SW846 8260B**
	107	**(76 - 127)**	**1.4**	**(0-21)**	**SW846 8260B**
Chlorobenzene	**99**	**(75 - 130)**			**SW846 8260B**
	98	**(75 - 130)**	**0.55**	**(0-21)**	**SW846 8260B**
1,1-Dichloroethene	**108**	**(61 - 145)**			**SW846 8260B**
	102	**(61 - 145)**	**5.6**	**(0-22)**	**SW846 8260B**
Toluene	**94**	**(76 - 125)**			**SW846 8260B**
	92	**(76 - 125)**	**1.8**	**(0-21)**	**SW846 8260B**
Trichloroethene	**95**	**(71 - 120)**			**SW846 8260B**
	99	**(71 - 120)**	**3.5**	**(0-24)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	104	(78 - 124)
	98	(78 - 124)
Toluene-d8	101	(71 - 129)
	99	(71 - 129)
Dibromofluoromethane	112	(74 - 135)
	108	(74 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: F9K190188 **Work Order #...:** D5G5P102-LCS **Matrix.....:** WATER
LCS Lot-Sample#: F9K240000-188 D5G5P103-LCSD
Prep Date.....: 11/22/99 **Analysis Date..:** 11/29/99
Prep Batch #...: 9328188 **Analysis Time..:** 01:18
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Phenol	68	(10 - 75)			SW846 8270C
	70	(10 - 75)	4.0	(0-23)	SW846 8270C
2-Chlorophenol	75	(32 - 89)			SW846 8270C
	78	(32 - 89)	3.0	(0-27)	SW846 8270C
N-Nitrosodi-n-propyl-amine	76	(21 - 118)			SW846 8270C
	79	(21 - 118)	3.7	(0-34)	SW846 8270C
1,2,4-Trichlorobenzene	87	(31 - 95)			SW846 8270C
	90	(31 - 95)	3.6	(0-20)	SW846 8270C
4-Chloro-3-methylphenol	81	(40 - 96)			SW846 8270C
	83	(40 - 96)	1.9	(0-21)	SW846 8270C
Acenaphthene	80	(34 - 99)			SW846 8270C
	83	(34 - 99)	3.7	(0-18)	SW846 8270C
4-Nitrophenol	70	(10 - 83)			SW846 8270C
	70	(10 - 83)	0.76	(0-33)	SW846 8270C
2,4-Dinitrotoluene	84	(35 - 104)			SW846 8270C
	88	(35 - 104)	3.9	(0-28)	SW846 8270C
Pyrene	73	(31 - 114)			SW846 8270C
	77	(31 - 114)	4.8	(0-20)	SW846 8270C
1,4-Dichlorobenzene	78	(23 - 96)			SW846 8270C
	79	(23 - 96)	2.5	(0-25)	SW846 8270C
Pentachlorophenol	83	(22 - 115)			SW846 8270C
	87	(22 - 115)	4.4	(0-20)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	72	(10 - 111)
	75	(10 - 111)
Phenol-d5	78	(10 - 118)
	78	(10 - 118)
Nitrobenzene-d5	72	(28 - 116)
	76	(28 - 116)
2-Fluorobiphenyl	80	(10 - 124)
	82	(10 - 124)
2,4,6-Tribromophenol	112	(24 - 118)
	107	(24 - 118)
Terphenyl-d14	83	(24 - 140)
	83	(24 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F9K190188 **Work Order #...:** D5G67102-LCS **Matrix.....:** WATER
LCS Lot-Sample#: F9K240000-193 D5G67103-LCSD
Prep Date.....: 11/23/99 **Analysis Date..:** 11/29/99
Prep Batch #...: 9328193 **Analysis Time..:** 19:35
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	**89**	**(24 - 199)**			**SW846 8082**
	93	**(24 - 199)**	**4.5**	**(0-20)**	**SW846 8082**
Aroclor 1260	**79**	**(58 - 134)**			**SW846 8082**
	84	**(58 - 134)**	**6.1**	**(0-20)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	100	(26 - 157)
	105	(26 - 157)
Decachlorobiphenyl	36	(13 - 147)
	34	(13 - 147)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: F9K190188 **Work Order #...:** D5KFP104-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: F9K300000-167 D5KFP105-LCSD
Prep Date.....: 11/29/99 **Analysis Date..:** 11/29/99
Prep Batch #...: 9334167 **Analysis Time..:** 11:06
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**102**	**(37 - 151)**			**SW846 8260B**
	101	**(37 - 151)**	**1.2**	**(0-21)**	**SW846 8260B**
Chlorobenzene	**96**	**(37 - 160)**			**SW846 8260B**
	95	**(37 - 160)**	**1.3**	**(0-21)**	**SW846 8260B**
1,1-Dichloroethene	**99**	**(10 - 234)**			**SW846 8260B**
	100	**(10 - 234)**	**0.66**	**(0-22)**	**SW846 8260B**
Toluene	**100**	**(47 - 150)**			**SW846 8260B**
	99	**(47 - 150)**	**0.98**	**(0-21)**	**SW846 8260B**
Trichloroethene	**91**	**(71 - 157)**			**SW846 8260B**
	90	**(71 - 157)**	**1.6**	**(0-24)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	101	(73 - 147)
	102	(73 - 147)
Toluene-d8	102	(81 - 139)
	104	(81 - 139)
Dibromofluoromethane	102	(89 - 148)
	102	(89 - 148)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F9K190188 **Work Order #...:** D5NQ2102-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: F9L020000-219 D5NQ2103-LCSD
Prep Date.....: 12/01/99 **Analysis Date..:** 12/02/99
Prep Batch #...: 9336219 **Analysis Time..:** 15:15
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1260	76	(41 - 159)			SW846 8082
	55 p	(41 - 159)	32	(0-20)	SW846 8082
Aroclor 1016	80	(24 - 158)			SW846 8082
	61 p	(24 - 158)	26	(0-20)	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	94	(15 - 168)
	82	(15 - 168)
Decachlorobiphenyl	77	(10 - 207)
	55	(10 - 207)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

p Relative percent difference (RPD) is outside stated control limits.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F9K190188 **Work Order #...:** D5PD7102-LCS **Matrix.....:** WIPE
LCS Lot-Sample#: F9L020000-313 D5PD7103-LCSD
Prep Date.....: 12/02/99 **Analysis Date..:** 12/07/99
Prep Batch #...: 9336313 **Analysis Time..:** 11:02
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	**100**	**(64 - 160)**			**SW846 8082**
	98	**(64 - 160)**	**2.6**	**(0-20)**	**SW846 8082**
Aroclor 1260	**97**	**(53 - 163)**			**SW846 8082**
	97	**(53 - 163)**	**0.78**	**(0-20)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	116	(52 - 161)
	113	(52 - 161)
Decachlorobiphenyl	85	(43 - 170)
	84	(43 - 170)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: F9K190188 **Work Order #...:** D5PPH102-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: F9L020000-365 D5PPH103-LCSD
Prep Date.....: 12/01/99 **Analysis Date..:** 12/07/99
Prep Batch #...: 9336365 **Analysis Time..:** 20:18
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Phenol	37	(32 - 86)			SW846 8270C
	40	(32 - 86)	7.1	(0-27)	SW846 8270C
2-Chlorophenol	41	(39 - 85)			SW846 8270C
	44	(39 - 85)	6.8	(0-33)	SW846 8270C
1,4-Dichlorobenzene	38	(29 - 92)			SW846 8270C
	40	(29 - 92)	3.4	(0-35)	SW846 8270C
N-Nitrosodi-n-propyl-amine	44	(29 - 107)			SW846 8270C
	47	(29 - 107)	6.1	(0-33)	SW846 8270C
1,2,4-Trichlorobenzene	39 a	(40 - 90)			SW846 8270C
	41	(40 - 90)	4.8	(0-35)	SW846 8270C
4-Chloro-3-methylphenol	43	(38 - 98)			SW846 8270C
	46	(38 - 98)	6.5	(0-30)	SW846 8270C
Acenaphthene	42	(26 - 103)			SW846 8270C
	42	(26 - 103)	1.6	(0-27)	SW846 8270C
4-Nitrophenol	40	(30 - 110)			SW846 8270C
	44	(30 - 110)	9.7	(0-37)	SW846 8270C
2,4-Dinitrotoluene	43	(37 - 102)			SW846 8270C
	46	(37 - 102)	5.7	(0-25)	SW846 8270C
Pentachlorophenol	30	(23 - 100)			SW846 8270C
	28	(23 - 100)	7.9	(0-35)	SW846 8270C
Pyrene	47	(39 - 105)			SW846 8270C
	45	(39 - 105)	3.3	(0-31)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	86	(11 - 119)
	89	(11 - 119)
Phenol-d5	88	(21 - 118)
	91	(21 - 118)
Nitrobenzene-d5	83	(19 - 111)
	85	(19 - 111)
2-Fluorobiphenyl	86	(22 - 109)
	84	(22 - 109)
2,4,6-Tribromophenol	98	(10 - 124)
	101	(10 - 124)
Terphenyl-d14	59	(10 - 157)
	56	(10 - 157)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: F9K190188 **Work Order #...:** D5QQ6102-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: F9L030000-266 D5QQ6103-LCSD
Prep Date.....: 12/02/99 **Analysis Date..:** 12/02/99
Prep Batch #...: 9337266 **Analysis Time..:** 11:40
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**114**	**(37 - 151)**			**SW846 8260B**
	105	**(37 - 151)**	**8.1**	**(0-21)**	**SW846 8260B**
Chlorobenzene	**117**	**(37 - 160)**			**SW846 8260B**
	110	**(37 - 160)**	**6.0**	**(0-21)**	**SW846 8260B**
1,1-Dichloroethene	**95**	**(10 - 234)**			**SW846 8260B**
	101	**(10 - 234)**	**6.9**	**(0-22)**	**SW846 8260B**
Toluene	**118**	**(47 - 150)**			**SW846 8260B**
	112	**(47 - 150)**	**5.5**	**(0-21)**	**SW846 8260B**
Trichloroethene	**106**	**(71 - 157)**			**SW846 8260B**
	100	**(71 - 157)**	**5.8**	**(0-24)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	100	(73 - 147)
	94	(73 - 147)
Toluene-d8	113	(81 - 139)
	105	(81 - 139)
Dibromofluoromethane	112	(89 - 148)
	103	(89 - 148)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: F9K190188 **Work Order #...:** D55HV103-MS **Matrix.....:** SOLID
MS Lot-Sample #: F9K170192-005 D55HV104-MSD
Date Sampled...: 11/16/99 10:30 **Date Received..:** 11/17/99
Prep Date.....: 11/29/99 **Analysis Date..:** 11/29/99
Prep Batch #...: 9334167 **Analysis Time..:** 13:32
Dilution Factor: 0.85 **% Moisture.....:** 0.0

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**93**	**(37 - 151)**			**SW846 8260B**
	101	**(37 - 151)**	7.7	**(0-21)**	**SW846 8260B**
Chlorobenzene	**103**	**(37 - 160)**			**SW846 8260B**
	103	**(37 - 160)**	0.55	**(0-21)**	**SW846 8260B**
1,1-Dichloroethene	**95**	**(10 - 234)**			**SW846 8260B**
	99	**(10 - 234)**	3.6	**(0-22)**	**SW846 8260B**
Toluene	**101**	**(47 - 150)**			**SW846 8260B**
	104	**(47 - 150)**	2.9	**(0-21)**	**SW846 8260B**
Trichloroethene	**84**	**(71 - 157)**			**SW846 8260B**
	89	**(71 - 157)**	5.8	**(0-24)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	102	(73 - 147)
	111	(73 - 147)
Toluene-d8	116	(81 - 139)
	111	(81 - 139)
Dibromofluoromethane	98	(89 - 148)
	100	(89 - 148)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: F9K190188 **Work Order #...:** D589910K-MS **Matrix.....:** SOLID
MS Lot-Sample #: F9K180237-019 D589910L-MSD
Date Sampled...: 11/17/99 22:40 **Date Received..:** 11/18/99
Prep Date.....: 12/01/99 **Analysis Date..:** 12/09/99
Prep Batch #...: 9336365 **Analysis Time..:** 09:30
Dilution Factor: 1 **% Moisture.....:** 0.0

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Phenol	34	(32 - 86)			SW846 8270C
	28 a	(32 - 86)	17	(0-27)	SW846 8270C
2-Chlorophenol	34 a	(39 - 85)			SW846 8270C
	29 a	(39 - 85)	16	(0-33)	SW846 8270C
1,4-Dichlorobenzene	30	(29 - 92)			SW846 8270C
	27 a	(29 - 92)	11	(0-35)	SW846 8270C
N-Nitrosodi-n-propyl-amine	42	(29 - 107)			SW846 8270C
	36	(29 - 107)	16	(0-33)	SW846 8270C
1,2,4-Trichlorobenzene	36 a	(40 - 90)			SW846 8270C
	32 a	(40 - 90)	9.8	(0-35)	SW846 8270C
4-Chloro-3-methylphenol	48	(38 - 98)			SW846 8270C
	48	(38 - 98)	0.16	(0-30)	SW846 8270C
Acenaphthene	37	(26 - 103)			SW846 8270C
	38	(26 - 103)	1.1	(0-27)	SW846 8270C
4-Nitrophenol	48	(30 - 110)			SW846 8270C
	55	(30 - 110)	13	(0-37)	SW846 8270C
2,4-Dinitrotoluene	39	(37 - 102)			SW846 8270C
	41	(37 - 102)	5.6	(0-25)	SW846 8270C
Pentachlorophenol	31	(23 - 100)			SW846 8270C
	32	(23 - 100)	1.3	(0-35)	SW846 8270C
Pyrene	58	(39 - 105)			SW846 8270C
	54	(39 - 105)	4.5	(0-31)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	72	(11 - 119)
	53	(11 - 119)
Phenol-d5	81	(21 - 118)
	58	(21 - 118)
Nitrobenzene-d5	90	(19 - 111)
	80	(19 - 111)
2-Fluorobiphenyl	72	(22 - 109)
	67	(22 - 109)
2,4,6-Tribromophenol	55	(10 - 124)
	61	(10 - 124)
Terphenyl-d14	47	(10 - 157)
	45	(10 - 157)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: F9K190188 **Work Order #...:** D589910K-MS **Matrix.....:** SOLID
MS Lot-Sample #: F9K180237-019 D589910L-MSD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight

Quanterra - St. Louis

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298 8566 Telephone
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Quanterra Environmental Services

ANALYTICAL REPORT

PROJECT NO. G0011-0054KWP02

4800 Goodfellow Blvd. (SLAAP)

Lot #: F9K220112

Eduardo Gasca

Tetra Tech EM Inc.

QUANTERRA INCORPORATED

Mark J. Loeb
Project Manager

December 14, 1999

Data is incomplete without Case Narrative

CASE NARRATIVE
Lot F9K220112

On November 19, 1999, twenty-six (26) wipe samples were received at the Quanterra St. Louis laboratory from Tetra Tech EM, Inc., St. Louis Army Ammunitions Plant site. Upon receipt, the samples were given laboratory ID numbers to correspond with the specific client ID's. The cross-reference table can be found on a separate page as part of this report.

Analytical results are provided in two sections. A certificate of analysis that summarizes all reported analytical results inclusive of any QC associated with the analyses is included in a non-paginated section. A paginated full data package with the associated raw data immediately follows this section.

PCBs

By client request, the analyses of samples F9K220112-003, -005, -011, -016, -019, and -022 are not included in this report. Due to this request, page numbers 4, 6, 12, 17, 20, 23, 113, 114, 115, 119, 120, 121, 137, 138, 139, 152, 153, 154, 161, 162, 163, 170, 171, and 172, have been removed from the full data package section of this report.

No nonconformances are associated with this analysis.

METHODS SUMMARY

F9K220112

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
PCBs by SW-846 8082	SW846 8082	SW846 3580

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

F9K220112

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
D5DQT	001	4SW-1-A	11/19/99	08:40
D5DXV	002	4SW-1-B	11/19/99	08:45
D5DXW	003	3SW-B-1 H9-H10	11/19/99	11:45
D5DXX	004	3SW-B-2 H11	11/19/99	11:50
D5E00	005	3SW-B-3 H13	11/19/99	11:55
D5E02	006	3SW-B-4 H15-H16	11/19/99	12:00
D5E03	007	3SW-B-5 G18	11/19/99	12:05
D5E04	008	3SW-B-6 F20-G20	11/19/99	12:15
D5E05	009	3SW-B-7 F16	11/19/99	12:15
D5E07	010	3SW-B-8 F14 SOUTH	11/19/99	12:12
D5E08	011	3SW-B-9 F12	11/19/99	12:25
D5E0A	012	3SW-B-10 F10 EAST	11/19/99	12:30
D5E0D	013	3SW-B-11 F11 SOUTH	11/19/99	12:20
D5E0H	014	3SW-B-12 E14	11/19/99	12:45
D5E0J	015	3SW-B-13 E17-E18	11/19/99	12:50
D5E0K	016	3SW-B-14 E19	11/19/99	12:55
D5E0M	017	3SW-B-15 D20 SOUTH	11/19/99	13:00
D5E0N	018	3SW-B-16 C20-B20	11/19/99	13:05
D5E0P	019	3SW-B-17 C18-C17	11/19/99	13:10
D5E0T	020	3SW-B-18 D13-D12	11/19/99	13
D5E0V	021	3SW-B-20 C10 EAST	11/19/99	13:5[illegible]
D5E0W	022	3SW-B-19 D11	11/19/99	13:20
D5E10	023	3SW B2-21	11/19/99	13:40
D5E11	024	6SW-B1 EAST	11/19/99	11:15
D5E12	025	6SW-B2 FLOOR	11/19/99	11:15
D5E13	026	6SW B3 WEST	11/19/99	11:15

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages
- All calculations are performed before rounding to avoid round off errors in calculated results

Results noted as "ND" were not detected at or above the stated limit

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- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight

TETRA TECH EM INC.

Client Sample ID: 4SW 1 A

GC Semivolatiles

Lot-Sample #...: F9K220112-001 **Work Order #...:** D5DQT101 **Matrix.....:** WIPE
Date Sampled...: 11/19/99 08:40 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/07/99
Prep Batch #...: 9336313 **Analysis Time..:** 16:03
Dilution Factor: 1

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	1.0	ug/wipe
Aroclor 1221	ND	1.0	ug/wipe
Aroclor 1232	ND	1.0	ug/wipe
Aroclor 1242	ND	1.0	ug/wipe
Aroclor 1248	ND	1.0	ug/wipe
Aroclor 1254	ND	1.0	ug/wipe
Aroclor 1260	ND	1.0	ug/wipe
Aroclor 1262	ND	1.0	ug/wipe
Aroclor 1268	ND	1.0	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	113	(52 - 161)
Decachlorobiphenyl	90	(43 - 170)

TETRA TECH EM INC.

Client Sample ID: 4SW-1-B

GC Semivolatiles

Lot-Sample #...: F9K220112-002 **Work Order #...:** D5DXV101 **Matrix.....:** WIPE
Date Sampled...: 11/19/99 08:45 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/07/99
Prep Batch #...: 9336313 **Analysis Time..:** 16:16
Dilution Factor: 1

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	1.0	ug/wipe
Aroclor 1221	ND	1.0	ug/wipe
Aroclor 1232	ND	1.0	ug/wipe
Aroclor 1242	ND	1.0	ug/wipe
Aroclor 1248	ND	1.0	ug/wipe
Aroclor 1254	ND	1.0	ug/wipe
Aroclor 1260	**14**	**1.0**	**ug/wipe**
Aroclor 1262	ND	1.0	ug/wipe
Aroclor 1268	ND	1.0	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	98	(52 - 161)
Decachlorobiphenyl	86	(43 - 170)

TETRA TECH EM INC.

Client Sample ID: 3SW-B-2 H11

GC Semivolatiles

Lot-Sample #...: F9K220112-004 **Work Order #...:** D5DXX101 **Matrix.....:** WIPE
Date Sampled...: 11/19/99 11:50 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/07/99
Prep Batch #...: 9336313 **Analysis Time..:** 17:15
Dilution Factor: 50
Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	50	ug/wipe
Aroclor 1221	ND	50	ug/wipe
Aroclor 1232	ND	50	ug/wipe
Aroclor 1242	ND	50	ug/wipe
Aroclor 1248	**230**	**50**	**ug/wipe**
Aroclor 1254	ND	50	ug/wipe
Aroclor 1260	ND	50	ug/wipe
Aroclor 1262	ND	50	ug/wipe
Aroclor 1268	ND	50	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(52 - 161)
Decachlorobiphenyl	0.0 DIL	(43 - 170)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

TETRA TECH EM INC.

Client Sample ID: 3SW-B-4 H15 H16

GC Semivolatiles

Lot-Sample #...: F9K220112-006 **Work Order #...:** D5E02101 **Matrix.....:** WIPE
Date Sampled...: 11/19/99 12:00 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/07/99
Prep Batch #...: 9336313 **Analysis Time..:** 19:00
Dilution Factor: 100

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	100	ug/wipe
Aroclor 1221	ND	100	ug/wipe
Aroclor 1232	ND	100	ug/wipe
Aroclor 1242	ND	100	ug/wipe
Aroclor 1248	**360**	**100**	**ug/wipe**
Aroclor 1254	ND	100	ug/wipe
Aroclor 1260	ND	100	ug/wipe
Aroclor 1262	ND	100	ug/wipe
Aroclor 1268	ND	100	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(52 - 161)
Decachlorobiphenyl	0.0 DIL	(43 - 170)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

Data is incomplete without Case Narrative

TETRA TECH EM INC.

Client Sample ID: 3SW-B-5 G18

GC Semivolatiles

Lot-Sample #...: F9K220112-007 **Work Order #...:** D5E03101 **Matrix.....:** WIPE
Date Sampled...: 11/19/99 12:05 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/08/99
Prep Batch #...: 9336313 **Analysis Time..:** 15:26
Dilution Factor: 1000

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	1000	ug/wipe
Aroclor 1221	ND	1000	ug/wipe
Aroclor 1232	ND	1000	ug/wipe
Aroclor 1242	ND	1000	ug/wipe
Aroclor 1248	**2900**	**1000**	**ug/wipe**
Aroclor 1254	ND	1000	ug/wipe
Aroclor 1260	ND	1000	ug/wipe
Aroclor 1262	ND	1000	ug/wipe
Aroclor 1268	ND	1000	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(52 - 161)
Decachlorobiphenyl	0.0 DIL	(43 - 170)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

TETRA TECH EM INC.

Client Sample ID: 3SW-B-6 F20-G20

GC Semivolatiles

Lot-Sample #...: F9K220112-008 **Work Order #...:** D5E04101 **Matrix.....:** WIPE
Date Sampled...: 11/19/99 12:15 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/08/99
Prep Batch #...: 9336313 **Analysis Time..:** 19:5[illegible]
Dilution Factor: 40
Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	40	ug/wipe
Aroclor 1221	ND	40	ug/wipe
Aroclor 1232	ND	40	ug/wipe
Aroclor 1242	ND	40	ug/wipe
Aroclor 1248	**160**	**40**	**ug/wipe**
Aroclor 1254	ND	40	ug/wipe
Aroclor 1260	ND	40	ug/wipe
Aroclor 1262	ND	40	ug/wipe
Aroclor 1268	ND	40	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(52 - 161)
Decachlorobiphenyl	0.0 DIL	(43 - 170)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

TETRA TECH EM INC.

Client Sample ID: 3SW-B-7 F16

GC Semivolatiles

Lot-Sample #...: F9K220112-009 **Work Order #...:** D5E05101 **Matrix.....:** WIPE
Date Sampled...: 11/19/99 12:15 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/08/99
Prep Batch #...: 9336313 **Analysis Time..:** 20:09
Dilution Factor: 400

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	400	ug/wipe
Aroclor 1221	ND	400	ug/wipe
Aroclor 1232	ND	400	ug/wipe
Aroclor 1242	ND	400	ug/wipe
Aroclor 1248	**1300**	**400**	**ug/wipe**
Aroclor 1254	ND	400	ug/wipe
Aroclor 1260	ND	400	ug/wipe
Aroclor 1262	ND	400	ug/wipe
Aroclor 1268	ND	400	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(52 - 161)
Decachlorobiphenyl	0.0 DIL	(43 - 170)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

TETRA TECH EM INC.

Client Sample ID: 3SW-B-8 F14 SOUTH

GC Semivolatiles

Lot-Sample #...: F9K220112-010 **Work Order #...:** D5E07101 **Matrix.....:** WIPE
Date Sampled...: 11/19/99 12:12 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/06/99
Prep Batch #...: 9336313 **Analysis Time..:** 16:03
Dilution Factor: 40
Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	40	ug/wipe
Aroclor 1221	ND	40	ug/wipe
Aroclor 1232	ND	40	ug/wipe
Aroclor 1242	ND	40	ug/wipe
Aroclor 1248	**200**	**40**	**ug/wipe**
Aroclor 1254	ND	40	ug/wipe
Aroclor 1260	ND	40	ug/wipe
Aroclor 1262	ND	40	ug/wipe
Aroclor 1268	ND	40	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(52 - 161)
Decachlorobiphenyl	0.0 DIL	(43 - 170)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

Data is incomplete without Case Narrative

TETRA TECH EM INC.

Client Sample ID: 3SW-B-10 F10 EAST

GC Semivolatiles

Lot-Sample #...: F9K220112-012 **Work Order #...:** D5E0A101 **Matrix.....:** WIPE
Date Sampled...: 11/19/99 12:30 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/07/99
Prep Batch #...: 9336315 **Analysis Time..:** 21:27
Dilution Factor: 10
Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	10	ug/wipe
Aroclor 1221	ND	10	ug/wipe
Aroclor 1232	ND	10	ug/wipe
Aroclor 1242	ND	10	ug/wipe
Aroclor 1248	ND	10	ug/wipe
Aroclor 1254	ND	10	ug/wipe
Aroclor 1260	ND	10	ug/wipe
Aroclor 1262	ND	10	ug/wipe
Aroclor 1268	ND	10	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m xylene	0.0 DIL	(52 - 161)
Decachlorobiphenyl	0.0 DIL	(43 - 170)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

Elevated detection limits due to matrix interference

TETRA TECH EM INC.

Client Sample ID: 3SW-B-11 F11 SOUTH

GC Semivolatiles

Lot-Sample #...: F9K220112-013 **Work Order #...:** D5E0D101 **Matrix.....:** WIPE
Date Sampled...: 11/19/99 12:30 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/08/99
Prep Batch #...: 9336315 **Analysis Time..:** 16:40
Dilution Factor: 10

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	10	ug/wipe
Aroclor 1221	ND	10	ug/wipe
Aroclor 1232	ND	10	ug/wipe
Aroclor 1242	ND	10	ug/wipe
Aroclor 1248	**110**	**10**	**ug/wipe**
Aroclor 1254	ND	10	ug/wipe
Aroclor 1260	ND	10	ug/wipe
Aroclor 1262	ND	10	ug/wipe
Aroclor 1268	ND	10	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(52 - 161)
Decachlorobiphenyl	0.0 DIL	(43 - 170)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

Data is incomplete without Case Narrative

TETRA TECH EM INC.

Client Sample ID: 3SW-B-12 E14

GC Semivolatiles

Lot-Sample #...: F9K220112-014 **Work Order #...:** D5E0H101 **Matrix.....:** WIPE
Date Sampled...: 11/19/99 12:45 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/08/99
Prep Batch #...: 9336315 **Analysis Time..:** 16:53
Dilution Factor: 500
Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	500	ug/wipe
Aroclor 1221	ND	500	ug/wipe
Aroclor 1232	ND	500	ug/wipe
Aroclor 1242	ND	500	ug/wipe
Aroclor 1248	**2000**	**500**	**ug/wipe**
Aroclor 1254	ND	500	ug/wipe
Aroclor 1260	ND	500	ug/wipe
Aroclor 1262	ND	500	ug/wipe
Aroclor 1268	ND	500	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m xylene	0.0 DIL	(52 - 161)
Decachlorobiphenyl	0.0 DIL	(43 - 170)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

TETRA TECH EM INC.

Client Sample ID: 3SW-B-13 E17-R18

GC Semivolatiles

Lot-Sample #...: F9K220112-015 **Work Order #...:** D5E0J101 **Matrix.....:** WIPE
Date Sampled...: 11/19/99 12:50 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/08/99
Prep Batch #...: 9336315 **Analysis Time..:** 17:05
Dilution Factor: 100
Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	100	ug/wipe
Aroclor 1221	ND	100	ug/wipe
Aroclor 1232	ND	100	ug/wipe
Aroclor 1242	ND	100	ug/wipe
Aroclor 1248	**670**	**100**	**ug/wipe**
Aroclor 1254	ND	100	ug/wipe
Aroclor 1260	ND	100	ug/wipe
Aroclor 1262	ND	100	ug/wipe
Aroclor 1268	ND	100	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(52 - 161)
Decachlorobiphenyl	0.0 DIL	(43 - 170)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

TETRA TECH EM INC.

Client Sample ID: 3SW-B-15 D20 SOUTH

GC Semivolatiles

Lot-Sample #...: F9K220112-017 **Work Order #...:** D5E0M101 **Matrix.....:** WIPE
Date Sampled...: 11/19/99 13:00 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/08/99
Prep Batch #...: 9336315 **Analysis Time..:** 17:54
Dilution Factor: 2500
Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	2500	ug/wipe
Aroclor 1221	ND	2500	ug/wipe
Aroclor 1232	ND	2500	ug/wipe
Aroclor 1242	ND	2500	ug/wipe
Aroclor 1248	ND	2500	ug/wipe
Aroclor 1254	ND	2500	ug/wipe
Aroclor 1260	ND	2500	ug/wipe
Aroclor 1262	ND	2500	ug/wipe
Aroclor 1268	ND	2500	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(52 - 161)
Decachlorobiphenyl	0.0 DIL	(43 - 170)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

Elevated detection limits due to matrix interference

TETRA TECH EM INC.

Client Sample ID: 3SW-B-16 C20-B20

GC Semivolatiles

Lot-Sample #...: F9K220112-018 **Work Order #...:** D5EGN101 **Matrix.....:** WIPE
Date Sampled...: 11/19/99 13:05 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/08/99
Prep Batch #...: 9336315 **Analysis Time..:** 18:06
Dilution Factor: 200
Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	200	ug/wipe
Aroclor 1221	ND	200	ug/wipe
Aroclor 1232	ND	200	ug/wipe
Aroclor 1242	ND	200	ug/wipe
Aroclor 1248	**550**	**200**	**ug/wipe**
Aroclor 1254	ND	200	ug/wipe
Aroclor 1260	ND	200	ug/wipe
Aroclor 1262	ND	200	ug/wipe
Aroclor 1268	ND	200	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(52 - 161)
Decachlorobiphenyl	0.0 DIL	(43 - 170)

NOTE(S):

DIL. The concentration is estimated or not reported due to dilution or the presence of interfering analytes

TETRA TECH EM INC.

Client Sample ID: 3SW-B-18 D13-D12

GC Semivolatiles

Lot-Sample #...: F9K220112-020 **Work Order #...:** D5E0T101 **Matrix.....:** WIPE
Date Sampled...: 11/19/99 13:15 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/08/99
Prep Batch #...: 9336315 **Analysis Time..:** 18:31
Dilution Factor: 200
Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	200	ug/wipe
Aroclor 1221	ND	200	ug/wipe
Aroclor 1232	ND	200	ug/wipe
Aroclor 1242	ND	200	ug/wipe
Aroclor 1248	**1500**	**200**	**ug/wipe**
Aroclor 1254	ND	200	ug/wipe
Aroclor 1260	ND	200	ug/wipe
Aroclor 1262	ND	200	ug/wipe
Aroclor 1268	ND	200	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(52 - 161)
Decachlorobiphenyl	0.0 DIL	(43 - 170)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

TETRA TECH EM INC.

Client Sample ID: 3SW-B-20 C10 EAST

GC Semivolatiles

Lot-Sample #...: F9X220112-021 **Work Order #...:** D5EC V101 **Matrix.....:** WIPE
Date Sampled...: 11/19/99 13:30 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/08/99
Prep Batch #...: 9336315 **Analysis Time..:** 18:43
Dilution Factor: 10
Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	10	ug/wipe
Aroclor 1221	ND	10	ug/wipe
Aroclor 1232	ND	10	ug/wipe
Aroclor 1242	ND	10	ug/wipe
Aroclor 1248	**98**	**10**	**ug/wipe**
Aroclor 1254	ND	10	ug/wipe
Aroclor 1260	ND	10	ug/wipe
Aroclor 1262	ND	10	ug/wipe
Aroclor 1268	ND	10	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(52 - 161)
Decachlorobiphenyl	0.0 DIL	(43 - 170)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

TETRA TECH EM INC.

Client Sample ID: 3SW B2 21

GC Semivolatiles

Lot-Sample #...: F9K220112-023 **Work Order #...:** D5R10101 **Matrix.....:** WIPE
Date Sampled...: 11/19/99 13:40 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/08/99
Prep Batch #...: 9336315 **Analysis Time..:** 19:08
Dilution Factor: 1

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	1.0	ug/wipe
Aroclor 1221	ND	1.0	ug/wipe
Aroclor 1232	ND	1.0	ug/wipe
Aroclor 1242	ND	1.0	ug/wipe
Aroclor 1248	ND	1.0	ug/wipe
Aroclor 1254	ND	1.0	ug/wipe
Aroclor 1260	ND	1.0	ug/wipe
Aroclor 1262	ND	1.0	ug/wipe
Aroclor 1268	ND	1.0	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro m-xylene	105	(52 - 161)
Decachlorobiphenyl	89	(43 - 170)

TETRA TECH EM INC.

Client Sample ID: 6SW-B1 EAST

GC Semivolatiles

Lot-Sample #...: F9K220112-024 **Work Order #...:** D5E11101 **Matrix.....:** WIPE
Date Sampled...: 11/19/99 11:15 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/08/99
Prep Batch #...: 9336315 **Analysis Time..:** 19:20
Dilution Factor: 1
Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	1.0	ug/wipe
Aroclor 1221	ND	1.0	ug/wipe
Aroclor 1232	ND	1.0	ug/wipe
Aroclor 1242	ND	1.0	ug/wipe
Aroclor 1248	ND	1.0	ug/wipe
Aroclor 1254	ND	1.0	ug/wipe
Aroclor 1260	ND	1.0	ug/wipe
Aroclor 1262	ND	1.0	ug/wipe
Aroclor 1268	ND	1.0	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m xylene	115	(52 - 161)
Decachlorobiphenyl	93	(43 - 170)

TETRA TECH EM INC.

Client Sample ID: 6SW-B2 FLOOR

GC Semivolatiles

Lot-Sample #...: F9K220112-025 **Work Order #...:** D5E12101 **Matrix.....:** WIPE
Date Sampled...: 11/19/99 11:15 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/08/99
Prep Batch #...: 9336315 **Analysis Time..:** 19:33
Dilution Factor: 1
Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	1.0	ug/wipe
Aroclor 1221	ND	1.0	ug/wipe
Aroclor 1232	ND	1.0	ug/wipe
Aroclor 1242	ND	1.0	ug/wipe
Aroclor 1248	ND	1.0	ug/wipe
Aroclor 1254	ND	1.0	ug/wipe
Aroclor 1260	ND	1.0	ug/wipe
Aroclor 1262	ND	1.0	ug/wipe
Aroclor 1268	ND	1.0	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	106	(52 - 161)
Decachlorobiphenyl	138	(45 - 170)

TETRA TECH EM INC.

Client Sample ID: 6SW-B3 WEST

GC Semivolatiles

Lot-Sample #...: F9K220112-026 **Work Order #...:** D5E13101 **Matrix.....:** WIPE
Date Sampled...: 11/19/99 11:15 **Date Received..:** 11/19/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/08/99
Prep Batch #...: 9336315 **Analysis Time..:** 19:45
Dilution Factor: 1

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	1.0	ug/wipe
Aroclor 1221	ND	1.0	ug/wipe
Aroclor 1232	ND	1.0	ug/wipe
Aroclor 1242	ND	1.0	ug/wipe
Aroclor 1248	ND	1.0	ug/wipe
Aroclor 1254	ND	1.0	ug/wipe
Aroclor 1260	ND	1.0	ug/wipe
Aroclor 1262	ND	1.0	ug/wipe
Aroclor 1268	ND	1.0	ug/wipe

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m xylene	102	(52 - 161)
Decachlorobiphenyl	105	(43 - 170)

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F9K220112 **Work Order #...:** D5PDX101 **Matrix.....:** WIPE
MB Lot-Sample #: F9L020000-315

Prep Date.....: 12/02/99 **Analysis Time..:** 20:38
Analysis Date..: 12/07/99 **Prep Batch #...:** 9336315
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	1.0	ug/wipe	SW846 8082
Aroclor 1221	ND	1.0	ug/wipe	SW846 8082
Aroclor 1232	ND	1.0	ug/wipe	SW846 8082
Aroclor 1242	ND	1.0	ug/wipe	SW846 8082
Aroclor 1248	ND	1.0	ug/wipe	SW846 8082
Aroclor 1254	ND	1.0	ug/wipe	SW846 8082
Aroclor 1260	ND	1.0	ug/wipe	SW846 8082
Aroclor 1262	ND	1.0	ug/wipe	SW846 8082
Aroclor 1268	ND	1.0	ug/wipe	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	103	(52 - 161)
Decachlorobiphenyl	82	(43 - 170)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F9K220112 **Work Order #...:** D5PD7101 **Matrix.....:** WIPE
MB Lot Sample #: F9L020000-313
Prep Date.....: 12/02/99 **Analysis Time..:** 10:50
Analysis Date..: 12/07/99 **Prep Batch #...:** 9336313
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	1.0	ug/wipe	SW846 8082
Aroclor 1221	ND	1.0	ug/wipe	SW846 8082
Aroclor 1232	ND	1.0	ug/wipe	SW846 8082
Aroclor 1242	ND	1.0	ug/wipe	SW846 8082
Aroclor 1248	ND	1.0	ug/wipe	SW846 8082
Aroclor 1254	ND	1.0	ug/wipe	SW846 8082
Aroclor 1260	ND	1.0	ug/wipe	SW846 8082
Aroclor 1262	ND	1.0	ug/wipe	SW846 8082
Aroclor 1268	ND	1.0	ug/wipe	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m xylene	118	(52 - 161)
Decachlorobiphenyl	82	(43 - 170)

NOTE(S):

Calculations are performed before rounding to avoid round off errors in calculated results

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F9K220112 **Work Order #...:** D5PDX102-LCS **Matrix.....:** WIPE
LCS Lot-Sample#: F9L020000-315 D5PDX103 LCSD
Prep Date.....: 12/02/99 **Analysis Date..:** 12/07/99
Prep Batch #...: 9336315 **Analysis Time..:** 20:50
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	**95**	**(64 - 160)**			**SW846 8082**
	99	**(64 - 160)**	**3.6**	**(0-20)**	**SW846 8082**
Aroclor 1260	**92**	**(53 - 163)**			**SW846 8082**
	95	**(53 - 163)**	**2.8**	**(0-20)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	107	(52 - 161)
	109	(52 - 161)
Decachlorobiphenyl	82	(43 - 170)
	84	(43 - 170)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F9K220112 **Work Order #...:** D5PD7102-LCS **Matrix.....:** WIPE
LCS Lot-Sample#: F9L020000-313 D5PD7103-LCSD
Prep Date.....: 12/02/99 **Analysis Date..:** 12/07/99
Prep Batch #...: 9336313 **Analysis Time..:** 11:02
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	**100**	**(64 - 160)**			**SW846 8082**
	98	**(64 - 160)**	**2.6**	**(0-20)**	**SW846 8082**
Aroclor 1260	**97**	**(53 - 163)**			**SW846 8082**
	97	**(53 - 163)**	**0.78**	**(0-20)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	116	(52 - 161)
	113	(52 - 161)
Decachlorobiphenyl	85	(43 - 170)
	84	(43 - 170)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

Quanterra - St. Louis

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298 8566 Telephone
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Quanterra
Environmental Services

ANALYTICAL REPORT

PROJECT NO. G0011-0054KWP02

4800 Goodfellow Blvd. (SLAAP)

Lot #: F9K230105

Eduardo Gasca

Tetra Tech EM Inc.

QUANTERRA INCORPORATED

Mark J. Loeb
Project Manager

December 16, 1999

Data is incomplete without Case Narrative

CASE NARRATIVE
Lot F9K30105

On November 23, 1999, twenty-seven (27) soil samples were received at the Quanterra St. Louis laboratory from Tetra Tech EM, Inc., St. Louis Army Ammunitions Plant site. Upon receipt, the samples were given laboratory ID numbers to correspond with the specific client ID's. The cross-reference table can be found on a separate page as part of this report.

Analytical results are provided in two sections. A certificate of analysis that summarizes all reported analytical results inclusive of any QC associated with the analyses is included in a non-paginated section. A paginated full data package with the associated raw data immediately follows this section.

PCBs

Due to high concentrations of analytes found in samples F9K230105-001, -004, -005, -007, -009, -012, -013, -014, -015, -018, and –019, the extracts required dilutions to complete the analysis. The surrogate compounds associated with these samples were diluted below calibration levels and could not be quantitated. The matrix spike and matrix spike duplicate compounds for sample –019 were diluted below calibration levels and could not be quantitated. The Laboratory Control Sample and Laboratory Control Sample Duplicate associated with these analyses were within laboratory established control limits demonstrating both accuracy and precision for this method.

METHODS SUMMARY

P9K230105

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD
PCBs by SW-846 8082	SW846 8082	SW846 3541

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

P9K230105

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
D5EMC	001	3CS-22	11/22/99	10:12
D5ENK	002	3CS-21	11/22/99	10:10
D5ENL	003	3CS 23	11/22/99	10:15
D5EP6	004	3CS-11	11/22/99	10:38
D5EPD	005	3CS-12	11/22/99	10:40
D5EPH	006	3CS-13	11/22/99	10:43
D5EPM	007	3CS-14	11/22/99	10:45
D5EPQ	008	3CS-1	11/22/99	11:10
D5EPR	009	3CS-2	11/22/99	11:12
D5EQE	012	3CS-3	11/22/99	11:15
D5EQV	013	3CS-4	11/22/99	11:18
D5EQX	014	3CS-5	11/22/99	13:15
D5ER3	015	3CS-6	11/22/99	13:20
D5ERA	016	3CS-7	11/22/99	13:35
D5ERX	017	3CS-7D	11/22/99	13:35
D5ET0	018	3CS-24	11/22/99	22:20
D5ET1	019	3CS-24D	11/22/99	22:20
D5ET2	020	3SS-B10,0-0.5	11/22/99	17:05
D5ET5	021	3SS-B10,1-1.5	11/22/99	17:0[illegible]
D5ET6	022	3SS-B9,0-0.5	11/22/99	16:[illegible]
D5ET8	023	3SS-B9,1-1.5	11/22/99	16:55
D5ETC	024	3SS-B8,0-0.5	11/22/99	16:50
D5ETF	025	3SS-B8,1-1.5	11/22/99	16:50
D5ETG	026	3SS-B7,0-0.5	11/22/99	16:00
D5ETJ	027	3SS-B7,1-1.5	11/22/99	16:00
D5ETM	028	3SS-B6,0-0.5	11/22/99	15:45
D5ETR	029	3SS-B6,1-1.5	11/22/99	15:45

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity, pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

TETRA TECH EM INC.

Client Sample ID: 3CS-22

GC Semivolatiles

Lot-Sample #...: F9K230105-001 **Work Order #...:** D5EMC101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 10:12 **Date Received..:** 11/23/99
Prep Date.....: 12/03/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9337249 **Analysis Time..:** 17:48
Dilution Factor: 40
% Moisture.....: 0.77 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	1300	ug/kg
Aroclor 1016	ND	1300	ug/kg
Aroclor 1221	ND	2700	ug/kg
Aroclor 1232	ND	1300	ug/kg
Aroclor 1242	ND	1300	ug/kg
Aroclor 1248	**5200**	**1300**	**ug/kg**
Aroclor 1254	ND	1300	ug/kg
Aroclor 1260	ND	1300	ug/kg
Aroclor 1262	ND	1300	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(15 - 168)
Decachlorobiphenyl	0.0 DIL	(10 - 207)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3CS-21

GC Semivolatiles

Lot-Sample #...: F9K230105-002 **Work Order #...:** D5ENK101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 10:10 **Date Received..:** 11/23/99
Prep Date.....: 12/03/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9337249 **Analysis Time..:** 18:00
Dilution Factor: 5
% Moisture.....: 0.27 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	170	ug/kg
Aroclor 1016	ND	170	ug/kg
Aroclor 1221	ND	340	ug/kg
Aroclor 1232	ND	170	ug/kg
Aroclor 1242	ND	170	ug/kg
Aroclor 1248	**700**	**170**	**ug/kg**
Aroclor 1254	ND	170	ug/kg
Aroclor 1260	ND	170	ug/kg
Aroclor 1262	ND	170	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	21	(15 - 168)
Decachlorobiphenyl	19	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3CS-23

GC Semivolatiles

Lot-Sample #...: F9K230105-003 **Work Order #...:** D5ENL101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 10:15 **Date Received..:** 11/23/99
Prep Date.....: 12/03/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9337249 **Analysis Time..:** 18:13
Dilution Factor: 1
% Moisture.....: 0.12 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	33	ug/kg
Aroclor 1016	ND	33	ug/kg
Aroclor 1221	ND	67	ug/kg
Aroclor 1232	ND	33	ug/kg
Aroclor 1242	ND	33	ug/kg
Aroclor 1248	**160**	**33**	**ug/kg**
Aroclor 1254	ND	33	ug/kg
Aroclor 1260	ND	33	ug/kg
Aroclor 1262	ND	33	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	118	(15 - 168)
Decachlorobiphenyl	98	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3CS-11

GC Semivolatiles

Lot-Sample #...: F9K230105-004 **Work Order #...:** D5EP6101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 10:38 **Date Received..:** 11/23/99
Prep Date.....: 12/03/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9337249 **Analysis Time..:** 18:25
Dilution Factor: 500
% Moisture.....: 0.44 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	17000	ug/kg
Aroclor 1016	ND	17000	ug/kg
Aroclor 1221	ND	34000	ug/kg
Aroclor 1232	ND	17000	ug/kg
Aroclor 1242	ND	17000	ug/kg
Aroclor 1248	**100000**	**17000**	**ug/kg**
Aroclor 1254	ND	17000	ug/kg
Aroclor 1260	ND	17000	ug/kg
Aroclor 1262	ND	17000	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(15 - 168)
Decachlorobiphenyl	0.0 DIL	(10 - 207)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3CS-12

GC Semivolatiles

Lot-Sample #...: F9K230105-005 **Work Order #...:** D5EPD101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 10:40 **Date Received..:** 11/23/99
Prep Date.....: 12/03/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9337249 **Analysis Time..:** 18:38
Dilution Factor: 500
% Moisture.....: 0.91 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	17000	ug/kg
Aroclor 1016	ND	17000	ug/kg
Aroclor 1221	ND	34000	ug/kg
Aroclor 1232	ND	17000	ug/kg
Aroclor 1242	ND	17000	ug/kg
Aroclor 1248	**270000**	**17000**	**ug/kg**
Aroclor 1254	ND	17000	ug/kg
Aroclor 1260	ND	17000	ug/kg
Aroclor 1262	ND	17000	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(15 - 168)
Decachlorobiphenyl	0.0 DIL	(10 - 207)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3CS-13

GC Semivolatiles

Lot-Sample #...: F9K230105-006 **Work Order #...:** D5EPH101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 10:43 **Date Received..:** 11/23/99
Prep Date.....: 12/03/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9337249 **Analysis Time..:** 18:50
Dilution Factor: 5
% Moisture.....: 0.12 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	170	ug/kg
Aroclor 1016	ND	170	ug/kg
Aroclor 1221	ND	340	ug/kg
Aroclor 1232	ND	170	ug/kg
Aroclor 1242	ND	170	ug/kg
Aroclor 1248	**970**	**170**	**ug/kg**
Aroclor 1254	ND	170	ug/kg
Aroclor 1260	ND	170	ug/kg
Aroclor 1262	ND	170	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	25	(15 - 168)
Decachlorobiphenyl	21	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

TETRA TECH EM INC.

Client Sample ID: 3CS-14

GC Semivolatiles

Lot-Sample #...: F9K230105-007 **Work Order #...:** D5EPM101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 10:45 **Date Received..:** 11/23/99
Prep Date.....: 12/03/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9337249 **Analysis Time..:** 19:02
Dilution Factor: 500
% Moisture.....: 0.62 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	17000	ug/kg
Aroclor 1016	ND	17000	ug/kg
Aroclor 1221	ND	34000	ug/kg
Aroclor 1232	ND	17000	ug/kg
Aroclor 1242	ND	17000	ug/kg
Aroclor 1248	**51000**	**17000**	**ug/kg**
Aroclor 1254	ND	17000	ug/kg
Aroclor 1260	ND	17000	ug/kg
Aroclor 1262	ND	17000	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(15 - 168)
Decachlorobiphenyl	0.0 DIL	(10 - 207)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3CS-1

GC Semivolatiles

Lot-Sample #...: F9K230105-008 **Work Order #...:** D5EPQ101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 11:10 **Date Received..:** 11/23/99
Prep Date.....: 12/03/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9337249 **Analysis Time..:** 19:15
Dilution Factor: 1
% Moisture.....: 2.1 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	34	ug/kg
Aroclor 1016	ND	34	ug/kg
Aroclor 1221	ND	68	ug/kg
Aroclor 1232	ND	34	ug/kg
Aroclor 1242	ND	34	ug/kg
Aroclor 1248	**360**	**34**	**ug/kg**
Aroclor 1254	ND	34	ug/kg
Aroclor 1260	ND	34	ug/kg
Aroclor 1262	ND	34	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	115	(15 - 168)
Decachlorobiphenyl	99	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3CS-2

GC Semivolatiles

Lot-Sample #...: F9K230105-009 **Work Order #...:** D5EPR101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 11:12 **Date Received..:** 11/23/99
Prep Date.....: 12/03/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9337249 **Analysis Time..:** 19:52
Dilution Factor: 250
% Moisture.....: 1.9 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	8400	ug/kg
Aroclor 1016	ND	8400	ug/kg
Aroclor 1221	ND	17000	ug/kg
Aroclor 1232	ND	8400	ug/kg
Aroclor 1242	ND	8400	ug/kg
Aroclor 1248	**25000**	**8400**	**ug/kg**
Aroclor 1254	ND	8400	ug/kg
Aroclor 1260	ND	8400	ug/kg
Aroclor 1262	ND	8400	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(15 - 168)
Decachlorobiphenyl	0.0 DIL	(10 - 207)

NOTE(S):

DIL. The concentration is estimated or not reported due to dilution or the presence of interfering analytes

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3CS-3

GC Semivolatiles

Lot-Sample #...: F9K230105-012 **Work Order #...:** D5EQE101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 11:15 **Date Received..:** 11/23/99
Prep Date.....: 12/03/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9337249 **Analysis Time..:** 20:04
Dilution Factor: 500
% Moisture.....: 1.5 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	17000	ug/kg
Aroclor 1016	ND	17000	ug/kg
Aroclor 1221	ND	34000	ug/kg
Aroclor 1232	ND	17000	ug/kg
Aroclor 1242	ND	17000	ug/kg
Aroclor 1248	**74000**	**17000**	**ug/kg**
Aroclor 1254	ND	17000	ug/kg
Aroclor 1260	ND	17000	ug/kg
Aroclor 1262	ND	17000	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(15 - 168)
Decachlorobiphenyl	0.0 DIL	(10 - 207)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3CS-4

GC Semivolatiles

Lot-Sample #...: F9K230105-013 **Work Order #...:** D5EQV101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 11:18 **Date Received..:** 11/23/99
Prep Date.....: 12/03/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9337249 **Analysis Time..:** 20:16
Dilution Factor: 25
% Moisture.....: 1.3 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	840	ug/kg
Aroclor 1016	ND	840	ug/kg
Aroclor 1221	ND	1700	ug/kg
Aroclor 1232	ND	840	ug/kg
Aroclor 1242	ND	840	ug/kg
Aroclor 1248	**2800**	**840**	**ug/kg**
Aroclor 1254	ND	840	ug/kg
Aroclor 1260	ND	840	ug/kg
Aroclor 1262	ND	840	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(15 - 168)
Decachlorobiphenyl	0.0 DIL	(10 - 237)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3CS-5

GC Semivolatiles

Lot-Sample #...: F9K230105-014 **Work Order #...:** D5EQX101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 13:15 **Date Received..:** 11/23/99
Prep Date.....: 12/03/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9337249 **Analysis Time..:** 20:29
Dilution Factor: 40
% Moisture.....: 1.4 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	1300	ug/kg
Aroclor 1016	ND	1300	ug/kg
Aroclor 1221	ND	2700	ug/kg
Aroclor 1232	ND	1300	ug/kg
Aroclor 1242	ND	1300	ug/kg
Aroclor 1248	**7800**	**1300**	**ug/kg**
Aroclor 1254	ND	1300	ug/kg
Aroclor 1260	ND	1300	ug/kg
Aroclor 1262	ND	1300	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(15 - 168)
Decachlorobiphenyl	0.0 DIL	(10 - 207)

NOTE(S):

DIL. The concentration is estimated or not reported due to dilution or the presence of interfering analytes

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3CS-6

GC Semivolatiles

Lot-Sample #...: F9K230105-015 **Work Order #...:** D5ER3101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 13:20 **Date Received..:** 11/23/99
Prep Date.....: 12/03/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9337249 **Analysis Time..:** 20:41
Dilution Factor: 40
% Moisture.....: 1.6 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	1300	ug/kg
Aroclor 1016	ND	1300	ug/kg
Aroclor 1221	ND	2700	ug/kg
Aroclor 1232	ND	1300	ug/kg
Aroclor 1242	ND	1300	ug/kg
Aroclor 1248	**6700**	**1300**	**ug/kg**
Aroclor 1254	ND	1300	ug/kg
Aroclor 1260	ND	1300	ug/kg
Aroclor 1262	ND	1300	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(15 - 168)
Decachlorobiphenyl	0.0 DIL	(10 - 207)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

Results and reporting limits have been adjusted for dry weight

Results based on 4 peaks instead of five

TETRA TECH EM INC.

Client Sample ID: 3CS-7

GC Semivolatiles

Lot-Sample #...: F9K230105-016 **Work Order #...:** D5ERA101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 13:35 **Date Received..:** 11/23/99
Prep Date.....: 12/03/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9337249 **Analysis Time..:** 20:53
Dilution Factor: 4
% Moisture.....: 1.2 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	130	ug/kg
Aroclor 1016	ND	130	ug/kg
Aroclor 1221	ND	270	ug/kg
Aroclor 1232	ND	130	ug/kg
Aroclor 1242	ND	130	ug/kg
Aroclor 1248	**760**	**130**	**ug/kg**
Aroclor 1254	ND	130	ug/kg
Aroclor 1260	ND	130	ug/kg
Aroclor 1262	ND	130	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	30	(15 - 168)
Decachlorobiphenyl	26	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3CS-7D

GC Semivolatiles

Lot-Sample #...: F9K230105-017 **Work Order #...:** D5ERX101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 13:35 **Date Received..:** 11/23/99
Prep Date.....: 12/03/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9337249 **Analysis Time..:** 21:05
Dilution Factor: 1
% Moisture.....: 1.4 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	33	ug/kg
Aroclor 1016	ND	33	ug/kg
Aroclor 1221	ND	68	ug/kg
Aroclor 1232	ND	33	ug/kg
Aroclor 1242	ND	33	ug/kg
Aroclor 1248	**440**	**33**	**ug/kg**
Aroclor 1254	ND	33	ug/kg
Aroclor 1260	ND	33	ug/kg
Aroclor 1262	ND	33	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	113	(15 - 168)
Decachlorobiphenyl	115	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3CS-24

GC Semivolatiles

Lot-Sample #...: F9K230105-018 **Work Order #...:** D5ET0101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 22:20 **Date Received..:** 11/23/99
Prep Date.....: 12/03/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9337249 **Analysis Time..:** 21:18
Dilution Factor: 10
% Moisture.....: 0.58 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	330	ug/kg
Aroclor 1016	ND	330	ug/kg
Aroclor 1221	ND	670	ug/kg
Aroclor 1232	ND	330	ug/kg
Aroclor 1242	ND	330	ug/kg
Aroclor 1248	**820**	**330**	**ug/kg**
Aroclor 1254	ND	330	ug/kg
Aroclor 1260	ND	330	ug/kg
Aroclor 1262	ND	330	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(15 - 168)
Decachlorobiphenyl	0.0 DIL	(10 - 207)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3CS-24D

GC Semivolatiles

Lot-Sample #...: F9K230105-019 **Work Order #...:** D5ET1101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 22:20 **Date Received..:** 11/23/99
Prep Date.....: 12/03/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9337249 **Analysis Time..:** 21:30
Dilution Factor: 10
% Moisture.....: 0.23 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	330	ug/kg
Aroclor 1016	ND	330	ug/kg
Aroclor 1221	ND	670	ug/kg
Aroclor 1232	ND	330	ug/kg
Aroclor 1242	ND	330	ug/kg
Aroclor 1248	**720**	**330**	**ug/kg**
Aroclor 1254	ND	330	ug/kg
Aroclor 1260	ND	330	ug/kg
Aroclor 1262	ND	330	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(25 - 168)
Decachlorobiphenyl	0.0 DIL	(20 - 207)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SS-B10,0-0.5

GC Semivolatiles

Lot-Sample #...: F9K230105-020 **Work Order #...:** D5ET2101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 17:05 **Date Received..:** 11/23/99
Prep Date.....: 12/03/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9337249 **Analysis Time..:** 22:31
Dilution Factor: 1
% Moisture.....: 23 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	43	ug/kg
Aroclor 1016	ND	43	ug/kg
Aroclor 1221	ND	87	ug/kg
Aroclor 1232	ND	43	ug/kg
Aroclor 1242	ND	43	ug/kg
Aroclor 1248	ND	43	ug/kg
Aroclor 1254	ND	43	ug/kg
Aroclor 1260	ND	43	ug/kg
Aroclor 1262	ND	43	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	52	(15 - 168)
Decachlorobiphenyl	43	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SS-B10,1-1.5

GC Semivolatiles

Lot-Sample #...: F9K230105-021 **Work Order #...:** D5ET5101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 17:05 **Date Received..:** 11/23/99
Prep Date.....: 12/03/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9337249 **Analysis Time..:** 22:44
Dilution Factor: 1
% Moisture.....: 22 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	42	ug/kg
Aroclor 1016	ND	42	ug/kg
Aroclor 1221	ND	86	ug/kg
Aroclor 1232	ND	42	ug/kg
Aroclor 1242	ND	42	ug/kg
Aroclor 1248	ND	42	ug/kg
Aroclor 1254	ND	42	ug/kg
Aroclor 1260	ND	42	ug/kg
Aroclor 1262	ND	42	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	67	(15 - 168)
Decachlorobiphenyl	46	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SS-B9,0-0.5

GC Semivolatiles

Lot-Sample #...: F9K230105-022 **Work Order #...:** D5ET6101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 16:55 **Date Received..:** 11/23/99
Prep Date.....: 12/03/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9337249 **Analysis Time..:** 22:56
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	38	ug/kg
Aroclor 1016	ND	38	ug/kg
Aroclor 1221	ND	78	ug/kg
Aroclor 1232	ND	38	ug/kg
Aroclor 1242	ND	38	ug/kg
Aroclor 1248	ND	38	ug/kg
Aroclor 1254	ND	38	ug/kg
Aroclor 1260	ND	38	ug/kg
Aroclor 1262	ND	38	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	122	(15 - 168)
Decachlorobiphenyl	93	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SS-B9,1-1.5

GC Semivolatiles

Lot-Sample #...: F9K230105-023 **Work Order #...:** D5ET8101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 16:55 **Date Received..:** 11/23/99
Prep Date.....: 12/06/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9340233 **Analysis Time..:** 23:57
Dilution Factor: 1
% Moisture.....: 17 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	40	ug/kg
Aroclor 1016	ND	40	ug/kg
Aroclor 1221	ND	81	ug/kg
Aroclor 1232	ND	40	ug/kg
Aroclor 1242	ND	40	ug/kg
Aroclor 1248	ND	40	ug/kg
Aroclor 1254	ND	40	ug/kg
Aroclor 1260	ND	40	ug/kg
Aroclor 1262	ND	40	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	108	(15 - 168)
Decachlorobiphenyl	73	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SS-B8,0-0.5

GC Semivolatiles

Lot-Sample #...: F9K230105-024 **Work Order #...:** D5ETC101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 16:50 **Date Received..:** 11/23/99
Prep Date.....: 12/06/99 **Analysis Date..:** 12/14/99
Prep Batch #...: 9340233 **Analysis Time..:** 00:10
Dilution Factor: 1
% Moisture.....: 17 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	40	ug/kg
Aroclor 1016	ND	40	ug/kg
Aroclor 1221	ND	81	ug/kg
Aroclor 1232	ND	40	ug/kg
Aroclor 1242	ND	40	ug/kg
Aroclor 1248	ND	40	ug/kg
Aroclor 1254	ND	40	ug/kg
Aroclor 1260	ND	40	ug/kg
Aroclor 1262	ND	40	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	67	(15 - 168)
Decachlorobiphenyl	47	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SS-B8,1-1.5

GC Semivolatiles

Lot-Sample #...: F9K230105-025 **Work Order #...:** D5ETF101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 16:50 **Date Received..:** 11/23/99
Prep Date.....: 12/06/99 **Analysis Date..:** 12/14/99
Prep Batch #...: 9340233 **Analysis Time..:** 00:22
Dilution Factor: 1
% Moisture.....: 18 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	40	ug/kg
Aroclor 1016	ND	40	ug/kg
Aroclor 1221	ND	81	ug/kg
Aroclor 1232	ND	40	ug/kg
Aroclor 1242	ND	40	ug/kg
Aroclor 1248	ND	40	ug/kg
Aroclor 1254	ND	40	ug/kg
Aroclor 1260	ND	40	ug/kg
Aroclor 1262	ND	40	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	64	(15 - 168)
Decachlorobiphenyl	52	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SS-B7,0-0.5

GC Semivolatiles

Lot-Sample #...: F9K230105-026 **Work Order #...:** D5ETG101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 16:00 **Date Received..:** 11/23/99
Prep Date.....: 12/06/99 **Analysis Date..:** 12/14/99
Prep Batch #...: 9340233 **Analysis Time..:** 00:59
Dilution Factor: 1
% Moisture.....: 17 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	40	ug/kg
Aroclor 1016	ND	40	ug/kg
Aroclor 1221	ND	81	ug/kg
Aroclor 1232	ND	40	ug/kg
Aroclor 1242	ND	40	ug/kg
Aroclor 1248	ND	40	ug/kg
Aroclor 1254	ND	40	ug/kg
Aroclor 1260	ND	40	ug/kg
Aroclor 1262	ND	40	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	94	(15 - 168)
Decachlorobiphenyl	76	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SS-B7,1-1.5

GC Semivolatiles

Lot-Sample #...: F9K230105-027 **Work Order #...:** D5ETJ101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 16:00 **Date Received..:** 11/23/99
Prep Date.....: 12/06/99 **Analysis Date..:** 12/14/99
Prep Batch #...: 9340233 **Analysis Time..:** 01:11
Dilution Factor: 1
% Moisture.....: 20 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	41	ug/kg
Aroclor 1016	ND	41	ug/kg
Aroclor 1221	ND	84	ug/kg
Aroclor 1232	ND	41	ug/kg
Aroclor 1242	ND	41	ug/kg
Aroclor 1248	ND	41	ug/kg
Aroclor 1254	ND	41	ug/kg
Aroclor 1260	ND	41	ug/kg
Aroclor 1262	ND	41	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	57	(15 - 168)
Decachlorobiphenyl	50	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

Data is incomplete without Case Narrative

TETRA TECH EM INC.

Client Sample ID: 3SS-B6,0-0.5

GC Semivolatiles

Lot-Sample #...: F9K230105-028 **Work Order #...:** D5ETM101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 15:45 **Date Received..:** 11/23/99
Prep Date.....: 12/06/99 **Analysis Date..:** 12/14/99
Prep Batch #...: 9340233 **Analysis Time..:** 01:23
Dilution Factor: 1
% Moisture.....: 20 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	41	ug/kg
Aroclor 1016	ND	41	ug/kg
Aroclor 1221	ND	83	ug/kg
Aroclor 1232	ND	41	ug/kg
Aroclor 1242	ND	41	ug/kg
Aroclor 1248	ND	41	ug/kg
Aroclor 1254	ND	41	ug/kg
Aroclor 1260	ND	41	ug/kg
Aroclor 1262	ND	41	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	49	(15 - 168)
Decachlorobiphenyl	45	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

TETRA TECH EM INC.

Client Sample ID: 3SS-B6,1-1.5

GC Semivolatiles

Lot-Sample #...: F9K230105-029 **Work Order #...:** D5ETR101 **Matrix.....:** SOLID
Date Sampled...: 11/22/99 15:45 **Date Received..:** 11/23/99
Prep Date.....: 12/06/99 **Analysis Date..:** 12/14/99
Prep Batch #...: 9340233 **Analysis Time..:** 01:36
Dilution Factor: 1
% Moisture.....: 21 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	42	ug/kg
Aroclor 1016	ND	42	ug/kg
Aroclor 1221	ND	85	ug/kg
Aroclor 1232	ND	42	ug/kg
Aroclor 1242	ND	42	ug/kg
Aroclor 1248	ND	42	ug/kg
Aroclor 1254	ND	42	ug/kg
Aroclor 1260	ND	42	ug/kg
Aroclor 1262	ND	42	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro m-xylene	57	(15 - 168)
Decachlorobiphenyl	47	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F9K230105 **Work Order #...:** D5QLX101 **Matrix.....:** SOLID
MB Lot-Sample #: F9L030000-249

Prep Date.....: 12/03/99 **Analysis Time..:** 12:30

Analysis Date..: 12/13/99 **Prep Batch #...:** 9337249
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	33	ug/kg	SW846 8082
Aroclor 1221	ND	67	ug/kg	SW846 8082
Aroclor 1232	ND	33	ug/kg	SW846 8082
Aroclor 1242	ND	33	ug/kg	SW846 8082
Aroclor 1248	ND	33	ug/kg	SW846 8082
Aroclor 1254	ND	33	ug/kg	SW846 8082
Aroclor 1260	ND	33	ug/kg	SW846 8082
Aroclor 1262	ND	33	ug/kg	SW846 8082
Aroclor 1268	ND	33	ug/kg	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	136	(15 - 168)
Decachlorobiphenyl	98	(10 - 207)

NOTE(S):

Calculations are performed before rounding to avoid round off errors in calculated results

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F9K230105 **Work Order #...:** D5V5T101 **Matrix.....:** SOLID
MB Lot-Sample #: F9L060000-233
Prep Date.....: 12/06/99 **Analysis Time..:** 23:21
Analysis Date..: 12/13/99 **Prep Batch #...:** 9340233
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	33	ug/kg	SW846 8082
Aroclor 1221	ND	67	ug/kg	SW846 8082
Aroclor 1232	ND	33	ug/kg	SW846 8082
Aroclor 1242	ND	33	ug/kg	SW846 8082
Aroclor 1248	ND	33	ug/kg	SW846 8082
Aroclor 1254	ND	33	ug/kg	SW846 8082
Aroclor 1260	ND	33	ug/kg	SW846 8082
Aroclor 1262	ND	33	ug/kg	SW846 8082
Aroclor 1268	ND	33	ug/kg	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro m-xylene	113	(15 - 168)
Decachlorobiphenyl	91	(10 - 207)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F9K230105 **Work Order #...:** D5QLX103-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: F9L030000-249 D5QLX104-LCSD
Prep Date.....: 12/03/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9337249 **Analysis Time..:** 12:43
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	**110**	**(24 - 158)**			**SW846 8082**
	112	**(24 - 158)**	**1.6**	**(0-20)**	**SW846 8082**
Aroclor 1260	**106**	**(41 - 159)**			**SW846 8082**
	109	**(41 - 159)**	**2.3**	**(0-20)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	132	(15 - 168)
	133	(15 - 168)
Decachlorobiphenyl	101	(10 - 207)
	102	(10 - 207)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F9K230105 **Work Order #...:** D5V5T103 LCS **Matrix.....:** SOLID
LCS Lot-Sample#: F9L060000-233 D5V5T104-LCSD
Prep Date.....: 12/06/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9340233 **Analysis Time..:** 23:33
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	**98**	**(24 - 158)**			**SW846 8082**
	103	**(24 - 158)**	**5.1**	**(0 20)**	**SW846 8082**
Aroclor 1260	**98**	**(41 - 159)**			**SW846 8082**
	103	**(41 - 159)**	**5.2**	**(0-20)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	114	(15 - 168)
	115	(15 - 168)
Decachlorobiphenyl	97	(10 - 207)
	94	(10 - 207)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F9K230105 **Work Order #...:** D5ET1102-MS **Matrix.....:** SOLID
MS Lot-Sample #: F9K230105-019 D5ET1103-MSD
Date Sampled...: 11/22/99 22:20 **Date Received..:** 11/23/99
Prep Date.....: 12/03/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9337249 **Analysis Time..:** 21:42
Dilution Factor: 10 **% Moisture.....:** 0.23

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	**0.0 DIL**	**(10 - 174)**			**SW846 8082**
	0.0 DIL	**(10 - 174)**	**0.0**	**(0-20)**	**SW846 8082**
Aroclor 1260	**0.0 DIL**	**(10 - 222)**			**SW846 8082**
	0.0 DIL	**(10 - 222)**	**0.0**	**(0-20)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(15 - 168)
	0.0 DIL	(15 - 168)
Decachlorobiphenyl	0.0 DIL	(10 - 207)
	0.0 DIL	(10 - 207)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

Results and reporting limits have been adjusted for dry weight

Quanterra - St. Louis

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Quanterra
Environmental Services

ANALYTICAL REPORT

PROJECT NO. G0011-0054KWP02

4800 Goodfellow Blvd. (SLAAP)

Lot #: F9K240239

Eduardo Gasca

Tetra Tech EM Inc.

QUANTERRA INCORPORATED

Mark J. Loeb
Project Manager

December 28, 1999

Data is Incomplete without Case Narrative

CASE NARRATIVE
Lot F9K240239

On November 24, 1999, thirty (30) soil and five (5) water samples were received at the Quanterra St. Louis laboratory from Tetra Tech EM, Inc., St. Louis Army Ammunitions Plant site. Upon receipt, the samples were given laboratory ID numbers to correspond with the specific client ID's. The cross-reference table can be found on a separate page as part of this report.

Analytical results are provided in two sections. A certificate of analysis that summarizes all reported analytical results inclusive of any QC associated with the analyses is included in a non-paginated section. A paginated full data package with the associated raw data immediately follows this section.

By client request, the analyses of samples F9K240239-007, -008, -010, -012, -014, -016, -018, -020, -022, -024, -026, -028, and -031 are not included in this report. Due to this request, page numbers 385, 386, 389, 391, 394, 396, 559, 568, 573, 683-686, 703-705, 724-726, 829, 831, 833, 837, 1450-1456, 1462-1469, 1478-1481, and 1498-1505 have been removed from the full data package section of this report.

Volatiles

There were no nonconformances associated with this analysis.

Base/Neutral Acids

A Non-Conformance Memo was issued for samples –001and –004, -004 MS, and –004 MSD. The Laboratory Control Sample (LCS), Matrix Spike and Matrix Spike Duplicate analyses associated with these samples showed low compound recovery below stated laboratory control limits. Sample –001 was reextracted past hold times and reanalyzed. Results of the reanalysis and the associated batch QC showed one compound out high for the LCSD. Analytical results for the reanalysis of sample –001 were comparable with the original analysis. Insufficient sample remained to reextract sample -004. No further corrective action was performed.

Due to sample matrix, sample number -002 could not be concentrated below 10 mLs. The sample was run at 1 to 10 dilution after concentration. The surrogates are diluted out.

Pesticides

Surrogate recoveries for samples -001and -033 are out high. No target analytes were detected in the samples. No further corrective action is required.

The surrogate Decachlorobiphenyl for sample -006 is out high, but Tetrachloro-m-xylene is within acceptance limits. This method of analysis requires only one surrogate be within laboratory control limits.

Due to dilutions made, the percent recoveries for the Matrix Spike/Matrix Spike Duplicates for samples –006 and –030 are out high. The RPD for these MS/MSD analyses are outside of control limits. The LCS/LCSD recoveries are within acceptable limits. A LCS/LCSD was done instead of a MS/MSD in batches 9334301 and 9341219. Batch 9335454 has a MS/MSD in the batch.

PCBs

The RPD for Aroclor 1016/1260 is outside laboratory stated control limits in sample -006 MS/MSD. Sample -023 was re-extracted 6 days outside of holding time due to low surrogate recoveries. Surrogate recoveries for the re-extraction were within control and analytical results confirmed there were no target analyte hits in the sample. Method 3545 (ASE) was used as the extraction method for the soils.

Metals

Batch MS/MSD were performed for all metal except the ICP batch 9349103. A LCS/LCSD were prepared and analyzed for this batch.

The recoveries of the matrix spikes and/or the matrix spike duplicates for the following list of elements was not within the 75%-125% range. Therefore all associated data was flagged with a "N" qualifier.

		% REC MS	%REC MSD
D5JME	Antimony	72.3	66.9
	Lead	396	451
D5JWC	Antimony	72.0	72.9
	Lead	29.5	0.0
	Zinc	49.5	47.8

SAMPLE SUMMARY

F9K240239

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
D5JK3	001	3NSUMP	11/23/99	14:15
D5JM7	002	SWMW-7	11/23/99	22:30
D5JM9	003	3NDRAIN	11/23/99	15:50
D5JMC	004	2MW-1	11/23/99	16:30
D5JMD	005	3SS-12, 0-0.5	11/23/99	12:15
D5JME	006	3SS-12, 0-0.5D	11/23/99	12:15
D5JNA	007	3SS-12, 1-1.5	11/23/99	12:15
D5JND	008	3SS-12, 1-1.5D	11/23/99	12:15
D5JNF	009	3SS-13, 0-0.5	11/23/99	12:30
D5JNG	010	3SS-13, 1-1.5	11/23/99	12:30
D5JNJ	011	3SS-14, 0-0.5	11/23/99	12:45
D5JNM	012	3SS-14, 1-1.5	11/23/99	12:45
D5JNQ	013	3SS-15, 0-0.5	11/23/99	13:00
D5JRT	014	3SS-15, 1-1.5	11/23/99	13:00
D5JT0	015	3SS-11, 0-0.5	11/23/99	12:00
D5JT1	016	3SS-11, 1-1.5	11/23/99	12:00
D5JT3	017	3SS-16, 0-0.5	11/23/99	13:30
D5JT5	018	3SS-16, 1-1.5	11/23/99	13:30
D5JTA	019	3SS-7B, 0-0.5	11/23/99	07:55
D5JTH	020	3SS-7B, 1-1.5	11/23/99	07:55
D5JTJ	021	3SS-1, 0-0.5	11/23/99	0
D5JTQ	022	3SS-1, 1-1.5	11/23/99	0[illegible]
D5JTR	023	3SS-3, 0-0.5	11/23/99	07:15
D5JV0	024	3SS-3, 1-1.5	11/23/99	07:15
D5JV1	025	3SS-4, 0-0.5	11/23/99	07:25
D5JV6	026	3SS-4, 1-1.5	11/23/99	07:25
D5JVC	027	3SS-5, 0-0.5	11/23/99	07:40
D5JVG	028	3SS-5, 1-1.5	11/23/99	07:40
D5JW6	029	3SS-2, 0-0.5	11/23/99	07:10
D5JWC	030	3SS-2, 0-0.5D	11/23/99	07:10
D5JWE	031	3SS-2, 1-1.5	11/23/99	07:10
D5JWG	032	AP-1	11/23/99	13:45
D5JWJ	033	EQB-7/23	11/23/99	16:00

(Continued on next page)

SAMPLE SUMMARY

F9K240239

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages
- All calculations are performed before rounding to avoid round-off errors in calculated results
- Results noted as "ND" were not detected at or above the stated limit
- This report must not be reproduced, except in full, without the written approval of the laboratory
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight

TETRA TECH EM INC.

Client Sample ID: 3NSUMP

GC Semivolatiles

Lot-Sample #...: F9K240239-001 **Work Order #...:** D5CK31CC **Matrix.....:** WATER
Date Sampled...: 11/23/99 14:15 **Date Received..:** 11/24/99
Prep Date.....: 11/30/99 **Analysis Date..:** 12/02/99
Prep Batch #...: 9334297 **Analysis Time..:** 21:19
Dilution Factor: 1

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	1.0	ug/L
Aroclor 1221	ND	1.0	ug/L
Aroclor 1232	ND	1.0	ug/L
Aroclor 1242	ND	1.0	ug/L
Aroclor 1248	ND	1.0	ug/L
Aroclor 1254	ND	1.0	ug/L
Aroclor 1260	ND	1.0	ug/L
Aroclor 1262	ND	1.0	ug/L
Aroclor 1268	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	63	(26 - 157)
Decachlorobiphenyl	28	(13 - 147)

TETRA TECH EM INC.

Client Sample ID: 3NSUMP

GC Semivolatiles

Lot-Sample #...: F9K240239-001 **Work Order #...:** D5JK310D **Matrix.....:** WATER
Date Sampled...: 11/23/99 14:15 **Date Received..:** 11/24/99
Prep Date.....: 11/30/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9334301 **Analysis Time..:** 15:12
Dilution Factor: 1

Method.....: SW846 8081A

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Endrin ketone	ND	0.050	ug/L
Heptachlor	ND	0.050	ug/L
Heptachlor epoxide	ND	0.050	ug/L
Methoxychlor	ND	0.10	ug/L
Toxaphene	ND	2.0	ug/L
Aldrin	ND	0.050	ug/L
alpha-BHC	ND	0.050	ug/L
beta-BHC	ND	0.050	ug/L
delta-BHC	ND	0.050	ug/L
gamma-BHC (Lindane)	ND	0.050	ug/L
alpha-Chlordane	ND	0.050	ug/L
gamma-Chlordane	ND	0.050	ug/L
4,4'-DDD	ND	0.050	ug/L
4,4'-DDE	ND	0.050	ug/L
4,4'-DDT	ND	0.050	ug/L
Dieldrin	ND	0.050	ug/L
Endosulfan I	ND	0.050	ug/L
Endosulfan II	ND	0.050	ug/L
Endosulfan sulfate	ND	0.050	ug/L
Endrin	ND	0.050	ug/L
Endrin aldehyde	ND	0.050	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	170 *	(26 - 157)
Decachlorobiphenyl	161 *	(13 - 147)

NOTE(S):

* Surrogate recovery is outside stated control limits

TETRA TECH EM INC.

Client Sample ID: 3NSUMP

GC/MS Semivolatiles

Lot-Sample #...: F9K240239-001 **Work Order #...:** D5JK3101 **Matrix.....:** WATER
Date Sampled...: 11/23/99 14:15 **Date Received..:** 11/24/99
Prep Date.....: 11/30/99 **Analysis Date..:** 12/02/99
Prep Batch #...: 9334303 **Analysis Time..:** 21:48
Dilution Factor: 1

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo(ghi)perylene	ND	5.0	ug/L
Di-n-butyl phthalate	ND	5.0	ug/L
Fluoranthene	ND	5.0	ug/L
Pyrene	ND	5.0	ug/L
Butyl benzyl phthalate	ND	5.0	ug/L
3,3'-Dichlorobenzidine	ND	5.0	ug/L
Chrysene	ND	5.0	ug/L
bis(2-Ethylhexyl) phthalate	**4.1 J,B**	**5.0**	**ug/L**
Di-n-octyl phthalate	ND	5.0	ug/L
Benzo(k)fluoranthene	ND	5.0	ug/L
Acenaphthene	ND	5.0	ug/L
2,4-Dinitrophenol	ND	20	ug/L
4-Nitrophenol	ND	20	ug/L
Dibenzofuran	ND	5.0	ug/L
2,4-Dinitrotoluene	ND	5.0	ug/L
Diethyl phthalate	ND	5.0	ug/L
4-Chlorophenyl phenyl ether	ND	5.0	ug/L
Fluorene	ND	5.0	ug/L
4-Nitroaniline	ND	20	ug/L
4,6-Dinitro-2-methylphenol	ND	20	ug/L
N-Nitrosodiphenylamine	ND	10	ug/L
Hexachlorobenzene	ND	5.0	ug/L
Phenanthrene	ND	5.0	ug/L
Anthracene	ND	5.0	ug/L
2,4-Dichlorophenol	ND	5.0	ug/L
1,2,4-Trichlorobenzene	ND	5.0	ug/L
Naphthalene	ND	5.0	ug/L
4-Chloroaniline	ND	5.0	ug/L
Hexachlorobutadiene	ND	5.0	ug/L
4-Chloro-3-methylphenol	ND	5.0	ug/L
2-Methylnaphthalene	ND	5.0	ug/L
Hexachlorocyclopentadiene	ND	5.0	ug/L
2,4,6-Trichlorophenol	ND	5.0	ug/L
2,4,5-Trichlorophenol	ND	5.0	ug/L

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TETRA TECH EM INC.

Client Sample ID: 3NSUMP

GC/MS Semivolatiles

Lot-Sample #...: F9K240239-001 **Work Order #...:** D5JK3101 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS
2-Chloronaphthalene	ND	5.0	ug/L
2-Nitroaniline	ND	20	ug/L
Dimethyl phthalate	ND	5.0	ug/L
Acenaphthylene	ND	5.0	ug/L
2,6-Dinitrotoluene	ND	5.0	ug/L
3-Nitroaniline	ND	20	ug/L
Phenol	ND	5.0	ug/L
bis(2-Chloroethyl)-ether	ND	5.0	ug/L
2-Chlorophenol	ND	5.0	ug/L
2-Methylphenol	ND	5.0	ug/L
2,2'-oxybis(1-Chloropropane)	ND	5.0	ug/L
4-Methylphenol	ND	5.0	ug/L
N-Nitrosodi-n-propyl-amine	ND	5.0	ug/L
Hexachloroethane	ND	5.0	ug/L
Nitrobenzene	ND	5.0	ug/L
Isophorone	ND	5.0	ug/L
2-Nitrophenol	ND	5.0	ug/L
2,4-Dimethylphenol	ND	5.0	ug/L
bis(2-Chloroethoxy) methane	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	34	(10 - 111)
Phenol-d5	27	(10 - 118)
Nitrobenzene-d5	60	(18 - 116)
2-Fluorobiphenyl	60	(10 - 124)
2,4,6-Tribromophenol	81	(24 - 118)
Terphenyl-d14	39	(24 - 140)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

TETRA TECH EM INC.

Client Sample ID: 3NSUMP

GC/MS Semivolatiles

Lot-Sample #...: F9K240239-001 **Work Order #...:** D5JK32C1 **Matrix.....:** WATER
Date Sampled...: 11/23/99 14:15 **Date Received..:** 11/24/99
Prep Date.....: 12/06/99 **Analysis Date..:** 12/10/99
Prep Batch #...: 9343368 **Analysis Time..:** 01:48
Dilution Factor: 1

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo(ghi)perylene	ND	5.0	ug/L
Di-n-butyl phthalate	ND	5.0	ug/L
Fluoranthene	ND	5.0	ug/L
Pyrene	ND	5.0	ug/L
Butyl benzyl phthalate	ND	5.0	ug/L
3,3'-Dichlorobenzidine	ND	5.0	ug/L
Chrysene	ND	5.0	ug/L
bis(2-Ethylhexyl) phthalate	ND	5.0	ug/L
Di-n-octyl phthalate	ND	5.0	ug/L
Benzo(k)fluoranthene	ND	5.0	ug/L
Acenaphthene	ND	5.0	ug/L
2,4-Dinitrophenol	ND	20	ug/L
4-Nitrophenol	ND	20	ug/L
Dibenzofuran	ND	5.0	ug/L
2,4-Dinitrotoluene	ND	5.0	ug/L
Diethyl phthalate	ND	5.0	ug/L
4-Chlorophenyl phenyl ether	ND	5.0	ug/L
Fluorene	ND	5.0	ug/L
4-Nitroaniline	ND	20	ug/L
4,6-Dinitro-2-methylphenol	ND	20	ug/L
N-Nitrosodiphenylamine	ND	10	ug/L
Hexachlorobenzene	ND	5.0	ug/L
Phenanthrene	ND	5.0	ug/L
Anthracene	ND	5.0	ug/L
2,4-Dichlorophenol	ND	5.0	ug/L
1,2,4-Trichlorobenzene	ND	5.0	ug/L
Naphthalene	ND	5.0	ug/L
4-Chloroaniline	ND	5.0	ug/L
Hexachlorobutadiene	ND	5.0	ug/L
4-Chloro-3-methylphenol	ND	5.0	ug/L
2-Methylnaphthalene	ND	5.0	ug/L
Hexachlorocyclopentadiene	ND	5.0	ug/L
2,4,6-Trichlorophenol	ND	5.0	ug/L
2,4,5-Trichlorophenol	ND	5.0	ug/L

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TETRA TECH EM INC.

Client Sample ID: 3NSUMP

GC/MS Semivolatiles

Lot-Sample #...: F9K240239-001 **Work Order #...:** D5JK3201 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS
2-Chloronaphthalene	ND	5.0	ug/L
2-Nitroaniline	ND	20	ug/L
Dimethyl phthalate	ND	5.0	ug/L
Acenaphthylene	ND	5.0	ug/L
2,6-Dinitrotoluene	ND	5.0	ug/L
3-Nitroaniline	ND	20	ug/L
Phenol	ND	5.0	ug/L
bis(2-Chloroethyl)-ether	ND	5.0	ug/L
2-Chlorophenol	ND	5.0	ug/L
2-Methylphenol	ND	5.0	ug/L
2,2'-oxybis(1-Chloropropane)	ND	5.0	ug/L
4-Methylphenol	ND	5.0	ug/L
N-Nitrosodi-n-propyl-amine	ND	5.0	ug/L
Hexachloroethane	ND	5.0	ug/L
Nitrobenzene	ND	5.0	ug/L
Isophorone	ND	5.0	ug/L
2-Nitrophenol	ND	5.0	ug/L
2,4-Dimethylphenol	ND	5.0	ug/L
bis(2-Chloroethoxy) methane	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	27	(10 - 111)
Phenol-d5	17	(10 - 118)
Nitrobenzene-d5	85	(18 - 116)
2-Fluorobiphenyl	77	(10 - 124)
2,4,6-Tribromophenol	71	(24 - 118)
Terphenyl-d14	40	(24 - 140)

TETRA TECH EM INC.

Client Sample ID: SWMW-7

GC Semivolatiles

Lot-Sample #...: F9K240239-002 **Work Order #...:** D5JM7104 **Matrix.....:** WATER
Date Sampled...: 11/23/99 22:30 **Date Received..:** 11/24/99
Prep Date.....: 11/30/99 **Analysis Date..:** 12/02/99
Prep Batch #...: 9334297 **Analysis Time..:** 21:32
Dilution Factor: 1

Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1242	ND	1.0	ug/L
Aroclor 1248	ND	1.0	ug/L
Aroclor 1254	ND	1.0	ug/L
Aroclor 1260	ND	1.0	ug/L
Aroclor 1262	ND	1.0	ug/L
Aroclor 1268	ND	1.0	ug/L
Aroclor 1016	ND	1.0	ug/L
Aroclor 1221	ND	1.0	ug/L
Aroclor 1232	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	75	(26 - 157)
Decachlorobiphenyl	37	(13 - 147)

TETRA TECH EM INC.

Client Sample ID: 3NDRAIN

GC Semivolatiles

Lot-Sample #...: F9K240239-003 **Work Order #...:** D5JM910C **Matrix.....:** WATER
Date Sampled...: 11/23/99 15:50 **Date Received..:** 11/24/99
Prep Date.....: 11/30/99 **Analysis Date..:** 12/02/99
Prep Batch #...: 9334297 **Analysis Time..:** 22:09
Dilution Factor: 1
Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	1.0	ug/L
Aroclor 1221	ND	1.0	ug/L
Aroclor 1232	ND	1.0	ug/L
Aroclor 1242	ND	1.0	ug/L
Aroclor 1248	**5.0**	**1.0**	**ug/L**
Aroclor 1254	ND	1.0	ug/L
Aroclor 1260	ND	1.0	ug/L
Aroclor 1262	ND	1.0	ug/L
Aroclor 1268	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	160 *	(26 157)
Decachlorobiphenyl	65	(13 147)

NOTE(S):

* Surrogate recovery is outside stated control limits

TETRA TECH EM INC.

Client Sample ID: 3NDRAIN

GC Semivolatiles

Lot-Sample #...: F9K240239-003 **Work Order #...:** D5JM910D **Matrix.....:** WATER
Date Sampled...: 11/23/99 15:50 **Date Received..:** 11/24/99
Prep Date.....: 11/30/99 **Analysis Date..:** 12/14/99
Prep Batch #...: 9334301 **Analysis Time..:** 04:55
Dilution Factor: 4

Method.....: SW846 8081A

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Endrin ketone	ND	0.20	ug/L
Heptachlor	ND	0.20	ug/L
Heptachlor epoxide	ND	0.20	ug/L
Methoxychlor	ND	0.40	ug/L
Toxaphene	ND	8.0	ug/L
Aldrin	ND	0.20	ug/L
alpha-BHC	ND	0.20	ug/L
beta-BHC	ND	0.20	ug/L
delta-BHC	ND	0.20	ug/L
gamma-BHC (Lindane)	ND	0.20	ug/L
alpha-Chlordane	ND	0.20	ug/L
gamma-Chlordane	ND	0.20	ug/L
4,4'-DDD	ND	0.20	ug/L
4,4'-DDE	ND	0.20	ug/L
4,4'-DDT	ND	0.20	ug/L
Dieldrin	ND	0.20	ug/L
Endosulfan I	ND	0.20	ug/L
Endosulfan II	ND	0.20	ug/L
Endosulfan sulfate	ND	0.20	ug/L
Endrin	ND	0.20	ug/L
Endrin aldehyde	ND	0.20	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	94	(26 - 157)
Decachlorobiphenyl	82	(13 - 147)

TETRA TECH EM INC.

Client Sample ID: 3NDRAIN

GC/MS Volatiles

Lot-Sample #...: F9K240239-003 **Work Order #...:** D5JM9101 **Matrix.....:** WATER
Date Sampled...: 11/23/99 15:50 **Date Received..:** 11/24/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/02/99
Prep Batch #...: 9337164 **Analysis Time..:** 11:20
Dilution Factor: 1

Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Xylenes (total)	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	5.0	ug/L
2-Hexanone	ND	5.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Chloromethane	ND	2.0	ug/L
Bromomethane	ND	2.0	ug/L
Vinyl chloride	ND	2.0	ug/L
Chloroethane	ND	2.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
2-Butanone	ND	5.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichlorobenzene	ND	1.0	ug/L
1,3-Dichlorobenzene	ND	1.0	ug/L
1,4-Dichlorobenzene	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	0.50	ug/L
trans-1,2-Dichloroethene	ND	0.50	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L

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TETRA TECH EM INC.

Client Sample ID: 3NDRAIN

GC/MS Volatiles

Lot-Sample #...: F9K240239-003 **Work Order #...:** D5JM91C1 **Matrix.....:** WATER

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	99	(78 - 124)
Toluene-d8	105	(71 - 129)
Dibromofluoromethane	106	(74 - 135)

TETRA TECH EM INC.

Client Sample ID: 2MW-1

GC/MS Semivolatiles

Lot-Sample #...: F9K240239-004 **Work Order #...:** D5CMC101 **Matrix.....:** WATER
Date Sampled...: 11/23/99 16:30 **Date Received..:** 11/24/99
Prep Date.....: 11/30/99 **Analysis Date..:** 12/02/99
Prep Batch #...: 9334303 **Analysis Time..:** 22:22
Dilution Factor: 1

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzo(ghi)perylene	ND	5.0	ug/L
Di-n-butyl phthalate	ND	5.0	ug/L
Fluoranthene	ND	5.0	ug/L
Pyrene	ND	5.0	ug/L
Butyl benzyl phthalate	ND	5.0	ug/L
3,3'-Dichlorobenzidine	ND	5.0	ug/L
Chrysene	ND	5.0	ug/L
bis(2-Ethylhexyl) phthalate	**1.9 J,B**	**5.0**	**ug/L**
Di-n-octyl phthalate	ND	5.0	ug/L
Benzo(k)fluoranthene	ND	5.0	ug/L
Acenaphthene	ND	5.0	ug/L
2,4-Dinitrophenol	ND	20	ug/L
4-Nitrophenol	ND	20	ug/L
Dibenzofuran	ND	5.0	ug/L
2,4-Dinitrotoluene	ND	5.0	ug/L
Diethyl phthalate	ND	5.0	ug/L
4-Chlorophenyl phenyl ether	ND	5.0	ug/L
Fluorene	ND	5.0	ug/L
4-Nitroaniline	ND	20	ug/L
4,6-Dinitro-2-methylphenol	ND	20	ug/L
N-Nitrosodiphenylamine	ND	10	ug/L
Hexachlorobenzene	ND	5.0	ug/L
Phenanthrene	ND	5.0	ug/L
Anthracene	ND	5.0	ug/L
2,4-Dichlorophenol	ND	5.0	ug/L
1,2,4-Trichlorobenzene	ND	5.0	ug/L
Naphthalene	ND	5.0	ug/L
4-Chloroaniline	ND	5.0	ug/L
Hexachlorobutadiene	ND	5.0	ug/L
4-Chloro-3-methylphenol	ND	5.0	ug/L
2-Methylnaphthalene	ND	5.0	ug/L
Hexachlorocyclopentadiene	ND	5.0	ug/L
2,4,6-Trichlorophenol	ND	5.0	ug/L
2,4,5-Trichlorophenol	ND	5.0	ug/L

(Continued on next page)

TETRA TECH EM INC.

Client Sample ID: 2MW-1

GC/MS Semivolatiles

Lot-Sample #...: F9K240239-004 **Work Order #...:** D5JMC101 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS
2-Chloronaphthalene	ND	5.0	ug/L
2-Nitroaniline	ND	20	ug/L
Dimethyl phthalate	ND	5.0	ug/L
Acenaphthylene	ND	5.0	ug/L
2,6-Dinitrotoluene	ND	5.0	ug/L
3-Nitroaniline	ND	20	ug/L
Phenol	ND	5.0	ug/L
bis(2-Chloroethyl)-ether	ND	5.0	ug/L
2-Chlorophenol	ND	5.0	ug/L
2-Methylphenol	ND	5.0	ug/L
2,2'-oxybis(1-Chloropropane)	ND	5.0	ug/L
4-Methylphenol	ND	5.0	ug/L
N-Nitrosodi-n-propyl-amine	ND	5.0	ug/L
Hexachloroethane	ND	5.0	ug/L
Nitrobenzene	ND	5.0	ug/L
Isophorone	ND	5.0	ug/L
2-Nitrophenol	ND	5.0	ug/L
2,4-Dimethylphenol	ND	5.0	ug/L
bis(2-Chloroethoxy) methane	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	34	(10 - 111)
Phenol-d5	27	(10 - 118)
Nitrobenzene-d5	57	(18 - 116)
2-Fluorobiphenyl	55	(10 - 124)
2,4,6-Tribromophenol	79	(24 - 118)
Terphenyl-d14	48	(24 - 140)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

TETRA TECH EM INC.

Client Sample ID: 3SS-12, 0 0.5

GC Semivolatiles

Lot-Sample #...: F9K240239-005 **Work Order #...:** D5JMD10E **Matrix.....:** SOLID
Date Sampled...: 11/23/99 12:15 **Date Received..:** 11/24/99
Prep Date.....: 12/07/99 **Analysis Date..:** 12/09/99
Prep Batch #...: 9341422 **Analysis Time..:** 09:42
Dilution Factor: 1
% Moisture.....: 21 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	42	ug/kg
Aroclor 1016	ND	42	ug/kg
Aroclor 1221	ND	84	ug/kg
Aroclor 1232	ND	42	ug/kg
Aroclor 1242	ND	42	ug/kg
Aroclor 1248	ND	42	ug/kg
Aroclor 1254	ND	42	ug/kg
Aroclor 1260	ND	42	ug/kg
Aroclor 1262	ND	42	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	62	(15 - 168)
Decachlorobiphenyl	50	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

TETRA TECH EM INC.

Client Sample ID: 3SS-12, 0-0.5

GC Semivolatiles

Lot-Sample #...: F9K240239-005 **Work Order #...:** D5JMD101 **Matrix.....:** SOLID
Date Sampled...: 11/23/99 12:15 **Date Received..:** 11/24/99
Prep Date.....: 12/01/99 **Analysis Date..:** 12/09/99
Prep Batch #...: 9335454 **Analysis Time..:** 12:51
Dilution Factor: 5
% Moisture.....: 21 **Method.....:** SW846 8081A

PARAMETER	RESULT	REPORTING LIMIT	UNITS
alpha-BHC	ND	11	ug/kg
beta-BHC	ND	11	ug/kg
delta-BHC	ND	11	ug/kg
Aldrin	ND	11	ug/kg
gamma-BHC (Lindane)	ND	11	ug/kg
alpha-Chlordane	ND	11	ug/kg
gamma-Chlordane	ND	11	ug/kg
Chlordane (technical)	ND	110	ug/kg
4,4'-DDD	ND	11	ug/kg
4,4'-DDE	ND	11	ug/kg
4,4'-DDT	**140**	**11**	**ug/kg**
Dieldrin	ND	11	ug/kg
Endosulfan I	ND	11	ug/kg
Endosulfan II	ND	11	ug/kg
Endosulfan sulfate	ND	11	ug/kg
Endrin	ND	11	ug/kg
Endrin aldehyde	ND	11	ug/kg
Endrin ketone	ND	11	ug/kg
Heptachlor	ND	11	ug/kg
Heptachlor epoxide	ND	11	ug/kg
Methoxychlor	ND	21	ug/kg
Toxaphene	ND	420	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	99	(15 - 168)
Decachlorobiphenyl	29	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

TETRA TECH EM INC.

Client Sample ID: 3SS-12, 0-0.5D

GC Semivolatiles

Lot-Sample #...: F9K240239-006 **Work Order #...:** D5JME115 **Matrix.....:** SOLID
Date Sampled...: 11/23/99 12:15 **Date Received..:** 11/24/99
Prep Date.....: 12/07/99 **Analysis Date..:** 12/09/99
Prep Batch #...: 9341422 **Analysis Time..:** 09:54
Dilution Factor: 1
% Moisture.....: 20 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	41	ug/kg
Aroclor 1016	ND	41	ug/kg
Aroclor 1221	ND	84	ug/kg
Aroclor 1232	ND	41	ug/kg
Aroclor 1242	ND	41	ug/kg
Aroclor 1248	ND	41	ug/kg
Aroclor 1254	ND	41	ug/kg
Aroclor 1260	ND	41	ug/kg
Aroclor 1262	ND	41	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	47	(15 - 168)
Decachlorobiphenyl	47	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SS-12, 0-0.5D

GC Semivolatiles

Lot-Sample #...: F9K240239-006 **Work Order #...:** D5JME101 **Matrix.....:** SOLID
Date Sampled...: 11/23/99 12:15 **Date Received..:** 11/24/99
Prep Date.....: 12/01/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9335454 **Analysis Time..:** 18:20
Dilution Factor: 5
% Moisture.....: 20 **Method.....:** SW846 8081A

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aldrin	ND	11	ug/kg
alpha-BHC	ND	11	ug/kg
beta-BHC	ND	11	ug/kg
delta-BHC	ND	11	ug/kg
gamma-BHC (Lindane)	ND	11	ug/kg
alpha-Chlordane	ND	11	ug/kg
gamma-Chlordane	ND	11	ug/kg
Chlordane (technical)	ND	110	ug/kg
4,4'-DDD	ND	11	ug/kg
4,4'-DDE	ND	11	ug/kg
4,4'-DDT	**74**	**11**	**ug/kg**
Dieldrin	ND	11	ug/kg
Endosulfan I	ND	11	ug/kg
Endosulfan II	ND	11	ug/kg
Endosulfan sulfate	ND	11	ug/kg
Endrin	ND	11	ug/kg
Endrin aldehyde	ND	11	ug/kg
Endrin ketone	ND	11	ug/kg
Heptachlor	ND	11	ug/kg
Heptachlor epoxide	ND	11	ug/kg
Methoxychlor	ND	21	ug/kg
Toxaphene	ND	420	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	99	(15 - 168)
Decachlorobiphenyl	233 *	(10 - 207)

NOTE(S):

* Surrogate recovery is outside stated control limits

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SS-13, 0-0.5

GC Semivolatiles

Lot-Sample #...: F9K240239-009 **Work Order #...:** D5JNF103 **Matrix.....:** SOLID
Date Sampled...: 11/23/99 12:30 **Date Received..:** 11/24/99
Prep Date.....: 12/07/99 **Analysis Date..:** 12/09/99
Prep Batch #...: 9341422 **Analysis Time..:** 10:44
Dilution Factor: 1
% Moisture.....: 19 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	41	ug/kg
Aroclor 1016	ND	41	ug/kg
Aroclor 1221	ND	83	ug/kg
Aroclor 1232	ND	41	ug/kg
Aroclor 1242	ND	41	ug/kg
Aroclor 1248	ND	41	ug/kg
Aroclor 1254	ND	41	ug/kg
Aroclor 1260	ND	41	ug/kg
Aroclor 1262	ND	41	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	52	(15 - 168)
Decachlorobiphenyl	50	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SS-14, 0-0.5

GC Semivolatiles

Lot-Sample #...: F9K240239-011 **Work Order #...:** D5JNJ102 **Matrix.....:** SOLID
Date Sampled...: 11/23/99 12:45 **Date Received..:** 11/24/99
Prep Date.....: 12/07/99 **Analysis Date..:** 12/09/99
Prep Batch #...: 9341422 **Analysis Time..:** 10:56
Dilution Factor: 1
% Moisture.....: 16 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	39	ug/kg
Aroclor 1016	ND	39	ug/kg
Aroclor 1221	ND	79	ug/kg
Aroclor 1232	ND	39	ug/kg
Aroclor 1242	ND	39	ug/kg
Aroclor 1248	**170**	**39**	**ug/kg**
Aroclor 1254	ND	39	ug/kg
Aroclor 1260	ND	39	ug/kg
Aroclor 1262	ND	39	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	75	(15 - 168)
Decachlorobiphenyl	51	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SS-15, 0-0.5

GC Semivolatiles

Lot-Sample #...: F9K240239-013 **Work Order #...:** D5JNQ102 **Matrix.....:** SOLID
Date Sampled...: 11/23/99 13:00 **Date Received..:** 11/24/99
Prep Date.....: 12/07/99 **Analysis Date..:** 12/09/99
Prep Batch #...: 9341422 **Analysis Time..:** 11:08
Dilution Factor: 1
% Moisture.....: 21 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	42	ug/kg
Aroclor 1016	ND	42	ug/kg
Aroclor 1221	ND	84	ug/kg
Aroclor 1232	ND	42	ug/kg
Aroclor 1242	ND	42	ug/kg
Aroclor 1248	ND	42	ug/kg
Aroclor 1254	ND	42	ug/kg
Aroclor 1260	ND	42	ug/kg
Aroclor 1262	ND	42	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	53	(15 - 168)
Decachlorobiphenyl	57	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SS-11, 0-0.5

GC Semivolatiles

Lot-Sample #...: F9K240239-015 **Work Order #...:** D5JT0102 **Matrix.....:** SOLID
Date Sampled...: 11/23/99 12:00 **Date Received..:** 11/24/99
Prep Date.....: 12/07/99 **Analysis Date..:** 12/09/99
Prep Batch #...: 9341422 **Analysis Time..:** 11:21
Dilution Factor: 1
% Moisture.....: 16 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	39	ug/kg
Aroclor 1221	ND	80	ug/kg
Aroclor 1232	ND	39	ug/kg
Aroclor 1268	ND	39	ug/kg
Aroclor 1242	ND	39	ug/kg
Aroclor 1248	ND	39	ug/kg
Aroclor 1254	ND	39	ug/kg
Aroclor 1260	ND	39	ug/kg
Aroclor 1262	ND	39	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	74	(25 - 168)
Decachlorobiphenyl	83	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SS-16, 0-0.5

GC Semivolatiles

Lot-Sample #...: F9K240239-017 **Work Order #...:** D5JT310E **Matrix.....:** SOLID
Date Sampled...: 11/23/99 13:30 **Date Received..:** 11/24/99
Prep Date.....: 12/07/99 **Analysis Date..:** 12/09/99
Prep Batch #...: 9341422 **Analysis Time..:** 11:33
Dilution Factor: 1
% Moisture.....: 23 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	43	ug/kg
Aroclor 1016	ND	43	ug/kg
Aroclor 1221	ND	87	ug/kg
Aroclor 1232	ND	43	ug/kg
Aroclor 1242	ND	43	ug/kg
Aroclor 1248	ND	43	ug/kg
Aroclor 1254	ND	43	ug/kg
Aroclor 1260	ND	43	ug/kg
Aroclor 1262	ND	43	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	93	(15 - 168)
Decachlorobiphenyl	92	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SS-16, 0 0.5

GC Semivolatiles

Lot-Sample #...: F9K240239-017 **Work Order #...:** D5CT3101 **Matrix.....:** SOLID
Date Sampled...: 11/23/99 13:30 **Date Received..:** 11/24/99
Prep Date.....: 12/01/99 **Analysis Date..:** 12/09/99
Prep Batch #...: 9335454 **Analysis Time..:** 14:25
Dilution Factor: 1
% Moisture.....: 23 **Method.....:** SW846 8081A

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aldrin	ND	2.2	ug/kg
alpha-BHC	ND	2.2	ug/kg
beta-BHC	ND	2.2	ug/kg
delta-BHC	ND	2.2	ug/kg
gamma-BHC (Lindane)	ND	2.2	ug/kg
alpha-Chlordane	ND	2.2	ug/kg
gamma-Chlordane	ND	2.2	ug/kg
Chlordane (technical)	ND	22	ug/kg
4,4'-DDD	ND	2.2	ug/kg
4,4'-DDE	ND	2.2	ug/kg
4,4'-DDT	ND	2.2	ug/kg
Dieldrin	ND	2.2	ug/kg
Endrin	ND	2.2	ug/kg
Endrin aldehyde	ND	2.2	ug/kg
Endrin ketone	ND	2.2	ug/kg
Toxaphene	ND	87	ug/kg
Endosulfan I	ND	2.2	ug/kg
Endosulfan II	ND	2.2	ug/kg
Endosulfan sulfate	ND	2.2	ug/kg
Heptachlor	ND	2.2	ug/kg
Heptachlor epoxide	ND	2.2	ug/kg
Methoxychlor	ND	4.3	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	132	(15 - 168)
Decachlorobiphenyl	38	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

Data is Incomplete without Case Narrative

TETRA TECH EM INC.

Client Sample ID: 3SS-7B, 0-0.5

GC Semivolatiles

Lot-Sample #...: F9K240239-019 **Work Order #...:** D5JTA101 **Matrix.....:** SOLID
Date Sampled...: 11/23/99 07:55 **Date Received..:** 11/24/99
Prep Date.....: 12/01/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9335454 **Analysis Time..:** 20:29
Dilution Factor: 50
% Moisture.....: 20 **Method.....:** SW846 8081A

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aldrin	ND	110	ug/kg
alpha-BHC	ND	110	ug/kg
beta-BHC	ND	110	ug/kg
delta-BHC	ND	110	ug/kg
gamma-BHC (Lindane)	ND	110	ug/kg
alpha-Chlordane	ND	110	ug/kg
gamma-Chlordane	ND	110	ug/kg
Chlordane (technical)	ND	1100	ug/kg
4,4'-DDD	ND	110	ug/kg
4,4'-DDE	**430**	**110**	**ug/kg**
4,4'-DDT	**1600**	**110**	**ug/kg**
Dieldrin	ND	110	ug/kg
Endosulfan I	ND	110	ug/kg
Endosulfan II	ND	110	ug/kg
Endosulfan sulfate	ND	110	ug/kg
Endrin	ND	110	ug/kg
Endrin aldehyde	ND	110	ug/kg
Endrin ketone	ND	110	ug/kg
Heptachlor	ND	110	ug/kg
Heptachlor epoxide	ND	110	ug/kg
Methoxychlor	ND	210	ug/kg
Toxaphene	ND	4200	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	183 *	(15 - 168)
Decachlorobiphenyl	1640 *	(10 - 207)

NOTE(S):

* Surrogate recovery is outside stated control limits

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SS-1, 0-0.5

GC Semivolatiles

Lot-Sample #...: F9K240239-021 **Work Order #...:** D5JTJ1C2 **Matrix.....:** SOLID
Date Sampled...: 11/23/99 07:00 **Date Received..:** 11/24/99
Prep Date.....: 12/07/99 **Analysis Date..:** 12/09/99
Prep Batch #...: 9341422 **Analysis Time..:** 12:22
Dilution Factor: 10
% Moisture.....: 20 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	410	ug/kg
Aroclor 1016	ND	410	ug/kg
Aroclor 1221	ND	840	ug/kg
Aroclor 1232	ND	410	ug/kg
Aroclor 1242	ND	410	ug/kg
Aroclor 1248	**900**	**410**	**ug/kg**
Aroclor 1254	ND	410	ug/kg
Aroclor 1260	ND	410	ug/kg
Aroclor 1262	ND	410	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	0.0 DIL	(15 - 168)
Decachlorobiphenyl	0.0 DIL	(10 - 207)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SS-3, 0-0.5

GC Semivolatiles

Lot-Sample #...: F9K240239-023 **Work Order #...:** D5JTR102 **Matrix.....:** SOLID
Date Sampled...: 11/23/99 07:15 **Date Received..:** 11/24/99
Prep Date.....: 12/07/99 **Analysis Date..:** 12/09/99
Prep Batch #...: 9341422 **Analysis Time..:** 12:34
Dilution Factor: 1
% Moisture.....: 4.7 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1221	ND	70	ug/kg
Aroclor 1232	ND	35	ug/kg
Aroclor 1242	ND	35	ug/kg
Aroclor 1268	ND	35	ug/kg
Aroclor 1016	ND	35	ug/kg
Aroclor 1248	ND	35	ug/kg
Aroclor 1254	ND	35	ug/kg
Aroclor 1260	ND	35	ug/kg
Aroclor 1262	ND	35	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	9.2 *	(15 - 168)
Decachlorobiphenyl	7.6 *	(10 - 207)

NOTE(S):

* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SS-3, 0-0.5

GC Semivolatiles

Lot-Sample #...: F9K240239-023 **Work Order #...:** D5JTR202 **Matrix.....:** SOLID
Date Sampled...: 11/23/99 07:15 **Date Received..:** 11/24/99
Prep Date.....: 12/13/99 **Analysis Date..:** 12/14/99
Prep Batch #...: 9347274 **Analysis Time..:** 02:37
Dilution Factor: 1
% Moisture.....: 4.7 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	35	ug/kg
Aroclor 1016	ND	35	ug/kg
Aroclor 1221	ND	70	ug/kg
Aroclor 1232	ND	35	ug/kg
Aroclor 1242	ND	35	ug/kg
Aroclor 1248	ND	35	ug/kg
Aroclor 1254	ND	35	ug/kg
Aroclor 1260	ND	35	ug/kg
Aroclor 1262	ND	35	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	108	(15 - 168)
Decachlorobiphenyl	102	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SS-4, 0-0.5

GC Semivolatiles

Lot-Sample #...: F9K240239-025 **Work Order #...:** D5JV1102 **Matrix.....:** SOLID
Date Sampled...: 11/23/99 07:25 **Date Received..:** 11/24/99
Prep Date.....: 12/07/99 **Analysis Date..:** 12/09/99
Prep Batch #...: 9341422 **Analysis Time..:** 12:47
Dilution Factor: 1
% Moisture.....: 20 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	41	ug/kg
Aroclor 1016	ND	41	ug/kg
Aroclor 1221	ND	84	ug/kg
Aroclor 1232	ND	41	ug/kg
Aroclor 1242	ND	41	ug/kg
Aroclor 1248	ND	41	ug/kg
Aroclor 1254	ND	41	ug/kg
Aroclor 1260	ND	41	ug/kg
Aroclor 1262	ND	41	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	44	(15 - 168)
Decachlorobiphenyl	58	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SS-5, 0-0.5

GC Semivolatiles

Lot-Sample #...: P9K240239-027 **Work Order #...:** D5JVC10E **Matrix.....:** SOLID
Date Sampled...: 11/23/99 07:40 **Date Received..:** 11/24/99
Prep Date.....: 12/07/99 **Analysis Date..:** 12/09/99
Prep Batch #...: 9341422 **Analysis Time..:** 12:59
Dilution Factor: 1
% Moisture.....: 17 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	40	ug/kg
Aroclor 1016	ND	40	ug/kg
Aroclor 1221	ND	81	ug/kg
Aroclor 1232	ND	40	ug/kg
Aroclor 1242	ND	40	ug/kg
Aroclor 1248	ND	40	ug/kg
Aroclor 1254	**160**	**40**	**ug/kg**
Aroclor 1260	ND	40	ug/kg
Aroclor 1262	ND	40	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	98	(15 - 168)
Decachlorobiphenyl	85	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SS-5, 0 0.5

GC Semivolatiles

Lot-Sample #...: F9K240239-027 **Work Order #...:** D5JNC101 **Matrix.....:** SOLID
Date Sampled...: 11/23/99 07:40 **Date Received..:** 11/24/99
Prep Date.....: 12/01/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9335454 **Analysis Time..:** 21:03
Dilution Factor: 2
% Moisture.....: 17 **Method.....:** SW846 8081A

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aldrin	ND	4.1	ug/kg
alpha-BHC	ND	4.1	ug/kg
beta-BHC	ND	4.1	ug/kg
delta-BHC	ND	4.1	ug/kg
gamma-BHC (Lindane)	ND	4.1	ug/kg
alpha-Chlordane	ND	4.1	ug/kg
gamma-Chlordane	ND	4.1	ug/kg
Chlordane (technical)	ND	41	ug/kg
4,4'-DDD	**5.6**	**4.1**	**ug/kg**
4,4'-DDE	**15**	**4.1**	**ug/kg**
4,4'-DDT	**.35**	**4.1**	**ug/kg**
Dieldrin	ND	4.1	ug/kg
Endosulfan I	ND	4.1	ug/kg
Endosulfan II	ND	4.1	ug/kg
Endosulfan sulfate	ND	4.1	ug/kg
Endrin	ND	4.1	ug/kg
Endrin aldehyde	ND	4.1	ug/kg
Endrin ketone	ND	4.1	ug/kg
Heptachlor	ND	4.1	ug/kg
Heptachlor epoxide	ND	4.1	ug/kg
Methoxychlor	ND	8.2	ug/kg
Toxaphene	ND	160	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	92	(15 - 168)
Decachlorobiphenyl	152	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

TETRA TECH EM INC.

Client Sample ID: 3SS-2, 0-0.5

GC Semivolatiles

Lot-Sample #...: F9K240239-029 **Work Order #...:** D5JW610E **Matrix.....:** SOLID
Date Sampled...: 11/23/99 07:10 **Date Received..:** 11/24/99
Prep Date.....: 12/07/99 **Analysis Date..:** 12/09/99
Prep Batch #...: 9341422 **Analysis Time..:** 13:11
Dilution Factor: 1
% Moisture.....: 19 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	41	ug/kg
Aroclor 1016	ND	41	ug/kg
Aroclor 1221	ND	83	ug/kg
Aroclor 1232	ND	41	ug/kg
Aroclor 1242	ND	41	ug/kg
Aroclor 1248	ND	41	ug/kg
Aroclor 1254	ND	41	ug/kg
Aroclor 1260	ND	41	ug/kg
Aroclor 1262	ND	41	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	33	(15 - 168)
Decachlorobiphenyl	49	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SS-2, 0-0.5

GC Semivolatiles

Lot-Sample #...: F9K240239-029 **Work Order #...:** D5JW6101 **Matrix.....:** SOLID
Date Sampled...: 11/23/99 07:10 **Date Received..:** 11/24/99
Prep Date.....: 12/01/99 **Analysis Date..:** 12/09/99
Prep Batch #...: 9335454 **Analysis Time..:** 16:20
Dilution Factor: 1
% Moisture.....: 19 **Method.....:** SW846 8081A

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aldrin	ND	2.1	ug/kg
alpha-BHC	ND	2.1	ug/kg
beta-BHC	ND	2.1	ug/kg
delta-BHC	ND	2.1	ug/kg
gamma-BHC (Lindane)	ND	2.1	ug/kg
alpha-Chlordane	ND	2.1	ug/kg
gamma-Chlordane	ND	2.1	ug/kg
Chlordane (technical)	ND	21	ug/kg
4,4'-DDD	ND	2.1	ug/kg
4,4'-DDE	ND	2.1	ug/kg
4,4'-DDT	ND	2.1	ug/kg
Dieldrin	ND	2.1	ug/kg
Endosulfan I	ND	2.1	ug/kg
Endosulfan II	ND	2.1	ug/kg
Endosulfan sulfate	ND	2.1	ug/kg
Endrin	ND	2.1	ug/kg
Endrin aldehyde	ND	2.1	ug/kg
Endrin ketone	ND	2.1	ug/kg
Heptachlor	ND	2.1	ug/kg
Heptachlor epoxide	ND	2.1	ug/kg
Methoxychlor	ND	4.1	ug/kg
Toxaphene	ND	83	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	101	(15 - 168)
Decachlorobiphenyl	103	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SS-2, 0-0.5D

GC Semivolatiles

Lot-Sample #...: F9K240239-030 **Work Order #...:** D5CWC113 **Matrix.....:** SOLID
Date Sampled...: 11/23/99 07:10 **Date Received..:** 11/24/99
Prep Date.....: 12/07/99 **Analysis Date..:** 12/09/99
Prep Batch #...: 9341422 **Analysis Time..:** 13:24
Dilution Factor: 1
% Moisture.....: 15 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1268	ND	39	ug/kg
Aroclor 1016	ND	39	ug/kg
Aroclor 1221	ND	79	ug/kg
Aroclor 1232	ND	39	ug/kg
Aroclor 1242	ND	39	ug/kg
Aroclor 1248	ND	39	ug/kg
Aroclor 1254	**79**	**39**	**ug/kg**
Aroclor 1260	ND	39	ug/kg
Aroclor 1262	ND	39	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	57	(15 168)
Decachlorobiphenyl	72	(10 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: 3SS-2, 0-0.5D

GC Semivolatiles

Lot-Sample #...: F9K240239-030 **Work Order #...:** D5JWC101 **Matrix.....:** SOLID
Date Sampled...: 11/23/99 07:10 **Date Received..:** 11/24/99
Prep Date.....: 12/01/99 **Analysis Date..:** 12/09/99
Prep Batch #...: 9335454 **Analysis Time..:** 16:58
Dilution Factor: 10
% Moisture.....: 15 **Method.....:** SW846 8081A

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aldrin	ND	20	ug/kg
alpha-BHC	ND	20	ug/kg
beta-BHC	ND	20	ug/kg
delta-BHC	ND	20	ug/kg
gamma-BHC (Lindane)	ND	20	ug/kg
alpha-Chlordane	ND	20	ug/kg
gamma-Chlordane	ND	20	ug/kg
Chlordane (technical)	ND	200	ug/kg
4,4'-DDD	ND	20	ug/kg
4,4'-DDE	ND	20	ug/kg
4,4'-DDT	ND	20	ug/kg
Dieldrin	ND	20	ug/kg
Endosulfan I	ND	20	ug/kg
Endosulfan II	ND	20	ug/kg
Endosulfan sulfate	ND	20	ug/kg
Endrin	ND	20	ug/kg
Endrin aldehyde	ND	20	ug/kg
Endrin ketone	ND	20	ug/kg
Heptachlor	ND	20	ug/kg
Heptachlor epoxide	ND	20	ug/kg
Methoxychlor	ND	39	ug/kg
Toxaphene	ND	790	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	112	(15 - 168)
Decachlorobiphenyl	173	(10 - 207)

NOTE(S):

Results and reporting limits have been adjusted for dry weight

TETRA TECH EM INC.

Client Sample ID: AP-1

GC/MS Volatiles

Lot-Sample #...: F9K240239-032 **Work Order #...:** D5JWG10E **Matrix.....:** SOLID
Date Sampled...: 11/23/99 13:45 **Date Received..:** 11/24/99
Prep Date.....: 12/02/99 **Analysis Date..:** 12/02/99
Prep Batch #...: 9337256 **Analysis Time..:** 17:15
Dilution Factor: 1
% Moisture.....: 20 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Xylenes (total)	ND	13	ug/kg
1,2-Dichloropropane	ND	13	ug/kg
cis-1,3-Dichloropropene	ND	13	ug/kg
Trichloroethene	ND	13	ug/kg
Dibromochloromethane	ND	13	ug/kg
1,1,2-Trichloroethane	ND	13	ug/kg
Benzene	ND	13	ug/kg
trans-1,3-Dichloropropene	ND	13	ug/kg
Bromoform	ND	13	ug/kg
4-Methyl-2-pentanone	ND	13	ug/kg
2-Hexanone	ND	13	ug/kg
Tetrachloroethene	ND	13	ug/kg
Toluene	ND	13	ug/kg
Chlorobenzene	ND	13	ug/kg
Ethylbenzene	ND	13	ug/kg
Styrene	ND	13	ug/kg
Chloromethane	ND	13	ug/kg
Bromomethane	**3.9 J**	**13**	**ug/kg**
Vinyl chloride	ND	13	ug/kg
Chloroethane	ND	13	ug/kg
Methylene chloride	**14**	**13**	**ug/kg**
Acetone	ND	13	ug/kg
Carbon disulfide	ND	13	ug/kg
1,1-Dichloroethene	ND	13	ug/kg
1,1-Dichloroethane	ND	13	ug/kg
1,2-Dichloroethene (total)	ND	13	ug/kg
Chloroform	ND	13	ug/kg
1,2-Dichloroethane	ND	13	ug/kg
2-Butanone	**5.6 J**	**13**	**ug/kg**
1,1,1-Trichloroethane	ND	13	ug/kg
Carbon tetrachloride	ND	13	ug/kg
Bromodichloromethane	ND	13	ug/kg
1,1,2,2-Tetrachloroethane	ND	13	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	98	(73 - 147)
Toluene-d8	109	(81 - 139)
Dibromofluoromethane	113	(89 - 148)

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TETRA TECH EM INC.

Client Sample ID: AP-1

GC/MS Volatiles

Lot-Sample #...: F9K240239-032 **Work Order #...:** D5JWG10E **Matrix.....:** SOLID

NOTE(S):

Results and reporting limits have been adjusted for dry weight

J Estimated result Result is less than RL

TETRA TECH EM INC.

Client Sample ID: AP 1

GC/MS Semivolatiles

Lot-Sample #...: F9K240239-032
Date Sampled...: 11/23/99 13:45
Prep Date.....: 12/07/99
Prep Batch #...: 9341437
Dilution Factor: 1
% Moisture.....: 20

Work Order #...: D5JWG103
Date Received..: 11/24/99
Analysis Date..: 12/11/99
Analysis Time..: 06:02

Matrix.....: SOLID

Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acenaphthylene	ND	410	ug/kg
bis(2-Chloroethoxy) methane	ND	410	ug/kg
bis(2-Chloroethyl)-ether	ND	410	ug/kg
2-Chloronaphthalene	ND	410	ug/kg
2-Chlorophenol	ND	410	ug/kg
2,4-Dimethylphenol	ND	410	ug/kg
Dimethyl phthalate	ND	410	ug/kg
2,6-Dinitrotoluene	ND	410	ug/kg
Hexachloroethane	ND	410	ug/kg
Isophorone	ND	410	ug/kg
2-Methylphenol	ND	410	ug/kg
4-Methylphenol	ND	410	ug/kg
2-Nitroaniline	ND	410	ug/kg
3-Nitroaniline	ND	1000	ug/kg
Nitrobenzene	ND	1000	ug/kg
2-Nitrophenol	ND	410	ug/kg
N-Nitrosodi-n-propyl-amine	ND	410	ug/kg
Phenol	ND	410	ug/kg
2,2'-oxybis(1-Chloropropane)	ND	410	ug/kg
Benzo(a)anthracene	ND	1000	ug/kg
Benzo(b)fluoranthene	ND	1000	ug/kg
Benzo(a)pyrene	ND	1000	ug/kg
1,2-Dichlorobenzene	ND	410	ug/kg
1,3-Dichlorobenzene	ND	410	ug/kg
1,4-Dichlorobenzene	ND	410	ug/kg
Indeno(1,2,3-cd)pyrene	ND	1000	ug/kg
Pentachlorophenol	ND	1000	ug/kg
Dibenzo(a,h)anthracene	ND	1000	ug/kg
Carbazole	ND	1000	ug/kg
2,4-Dichlorophenol	ND	410	ug/kg
1,2,4-Trichlorobenzene	ND	410	ug/kg
Naphthalene	ND	410	ug/kg
4-Chloroaniline	ND	410	ug/kg
Hexachlorobutadiene	ND	410	ug/kg
4-Chloro-3-methylphenol	ND	410	ug/kg

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TETRA TECH EM INC.

Client Sample ID: AP 1

GC/MS Semivolatiles

Lot-Sample #...: F9K240239-032 **Work Order #...:** D5JWG103 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS
2-Methylnaphthalene	ND	410	ug/kg
2,4,6-Trichlorophenol	ND	410	ug/kg
2,4,5-Trichlorophenol	ND	410	ug/kg
Hexachlorocyclopenta-diene	ND	410	ug/kg
Acenaphthene	ND	410	ug/kg
2,4-Dinitrophenol	ND	1000	ug/kg
4-Nitrophenol	ND	1000	ug/kg
Dibenzofuran	ND	410	ug/kg
2,4-Dinitrotoluene	ND	410	ug/kg
Diethyl phthalate	ND	410	ug/kg
Fluorene	ND	410	ug/kg
4-Chlorophenyl phenyl ether	ND	410	ug/kg
4-Nitroaniline	ND	1000	ug/kg
Phenanthrene	**170 J**	**410**	**ug/kg**
Anthracene	**60 J**	**410**	**ug/kg**
Di-n-butyl phthalate	ND	410	ug/kg
Fluoranthene	**540**	**410**	**ug/kg**
Pyrene	**540**	**410**	**ug/kg**
4,6-Dinitro-2-methylphenol	ND	1000	ug/kg
N-Nitrosodiphenylamine	ND	410	ug/kg
Butyl benzyl phthalate	ND	410	ug/kg
Hexachlorobenzene	ND	410	ug/kg
3,3'-Dichlorobenzidine	ND	410	ug/kg
Chrysene	**750**	**410**	**ug/kg**
bis(2-Ethylhexyl) phthalate	**1500**	**410**	**ug/kg**
Di-n-octyl phthalate	ND	410	ug/kg
Benzo(k)fluoranthene	ND	410	ug/kg
Benzo(ghi)perylene	ND	410	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	64	(11 - 119)
Phenol-d5	76	(21 - 118)
Nitrobenzene-d5	68	(19 - 111)
2-Fluorobiphenyl	72	(22 - 109)
2,4,6-Tribromophenol	40	(10 - 124)
Terphenyl-d14	60	(10 - 157)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Quanterra - St. Louis

TETRA TECH EM INC.

Client Sample ID: EQB-7/23

GC Semivolatiles

Lot-Sample #...: F9K240239-033 **Work Order #...:** D5JWJ10A **Matrix.....:** WATER
Date Sampled...: 11/23/99 16:00 **Date Received..:** 11/24/99
Prep Date.....: 11/30/99 **Analysis Date..:** 12/02/99
Prep Batch #...: 9334297 **Analysis Time..:** 22:21
Dilution Factor: 1
Method.....: SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	1.0	ug/L
Aroclor 1221	ND	1.0	ug/L
Aroclor 1232	ND	1.0	ug/L
Aroclor 1242	ND	1.0	ug/L
Aroclor 1248	ND	1.0	ug/L
Aroclor 1254	ND	1.0	ug/L
Aroclor 1260	ND	1.0	ug/L
Aroclor 1262	ND	1.0	ug/L
Aroclor 1268	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	70	(26 - 157)
Decachlorobiphenyl	54	(13 - 147)

Data is Incomplete without Case Narrative

TETRA TECH EM INC.

Client Sample ID: EQB-7/23

GC Semivolatiles

Lot-Sample #...: F9K240239-033 **Work Order #...:** D5JWJ10C **Matrix.....:** WATER
Date Sampled...: 11/23/99 16:00 **Date Received..:** 11/24/99
Prep Date.....: 11/30/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9334301 **Analysis Time..:** 17:45
Dilution Factor: 1

Method.....: SW846 8081A

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Endrin ketone	ND	0.050	ug/L
Heptachlor	ND	0.050	ug/L
Heptachlor epoxide	ND	0.050	ug/L
Methoxychlor	ND	0.10	ug/L
Toxaphene	ND	2.0	ug/L
Aldrin	ND	0.050	ug/L
alpha-BHC	ND	0.050	ug/L
beta-BHC	ND	0.050	ug/L
delta-BHC	ND	0.050	ug/L
gamma-BHC (Lindane)	ND	0.050	ug/L
alpha-Chlordane	ND	0.050	ug/L
gamma-Chlordane	ND	0.050	ug/L
4,4'-DDD	ND	0.050	ug/L
4,4'-DDE	ND	0.050	ug/L
4,4'-DDT	ND	0.050	ug/L
Dieldrin	ND	0.050	ug/L
Endosulfan I	ND	0.050	ug/L
Endosulfan II	ND	0.050	ug/L
Endosulfan sulfate	ND	0.050	ug/L
Endrin	ND	0.050	ug/L
Endrin aldehyde	ND	0.050	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	184 *	(26 157)
Decachlorobiphenyl	153 *	(13 147)

NOTE(S):

* Surrogate recovery is outside stated control limits

Quanterra - St. Louis

TETRA TECH EM INC.

Client Sample ID: 3SS-12, 0-0.5

General Chemistry

Lot-Sample #...: F9K240239-005 **Work Order #...:** D5JMD **Matrix.....:** SOLID
Date Sampled...: 11/23/99 12:15 **Date Received..:** 11/24/99
% Moisture.....: 21

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	**20.6**	**0.10**	**%**	**MCAWW 160.3 MOD**	**12/10-12/15/99**	**9345163**
	Dilution Factor: 1			Analysis Time : 00:00		
Specific Gravity	**1.9**	**0.10**	**No Units**	**SM18 2710 F**	**12/13/99**	**9347370**
	Dilution Factor: 1			Analysis Time : 15:45		

Data is Incomplete without Case Narrative

TETRA TECH EM INC.

Client Sample ID: 3SS-12, 0-0.5D

General Chemistry

Lot-Sample #...: F9K240239-006 **Work Order #...:** D5JME **Matrix.....:** SOLID
Date Sampled...: 11/23/99 12:15 **Date Received..:** 11/24/99
% Moisture.....: 20

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	**20.3**	**0.10**	**%**	**MCAWW 160.3 MOD**	**12/10-12/15/99**	**9345163**
		Dilution Factor: 1		Analysis Time...: 00:00		
Specific Gravity	**1.9**	**0.10**	**No Units**	**SM18 2710 F**	**12/13/99**	**9347370**
		Dilution Factor: 1		Analysis Time...: 15:45		

Data is Incomplete without Case Narrative

TETRA TECH EM INC.

Client Sample ID: 3SS-16, 0-0.5

General Chemistry

Lot-Sample #...: F9K240239-017 **Work Order #...:** D5JT3 **Matrix.....:** SOLID
Date Sampled...: 11/23/99 13:30 **Date Received..:** 11/24/99
% Moisture.....: 23

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	**22.8**	**0.10**	**%**	**MCAWW 160.3 MOD**	**12/10-12/15/99**	**9345163**
	Dilution Factor: 1			Analysis Time 00:00		
Specific Gravity	**2.0**	**0.10**	**No Units**	**SM18 2710 F**	**12/13/99**	**9347370**
	Dilution Factor: 1			Analysis Time 15:45		

TETRA TECH EM INC.

Client Sample ID: 3SS-7B, 0-0.5

General Chemistry

Lot-Sample #...: P9K240239-019 **Work Order #...:** D5JTA **Matrix.....:** SOLID
Date Sampled...: 11/23/99 07:55 **Date Received..:** 11/24/99
% Moisture.....: 20

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	**20.4**	**0.10**	**%**	**MCAWW 160.3 MOD**	**12/10-12/15/99**	**9345163**
	Dilution Factor: 1			Analysis Time... 00:00		
Specific Gravity	**1.9**	**0.10**	**No Units**	**SM18 2710 F**	**12/13/99**	**9347370**
	Dilution Factor: 1			Analysis Time... 15:45		

TETRA TECH EM INC.

Client Sample ID: 3SS-5, 0-0.5

General Chemistry

Lot-Sample #...: F9K240239-027 **Work Order #...:** D5JVC **Matrix.....:** SOLID
Date Sampled...: 11/23/99 07:40 **Date Received..:** 11/24/99
% Moisture.....: 17

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	17.2	0.10	%	MCAWW 160.3 MOD	12/11-12/14/99	9345162
		Dilution Factor: 1		Analysis Time..: 00:00		
Specific Gravity	2.0	0.10	No Units	SM18 2710 F	12/13/99	9347370
		Dilution Factor: 1		Analysis Time..: 15:45		

TETRA TECH EM INC.

Client Sample ID: 3SS-2, 0-0.5

General Chemistry

Lot-Sample #...: F9K240239-029 **Work Order #...:** D5JW6 **Matrix.....:** SOLID
Date Sampled...: 11/23/99 07:10 **Date Received..:** 11/24/99
% Moisture.....: 19

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	**19.3**	**0.10**	**%**	**MCAWW 160.3 MOD**	**12/11-12/14/99**	**9345162**
		Dilution Factor: 1		Analysis Time.. 00:00		
Specific Gravity	**2.0**	**0.10**	**No Units**	**SM18 2710 F**	**12/13/99**	**9347370**
		Dilution Factor: 1		Analysis Time.. 15:45		

TETRA TECH EM INC.

Client Sample ID: 3SS-2, 0-0.5D

General Chemistry

Lot-Sample #...: F9K240239-030 **Work Order #...:** D5CWC **Matrix.....:** SOLID
Date Sampled...: 11/23/99 07:10 **Date Received..:** 11/24/99
% Moisture.....: 15

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	**15.2**	**0.10**	**%**	**MCAWW 160.3 MOD**	**12/08-12/15/99**	**9342396**
		Dilution Factor: 1		Analysis Time 00:00		
Specific Gravity	**1.9**	**0.10**	**No Units**	**SM18 2710 F**	**12/13/99**	**9347370**
		Dilution Factor: 1		Analysis Time 15:45		

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5L28101 **Matrix.....:** WATER
MB Lot-Sample #: F9K300000-297

Prep Date.....: 11/30/99 **Analysis Time..:** 20:42
Analysis Date..: 12/02/99 **Prep Batch #...:** 9334297
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	1.0	ug/L	SW846 8082
Aroclor 1221	ND	1.0	ug/L	SW846 8082
Aroclor 1232	ND	1.0	ug/L	SW846 8082
Aroclor 1242	ND	1.0	ug/L	SW846 8082
Aroclor 1248	ND	1.0	ug/L	SW846 8082
Aroclor 1254	ND	1.0	ug/L	SW846 8082
Aroclor 1260	ND	1.0	ug/L	SW846 8082
Aroclor 1262	ND	1.0	ug/L	SW846 8082
Aroclor 1268	ND	1.0	ug/L	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	62	(26 - 157)
Decachlorobiphenyl	52	(13 - 147)

NOTE(S):

Calculations are performed before rounding to avoid round off errors in calculated results

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5L30101 **Matrix.....:** WATER
MB Lot-Sample #: F9K300000-301

Prep Date.....: 11/30/99 **Analysis Time..:** 09:25
Analysis Date..: 12/12/99 **Prep Batch #...:** 9334301
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Endrin ketone	ND	0.050	ug/L	SW846 8081A
Heptachlor	ND	0.050	ug/L	SW846 8081A
Heptachlor epoxide	ND	0.050	ug/L	SW846 8081A
Methoxychlor	ND	0.10	ug/L	SW846 8081A
Toxaphene	ND	2.0	ug/L	SW846 8081A
Aldrin	ND	0.050	ug/L	SW846 8081A
alpha-BHC	ND	0.050	ug/L	SW846 8081A
beta-BHC	ND	0.050	ug/L	SW846 8081A
delta-BHC	ND	0.050	ug/L	SW846 8081A
gamma-BHC (Lindane)	ND	0.050	ug/L	SW846 8081A
alpha-Chlordane	ND	0.050	ug/L	SW846 8081A
gamma-Chlordane	ND	0.050	ug/L	SW846 8081A
4,4'-DDD	ND	0.050	ug/L	SW846 8081A
4,4'-DDE	ND	0.050	ug/L	SW846 8081A
4,4'-DDT	ND	0.050	ug/L	SW846 8081A
Dieldrin	ND	0.050	ug/L	SW846 8081A
Endosulfan I	ND	0.050	ug/L	SW846 8081A
Endosulfan II	ND	0.050	ug/L	SW846 8081A
Endosulfan sulfate	ND	0.050	ug/L	SW846 8081A
Endrin	ND	0.050	ug/L	SW846 8081A
Endrin aldehyde	ND	0.050	ug/L	SW846 8081A

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	77	(26 - 157)
Decachlorobiphenyl	73	(13 - 147)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5L52101 **Matrix.....:** WATER
MB Lot-Sample #: F9K300000-303
Prep Date.....: 11/30/99 **Analysis Time..:** 20:07
Analysis Date..: 12/02/99 **Prep Batch #...:** 9334303
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acenaphthene	ND	5.0	ug/L	SW846 8270C
Acenaphthylene	ND	5.0	ug/L	SW846 8270C
Anthracene	ND	5.0	ug/L	SW846 8270C
Benzo(k)fluoranthene	ND	5.0	ug/L	SW846 8270C
Benzo(ghi)perylene	ND	5.0	ug/L	SW846 8270C
bis(2-Chloroethoxy) methane	ND	5.0	ug/L	SW846 8270C
bis(2-Chloroethyl)-ether	ND	5.0	ug/L	SW846 8270C
bis(2-Ethylhexyl) phthalate	**2.3 J**	**5.0**	**ug/L**	**SW846 8270C**
Butyl benzyl phthalate	ND	5.0	ug/L	SW846 8270C
4-Chloroaniline	ND	5.0	ug/L	SW846 8270C
4-Chloro-3-methylphenol	ND	5.0	ug/L	SW846 8270C
2-Chloronaphthalene	ND	5.0	ug/L	SW846 8270C
2-Chlorophenol	ND	5.0	ug/L	SW846 8270C
4-Chlorophenyl phenyl ether	ND	5.0	ug/L	SW846 8270C
Chrysene	ND	5.0	ug/L	SW846 8270C
Dibenzofuran	ND	5.0	ug/L	SW846 8270C
Di-n-butyl phthalate	ND	5.0	ug/L	SW846 8270C
3,3'-Dichlorobenzidine	ND	5.0	ug/L	SW846 8270C
2,4-Dichlorophenol	ND	5.0	ug/L	SW846 8270C
Diethyl phthalate	ND	5.0	ug/L	SW846 8270C
2,4-Dimethylphenol	ND	5.0	ug/L	SW846 8270C
Dimethyl phthalate	ND	5.0	ug/L	SW846 8270C
Di-n-octyl phthalate	ND	5.0	ug/L	SW846 8270C
4,6-Dinitro-2-methylphenol	ND	20	ug/L	SW846 8270C
2,4-Dinitrophenol	ND	20	ug/L	SW846 8270C
2,4-Dinitrotoluene	ND	5.0	ug/L	SW846 8270C
2,6-Dinitrotoluene	ND	5.0	ug/L	SW846 8270C
Fluoranthene	ND	5.0	ug/L	SW846 8270C
Fluorene	ND	5.0	ug/L	SW846 8270C
Hexachlorobenzene	ND	5.0	ug/L	SW846 8270C
Hexachlorobutadiene	ND	5.0	ug/L	SW846 8270C
Hexachlorocyclopenta-diene	ND	5.0	ug/L	SW846 8270C
Hexachloroethane	ND	5.0	ug/L	SW846 8270C
Isophorone	ND	5.0	ug/L	SW846 8270C
2-Methylnaphthalene	ND	5.0	ug/L	SW846 8270C

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METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5L52101 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
2-Methylphenol	ND	5.0	ug/L	SW846 8270C
4-Methylphenol	ND	5.0	ug/L	SW846 8270C
Naphthalene	ND	5.0	ug/L	SW846 8270C
2-Nitroaniline	ND	20	ug/L	SW846 8270C
3-Nitroaniline	ND	20	ug/L	SW846 8270C
4-Nitroaniline	ND	20	ug/L	SW846 8270C
Nitrobenzene	ND	5.0	ug/L	SW846 8270C
2-Nitrophenol	ND	5.0	ug/L	SW846 8270C
4-Nitrophenol	ND	20	ug/L	SW846 8270C
N-Nitrosodi-n-propyl-amine	ND	5.0	ug/L	SW846 8270C
N-Nitrosodiphenylamine	ND	10	ug/L	SW846 8270C
Phenanthrene	ND	5.0	ug/L	SW846 8270C
Phenol	ND	5.0	ug/L	SW846 8270C
Pyrene	ND	5.0	ug/L	SW846 8270C
1,2,4-Trichlorobenzene	ND	5.0	ug/L	SW846 8270C
2,4,5-Trichlorophenol	ND	5.0	ug/L	SW846 8270C
2,4,6-Trichlorophenol	ND	5.0	ug/L	SW846 8270C
2,2'-oxybis(1-Chloropropa	ND	5.0	ug/L	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	34	(10 - 111)
Phenol-d5	30	(10 - 118)
Nitrobenzene-d5	55	(18 - 116)
2-Fluorobiphenyl	55	(10 - 124)
2,4,6-Tribromophenol	69	(24 - 118)
Terphenyl-d14	44	(24 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

J Estimated result. Result is less than RL

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5N7G101 **Matrix.....:** SOLID
MB Lot-Sample #: F9L010000-454
Prep Date.....: 12/01/99 **Analysis Time..:** 14:24
Analysis Date..: 12/02/99 **Prep Batch #...:** 9335454
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aldrin	ND	1.7	ug/kg	SW846 8081A
alpha-BHC	ND	1.7	ug/kg	SW846 8081A
beta-BHC	ND	1.7	ug/kg	SW846 8081A
delta-BHC	ND	1.7	ug/kg	SW846 8081A
gamma-BHC (Lindane)	ND	1.7	ug/kg	SW846 8081A
Chlordane (technical)	ND	17	ug/kg	SW846 8081A
alpha-Chlordane	ND	1.7	ug/kg	SW846 8081A
gamma-Chlordane	ND	1.7	ug/kg	SW846 8081A
4,4'-DDD	ND	1.7	ug/kg	SW846 8081A
4,4'-DDE	ND	1.7	ug/kg	SW846 8081A
4,4'-DDT	ND	1.7	ug/kg	SW846 8081A
Dieldrin	ND	1.7	ug/kg	SW846 8081A
Endosulfan I	ND	1.7	ug/kg	SW846 8081A
Endosulfan II	ND	1.7	ug/kg	SW846 8081A
Endosulfan sulfate	ND	1.7	ug/kg	SW846 8081A
Endrin	ND	1.7	ug/kg	SW846 8081A
Endrin aldehyde	ND	1.7	ug/kg	SW846 8081A
Heptachlor	ND	1.7	ug/kg	SW846 8081A
Heptachlor epoxide	ND	1.7	ug/kg	SW846 8081A
Methoxychlor	ND	3.3	ug/kg	SW846 8081A
Toxaphene	ND	67	ug/kg	SW846 8081A
******* INVALID DATA ON FOLLOWING LINE *******				
Endrin ketone	ND	1.7	ug/kg	SW846 8081A

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	104	(15 - 168)
Decachlorobiphenyl	100	(10 - 207)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: F9K240239 **Work Order #...:** D5QNJ101 **Matrix.....:** SOLID
MB Lot-Sample #: F9L030000-256

Prep Date.....: 12/02/99 **Analysis Time..:** 11:08

Analysis Date..: 12/02/99 **Prep Batch #...:** 9337256
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Xylenes (total)	ND	10	ug/kg	SW846 8260B
1,2-Dichloropropane	ND	10	ug/kg	SW846 8260B
cis-1,3-Dichloropropene	ND	10	ug/kg	SW846 8260B
Trichloroethene	ND	10	ug/kg	SW846 8260B
Dibromochloromethane	ND	10	ug/kg	SW846 8260B
1,1,2-Trichloroethane	ND	10	ug/kg	SW846 8260B
Benzene	ND	10	ug/kg	SW846 8260B
trans-1,3-Dichloropropene	ND	10	ug/kg	SW846 8260B
Bromoform	ND	10	ug/kg	SW846 8260B
4-Methyl-2-pentanone	ND	10	ug/kg	SW846 8260B
2-Hexanone	ND	10	ug/kg	SW846 8260B
Tetrachloroethene	ND	10	ug/kg	SW846 8260B
Toluene	ND	10	ug/kg	SW846 8260B
Chlorobenzene	ND	10	ug/kg	SW846 8260B
Ethylbenzene	ND	10	ug/kg	SW846 8260B
Styrene	ND	10	ug/kg	SW846 8260B
Chloromethane	ND	10	ug/kg	SW846 8260B
Bromomethane	ND	10	ug/kg	SW846 8260B
Vinyl chloride	ND	10	ug/kg	SW846 8260B
Chloroethane	ND	10	ug/kg	SW846 8260B
Methylene chloride	ND	10	ug/kg	SW846 8260B
Acetone	ND	10	ug/kg	SW846 8260B
Carbon disulfide	ND	10	ug/kg	SW846 8260B
1,1-Dichloroethene	ND	10	ug/kg	SW846 8260B
1,1-Dichloroethane	ND	10	ug/kg	SW846 8260B
1,2-Dichloroethene (total)	ND	10	ug/kg	SW846 8260B
Chloroform	ND	10	ug/kg	SW846 8260B
1,2-Dichloroethane	ND	10	ug/kg	SW846 8260B
2-Butanone	**5.8 J**	**10**	**ug/kg**	**SW846 8260B**
1,1,1-Trichloroethane	ND	10	ug/kg	SW846 8260B
Carbon tetrachloride	ND	10	ug/kg	SW846 8260B
Bromodichloromethane	ND	10	ug/kg	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	10	ug/kg	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	95	(73 - 147)
Toluene-d8	111	(81 - 139)
Dibromofluoromethane	106	(89 - 148)

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: F9K240239 **Work Order #...:** D5QNJ101 **Matrix.....:** SOLID

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

J Estimated result Result is less than RL

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: F9K240239 **Work Order #...:** D5Q8D101 **Matrix.....:** WATER
MB Lot-Sample #: F9L030000-164

Prep Date.....: 12/02/99 **Analysis Time..:** 08:53

Analysis Date..: 12/02/99 **Prep Batch #...:** 9337164
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acetone	ND	10	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	2.0	ug/L	SW846 8260B
2-Butanone	ND	5.0	ug/L	SW846 8260B
Carbon disulfide	ND	1.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	2.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	2.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1 Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	0.50	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	0.50	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
2-Hexanone	ND	5.0	ug/L	SW846 8260B
Methylene chloride	**0.41 J**	**1.0**	**ug/L**	**SW846 8260B**
4-Methyl-2-pentanone	ND	5.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	2.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: F9K240239 **Work Order #...:** D5Q6D101 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	103	(78 - 124)
Toluene-d8	92	(71 - 129)
Dibromofluoromethane	103	(74 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

J Estimated result Result is less than RL

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5WA9101 **Matrix.....:** SOLID
MB Lot-Sample #: F9L070000-219

Prep Date.....: 12/07/99 **Analysis Time..:** 04:56

Analysis Date..: 12/12/99 **Prep Batch #...:** 9341219
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aldrin	ND	1.7	ug/kg	SW846 8081A
alpha BHC	ND	1.7	ug/kg	SW846 8081A
beta-BHC	ND	1.7	ug/kg	SW846 8081A
delta-BHC	ND	1.7	ug/kg	SW846 8081A
gamma-BHC (Lindane)	ND	1.7	ug/kg	SW846 8081A
Chlordane (technical)	ND	17	ug/kg	SW846 8081A
alpha-Chlordane	ND	1.7	ug/kg	SW846 8081A
gamma-Chlordane	ND	1.7	ug/kg	SW846 8081A
4,4'-DDD	ND	1.7	ug/kg	SW846 8081A
4,4'-DDE	ND	1.7	ug/kg	SW846 8081A
4,4'-DDT	ND	1.7	ug/kg	SW846 8081A
Dieldrin	ND	1.7	ug/kg	SW846 8081A
Endosulfan I	ND	1.7	ug/kg	SW846 8081A
Endosulfan II	ND	1.7	ug/kg	SW846 8081A
Endosulfan sulfate	ND	1.7	ug/kg	SW846 8081A
Endrin	ND	1.7	ug/kg	SW846 8081A
Endrin aldehyde	ND	1.7	ug/kg	SW846 8081A
Endrin ketone	ND	1.7	ug/kg	SW846 8081A
Heptachlor	ND	1.7	ug/kg	SW846 8081A
Heptachlor epoxide	ND	1.7	ug/kg	SW846 8081A
Methoxychlor	ND	3.3	ug/kg	SW846 8081A
Toxaphene	ND	67	ug/kg	SW846 8081A

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	88	(15 - 168)
Decachlorobiphenyl	117	(10 - 207)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5XCV101 **Matrix.....:** SOLID
MB Lot-Sample #: F9L070000-437

Prep Date.....: 12/07/99 **Analysis Time..:** 04:22
Analysis Date..: 12/11/99 **Prep Batch #...:** 9341437
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acenaphthene	ND	330	ug/kg	SW846 8270C
Acenaphthylene	ND	330	ug/kg	SW846 8270C
Anthracene	ND	330	ug/kg	SW846 8270C
Benzo(a)anthracene	ND	830	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	830	ug/kg	SW846 8270C
Benzo(k)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(ghi)perylene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	830	ug/kg	SW846 8270C
bis(2-Chloroethoxy) methane	ND	330	ug/kg	SW846 8270C
bis(2-Chloroethyl)-ether	ND	330	ug/kg	SW846 8270C
bis(2-Ethylhexyl) phthalate	ND	330	ug/kg	SW846 8270C
Butyl benzyl phthalate	ND	330	ug/kg	SW846 8270C
4-Chloroaniline	ND	330	ug/kg	SW846 8270C
4-Chloro-3-methylphenol	ND	330	ug/kg	SW846 8270C
2-Chloronaphthalene	ND	330	ug/kg	SW846 8270C
2-Chlorophenol	ND	330	ug/kg	SW846 8270C
4-Chlorophenyl phenyl ether	ND	330	ug/kg	SW846 8270C
Chrysene	ND	330	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
Di-n-butyl phthalate	ND	330	ug/kg	SW846 8270C
1,2-Dichlorobenzene	ND	330	ug/kg	SW846 8270C
1,3-Dichlorobenzene	ND	330	ug/kg	SW846 8270C
1,4-Dichlorobenzene	ND	330	ug/kg	SW846 8270C
3,3'-Dichlorobenzidine	ND	330	ug/kg	SW846 8270C
2,4-Dichlorophenol	ND	330	ug/kg	SW846 8270C
Diethyl phthalate	ND	330	ug/kg	SW846 8270C
2,4-Dimethylphenol	ND	330	ug/kg	SW846 8270C
Dimethyl phthalate	ND	330	ug/kg	SW846 8270C
Di-n-octyl phthalate	ND	330	ug/kg	SW846 8270C
4,6-Dinitro-2-methylphenol	ND	830	ug/kg	SW846 8270C
2,4-Dinitrophenol	ND	830	ug/kg	SW846 8270C
2,4-Dinitrotoluene	ND	330	ug/kg	SW846 8270C
2,6-Dinitrotoluene	ND	330	ug/kg	SW846 8270C
Fluoranthene	ND	330	ug/kg	SW846 8270C
Fluorene	ND	330	ug/kg	SW846 8270C
Hexachlorobenzene	ND	330	ug/kg	SW846 8270C

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METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5XCV101 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Hexachlorobutadiene	ND	330	ug/kg	SW846 8270C
Hexachlorocyclopenta-diene	ND	330	ug/kg	SW846 8270C
Hexachloroethane	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	830	ug/kg	SW846 8270C
Isophorone	ND	330	ug/kg	SW846 8270C
2-Methylnaphthalene	ND	330	ug/kg	SW846 8270C
2-Methylphenol	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C
2-Nitroaniline	ND	830	ug/kg	SW846 8270C
3-Nitroaniline	ND	830	ug/kg	SW846 8270C
4-Nitroaniline	ND	830	ug/kg	SW846 8270C
Nitrobenzene	ND	330	ug/kg	SW846 8270C
2-Nitrophenol	ND	330	ug/kg	SW846 8270C
4-Nitrophenol	ND	830	ug/kg	SW846 8270C
N-Nitrosodi-n-propyl-amine	ND	330	ug/kg	SW846 8270C
N-Nitrosodiphenylamine	ND	330	ug/kg	SW846 8270C
Pentachlorophenol	ND	830	ug/kg	SW846 8270C
Phenanthrene	ND	330	ug/kg	SW846 8270C
Phenol	ND	330	ug/kg	SW846 8270C
Pyrene	ND	330	ug/kg	SW846 8270C
1,2,4-Trichlorobenzene	ND	330	ug/kg	SW846 8270C
2,4,5-Trichlorophenol	ND	330	ug/kg	SW846 8270C
2,4,6-Trichlorophenol	ND	330	ug/kg	SW846 8270C
Dibenzo(a,h)anthracene	ND	830	ug/kg	SW846 8270C
Carbazole	ND	830	ug/kg	SW846 8270C
2,2'-oxybis(1-Chloropropa	ND	330	ug/kg	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	74	(11 - 119)
Phenol-d5	79	(21 - 118)
Nitrobenzene-d5	75	(19 - 111)
2-Fluorobiphenyl	78	(22 - 109)
2,4,6-Tribromophenol	84	(10 - 124)
Terphenyl-d14	68	(10 - 157)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5XC4101 **Matrix.....:** SOLID
MB Lot-Sample #: F9L070000-422

Prep Date.....: 12/07/99 **Analysis Time..:** 11:55
Analysis Date..: 12/08/99 **Prep Batch #...:** 9341422
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1268	ND	33	ug/kg	SW846 8082
Aroclor 1262	ND	33	ug/kg	SW846 8082
Aroclor 1016	ND	33	ug/kg	SW846 8082
Aroclor 1221	ND	67	ug/kg	SW846 8082
Aroclor 1232	ND	33	ug/kg	SW846 8082
Aroclor 1242	ND	33	ug/kg	SW846 8082
Aroclor 1248	ND	33	ug/kg	SW846 8082
Aroclor 1254	ND	33	ug/kg	SW846 8082
Aroclor 1260	ND	33	ug/kg	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	110	(15 - 168)
Decachlorobiphenyl	91	(10 - 207)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D63CJ101 **Matrix.....:** WATER
MB Lot-Sample #: F9L090000-368

Prep Date.....: 12/06/99 **Analysis Time..:** 00:08
Analysis Date..: 12/10/99 **Prep Batch #...:** 9343368
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acenaphthene	ND	5.0	ug/L	SW846 8270C
Acenaphthylene	ND	5.0	ug/L	SW846 8270C
Anthracene	ND	5.0	ug/L	SW846 8270C
Benzo(k)fluoranthene	ND	5.0	ug/L	SW846 8270C
Benzo(ghi)perylene	ND	5.0	ug/L	SW846 8270C
bis(2-Chloroethoxy) methane	ND	5.0	ug/L	SW846 8270C
bis(2-Chloroethyl)-ether	ND	5.0	ug/L	SW846 8270C
bis(2-Ethylhexyl) phthalate	**1.7 J**	**5.0**	**ug/L**	**SW846 8270C**
Butyl benzyl phthalate	ND	5.0	ug/L	SW846 8270C
4-Chloroaniline	ND	5.0	ug/L	SW846 8270C
4-Chloro-3-methylphenol	ND	5.0	ug/L	SW846 8270C
2-Chloronaphthalene	ND	5.0	ug/L	SW846 8270C
2-Chlorophenol	ND	5.0	ug/L	SW846 8270C
4-Chlorophenyl phenyl ether	ND	5.0	ug/L	SW846 8270C
Chrysene	ND	5.0	ug/L	SW846 8270C
Dibenzofuran	ND	5.0	ug/L	SW846 8270C
Di-n-butyl phthalate	ND	5.0	ug/L	SW846 8270C
3,3'-Dichlorobenzidine	ND	5.0	ug/L	SW846 8270C
2,4-Dichlorophenol	ND	5.0	ug/L	SW846 8270C
Diethyl phthalate	ND	5.0	ug/L	SW846 8270C
2,4-Dimethylphenol	ND	5.0	ug/L	SW846 8270C
Dimethyl phthalate	ND	5.0	ug/L	SW846 8270C
Di-n-octyl phthalate	ND	5.0	ug/L	SW846 8270C
4,6-Dinitro-2-methylphenol	ND	20	ug/L	SW846 8270C
2,4-Dinitrophenol	ND	20	ug/L	SW846 8270C
2,4-Dinitrotoluene	ND	5.0	ug/L	SW846 8270C
2,6-Dinitrotoluene	ND	5.0	ug/L	SW846 8270C
Fluoranthene	ND	5.0	ug/L	SW846 8270C
Fluorene	ND	5.0	ug/L	SW846 8270C
Hexachlorobenzene	ND	5.0	ug/L	SW846 8270C
Hexachlorobutadiene	ND	5.0	ug/L	SW846 8270C
Hexachlorocyclopenta-diene	ND	5.0	ug/L	SW846 8270C
Hexachloroethane	ND	5.0	ug/L	SW846 8270C
Isophorone	ND	5.0	ug/L	SW846 8270C
2-Methylnaphthalene	ND	5.0	ug/L	SW846 8270C

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METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D63CC101 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
2-Methylphenol	ND	5.0	ug/L	SW846 8270C
4-Methylphenol	ND	5.0	ug/L	SW846 8270C
Naphthalene	ND	5.0	ug/L	SW846 8270C
2-Nitroaniline	ND	20	ug/L	SW846 8270C
3-Nitroaniline	ND	20	ug/L	SW846 8270C
4-Nitroaniline	ND	20	ug/L	SW846 8270C
Nitrobenzene	ND	5.0	ug/L	SW846 8270C
2-Nitrophenol	ND	5.0	ug/L	SW846 8270C
4-Nitrophenol	ND	20	ug/L	SW846 8270C
N-Nitrosodi-n-propyl-amine	ND	5.0	ug/L	SW846 8270C
N-Nitrosodiphenylamine	ND	10	ug/L	SW846 8270C
Phenanthrene	ND	5.0	ug/L	SW846 8270C
Phenol	ND	5.0	ug/L	SW846 8270C
Pyrene	ND	5.0	ug/L	SW846 8270C
1,2,4-Trichlorobenzene	ND	5.0	ug/L	SW846 8270C
2,4,5-Trichlorophenol	ND	5.0	ug/L	SW846 8270C
2,4,6-Trichlorophenol	ND	5.0	ug/L	SW846 8270C
2,2'-oxybis(1-Chloropropa	ND	5.0	ug/L	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	38	(10 - 111)
Phenol-d5	30	(10 - 118)
Nitrobenzene-d5	94	(18 - 116)
2-Fluorobiphenyl	73	(10 - 124)
2,4,6-Tribromophenol	74	(24 - 118)
Terphenyl-d14	55	(24 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

J Estimated result. Result is less than RL.

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D67NF101 **Matrix.....:** SOLID
MB Lot-Sample #: F9L130000-274

Prep Date.....: 12/13/99 **Analysis Time..:** 02:00
Analysis Date..: 12/14/99 **Prep Batch #...:** 9347274
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	33	ug/kg	SW846 8082
Aroclor 1221	ND	67	ug/kg	SW846 8082
Aroclor 1232	ND	33	ug/kg	SW846 8082
Aroclor 1242	ND	33	ug/kg	SW846 8082
Aroclor 1248	ND	33	ug/kg	SW846 8082
Aroclor 1254	ND	33	ug/kg	SW846 8082
Aroclor 1260	ND	33	ug/kg	SW846 8082
Aroclor 1262	ND	33	ug/kg	SW846 8082
Aroclor 1268	ND	33	ug/kg	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	124	(15 - 168)
Decachlorobiphenyl	106	(10 - 207)

NOTE(S):

Calculations are performed before rounding to avoid round off errors in calculated results

Quanterra - St. Louis

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F9K240239 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Specific Gravity		Work Order #: D688T101		MB Lot Sample #:	B9L130000-370	
	1.0	0.10	No Units	SM18 2710 F	12/13/99	9347370
		Dilution Factor: 1				
		Analysis Time...: 15:45				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Data is Incomplete without Case Narrative

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5L28102 LCS **Matrix.....:** WATER
LCS Lot-Sample#: F9K300000-297 D5L28103-LCSD
Prep Date.....: 11/30/99 **Analysis Date..:** 12/02/99
Prep Batch #...: 9334297 **Analysis Time..:** 20:55
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	**75**	**(24 - 199)**			**SW846 8082**
	73	**(24 - 199)**	**2.2**	**(0-20)**	**SW846 8082**
Aroclor 1260	**85**	**(58 - 134)**			**SW846 8082**
	81	**(58 - 134)**	**5.8**	**(0-20)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	62	(26 - 157)
	69	(26 - 157)
Decachlorobiphenyl	71	(13 - 147)
	64	(13 - 147)

NOTE(S):

Calculations are performed before rounding to avoid round off errors in calculated results

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5L3Q102-LCS **Matrix.....:** WATER
LCS Lot-Sample#: F9K300000-301 D5L3Q103-LCSD
Prep Date.....: 11/30/99 **Analysis Date..:** 12/14/99
Prep Batch #...: 9334301 **Analysis Time..:** 01:28
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Heptachlor	**69**	**(41 - 136)**			**SW846 8081A**
	69	**(41 - 136)**	**0.46**	**(0-20)**	**SW846 8081A**
Aldrin	**78**	**(36 - 138)**			**SW846 8081A**
	75	**(36 - 138)**	**4.0**	**(0-20)**	**SW846 8081A**
gamma-BHC (Lindane)	**101**	**(46 - 166)**			**SW846 8081A**
	107	**(46 - 166)**	**6.2**	**(0-20)**	**SW846 8081A**
4,4'-DDT	**75**	**(26 - 174)**			**SW846 8081A**
	76	**(26 - 174)**	**1.1**	**(0-20)**	**SW846 8081A**
Dieldrin	**121**	**(40 - 137)**			**SW846 8081A**
	123	**(40 - 137)**	**1.7**	**(0-20)**	**SW846 8081A**
Endrin	**106**	**(44 - 162)**			**SW846 8081A**
	112	**(44 - 162)**	**6.0**	**(0 20)**	**SW846 8081A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	70	(26 - 157)
	71	(26 - 157)
Decachlorobiphenyl	56	(13 - 147)
	62	(13 - 147)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5L52102-LCS **Matrix.....:** WATER
LCS Lot-Sample#: F9K300000-303 D5L52103-LCSD
Prep Date.....: 11/30/99 **Analysis Date..:** 12/02/99
Prep Batch #...: 9334303 **Analysis Time..:** 20:41
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Phenol	14	(10 - 75)			SW846 8270C
	15	(10 - 75)	5.3	(0-23)	SW846 8270C
2-Chlorophenol	27 a	(32 - 89)			SW846 8270C
	28 a	(32 - 89)	3.9	(0-27)	SW846 8270C
N-Nitrosodi-n-propyl-amine	36	(21 - 118)			SW846 8270C
	38	(21 - 118)	6.1	(0-34)	SW846 8270C
1,2,4-Trichlorobenzene	20 a	(31 - 95)			SW846 8270C
	21 a	(31 - 95)	5.8	(0-20)	SW846 8270C
4-Chloro-3-methylphenol	34 a	(40 96)			SW846 8270C
	34 a	(40 - 96)	0.15	(0-21)	SW846 8270C
Acenaphthene	30 a	(34 - 99)			SW846 8270C
	32 a	(34 - 99)	5.8	(0-18)	SW846 8270C
4-Nitrophenol	12	(10 - 83)			SW846 8270C
	11	(10 - 83)	3.4	(0-33)	SW846 8270C
2,4-Dinitrotoluene	35	(35 - 104)			SW846 8270C
	32 a	(35 - 104)	10	(0-28)	SW846 8270C
Pyrene	56	(31 - 114)			SW846 8270C
	34 p	(31 - 114)	48	(0-20)	SW846 8270C
1,4-Dichlorobenzene	19 a	(23 - 96)			SW846 8270C
	21 a	(23 - 96)	9.0	(0-25)	SW846 8270C
Pentachlorophenol	32	(22 - 115)			SW846 8270C
	34	(22 - 115)	6.0	(0-20)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	37	(10 - 111)
	37	(10 - 111)
Phenol-d5	32	(10 - 118)
	31	(10 - 118)
Nitrobenzene-d5	57	(18 - 116)
	62	(18 - 116)
2-Fluorobiphenyl	52	(10 - 124)
	59	(10 124)
2,4,6-Tribromophenol	81	(24 118)
	69	(24 - 118)
Terphenyl d14	47	(24 - 140)
	42	(24 - 140)

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5L52102-LCS **Matrix.....:** WATER
LCS Lot-Sample#: F9K300000-303 D5L52103 LCSD

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits

p Relative percent difference (RPD) is outside stated control limits

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5N7G102-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: F9L010000-454 D5N7G103-LCSD
Prep Date.....: 12/01/99 **Analysis Date..:** 12/02/99
Prep Batch #...: 9335454 **Analysis Time..:** 15:03
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
gamma-BHC (Lindane)	123	(30 - 167)			SW846 8081A
	133	(30 - 167)	7.2	(0-20)	SW846 8081A
Heptachlor	115	(26 - 151)			SW846 8081A
	129	(26 - 151)	11	(0-20)	SW846 8081A
Aldrin	115	(27 - 153)			SW846 8081A
	123	(27 - 153)	6.5	(0-20)	SW846 8081A
Dieldrin	114	(39 - 128)			SW846 8081A
	124	(39 - 128)	7.8	(0-20)	SW846 8081A
Endrin	127	(46 - 150)			SW846 8081A
	137	(46 - 150)	7.6	(0-20)	SW846 8081A
4,4'-DDT	140	(33 - 158)			SW846 8081A
	152	(33 - 158)	7.8	(0-20)	SW846 8081A

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	103	(15 - 168)
	109	(15 - 168)
Decachlorobiphenyl	93	(10 - 207)
	99	(10 - 207)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: F9K240239 **Work Order #...:** D5QNJ102-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: F9L030000-256 D5QNJ103 LCSD
Prep Date.....: 12/02/99 **Analysis Date..:** 12/02/99
Prep Batch #...: 9337256 **Analysis Time..:** 11:40
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Trichloroethene	**106**	**(71 - 157)**			**SW846 8260B**
	100	**(71 - 157)**	**5.8**	**(0-24)**	**SW846 8260B**
Benzene	**114**	**(37 - 151)**			**SW846 8260B**
	105	**(37 - 151)**	**8.1**	**(0-21)**	**SW846 8260B**
Toluene	**118**	**(47 - 150)**			**SW846 8260B**
	112	**(47 - 150)**	**5.5**	**(0-21)**	**SW846 8260B**
Chlorobenzene	**117**	**(37 - 160)**			**SW846 8260B**
	110	**(37 - 160)**	**6.0**	**(0-21)**	**SW846 8260B**
1,1-Dichloroethene	**95**	**(10 - 234)**			**SW846 8260B**
	101	**(10 - 234)**	**6.9**	**(0-22)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	100	(73 - 147)
	94	(73 - 147)
Toluene-d8	113	(81 - 139)
	105	(81 - 139)
Dibromofluoromethane	112	(89 - 148)
	103	(89 - 148)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: F9K240239 **Work Order #...:** D5Q8D102-LCS **Matrix.....:** WATER
LCS Lot-Sample#: F9L030000-164 D5Q8D103-LCSD
Prep Date.....: 12/02/99 **Analysis Date..:** 12/02/99
Prep Batch #...: 9337164 **Analysis Time..:** 09:30
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	**110**	**(76 - 127)**			**SW846 8260B**
	108	**(76 - 127)**	**1.9**	**(0 21)**	**SW846 8260B**
Chlorobenzene	**98**	**(75 - 130)**			**SW846 8260B**
	100	**(75 - 130)**	**1.5**	**(0-21)**	**SW846 8260B**
1,1-Dichloroethene	**117**	**(61 - 145)**			**SW846 8260B**
	117	**(61 - 145)**	**0.080**	**(0-22)**	**SW846 8260B**
Toluene	**94**	**(76 - 125)**			**SW846 8260B**
	96	**(76 - 125)**	**2.0**	**(0-21)**	**SW846 8260B**
Trichloroethene	**103**	**(71 - 120)**			**SW846 8260B**
	102	**(71 - 120)**	**1.2**	**(0-24)**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	107	(78 124)
	109	(78 - 124)
Toluene-d8	90	(71 - 129)
	95	(71 - 129)
Dibromofluoromethane	106	(74 - 135)
	108	(74 - 135)

NOTE(S):

Calculations are performed before rounding to avoid round off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5WA9102-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: F9L070000-219 D5WA9103-LCSD
Prep Date.....: 12/07/99 **Analysis Date..:** 12/12/99
Prep Batch #...: 9341219 **Analysis Time..:** 05:34
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
gamma-BHC (Lindane)	**110**	**(30 - 167)**			**SW846 8081A**
	132	**(30 - 167)**	**18**	**(0-20)**	**SW846 8081A**
Heptachlor	**112**	**(26 - 151)**			**SW846 8081A**
	132	**(26 - 151)**	**16**	**(0-20)**	**SW846 8081A**
Aldrin	**102**	**(27 - 153)**			**SW846 8081A**
	117	**(27 - 153)**	**14**	**(0-20)**	**SW846 8081A**
Dieldrin	**108**	**(39 - 128)**			**SW846 8081A**
	123	**(39 - 128)**	**13**	**(0-20)**	**SW846 8081A**
Endrin	**114**	**(46 - 150)**			**SW846 8081A**
	135	**(46 - 150)**	**17**	**(0-20)**	**SW846 8081A**
4,4'-DDT	**115**	**(33 - 158)**			**SW846 8081A**
	139	**(33 - 158)**	**18**	**(0-20)**	**SW846 8081A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	87	(15 - 168)
	103	(15 - 168)
Decachlorobiphenyl	118	(10 - 207)
	128	(10 - 207)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5XCV102 LCS **Matrix.....:** SOLID
LCS Lot-Sample#: F9L070000-437 D5XCV103 LCSD
Prep Date.....: 12/07/99 **Analysis Date..:** 12/11/99
Prep Batch #...: 9341437 **Analysis Time..:** 04:56
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Phenol	71	(32 - 86)			SW846 8270C
	79	(32 - 86)	10	(0-27)	SW846 8270C
2-Chlorophenol	75	(39 - 85)			SW846 8270C
	79	(39 - 85)	6.2	(0-33)	SW846 8270C
1,4-Dichlorobenzene	72	(29 - 92)			SW846 8270C
	73	(29 - 92)	1.2	(0-35)	SW846 8270C
N-Nitrosodi-n-propyl-amine	80	(29 - 107)			SW846 8270C
	89	(29 - 107)	11	(0-33)	SW846 8270C
1,2,4-Trichlorobenzene	74	(40 - 90)			SW846 8270C
	74	(40 - 90)	0.080	(0-35)	SW846 8270C
4-Chloro-3-methylphenol	81	(38 - 98)			SW846 8270C
	89	(38 - 98)	9.8	(0-30)	SW846 8270C
Acenaphthene	76	(26 - 103)			SW846 8270C
	75	(26 - 103)	1.9	(0-27)	SW846 8270C
4-Nitrophenol	77	(30 - 110)			SW846 8270C
	75	(30 - 110)	2.4	(0-37)	SW846 8270C
2,4-Dinitrotoluene	82	(37 - 102)			SW846 8270C
	84	(37 - 102)	3.0	(0-25)	SW846 8270C
Pentachlorophenol	69	(23 - 100)			SW846 8270C
	69	(23 - 100)	0.11	(0 35)	SW846 8270C
Pyrene	58	(39 - 105)			SW846 8270C
	58	(39 - 105)	0.44	(0-31)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	74	(11 - 119)
	77	(11 - 119)
Phenol-d5	80	(21 - 118)
	87	(21 - 118)
Nitrobenzene-d5	74	(19 - 111)
	73	(19 - 111)
2-Fluorobiphenyl	78	(22 - 109)
	75	(22 - 109)
2,4,6-Tribromophenol	83	(10 - 124)
	83	(10 - 124)
Terphenyl-d14	64	(10 - 157)
	62	(10 - 157)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5XC4104-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: F9L070000-422 D5XC4105 LCSD
Prep Date.....: 12/07/99 **Analysis Date..:** 12/08/99
Prep Batch #...: 9341422 **Analysis Time..:** 12:07
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	**101**	**(24 - 158)**			**SW846 8082**
	107	**(24 - 158)**	**6.0**	**(0-20)**	**SW846 8082**
Aroclor 1260	**98**	**(41 - 159)**			**SW846 8082**
	104	**(41 - 159)**	**5.9**	**(0-20)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	121	(15 - 168)
	121	(15 - 168)
Decachlorobiphenyl	88	(10 - 207)
	93	(10 - 207)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D63CJ102-LCS **Matrix.....:** WATER
LCS Lot-Sample#: F9L090000-368 D63CJ103-LCSD
Prep Date.....: 12/06/99 **Analysis Date..:** 12/10/99
Prep Batch #...: 9343368 **Analysis Time..:** 00:41
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Phenol	31	(10 - 75)			SW846 8270C
	27	(10 - 75)	15	(0-23)	SW846 8270C
2-Chlorophenol	73	(32 - 89)			SW846 8270C
	71	(32 - 89)	2.3	(0-27)	SW846 8270C
N-Nitrosodi-n-propyl-amine	104	(21 - 118)			SW846 8270C
	103	(21 - 118)	1.3	(0-34)	SW846 8270C
1,2,4-Trichlorobenzene	77	(31 - 95)			SW846 8270C
	74	(31 - 95)	3.2	(0 20)	SW846 8270C
4-Chloro-3-methylphenol	96	(40 - 96)			SW846 8270C
	98 a	(40 - 96)	2.8	(0-21)	SW846 8270C
Acenaphthene	79	(34 - 99)			SW846 8270C
	81	(34 - 99)	2.9	(0-18)	SW846 8270C
4-Nitrophenol	46	(10 - 83)			SW846 8270C
	47	(10 - 83)	1.1	(0-33)	SW846 8270C
2,4-Dinitrotoluene	85	(35 - 104)			SW846 8270C
	92	(35 - 104)	7.3	(0-28)	SW846 8270C
Pyrene	56	(31 - 114)			SW846 8270C
	56	(31 - 114)	1.2	(0-20)	SW846 8270C
1,4-Dichlorobenzene	71	(23 - 96)			SW846 8270C
	67	(23 - 96)	6.6	(0-25)	SW846 8270C
Pentachlorophenol	71	(22 - 115)			SW846 8270C
	80	(22 - 115)	11	(0-20)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	43	(10 111)
	40	(10 111)
Phenol-d5	37	(10 - 118)
	31	(10 - 118)
Nitrobenzene-d5	105	(18 - 116)
	105	(18 - 116)
2-Fluorobiphenyl	84	(10 - 124)
	84	(10 - 124)
2,4,6-Tribromophenol	69	(24 - 118)
	74	(24 - 118)
Terphenyl-d14	52	(24 - 140)
	50	(24 - 140)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D67NF102-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: F9L130000-274 D67NF103-LCSD
Prep Date.....: 12/13/99 **Analysis Date..:** 12/14/99
Prep Batch #...: 9347274 **Analysis Time..:** 02:22
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	**102**	**(24 - 158)**			**SW846 8082**
	108	**(24 - 158)**	**5.3**	**(0-20)**	**SW846 8082**
Aroclor 1260	**102**	**(41 - 159)**			**SW846 8082**
	109	**(41 - 159)**	**6.5**	**(0-20)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	62	(15 - 168)
	57	(15 - 168)
Decachlorobiphenyl	100	(10 - 207)
	104	(10 - 207)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5JMC102-MS **Matrix.....:** WATER
MS Lot-Sample #: F9K240239-004 D5JMC103-MSD
Date Sampled...: 11/23/99 16:30 **Date Received..:** 11/24/99
Prep Date.....: 11/30/99 **Analysis Date..:** 12/06/99
Prep Batch #...: 9334303 **Analysis Time..:** 13:55
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Phenol	13	(10 - 75)			SW846 8270C
	19 p	(10 - 75)	34	(0-23)	SW846 8270C
2-Chlorophenol	27 a	(32 - 89)			SW846 8270C
	31 a	(32 - 89)	11	(0-27)	SW846 8270C
N-Nitrosodi-n-propyl-amine	39	(21 - 118)			SW846 8270C
	35	(21 - 118)	11	(0-34)	SW846 8270C
1,2,4-Trichlorobenzene	24 a	(31 - 95)			SW846 8270C
	29 a,p	(31 - 95)	21	(0-20)	SW846 8270C
4-Chloro-3-methylphenol	40	(40 - 96)			SW846 8270C
	38 a	(40 - 96)	5.2	(0-21)	SW846 8270C
Acenaphthene	31 a	(34 - 99)			SW846 8270C
	35	(34 - 99)	12	(0-18)	SW846 8270C
4-Nitrophenol	18	(10 - 83)			SW846 8270C
	23	(10 - 83)	29	(0 33)	SW846 8270C
2,4-Dinitrotoluene	38	(35 - 104)			SW846 8270C
	41	(35 - 104)	6.8	(0-28)	SW846 8270C
Pyrene	36	(31 - 114)			SW846 8270C
	40	(31 - 114)	9.2	(0-20)	SW846 8270C
1,4-Dichlorobenzene	21 a	(23 - 96)			SW846 8270C
	26	(23 - 96)	23	(0-25)	SW846 8270C
Pentachlorophenol	48	(22 - 115)			SW846 8270C
	52	(22 - 115)	9.9	(0-20)	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	34	(10 - 111)
	46	(10 - 111)
Phenol-d5	28	(10 - 118)
	38	(10 - 118)
Nitrobenzene-d5	59	(18 - 116)
	68	(18 - 116)
2-Fluorobiphenyl	59	(10 - 124)
	70	(10 - 124)
2,4,6-Tribromophenol	107	(24 - 118)
	111	(24 - 118)
Terphenyl-d14	47	(24 - 140)
	52	(24 - 140)

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5JMC102-MS **Matrix.....:** WATER
MS Lot-Sample #: F9K240239-004 D5JMC103 MSD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

p Relative percent difference (RPD) is outside stated control limits

a Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5JME102-MS **Matrix.....:** SOLID
MS Lot-Sample #: F9K240239-006 D5JME103-MSD
Date Sampled...: 11/23/99 12:15 **Date Received..:** 11/24/99
Prep Date.....: 12/01/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9335454 **Analysis Time..:** 18:54
Dilution Factor: 5 **% Moisture.....:** 20

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
gamma-BHC (Lindane)	**100**	**(10 - 311)**			**SW846 8081A**
	101	**(10 - 311)**	**1.6**	**(0-55)**	**SW846 8081A**
Heptachlor	**127**	**(56 - 131)**			**SW846 8081A**
	133 a	**(56 - 131)**	**4.6**	**(0-17)**	**SW846 8081A**
Aldrin	**117**	**(55 - 136)**			**SW846 8081A**
	109	**(55 - 136)**	**7.1**	**(0 24)**	**SW846 8081A**
Dieldrin	**337 a**	**(10 - 170)**			**SW846 8081A**
	102 p	**(10 - 170)**	**107**	**(0-18)**	**SW846 8081A**
Endrin	**120**	**(11 - 183)**			**SW846 8081A**
	111	**(11 - 183)**	**8.2**	**(0-31)**	**SW846 8081A**
4,4'-DDT	**767 a**	**(10 - 220)**			**SW846 8081A**
	237 a,p	**(10 - 220)**	**62**	**(0-35)**	**SW846 8081A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	115	(15 - 168)
	115	(15 - 168)
Decachlorobiphenyl	176	(10 - 207)
	199	(10 - 207)

NOTE(S):

Calculations are performed before rounding to avoid round off errors in calculated results

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight

a Spiked analyte recovery is outside stated control limits

p Relative percent difference (RPD) is outside stated control limits

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5JME116-MS **Matrix.....:** SOLID
MS Lot-Sample #: F9K240239-006 D5JME117-MSD
Date Sampled...: 11/23/99 12:15 **Date Received..:** 11/24/99
Prep Date.....: 12/07/99 **Analysis Date..:** 12/09/99
Prep Batch #...: 9341422 **Analysis Time..:** 10:07
Dilution Factor: 1 **% Moisture.....:** 20

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	**39**	**(10 - 174)**			**SW846 8082**
	76 p	**(10 - 174)**	**63**	**(0-20)**	**SW846 8082**
Aroclor 1260	**38**	**(10 - 222)**			**SW846 8082**
	82 p	**(10 - 222)**	**74**	**(0-20)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	**35**	(15 - 168)
	91	(15 - 168)
Decachlorobiphenyl	**57**	(10 - 207)
	80	(10 - 207)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

p Relative percent difference (RPD) is outside stated control limits

Results and reporting limits have been adjusted for dry weight

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5JM7105-MS **Matrix.....:** WATER
MS Lot-Sample #: F9K240239-002 D5JM7106 MSD
Date Sampled...: 11/23/99 22:30 **Date Received..:** 11/24/99
Prep Date.....: 11/30/99 **Analysis Date..:** 12/02/99
Prep Batch #...: 9334297 **Analysis Time..:** 21:44
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	**85**	**(58 - 118)**			**SW846 8082**
	80	**(58 - 118)**	**6.1**	**(0-20)**	**SW846 8082**
Aroclor 1260	**90**	**(41 - 133)**			**SW846 8082**
	91	**(41 - 133)**	**0.72**	**(0-20)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	88	(26 - 157)
	78	(26 - 157)
Decachlorobiphenyl	66	(13 - 147)
	64	(13 - 147)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5JTR103-MS **Matrix.....:** SOLID
MS Lot-Sample #: F9K240239-023 D5JTR104-MSD
Date Sampled...: 11/23/99 07:15 **Date Received..:** 11/24/99
Prep Date.....: 12/13/99 **Analysis Date..:** 12/14/99
Prep Batch #...: 9347274 **Analysis Time..:** 02:49
Dilution Factor: 1 **% Moisture.....:** 4.7

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	**100**	**(10 - 174)**			**SW846 8082**
	99	**(10 - 174)**	**0.84**	**(0-20)**	**SW846 8082**
Aroclor 1260	**103**	**(10 - 222)**			**SW846 8082**
	102	**(10 - 222)**	**1.0**	**(0-20)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	**115**	(15 - 168)
	114	(15 - 168)
Decachlorobiphenyl	**105**	(10 - 207)
	107	(10 - 207)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5JWC102-MS **Matrix.....:** SOLID
MS Lot-Sample #: F9K240239-030 D5JWC103 MSD
Date Sampled...: 11/23/99 07:10 **Date Received..:** 11/24/99
Prep Date.....: 12/01/99 **Analysis Date..:** 12/12/99
Prep Batch #...: 9335454 **Analysis Time..:** 08:08
Dilution Factor: 10 **% Moisture.....:** 15

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
gamma-BHC (Lindane)	**293**	**(10 - 311)**			**SW846 8081A**
	194	**(10 - 311)**	40	(0-55)	**SW846 8081A**
Heptachlor	**160 a**	**(56 - 131)**			**SW846 8081A**
	165 a	**(56 - 131)**	3.0	(0-17)	**SW846 8081A**
Aldrin	**174 a**	**(55 - 136)**			**SW846 8081A**
	131 p	**(55 - 136)**	28	(0 24)	**SW846 8081A**
Dieldrin	**172 a**	**(10 - 170)**			**SW846 8081A**
	175 a	**(10 - 170)**	2.0	(0-18)	**SW846 8081A**
Endrin	**225 a**	**(11 - 183)**			**SW846 8081A**
	238 a	**(11 - 183)**	5.6	(0 31)	**SW846 8081A**
4,4'-DDT	**558 a**	**(10 - 220)**			**SW846 8081A**
	353 a,p	**(10 - 220)**	45	(0-35)	**SW846 8081A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	143	(15 - 168)
	163	(15 - 168)
Decachlorobiphenyl	880 *	(10 - 207)
	475 *	(10 - 207)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

* Surrogate recovery is outside stated control limits

Results and reporting limits have been adjusted for dry weight

a Spiked analyte recovery is outside stated control limits

p Relative percent difference (RPD) is outside stated control limits

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5JWC114-MS **Matrix.....:** SOLID
MS Lot-Sample #: F9K240239-030 D5JWC115-MSD
Date Sampled...: 11/23/99 07:10 **Date Received..:** 11/24/99
Prep Date.....: 12/07/99 **Analysis Date..:** 12/09/99
Prep Batch #...: 9341422 **Analysis Time..:** 13:36
Dilution Factor: 1 **% Moisture.....:** 15

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	**78**	**(10 - 174)**			**SW846 8082**
	72	**(10 - 174)**	**8.7**	**(0-20)**	**SW846 8082**
Aroclor 1260	**89**	**(10 - 222)**			**SW846 8082**
	83	**(10 - 222)**	**7.4**	**(0-20)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	**82**	(15 - 168)
	53	(15 - 168)
Decachlorobiphenyl	**71**	(10 - 207)
	76	(10 - 207)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F9K240239 **Work Order #...:** D5JWE10F-MS **Matrix.....:** SOLID
MS Lot-Sample #: F9K240239-031 D5JWE10G-MSD
Date Sampled...: 11/23/99 07:10 **Date Received..:** 11/24/99
Prep Date.....: 12/07/99 **Analysis Date..:** 12/13/99
Prep Batch #...: 9341219 **Analysis Time..:** 01:26
Dilution Factor: 1 **% Moisture.....:** 22

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
gamma-BHC (Lindane)	**110**	**(10 - 311)**			**SW846 8081A**
	130	**(10 - 311)**	17	(0-55)	**SW846 8081A**
Heptachlor	**106**	**(56 - 131)**			**SW846 8081A**
	124	**(56 - 131)**	16	(0-17)	**SW846 8081A**
Aldrin	**96**	**(55 - 136)**			**SW846 8081A**
	118	**(55 - 136)**	20	(0-24)	**SW846 8081A**
Dieldrin	**114**	**(10 - 170)**			**SW846 8081A**
	120	**(10 - 170)**	5.1	(0-18)	**SW846 8081A**
Endrin	**163**	**(11 - 183)**			**SW846 8081A**
	191 a	**(11 - 183)**	16	(0-31)	**SW846 8081A**
4,4'-DDT	**59**	**(10 - 220)**			**SW846 8081A**
	82	**(10 - 220)**	17	(0-35)	**SW846 8081A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	82	(15 - 168)
	93	(15 - 168)
Decachlorobiphenyl	91	(10 - 207)
	169	(10 - 207)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight

a Spiked analyte recovery is outside stated control limits

Quanterra Incorporated
13715 Rider Trail North
Earth City, Missouri 63045

314 298 8566 Telephone
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Quanterra
Environmental Services

ANALYTICAL REPORT

PROJECT NO. G0011-0054KWP02

4800 Goodfellow Blvd. (SLAAP)

Lot #: F9L090269

Eduardo Gasca

Tetra Tech EM Inc.

QUANTERRA INCORPORATED

Mark J. Loeb
Project Manager

January 12, 2000

CASE NARRATIVE
Lot F9L090269

On December 09, 1999, six (6) water samples were received at the Quanterra St. Louis laboratory from Tetra Tech EM, Inc., St. Louis Army Ammunitions Plant site. Upon receipt, the samples were given laboratory ID numbers to correspond with the specific client ID's. The cross-reference table can be found on a separate page as part of this report.

Analytical results are provided in two sections. A certificate of analysis that summarizes all reported analytical results inclusive of any QC associated with the analyses is included in a non-paginated section. A paginated full data package with the associated raw data immediately follows this section.

Nitrate/Nitrate

Results for the Matrix Spike/Matrix Spike Duplicate analyses of both Nitrate and Nitrite are above laboratory stated control limits. The Relative Percent Difference for each analysis is within laboratory stated control limits. Analytical results for the Laboratory Control for both Nitrate and Nitrite are within laboratory stated control limits.

METHODS SUMMARY

F9L090269

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Nitrate as N	MCAWW 300.0A	MCAWW 300.0A
Nitrite as N	MCAWW 300.0A	MCAWW 300.0A

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SAMPLE SUMMARY

F9L090269

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
D639J	001	SWMW-3	12/08/99	16:10
D63C8	002	10MW-1	12/08/99	13:45
D63CA	003	SWMW-2	12/08/99	15:30
D63CQ	004	DUP4	12/08/99	15:40
D63D2	005	SWMW-4	12/08/99	17:00
D63D4	006	EQ1	12/08/99	17:30

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

TETRA TECH EM INC.

Client Sample ID: SWMW-3

General Chemistry

Lot-Sample #...: F9L090269-001 **Work Order #...:** D639J **Matrix.....:** WATER
Date Sampled...: 12/08/99 16:10 **Date Received..:** 12/09/99

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	**0.76**	**0.020**	**mg/L**	**MCAWW 300.0A**	**12/09/99**	**9356227**
		Dilution Factor: 1		Analysis Time...: 00:00		
Nitrite	ND	0.020	mg/L	MCAWW 300.0A	12/09/99	9356218
		Dilution Factor: 1		Analysis Time...: 00:00		

TETRA TECH EM INC.

Client Sample ID: 10MW-1

General Chemistry

Lot-Sample #...: F9L090269-002 **Work Order #...:** D63C8 **Matrix.....:** WATER
Date Sampled...: 12/08/99 13:45 **Date Received..:** 12/09/99

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	**0.24**	**0.020**	**mg/L**	**MCAWW 300.0A**	**12/09/99**	**9356227**
		Dilution Factor: 1		Analysis Time..: 00:00		
Nitrite	ND	0.020	mg/L	MCAWW 300.0A	12/09/99	9356218
		Dilution Factor: 1		Analysis Time..: 00:00		

TETRA TECH EM INC.

Client Sample ID: SWMW-2

General Chemistry

Lot-Sample #...: F9L090269-003 **Work Order #...:** D63CA **Matrix.....:** WATER
Date Sampled...: 12/08/99 15:30 **Date Received..:** 12/09/99

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	**1.0**	**0.10**	**mg/L**	**MCAWW 300.0A**	**12/10/99**	**9356236**
		Dilution Factor: 5		Analysis Time..: 00:00		
Nitrite	ND	0.020	mg/L	MCAWW 300.0A	12/09/99	9356218
		Dilution Factor: 1		Analysis Time..: 00:00		

TETRA TECH EM INC.

Client Sample ID: DUP4

General Chemistry

Lot-Sample #...: F9L090269-004 **Work Order #...:** D63CQ **Matrix.....:** WATER
Date Sampled...: 12/08/99 15:40 **Date Received..:** 12/09/99

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	**1.0**	**0.20**	**mg/L**	**MCAWW 300.0A**	**12/10/99**	**9356236**
		Dilution Factor: 10		Analysis Time..: 00:00		
Nitrite	ND	0.020	mg/L	MCAWW 300.0A	12/09/99	9356218
		Dilution Factor: 1		Analysis Time..: 00:00		

TETRA TECH EM INC.

Client Sample ID: SWMW-4

General Chemistry

Lot-Sample #...: F9L090269-005 **Work Order #...:** D63D2 **Matrix.....:** WATER
Date Sampled...: 12/08/99 17:00 **Date Received..:** 12/09/99

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	**22.8**	**1.0**	**mg/L**	**MCAWW 300.0A**	**12/10/99**	**9356236**
		Dilution Factor: 50		Analysis Time...: 00:00		
Nitrite	ND	0.020	mg/L	MCAWW 300.0A	12/09/99	9356218
		Dilution Factor: 1		Analysis Time...: 00:00		

TETRA TECH EM INC.

Client Sample ID: EQ1

General Chemistry

Lot-Sample #...: F9L090269-006 **Work Order #...:** D63D4 **Matrix.....:** WATER
Date Sampled...: 12/08/99 17:30 **Date Received..:** 12/09/99

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate	**0.034**	**0.020**	**mg/L**	**MCAWW 300.0A**	**12/09/99**	**9356227**
		Dilution Factor: 1		Analysis Time..: 00:00		
Nitrite	ND	0.020	mg/L	MCAWW 300.0A	12/09/99	9356218
		Dilution Factor: 1		Analysis Time..: 00:00		

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F9L090269 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate		Work Order #: D6PK9101		MB Lot-Sample #:	F9L220000-227	
	ND	0.020	mg/L	MCAWW 300.0A	12/09/99	9356227
		Dilution Factor: 1				
		Analysis Time..: 00:00				
Nitrate		Work Order #: D6Q44101		MB Lot-Sample #:	F9L220000-236	
	ND	0.020	mg/L	MCAWW 300.0A	12/10/99	9356236
		Dilution Factor: 1				
		Analysis Time..: 00:00				
Nitrite		Work Order #: D6PK7101		MB Lot-Sample #:	F9L220000-218	
	ND	0.020	mg/L	MCAWW 300.0A	12/09/99	9356218
		Dilution Factor: 1				
		Analysis Time..: 00:00				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Lot-Sample #...: F9L090269 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate		WO#:D6PK9102-LCS/D6PK9103-LCSD LCS Lot-Sample#: F9L220000-227					
	98	(80 - 120)			MCAWW 300.0A	12/09/99	9356227
	99	(80 - 120)	1.5	(0-20)	MCAWW 300.0A	12/09/99	9356227
		Dilution Factor: 1					
Nitrate		WO#:D6Q44102-LCS/D6Q44103-LCSD LCS Lot-Sample#: F9L220000-236					
	100	(80 - 120)			MCAWW 300.0A	12/10/99	9356236
	108	(80 - 120)	6.7	(0-20)	MCAWW 300.0A	12/10/99	9356236
		Dilution Factor: 1					
Nitrite		WO#:D6PK7102-LCS/D6PK7103-LCSD LCS Lot-Sample#: F9L220000-218					
	101	(80 - 120)			MCAWW 300.0A	12/09/99	9356218
	102	(80 - 120)	1.2	(0-20)	MCAWW 300.0A	12/09/99	9356218
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F9L090269 **Matrix.....:** WATER
Date Sampled...: 12/08/99 13:45 **Date Received..:** 12/09/99

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate		WO#: D63C8109-MS/D63C810A-MSD				MS Lot-Sample #: F9L090269-002	
	146 N	(75 - 125)			MCAWW 300.0A	01/04/00	9356227
	152 N	(75 - 125)	3.4	(0-20)	MCAWW 300.0A	01/04/00	9356227
		Dilution Factor: 1					
		Analysis Time..: 00:00					
Nitrite		WO#: D63C810C-MS/D63C810D-MSD				MS Lot-Sample #: F9L090269-002	
	128 N	(75 - 125)			MCAWW 300.0A	01/04/00	9356218
	129 N	(75 - 125)	0.69	(0-20)	MCAWW 300.0A	01/04/00	9356218
		Dilution Factor: 1					
		Analysis Time..: 00:00					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

N Spiked analyte recovery is outside stated control limits

@AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 9912178

Work Order Summary

CLIENT: Mr. Eduardo Gasca
Tetra Tech
200 E. Randolph Dr., Suite 4700
Chicago, IL 60601

BILL TO: Same

PHONE: 312-856-8731
FAX: 312-938-0118
DATE RECEIVED: 12/10/99
DATE COMPLETED: 12/21/99

P.O. # NR
PROJECT # G00110054KFW02 SCAAP EBS

FRACTION #	NAME	TEST
01A	Pump 10984 C362LPM	TO-10
02A	Pump 10990 G152LPM	TO-10
03A	Pump 5837 D202LPM	TO-10
04A	Pump 5835 J352LPM	TO-10
05A	Pump 5842 J352LPM	TO-10
06A	BLANK	TO-10
07A	Pump 10984 C39 2LPM	TO-10
08A	Pump 10990 H392LPM	TO-10
09A	Pump 5835 H392LPM	TO-10
10A	Pump 5842 H392LPM	TO-10
10AA	Pump 5842 H392LPM Duplicate	TO-10
11A	LCS	TO-10
12A	Lab Blank	TO-10

CERTIFIED BY: Linda L. Thurma
Laboratory Director

DATE: 12/22/99

Certification numbers: CA ELAP - 1149, NY ELAP - 11291, UT ELAP - E-217

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA 95630
(916) 985-1000 • (800) 985-5955 • FAX (916) 985-1020

LABORATORY NARRATIVE
Analysis of Pesticides and PCB's Collected on PUF Cartridges by Modified EPA Method TO-10
Tetra Tech
Work Order # 9912178

Ten Polyurethane Foam (PUF) Cartridge samples were received on December 10, 1999. The laboratory performed analysis via Modified EPA Method TO-10 using GC/ECD. The method involves subjecting the PUF sample to soxhlet extraction for 18 hours in methylene chloride. Following the soxhlet extraction, the solvent is switched to hexane and the extract concentrated. Analysis is carried out on a HP 5890 GC/ECD and second column confirmation is used to positively identify pesticide results. See the data sheets for the reporting limits for each compound.

A duplicate injection was analyzed on sample Pump 5842 H39 2LPM.

There were no other out of the ordinary circumstances to report.
Five qualifiers may have been used on the data analysis sheets and indicate as follows:

- B - Compound present in laboratory blank greater than reporting limit.
- J - Estimated value.
- E - Exceeds instrument calibration range.
- S - Saturated Peak.
- Q - Exceeds quality control limits.

AIR TOXICS LTD.

SAMPLE NAME : Pump 10984 C362LPM

ID#: 9912178-01A

EPA Method TO-10 GC/ECD

File Name:	**8121407**	**Date of Collection: 12/8/99**
Dil. Factor:	**1.00**	**Date of Analysis: 12/14/99**

Compound	Det. Limit (uG)	Amount (uG)
Aldrin	0.10	Not Detected
alpha-Hexachlorocyclohexane	0.10	Not Detected
beta-Hexachlorocyclohexane	0.10	Not Detected
delta-Hexachlorocyclohexane	0.10	Not Detected
Lindane	0.10	Not Detected
alpha-Chlordane	0.10	Not Detected
gamma-Chlordane	0.10	Not Detected
4,4-DDD	0.10	Not Detected
4,4-DDE	0.10	Not Detected
4,4-DDT	0.10	Not Detected
Dieldrin	0.10	Not Detected
Endosulfan I	0.10	Not Detected
Endosulfan II	0.10	Not Detected
Endosulfan Sulfate	0.10	Not Detected
Endrin	0.10	Not Detected
Endrin Aldehyde	0.10	Not Detected
Endrin Ketone	0.10	Not Detected
Heptachlor	0.10	Not Detected
Heptachlor Epoxide	0.10	Not Detected
4,4-Methoxychlor	1.0	Not Detected
Toxaphene	1.0	Not Detected
Aroclor 1016/1242	1.0	Not Detected
Aroclor-1221	1.0	Not Detected
Aroclor-1232	1.0	Not Detected
Aroclor-1248	1.0	Not Detected
Aroclor-1254	1.0	Not Detected
Aroclor-1260	1.0	Not Detected

Container Type: PUF/XAD

Surrogates	% Recovery	Method Limits
2,4,5,6-Tetrachloro-m-xylene	72	51-136
Decachlorobiphenyl	59	57-164

AIR TOXICS LTD.

SAMPLE NAME : Pump 10990 G152LPM

ID#: 9912178-02A

EPA Method TO-10 GC/ECD

File Name:	**8121408**	**Date of Collection: 12/8/99**
Dil. Factor:	**1.00**	**Date of Analysis: 12/14/99**

Compound	Det. Limit (uG)	Amount (uG)
Aldrin	0.10	Not Detected
alpha-Hexachlorocyclohexane	0.10	Not Detected
beta-Hexachlorocyclohexane	0.10	Not Detected
delta-Hexachlorocyclohexane	0.10	Not Detected
Lindane	0.10	Not Detected
alpha-Chlordane	0.10	Not Detected
gamma-Chlordane	0.10	Not Detected
4,4-DDD	0.10	Not Detected
4,4-DDE	0.10	Not Detected
4,4-DDT	0.10	Not Detected
Dieldrin	0.10	Not Detected
Endosulfan I	0.10	Not Detected
Endosulfan II	0.10	Not Detected
Endosulfan Sulfate	0.10	Not Detected
Endrin	0.10	Not Detected
Endrin Aldehyde	0.10	Not Detected
Endrin Ketone	0.10	Not Detected
Heptachlor	0.10	Not Detected
Heptachlor Epoxide	0.10	Not Detected
4,4-Methoxychlor	1.0	Not Detected
Toxaphene	1.0	Not Detected
Aroclor 1016/1242	1.0	Not Detected
Aroclor-1221	1.0	Not Detected
Aroclor-1232	1.0	Not Detected
Aroclor-1248	1.0	Not Detected
Aroclor-1254	1.0	Not Detected
Aroclor-1260	1.0	Not Detected

Container Type: PUF/XAD

Surrogates	% Recovery	Method Limits
2,4,5,6-Tetrachloro-m-xylene	69	51-136
Decachlorobiphenyl	62	57-164

AIR TOXICS LTD.

SAMPLE NAME : Pump 5837 D202LPM

ID#: 9912178-03A

EPA Method TO-10 GC/ECD

File Name:	**8121409**	**Date of Collection: 12/8/99**
Dil. Factor:	**1.00**	**Date of Analysis: 12/14/99**

Compound	Det. Limit (uG)	Amount (uG)
Aldrin	0.10	Not Detected
alpha-Hexachlorocyclohexane	0.10	Not Detected
beta-Hexachlorocyclohexane	0.10	Not Detected
delta-Hexachlorocyclohexane	0.10	Not Detected
Lindane	0.10	Not Detected
alpha-Chlordane	0.10	Not Detected
gamma-Chlordane	0.10	Not Detected
4,4-DDD	0.10	Not Detected
4,4-DDE	0.10	Not Detected
4,4-DDT	0.10	Not Detected
Dieldrin	0.10	Not Detected
Endosulfan I	0.10	Not Detected
Endosulfan II	0.10	Not Detected
Endosulfan Sulfate	0.10	Not Detected
Endrin	0.10	Not Detected
Endrin Aldehyde	0.10	Not Detected
Endrin Ketone	0.10	Not Detected
Heptachlor	0.10	Not Detected
Heptachlor Epoxide	0.10	Not Detected
4,4-Methoxychlor	1.0	Not Detected
Toxaphene	1.0	Not Detected
Aroclor 1016/1242	1.0	Not Detected
Aroclor-1221	1.0	Not Detected
Aroclor-1232	1.0	Not Detected
Aroclor-1248	1.0	Not Detected
Aroclor-1254	1.0	Not Detected
Aroclor-1260	1.0	Not Detected

Container Type: PUF/XAD

Surrogates	% Recovery	Method Limits
2,4,5,6-Tetrachloro-m-xylene	70	51-136
Decachlorobiphenyl	72	57-164

AIR TOXICS LTD.

SAMPLE NAME : Pump 5835 J352LPM

ID#: 9912178-04A

EPA Method TO-10 GC/ECD

File Name:	**8121410**	**Date of Collection: 12/8/99**
Dil. Factor:	**1.00**	**Date of Analysis: 12/14/99**

Compound	Det. Limit (uG)	Amount (uG)
Aldrin	0.10	Not Detected
alpha-Hexachlorocyclohexane	0.10	Not Detected
beta-Hexachlorocyclohexane	0.10	Not Detected
delta-Hexachlorocyclohexane	0.10	Not Detected
Lindane	0.10	Not Detected
alpha-Chlordane	0.10	Not Detected
gamma-Chlordane	0.10	Not Detected
4,4-DDD	0.10	Not Detected
4,4-DDE	0.10	0.12
4,4-DDT	0.10	Not Detected
Dieldrin	0.10	Not Detected
Endosulfan I	0.10	Not Detected
Endosulfan II	0.10	Not Detected
Endosulfan Sulfate	0.10	Not Detected
Endrin	0.10	Not Detected
Endrin Aldehyde	0.10	Not Detected
Endrin Ketone	0.10	Not Detected
Heptachlor	0.10	Not Detected
Heptachlor Epoxide	0.10	Not Detected
4,4-Methoxychlor	1.0	Not Detected
Toxaphene	1.0	Not Detected
Aroclor 1016/1242	1.0	Not Detected
Aroclor-1221	1.0	Not Detected
Aroclor-1232	1.0	Not Detected
Aroclor-1248	1.0	Not Detected
Aroclor-1254	1.0	Not Detected
Aroclor-1260	1.0	Not Detected

Container Type: PUF/XAD

Surrogates	% Recovery	Method Limits
2,4,5,6-Tetrachloro-m-xylene	69	51-136
Decachlorobiphenyl	58	57-164

AIR TOXICS LTD.

SAMPLE NAME : Pump 5842 J352LPM

ID#: 9912178-05A

EPA Method TO-10 GC/ECD

File Name:	**8121411**	**Date of Collection: 12/8/99**
Dil. Factor:	**1.00**	**Date of Analysis: 12/14/99**

Compound	Det. Limit (uG)	Amount (uG)
Aldrin	0.10	Not Detected
alpha-Hexachlorocyclohexane	0.10	Not Detected
beta-Hexachlorocyclohexane	0.10	Not Detected
delta-Hexachlorocyclohexane	0.10	Not Detected
Lindane	0.10	Not Detected
alpha-Chlordane	0.10	Not Detected
gamma-Chlordane	0.10	Not Detected
4,4-DDD	0.10	Not Detected
4,4-DDE	0.10	0.11
4,4-DDT	0.10	Not Detected
Dieldrin	0.10	Not Detected
Endosulfan I	0.10	Not Detected
Endosulfan II	0.10	Not Detected
Endosulfan Sulfate	0.10	Not Detected
Endrin	0.10	Not Detected
Endrin Aldehyde	0.10	Not Detected
Endrin Ketone	0.10	Not Detected
Heptachlor	0.10	Not Detected
Heptachlor Epoxide	0.10	Not Detected
4,4-Methoxychlor	1.0	Not Detected
Toxaphene	1.0	Not Detected
Aroclor 1016/1242	1.0	Not Detected
Aroclor-1221	1.0	Not Detected
Aroclor-1232	1.0	Not Detected
Aroclor-1248	1.0	Not Detected
Aroclor-1254	1.0	Not Detected
Aroclor-1260	1.0	Not Detected

Container Type: PUF/XAD

Surrogates	% Recovery	Method Limits
2,4,5,6-Tetrachloro-m-xylene	74	51-136
Decachlorobiphenyl	63	57-164

AIR TOXICS LTD.

SAMPLE NAME : BLANK

ID#: 9912178-06A

EPA Method TO-10 GC/ECD

File Name:	**8121412**	**Date of Collection: 12/8/99**
Dil. Factor:	**1.00**	**Date of Analysis: 12/14/99**

Compound	Det. Limit (uG)	Amount (uG)
Aldrin	0.10	Not Detected
alpha-Hexachlorocyclohexane	0.10	Not Detected
beta-Hexachlorocyclohexane	0.10	Not Detected
delta-Hexachlorocyclohexane	0.10	Not Detected
Lindane	0.10	Not Detected
alpha-Chlordane	0.10	Not Detected
gamma-Chlordane	0.10	Not Detected
4,4-DDD	0.10	Not Detected
4,4-DDE	0.10	Not Detected
4,4-DDT	0.10	Not Detected
Dieldrin	0.10	Not Detected
Endosulfan I	0.10	Not Detected
Endosulfan II	0.10	Not Detected
Endosulfan Sulfate	0.10	Not Detected
Endrin	0.10	Not Detected
Endrin Aldehyde	0.10	Not Detected
Endrin Ketone	0.10	Not Detected
Heptachlor	0.10	Not Detected
Heptachlor Epoxide	0.10	Not Detected
4,4-Methoxychlor	1.0	Not Detected
Toxaphene	1.0	Not Detected
Aroclor 1016/1242	1.0	Not Detected
Aroclor-1221	1.0	Not Detected
Aroclor-1232	1.0	Not Detected
Aroclor-1248	1.0	Not Detected
Aroclor-1254	1.0	Not Detected
Aroclor-1260	1.0	Not Detected

Container Type: PUF/XAD

Surrogates	% Recovery	Method Limits
2,4,5,6-Tetrachloro-m-xylene	72	51-136
Decachlorobiphenyl	66	57-164

AIR TOXICS LTD.

SAMPLE NAME : Pump 10994 C392LPM

ID#: 9912178-07A

EPA Method TO-10 GC/ECD

File Name:	**8121413**	**Date of Collection: 12/9/99**
Dil. Factor:	**1.00**	**Date of Analysis: 12/14/99**

Compound	Det. Limit (uG)	Amount (uG)
Aldrin	0.10	Not Detected
alpha-Hexachlorocyclohexane	0.10	Not Detected
beta-Hexachlorocyclohexane	0.10	Not Detected
delta-Hexachlorocyclohexane	0.10	Not Detected
Lindane	0.10	Not Detected
alpha-Chlordane	0.10	Not Detected
gamma-Chlordane	0.10	Not Detected
4,4-DDD	0.10	Not Detected
4,4-DDE	0.10	Not Detected
4,4-DDT	0.10	Not Detected
Dieldrin	0.10	Not Detected
Endosulfan I	0.10	Not Detected
Endosulfan II	0.10	Not Detected
Endosulfan Sulfate	0.10	Not Detected
Endrin	0.10	Not Detected
Endrin Aldehyde	0.10	Not Detected
Endrin Ketone	0.10	Not Detected
Heptachlor	0.10	Not Detected
Heptachlor Epoxide	0.10	Not Detected
4,4-Methoxychlor	1.0	Not Detected
Toxaphene	1.0	Not Detected
Aroclor 1016/1242	1.0	Not Detected
Aroclor-1221	1.0	Not Detected
Aroclor-1232	1.0	Not Detected
Aroclor-1248	1.0	Not Detected
Aroclor-1254	1.0	Not Detected
Aroclor-1260	1.0	Not Detected

Container Type: PUF/XAD

Surrogates	% Recovery	Method Limits
2,4,5,6-Tetrachloro-m-xylene	80	51-136
Decachlorobiphenyl	69	57-164

AIR TOXICS LTD.

SAMPLE NAME : Pump 10990 H392LPM

ID#: 9912178-08A

EPA Method TO-10 GC/ECD

File Name:	**8121414**	**Date of Collection: 12/9/99**
Dil. Factor:	**1.00**	**Date of Analysis: 12/14/99**

Compound	Det. Limit (uG)	Amount (uG)
Aldrin	0.10	Not Detected
alpha-Hexachlorocyclohexane	0.10	Not Detected
beta-Hexachlorocyclohexane	0.10	Not Detected
delta-Hexachlorocyclohexane	0.10	Not Detected
Lindane	0.10	Not Detected
alpha-Chlordane	0.10	Not Detected
gamma-Chlordane	0.10	Not Detected
4,4-DDD	0.10	Not Detected
4,4-DDE	0.10	Not Detected
4,4-DDT	0.10	Not Detected
Dieldrin	0.10	Not Detected
Endosulfan I	0.10	Not Detected
Endosulfan II	0.10	Not Detected
Endosulfan Sulfate	0.10	Not Detected
Endrin	0.10	Not Detected
Endrin Aldehyde	0.10	Not Detected
Endrin Ketone	0.10	Not Detected
Heptachlor	0.10	Not Detected
Heptachlor Epoxide	0.10	Not Detected
4,4-Methoxychlor	1.0	Not Detected
Toxaphene	1.0	Not Detected
Aroclor 1016/1242	1.0	Not Detected
Aroclor-1221	1.0	Not Detected
Aroclor-1232	1.0	Not Detected
Aroclor-1248	1.0	Not Detected
Aroclor-1254	1.0	Not Detected
Aroclor-1260	1.0	Not Detected

Container Type: PUF/XAD

Surrogates	% Recovery	Method Limits
2,4,5,6-Tetrachloro-m-xylene	79	51-136
Decachlorobiphenyl	76	57-164

AIR TOXICS LTD.

SAMPLE NAME : Pump 5835 H392LPM

ID#: 9912178-09A

EPA Method TO-10 GC/ECD

File Name:	**8121415**	**Date of Collection: 12/9/99**
Dil. Factor:	**1.00**	**Date of Analysis: 12/14/99**

Compound	Det. Limit (uG)	Amount (uG)
Aldrin	0.10	Not Detected
alpha-Hexachlorocyclohexane	0.10	Not Detected
beta-Hexachlorocyclohexane	0.10	Not Detected
delta-Hexachlorocyclohexane	0.10	Not Detected
Lindane	0.10	Not Detected
alpha-Chlordane	0.10	Not Detected
gamma-Chlordane	0.10	Not Detected
4,4-DDD	0.10	Not Detected
4,4-DDE	0.10	Not Detected
4,4-DDT	0.10	Not Detected
Dieldrin	0.10	Not Detected
Endosulfan I	0.10	Not Detected
Endosulfan II	0.10	Not Detected
Endosulfan Sulfate	0.10	Not Detected
Endrin	0.10	Not Detected
Endrin Aldehyde	0.10	Not Detected
Endrin Ketone	0.10	Not Detected
Heptachlor	0.10	Not Detected
Heptachlor Epoxide	0.10	Not Detected
4,4-Methoxychlor	1.0	Not Detected
Toxaphene	1.0	Not Detected
Aroclor 1016/1242	1.0	Not Detected
Aroclor-1221	1.0	Not Detected
Aroclor-1232	1.0	Not Detected
Aroclor-1248	1.0	Not Detected
Aroclor-1254	1.0	Not Detected
Aroclor-1260	1.0	Not Detected

Container Type: PUF/XAD

Surrogates	% Recovery	Method Limits
2,4,5,6-Tetrachloro-m-xylene	78	51-136
Decachlorobiphenyl	68	57-164

AIR TOXICS LTD.

SAMPLE NAME : Pump 5842 H392LPM

ID#: 9912178-10A

EPA Method TO-10 GC/ECD

File Name:	**8121416**	**Date of Collection: 12/9/99**
Dil. Factor:	**1.00**	**Date of Analysis: 12/14/99**

Compound	Det. Limit (uG)	Amount (uG)
Aldrin	0.10	Not Detected
alpha-Hexachlorocyclohexane	0.10	Not Detected
beta-Hexachlorocyclohexane	0.10	Not Detected
delta-Hexachlorocyclohexane	0.10	Not Detected
Lindane	0.10	Not Detected
alpha-Chlordane	0.10	Not Detected
gamma-Chlordane	0.10	Not Detected
4,4-DDD	0.10	Not Detected
4,4-DDE	0.10	Not Detected
4,4-DDT	0.10	Not Detected
Dieldrin	0.10	Not Detected
Endosulfan I	0.10	Not Detected
Endosulfan II	0.10	Not Detected
Endosulfan Sulfate	0.10	Not Detected
Endrin	0.10	Not Detected
Endrin Aldehyde	0.10	Not Detected
Endrin Ketone	0.10	Not Detected
Heptachlor	0.10	Not Detected
Heptachlor Epoxide	0.10	Not Detected
4,4-Methoxychlor	1.0	Not Detected
Toxaphene	1.0	Not Detected
Aroclor 1016/1242	1.0	Not Detected
Aroclor-1221	1.0	Not Detected
Aroclor-1232	1.0	Not Detected
Aroclor-1248	1.0	Not Detected
Aroclor-1254	1.0	Not Detected
Aroclor-1260	1.0	Not Detected

Container Type: PUF/XAD

Surrogates	% Recovery	Method Limits
2,4,5,6-Tetrachloro-m-xylene	71	51-136
Decachlorobiphenyl	59	57-164

AIR TOXICS LTD.

SAMPLE NAME : Pump 5842 H392LPM Duplicate

ID#: 9912178-10AA

EPA Method TO-10 GC/ECD

File Name:	**8121417**	**Date of Collection: 12/9/99**
Dil. Factor:	**1.00**	**Date of Analysis: 12/14/99**

Compound	Det. Limit (uG)	Amount (uG)
Aldrin	0.10	Not Detected
alpha-Hexachlorocyclohexane	0.10	Not Detected
beta-Hexachlorocyclohexane	0.10	Not Detected
delta-Hexachlorocyclohexane	0.10	Not Detected
Lindane	0.10	Not Detected
alpha-Chlordane	0.10	Not Detected
gamma-Chlordane	0.10	Not Detected
4,4-DDD	0.10	Not Detected
4,4-DDE	0.10	Not Detected
4,4-DDT	0.10	Not Detected
Dieldrin	0.10	Not Detected
Endosulfan I	0.10	Not Detected
Endosulfan II	0.10	Not Detected
Endosulfan Sulfate	0.10	Not Detected
Endrin	0.10	Not Detected
Endrin Aldehyde	0.10	Not Detected
Endrin Ketone	0.10	Not Detected
Heptachlor	0.10	Not Detected
Heptachlor Epoxide	0.10	Not Detected
4,4-Methoxychlor	1.0	Not Detected
Toxaphene	1.0	Not Detected
Aroclor 1016/1242	1.0	Not Detected
Aroclor-1221	1.0	Not Detected
Aroclor-1232	1.0	Not Detected
Aroclor-1248	1.0	Not Detected
Aroclor-1254	1.0	Not Detected
Aroclor-1260	1.0	Not Detected

Container Type: PUF/XAD

Surrogates	% Recovery	Method Limits
2,4,5,6-Tetrachloro-m-xylene	76	51-136
Decachlorobiphenyl	73	57-164

AIR TOXICS LTD.

SAMPLE NAME : LCS

ID#: 9912178-11A

EPA Method TO-10 GC/ECD

File Name:	**8121406**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 12/14/99**

Compound	Det. Limit (uG)	% Recovery
Aldrin	0.10	90
alpha-Hexachlorocyclohexane	0.10	Not Spiked
beta-Hexachlorocyclohexane	0.10	Not Spiked
delta-Hexachlorocyclohexane	0.10	Not Spiked
Lindane	0.10	86
alpha-Chlordane	0.10	Not Spiked
gamma-Chlordane	0.10	Not Spiked
4,4-DDD	0.10	Not Spiked
4,4-DDE	0.10	Not Spiked
4,4-DDT	0.10	88
Dieldrin	0.10	81
Endosulfan I	0.10	Not Spiked
Endosulfan II	0.10	Not Spiked
Endosulfan Sulfate	0.10	Not Spiked
Endrin	0.10	97
Endrin Aldehyde	0.10	Not Spiked
Endrin Ketone	0.10	Not Spiked
Heptachlor	0.10	85
Heptachlor Epoxide	0.10	Not Spiked
4,4-Methoxychlor	1.0	Not Spiked
Toxaphene	1.0	Not Spiked
Aroclor 1016/1242	1.0	Not Spiked
Aroclor-1221	1.0	Not Spiked
Aroclor-1232	1.0	Not Spiked
Aroclor-1248	1.0	Not Spiked
Aroclor-1254	1.0	Not Spiked
Aroclor-1260	1.0	Not Spiked

Container Type: NA

Surrogates	% Recovery	Method Limits
2,4,5,6-Tetrachloro-m-xylene	75	51-136
Decachlorobiphenyl	57	57-164

AIR TOXICS LTD.

SAMPLE NAME : Lab Blank

ID#: 9912178-12A

EPA Method TO-10 GC/ECD

File Name:	**8121405**	**Date of Collection: NA**
Dil. Factor:	**1.00**	**Date of Analysis: 12/14/99**

Compound	Det. Limit (uG)	Amount (uG)
Aldrin	0.10	Not Detected
alpha-Hexachlorocyclohexane	0.10	Not Detected
beta-Hexachlorocyclohexane	0.10	Not Detected
delta-Hexachlorocyclohexane	0.10	Not Detected
Lindane	0.10	Not Detected
alpha-Chlordane	0.10	Not Detected
gamma-Chlordane	0.10	Not Detected
4,4-DDD	0.10	Not Detected
4,4-DDE	0.10	Not Detected
4,4-DDT	0.10	Not Detected
Dieldrin	0.10	Not Detected
Endosulfan I	0.10	Not Detected
Endosulfan II	0.10	Not Detected
Endosulfan Sulfate	0.10	Not Detected
Endrin	0.10	Not Detected
Endrin Aldehyde	0.10	Not Detected
Endrin Ketone	0.10	Not Detected
Heptachlor	0.10	Not Detected
Heptachlor Epoxide	0.10	Not Detected
4,4-Methoxychlor	1.0	Not Detected
Toxaphene	1.0	Not Detected
Aroclor 1016/1242	1.0	Not Detected
Aroclor-1221	1.0	Not Detected
Aroclor-1232	1.0	Not Detected
Aroclor-1248	1.0	Not Detected
Aroclor-1254	1.0	Not Detected
Aroclor-1260	1.0	Not Detected

Container Type: NA

Surrogates	% Recovery	Method Limits
2,4,5,6-Tetrachloro-m-xylene	70	51-136
Decachlorobiphenyl	60	57-164

AIR TOXICS LTD.
AN ENVIRONMENTAL ANALYTICAL LABORATORY

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX: (916) 985-1020

CHAIN-OF-CUSTODY RECORD

№ 024253

Page 1 of 1

Contact Person: EDUARDO GASCA
Company: TETRA TECH EMI
Address: 200 E. RANDOLPH Suite 7700 City: CHICAGO State: IL Zip: 60601
Phone: 312 856 8731 FAX: 312 938 0118
Collected By: Signature: Eduardo Gasca 12/08/99

Project info:
P.O. #
Project # G0016054K FWD2
Project Name: SLAPP EDS

Turn Around Time:
[✓] Normal DISCONTINUED
[ ] Rush Specify

Lab I.D.	Field Sample I.D.	Date & Time	Analyses Requested	~~Canister Pressure/Vacuum~~ Initial	Final	Receipt
-01A	Pump 10984 C36 2LPM	120899 1800	PCBs + Chlorinated Pesticides 2.06 lpm	1012	1800	
-02A	Pump 10990 G15 2LPM	120899 1800	PCBs + Chlorinated Pesticides 2.12 lpm	1010	1800	
-03A	Pump 5837 D20 2LPM	120899 1755	PCBs + Chlorinated Pesticides 2.01 lpm	10:10	1755	
-04A	Pump 5835 J35 2LPM	120899 1800	PCBs + Chlorinated Pesticides 2.11 lpm	1010	1800	
-05A	Pump 5842 J35 2LPM	120899 1800	PCBs + Chlorinated Pesticides 2.01 lpm	1010	1800	
-06A	BLANK	120899-120999	PCBs + Chlorinated Pesticides	—	—	
-07A	Pump 10984 C39 2lpm	120999 1800	2.06 lpm	9:01	1745	
-08A	Pump 10990 H39 2lpm	120999 1800	2.12 "	9:01	1745	
-09A	Pump 5835 H39 2lpm	120999 1800	2.11 lpm	9:01	1745	
-10A	Pump 5842 H39 2lpm	120999 1800	2.01 lpm	9:01	1745	

Relinquished By: (Signature) Date/Time: Robert Hillt
Print Name: Robert Hillt II
Relinquished By (Signature) Date/Time
Received By (Signature) Date/Time: [illegible] ATL 12/10/99 9:00
Relinquished By (Signature) Date/Time
Received By (Signature) Date/Time

Notes: Normal TAT Call to Confirm shipment delivery date @ Chicago Office

Lab Use Only	Shipper Name	Air Bill #	Opened By:	Date/Time	Temp. (°C)	Condition	Custody Seals Intact?	Work Order #
	FEDEX	8134885238 45	[illegible]	12/10/99 9:00	Chilled	good	Yes No None N/A	9912178

Form 1293 rev. 06

E.S. BABCOCK & SONS, INC.
ESTABLISHED 1906

Environmental Laboratory Certification #1156
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P.O. Box 432 Riverside, CA 92502-0432
PH (909) 653-3351 FAX (909) 653-1662
e-mail: esbsales@aol.com
www.babcocklabs.com

2466-SAINT LOUIS
Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K170192-008
Site: PJ: SLAAP
Description:

Matrix: water

Page: 1 of 1
Lab No.: L62499-001

Date Reported: 12/07/99

Collected By: Client
Date: 11/16/99
Time: 1730
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Total Phosphorus	ND	mg/L	SM 4500-PB4E	0.05	991201/RK
Perchlorate	ND	ug/L	DHS-IC-Rev0	4.	991201/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

cc:

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2466-SAINT LOUIS
Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K180237-002
Site: PJ: SLAAP
Description:

Matrix: water

Page: 1 of 1
Lab No.: L62499-002

Date Reported: 12/07/99

Collected By: Client
Date: 11/17/99
Time: 2000
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Total Phosphorus	ND	mg/L	SM 4500-PB4E	0.05	991201/RK
Perchlorate	ND	ug/L	DHS-IC-Rev0	4.	991201/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

cc:

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2466-SAINT LOUIS
Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K180237-003
Site: PJ: SLAAP
Description:

Matrix: water

Lab No.: L62499-003

Date Reported: 12/07/99

Collected By: Client
Date: 11/17/99
Time: 2030
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Total Phosphorus	ND	mg/L	SM 4500-PB4E	0.05	991201/RK
Perchlorate	ND	ug/L	DHS-IC-Rev0	4.	991201/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

cc:

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2466-SAINT LOUIS

Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K180237-006
Site: PJ: SLAAP
Description:

Matrix: water

Lab No.: L62499-004

Date Reported: 12/07/99

Collected By: Client
Date: 11/17/99
Time: 1935
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Total Phosphorus	ND	mg/L	SM 4500-PB4E	0.05	991201/RK
Perchlorate	ND	ug/L	DHS-IC-Rev0	4.	991201/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

cc:

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2466-SAINT LOUIS
Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K180237-007
Site: PJ: SLAAP
Description:

Matrix: water

Lab No.: L62499-005

Date Reported: 12/07/99

Collected By: Client
Date: 11/17/99
Time: 1915
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Total Phosphorus	0.16	mg/L	SM 4500-PB4E	0.05	991201/RK
Perchlorate	ND	ug/L	DHS-IC-Rev0	4.	991201/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

cc:

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2466-SAINT LOUIS
Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K180237-008
Site: PJ: SLAAP
Description:

Matrix: water

Lab No.: L62499-006

Date Reported: 12/07/99

Collected By: Client
Date: 11/17/99
Time: 1830
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Total Phosphorus	ND	mg/L	SM 4500-PB4E	0.05	991201/RK
Perchlorate	ND	ug/L	DHS-IC-Rev0	4.	991201/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

cc:

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2466-SAINT LOUIS
Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K180237-009
Site: PJ: SLAAP
Description:

Matrix: water

Lab No.: L62499-007

Date Reported: 12/07/99

Collected By: Client
Date: 11/17/99
Time: 1930
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Total Phosphorus	ND	mg/L	SM 4500-PB4E	0.05	991201/RK
Perchlorate	ND	ug/L	DHS-IC-Rev0	4.	991201/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

cc:

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2466-SAINT LOUIS

Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K180237-010
Site: PJ: SLAAP
Description:

Matrix: water

Lab No.: L62499-008

Date Reported: 12/07/99

Collected By: Client
Date: 11/17/99
Time: 1700
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Total Phosphorus	0.39	mg/L	SM 4500-PB4E	0.05	991201/RK
Perchlorate	ND	ug/L	DHS-IC-Rev0	4.	991201/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

cc:

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2466-SAINT LOUIS
Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K170192-021
Site: PJ: SLAAP
Description:

Matrix: soil-env

Lab No.: L62499-009

Date Reported: 12/09/99

Collected By: Client
Date: 11/16/99
Time: 1700
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Nitrate-Nitrogen	3.	mg/kg	EPA 9056	2.	991202/RK
Total Phosphorus	350	mg/kg	EPA 6020	5.	991202/DA
Perchlorate	ND	ug/kg	DHS-IC-Rev0	500	991201/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

cc:

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2466-SAINT LOUIS
Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K170192-022
Site: PJ: SLAAP
Description:

Matrix: soil-env

Lab No.: L62499-010

Date Reported: 12/09/99

Collected By: Client
Date: 11/16/99
Time: 1630
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Nitrate-Nitrogen	ND	mg/kg	EPA 9056	2.	991202/RK
Total Phosphorus	290	mg/kg	EPA 6020	5.	991202/DA
Perchlorate	ND	ug/kg	DHS-IC-Rev0	500	991201/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

cc:

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2466-SAINT LOUIS

Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K170192-023
Site: PJ: SLAAP
Description:

Matrix: soil-env

Lab No.: L62499-011

Date Reported: 12/09/99

Collected By: Client
Date: 11/16/99
Time: 1530
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Nitrate-Nitrogen	2.	mg/kg	EPA 9056	2.	991202/RK
Total Phosphorus	470	mg/kg	EPA 6020	5.	991202/DA
Perchlorate	ND	ug/kg	DHS-IC-Rev0	500	991201/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

cc:

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www.babcocklabs.com

2466-SAINT LOUIS
Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K180237-019
Site: PJ: SLAAP
Description:

Matrix: soil-env

Lab No.: L62499-012

Date Reported: 12/09/99

Collected By: Client
Date: 11/17/99
Time: 2240
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Nitrate-Nitrogen	ND	mg/kg	EPA 9056	2.	991202/RK
Total Phosphorus	460	mg/kg	EPA 6020	5.	991202/DA
Perchlorate	ND	ug/kg	DHS-IC-Rev0	500	991201/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

cc:

E. S. Babcock & Sons Inc.

E.S. BABCOCK & SONS, INC.
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Environmental Laboratory Certification #1156
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www.babcocklabs.com

2466-SAINT LOUIS

Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K180237-020
Site: PJ: SLAAP
Description:

Matrix: soil-env

Lab No.: L62499-013

Date Reported: 12/09/99

Collected By: Client
Date: 11/17/99
Time: 1515
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Nitrate-Nitrogen	3.	mg/kg	EPA 9056	2.	991202/RK
Total Phosphorus	350	mg/kg	EPA 6020	5.	991202/DA
Perchlorate	ND	ug/kg	DHS-IC-Rev0	500	991201/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

cc:

E. S. Babcock & Sons Inc.

E.S. BABCOCK & SONS, INC.
ESTABLISHED 1906

Environmental Laboratory Certification #1156
6100 Quail Valley Court Riverside, CA 92507-0704
P.O. Box 432 Riverside, CA 92502-0432
PH (909) 653-3351 FAX (909) 653-1662
e-mail: esbsales@aol.com
www.babcocklabs.com

2466-SAINT LOUIS
Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K180237-024
Site: PJ: SLAAP
Description:

Matrix: soil-env

Page: 1 of 1
Lab No.: L62499-014

Date Reported: 12/09/99

Collected By: Client
Date: 11/17/99
Time: 2245
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Nitrate-Nitrogen	2.	mg/kg	EPA 9056	2.	991202/RK
Total Phosphorus	430	mg/kg	EPA 6020	5.	991202/DA
Perchlorate	ND	ug/kg	DHS-IC-Rev0	500	991201/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

cc:

E.S. Babcock & Sons Inc.

E.S. BABCOCK & SONS, INC.
ESTABLISHED 1908

Environmental Laboratory Certification #1156
6100 Quail Valley Court Riverside, CA 92507-0704
P.O. Box 432 Riverside, CA 92502-0432
PH (909) 653-3351 FAX (909) 653-1662
e-mail: esbsales@aol.com
www.babcocklabs.com

Wet Chemistry - Batch QC

Log #: L62499
For Client: Quanterra Environmental Services
Date Rec'd: 11/30/1999
Lab Number: L62499-001 to -014

Analyte: Total Phosphorus **WG45869** **EPA 6020**

Reference	Ref Value	Units	QC Type	Result	Units	RPD	%Rec	Batch Date	LCL	UCL
Blank	0.000	mg/kg	MB	3.0	mg/kg	---	---	991202DA	< RL	
Spike Value	200.	mg/kg	LCSICPMS	209.	mg/kg	---	105.	991202DA	80%	120%
Spike Value	200.	mg/kg	MSICPMS	650.	mg/kg	---	93.5	991202DA		(a)
WG45869-003	650.	mg/kg	MSDICPMS	611.	mg/kg	6.2	---	991202DA	Max 20 RPD	(b)

Sample Spiked: L62499-012 463 mg/kg

Analyte: Total Phosphorus **WG45776** **SM 4500-PB4E**

Reference	Ref Value	Units	QC Type	Result	Units	RPD	%Rec	Batch Date	LCL	UCL
Spike Value	0.500	mg/L	LCS	0.495	mg/L	---	99.0	991201RK	85%	115%
Spike Value	0.500	mg/L	MS	0.500	mg/L	---	98.0	991201RK		(a)
WG45776-002	0.500	mg/L	MSD	0.495	mg/L	1.0	---	991201RK	Max 20 RPD	(b)

Sample Spiked: L62499-001 0.01 mg/L

Analyte: Nitrate-Nitrogen **WG45868** **EPA 9056**

Reference	Ref Value	Units	QC Type	Result	Units	RPD	%Rec	Batch Date	LCL	UCL
Blank	0.000	mg/kg	MB	0.0	mg/kg	---	---	991202RK	< RL	
Spike Value	10.0	mg/kg	LCS	10.3	mg/kg	---	103.	991202RK	90%	110%
L62499-012	0.59	mg/kg	DUP	0.32	mg/kg	59.	---	991202RK	Max 20 RPD	(b)
Spike Value	2.0	mg/kg	MS	2.1	mg/kg	---	75.0	991202RK		(a)
WG45868-004	2.1	mg/kg	MSD	2.2	mg/kg	3.8	---	991202RK	Max 20 RPD	(b)

Sample Spiked: L62499-012 0.59 mg/kg

(a) Target range same as LCS Control Limits. If outside range, matrix interference suspected.
(b) Exceptions: Cyanide and Kjeldahl-Nitrogen: Max 30 RPD
Oil & Grease, Suspended Solids and Organic Compounds: Max 40 RPD

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Wet Chemistry - Batch QC

Log #: L62499
For Client: Quanterra Environmental Services
Date Rec'd: 11/30/1999
Lab Number: L62499-001 to -014

Analyte: Perchlorate **WG45804** **DHS-IC-Rev0**

Reference	Ref Value	Units	QC Type	Result	Units	RPD	%Rec	Batch Date	LCL	UCL
Blank	0.000	ug/L	MB	0.0	ug/L	---	---	991201CW	< RL	
Spike Value	20.0	ug/L	LCS	18.2	ug/L	---	91.0	991201CW	70%	130%
Blank	0.000	ug/L	MB	0.0	ug/L	---	---	991201CW	< RL	
Spike Value	20.0	ug/L	LCS	18.7	ug/L	---	93.5	991201CW	70%	130%
L62499-001	0.0	ug/L	DUP	0.0	ug/L	N/A	---	991201CW	Max 20 RPD	(b)
Spike Value	18.0	ug/L	MS	19.7	ug/L	---	109.	991201CW		(a)
WG45804-006	19.7	ug/L	MSD	19.1	ug/L	3.1	---	991201CW	Max 20 RPD	(b)
Sample Spiked:	L62499-001	0	ug/L							
Blank	0.000	ug/L	MB	0.0	ug/L	---	---	991201CW	< RL	
Spike Value	20.0	ug/L	LCS	14.6	ug/L	---	73.0	991201CW	70%	130%
L62470-003	0.0	ug/L	DUP	0.0	ug/L	N/A	---	991201CW	Max 20 RPD	(b)
·ke Value	18.0	ug/L	MS	18.4	ug/L	---	102.	991201CW		(a)
,5804-011	18.4	ug/L	MSD	15.6	ug/L	16.	---	991201CW	Max 20 RPD	(b)
Sample Spiked:	L62470-003	0	ug/L							
Blank	0.000	ug/L	MB	0.0	ug/L	---	---	991201CW	< RL	
Spike Value	20.0	ug/L	LCS	19.9	ug/L	---	99.5	991201CW	70%	130%
L62435-004	11.1	ug/L	DUP	9.3	ug/L	17.	---	991201CW	Max 20 RPD	(b)
Spike Value	18.0	ug/L	MS	32.0	ug/L	---	117.	991201CW		(a)
WG45804-016	32.0	ug/L	MSD	29.1	ug/L	9.5	---	991201CW	Max 20 RPD	(b)
Sample Spiked:	L62435-004	11.07	ug/L							

Analyte: Perchlorate **WG45803** **DHS-IC-Rev0**

Reference	Ref Value	Units	QC Type	Result	Units	RPD	%Rec	Batch Date	LCL	UCL
Blank	0.000	ug/kg	MB	0.0	ug/kg	---	---	991201CW	< RL	
Spike Value	200.	ug/kg	LCS	197.	ug/kg	---	98.5	991201CW	70%	130%
L62499-011	0.0	ug/kg	DUP	0.0	ug/kg	N/A	---	991201CW	Max 20 RPD	(b)
Spike Value	500.	ug/kg	MS	479.	ug/kg	---	95.7	991201CW		(a)
WG45803-004	479.	ug/kg	MSD	504.	ug/kg	5.1	---	991201CW	Max 20 RPD	(b)
Sample Spiked:	L62499-011	0	ug/kg							

(a) Target range same as LCS Control Limits. If outside range, matrix interference suspected.
` Exceptions: Cyanide and Kjeldahl-Nitrogen: Max 30 RPD
Oil & Grease, Suspended Solids and Organic Compounds: Max 40 RPD

E.S. Babcock & Sons, Inc.

L62499

Chain of Custody Record

Quanterra

QUA 4124

Client: Quanterra Saint Louis	Project Manager: Mark Loeb	Date: 11/29/99	Chain Of Custody Number: 46964
Address: 13715 Rider Trail North	Telephone Number (Area Code) Fax Number: 314 298 8566 (213)	Lab Number:	Page ____ of ____
City: Earth City; State: Mo; Zip Code: 63045-1205	Site Contact: FAX 314 298 8757		
Project Name: SLAAP	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Preservative	Condition on Receipt	Perchlorates #	Nitrates #	Phosphates #	Analysis
F9K170192-008 ✗ EQ	1/16/99		WATER	1x1L	PL		NONE		X		X	MSD / MSD
F9K170192-021 ✗ SS8-2, 0-2	1/16/99		SOIL	1x4oz	GLASS				X	X	X	" "
F9K170192-022 ✗ SS18 1, 4-6	1/16/99		SOIL	1x4oz	G				X	X	X	
F9K170192-023 ✗ SS8 1, 4-6	1/16/99		SOIL	1x4oz	G				X	X	X	
F9K180237-002 ✗ EQ1	1/17/99		WATER	1x1L	PL				X		X	
F9K180237-003 ✗ EQ2	1/17/99		WATER	1x1L	PL				X		X	
F9K180237-006 ✗ [illegible]	1/17/99		WATER	1x1L	PL				X		X	
F9K180237-007 ✗ 3	1/17/99		WATER	1x1L	PL				X		X	
F9K180237-008 ✗ 2	1/17/99		WATER	1x1L	PL				X		X	
F9K180237-009 ✗ [illegible]	1/17/99		WATER	1x1L	PL				X		X	
F9K180237-010 ✗ [illegible]	1/17/99		WATER	1x1L	PL				X		X	
F9K180237-019 ✗ [illegible]	1/17/99		SOIL	1x4oz	G				X	X	X	
F9K180237-020 ✗ SS8-14, 14-16	1/17/99		SOIL	1x4oz	G				X	X	X	
F9K180237-024 ✗ SS8-2, 2-4	1/17/99		SOIL	1x4oz	G				X	X	X	

Special Instructions: # ALL BY SW846 9056 (1) MS/MSD PER MATRIX

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months

Turn Around Time Required: ☐ Normal ☐ Rush

QC Level: ☐ I. ☐ II. ☐ III.

Project Specific (Specify):

	Date	Time		Date	Time
1. Relinquished By: [signature]	11-29-99	1700	1. Received By: [signature]	11/30/99	9:10
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments: Airbill

DISTRIBUTION: WHITE - Stays with Sample; CANARY - Returned to Client with Report; PINK - Field Copy

[redacted] [redacted]

Chain of Custody Record

L62499

Quanterra

QUA 4124

Client: Quanterra Saint Louis	Project Manager: Mark Lois	Date: 11/29/99	Chain Of Custody Number: 46364
Address: 13715 River Trail North	Telephone Number (Area Code) Fax Number: 314 798 8566 (213)	Lab Number:	Page ____ of ____
City: Earth City; State: Mo; Zip Code: 63045-1705	Site Contact: FAX 314 298 0757		
Project Name: SLAAP	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No:			

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Preservative	Condition on Receipt	Perchlorates*	Nitrates*	Phosphates*								
F9K170192-008 ✗	11/16/99		WATER	1x1L	PL		NONE		X		X	MSD / MSD							
F9K170192-021 ✗	11/16/99		SOIL	1x4oz	GLASS				X	X	X	"			"				
F9K170192-022 ✗	11/16/99		SOIL	1x4oz	G				X	X	X								
F9K170192-023 ✗	11/16/99		SOIL	1x4oz	G				X	X	X								
F9K180237-002 ✗	11/17/99		WATER	1x1L	PL				X		X								
F9K180237-003 ✗	11/17/99		WATER	1x1L	PL				X		X								
F9K180237-006 ✗	11/17/99		WATER	1x1L	PL				X		X								
F9K180237-007 ✗	11/17/99		WATER	1x1L	PL				X		X								
F9K180237-008 ✗	11/17/99		WATER	1x1L	PL				X		X								
F9K180237-009 ✗	11/17/99		WATER	1x1L	PL				X		X								
F9K180237-010 ✗	11/17/99		WATER	1x1L	PL				X		X								
F9K180237-019 ✗	11/17/99		SOIL	1x4oz	G				X	X	X								
F9K180237-020 ✗	11/17/99		SOIL	1x4oz	G				X	X	X								
F9K180237-024 ✗	11/17/99		SOIL	1x4oz	G				X	X	X								

Special Instructions: * ALL BY SW846 9056 (1) MS/MSD PER MATRIX

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal: ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months

Turn Around Time Required: ☐ Normal ☐ Rush

QC Level: ☐ I. ☐ II. ☐ III.

Project Specific (Specify):

1 Relinquished By: [signature]	Date: 11.29.99	Time: 1700	1 Received By: [signature]	Date: 11/30/99	Time: 7:10
2 Relinquished By	Date	Time	2 Received By	Date	Time
3 Relinquished By	Date	Time	3 Received By	Date	Time

Comments: Airbill - 7110

DISTRIBUTION: WHITE - Stays with Sample, CANARY - Returned to Client with Report, PINK - Field Copy

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Quanterra Environmental Services
13715 Rider Trail North
Earth City, MO 63045-1205

December 13, 1999

Approved by:

Lawrence J. Chrystal
Laboratory Director

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Case Narrative:

Eight water and six soil samples were received by E.S. Babcock & Sons, Inc. for analysis. The results of these samples are included in this data package.

They were received and assigned ESB lab numbers as follows:

Sample ID	Date Sampled	Date Received	ESB Lab Number
F9K170192-008	11/16/99	11/30/99	L62499-001
F9K180237-002	11/17/99	11/30/99	L62499-002
F9K180237-003	11/17/99	11/30/99	L62499-003
F9K180237-006	11/17/99	11/30/99	L62499-004
F9K180237-007	11/17/99	11/30/99	L62499-005
F9K180237-008	11/17/99	11/30/99	L62499-006
F9K180237-009	11/17/99	11/30/99	L62499-007
F9K180237-010	11/17/99	11/30/99	L62499-008
F9K170192-021	11/16/99	11/30/99	L62499-009
F9K170192-022	11/16/99	11/30/99	L62499-010
F9K170192-023	11/16/99	11/30/99	L62499-011
F9K180237-019	11/17/99	11/30/99	L62499-012
F9K180237-020	11/17/99	11/30/99	L62499-013
F9K180237-024	11/17/99	11/30/99	L62499-014

The samples were analyzed for the presence of Perchlorate on the Ion Chromatograph using the California Department of Health Services method DOHS-IC-Rev0.

The water samples were analyzed for the presence of Total Phosphorus by SM4500-P part B section 4 and part E.

The soil samples were analyzed for the presence of Total Phosphorus by EPA Method 6020 (ICP/MS). The results on the data page do NOT include the initial digestion prep factor of 0.5 gram to 50 mL.

The soil samples were also analyzed for the presence of Nitrate by using EPA 300.0 (Ion Chromatography) on a 1:10 water extract. The results are converted to Nitrate Nitrogen by our LIMS by dividing the result by 4.43.

The samples were analyzed within the recommended holding time.

Analytical problems: There were no problems encountered during the analysis.

No QA/QC affecting these samples was outside acceptance criteria.

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2466-SAINT LOUIS
Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K170192-008
Site: PJ: SLAAP
Description:

Matrix: water

Page: 1 of 1
Lab No.: L62499-001

Date Reported: 12/07/99

Collected By: Client
Date: 11/16/99
Time: 1730
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Total Phosphorus	ND	mg/L	SM 4500-PB4E	0.05	991201/RK
Perchlorate	ND	ug/L	DHS-IC-Rev0	4.	991201/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

cc:

E. S. Babcock & Sons Inc.

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2466-SAINT LOUIS
Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K180237-002
Site: PJ: SLAAP
Description:

Matrix: water

Lab No.: L62499-002

Date Reported: 12/07/99

Collected By: Client
Date: 11/17/99
Time: 2000
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Total Phosphorus	ND	mg/L	SM 4500-PB4E	0.05	991201/RK
Perchlorate	ND	ug/L	DHS-IC-Rev0	4.	991201/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

cc:

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e-mail: esbsales@aol.com
www.babcocklabs.com

2466-SAINT LOUIS
Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K180237-003
Site: PJ: SLAAP
Description:

Matrix: water

Page: 1 of 1
Lab No.: L62499-003

Date Reported: 12/07/99

Collected By: Client
Date: 11/17/99
Time: 2030
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Total Phosphorus	ND	mg/L	SM 4500-PB4E	0.05	991201/RK
Perchlorate	ND	ug/L	DHS-IC-Rev0	4.	991201/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

cc:

E. S. Babcock & Sons Inc.

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e-mail: esbsales@aol.com
www.babcocklabs.com

2466-SAINT LOUIS
Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K180237-006
Site: PJ: SLAAP
Description:

Matrix: water

Lab No.: L62499-004

Date Reported: 12/07/99

Collected By: Client
Date: 11/17/99
Time: 1935
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Total Phosphorus	ND	mg/L	SM 4500-PB4E	0.05	991201/RK
Perchlorate	ND	ug/L	DHS-IC-Rev0	4.	991201/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

cc:

E. S. Babcock & Sons Inc.

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2466-SAINT LOUIS
Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K180237-007
Site: PJ: SLAAP
Description:

Matrix: water

Lab No.: L62499-005

Date Reported: 12/07/99

Collected By: Client
Date: 11/17/99
Time: 1915
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Total Phosphorus	0.16	mg/L	SM 4500-PB4E	0.05	991201/RK
Perchlorate	ND	ug/L	DHS-IC-Rev0	4.	991201/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

cc:

E. S. Babcock & Sons Inc.

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Environmental Laboratory Certification #1156
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e-mail: esbsales@aol.com
www.babcocklabs.com

2466-SAINT LOUIS
Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K180237-008
Site: PJ: SLAAP
Description:

Matrix: water

Page: 1 of 1
Lab No.: L62499-006

Date Reported: 12/07/99

Collected By: Client
Date: 11/17/99
Time: 1830
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Total Phosphorus	ND	mg/L	SM 4500-PB4E	0.05	991201/RK
Perchlorate	ND	ug/L	DHS-IC-Rev0	4.	991201/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

cc:

E. S. Babcock & Sons Inc.

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E.S. BABCOCK & SONS, INC.
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2466-SAINT LOUIS
Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K180237-009
Site: PJ: SLAAP
Description:

Matrix: water

Lab No.: L62499-007

Date Reported: 12/07/99

Collected By: Client
Date: 11/17/99
Time: 1930
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Total Phosphorus	ND	mg/L	SM 4500-PB4E	0.05	991201/RK
Perchlorate	ND	ug/L	DHS-IC-Rev0	4.	991201/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

cc:

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2466-SAINT LOUIS
Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K180237-010
Site: PJ: SLAAP
Description:

Matrix: water

Lab No.: L62499-008

Date Reported: 12/07/99

Collected By: Client
Date: 11/17/99
Time: 1700
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Total Phosphorus	0.39	mg/L	SM 4500-PB4E	0.05	991201/RK
Perchlorate	ND	ug/L	DHS-IC-Rev0	4.	991201/CW

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2466-SAINT LOUIS
Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K170192-021
Site: PJ: SLAAP
Description:

Matrix: soil-env

Lab No.: L62499-009

Date Reported: 12/09/99

Collected By: Client
Date: 11/16/99
Time: 1700
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Nitrate-Nitrogen	3.	mg/kg	EPA 9056	2.	991202/RK
Total Phosphorus	350	mg/kg	EPA 6020	5.	991202/DA
Perchlorate	ND	ug/kg	DHS-IC-Rev0	500	991201/CW

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2466-SAINT LOUIS
Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K170192-022
Site: PJ: SLAAP
Description:

Matrix: soil-env

Lab No.: L62499-010

Date Reported: 12/09/99

Collected By: Client
Date: 11/16/99
Time: 1630
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Nitrate-Nitrogen	ND	mg/kg	EPA 9056	2.	991202/RK
Total Phosphorus	290	mg/kg	EPA 6020	5.	991202/DA
Perchlorate	ND	ug/kg	DHS-IC-Rev0	500	991201/CW

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Client:
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Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K170192-023
Site: PJ: SLAAP
Description:

Matrix: soil-env

Lab No.: L62499-011

Date Reported: 12/09/99

Collected By: Client
Date: 11/16/99
Time: 1530
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Nitrate-Nitrogen	2.	mg/kg	EPA 9056	2.	991202/RK
Total Phosphorus	470	mg/kg	EPA 6020	5.	991202/DA
Perchlorate	ND	ug/kg	DHS-IC-Rev0	500	991201/CW

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2466-SAINT LOUIS
Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K180237-019
Site: PJ: SLAAP
Description:

Matrix: soil-env

Page: 1 of 1
Lab No.: L62499-012

Date Reported: 12/09/99

Collected By: Client
Date: 11/17/99
Time: 2240
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Nitrate-Nitrogen	ND	mg/kg	EPA 9056	2.	991202/RK
Total Phosphorus	460	mg/kg	EPA 6020	5.	991202/DA
Perchlorate	ND	ug/kg	DHS-IC-Rev0	500	991201/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

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2466-SAINT LOUIS
Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K180237-020
Site: PJ: SLAAP
Description:

Matrix: soil-env

Lab No.: L62499-013

Date Reported: 12/09/99

Collected By: Client
Date: 11/17/99
Time: 1515
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Nitrate-Nitrogen	3.	mg/kg	EPA 9056	2.	991202/RK
Total Phosphorus	350	mg/kg	EPA 6020	5.	991202/DA
Perchlorate	ND	ug/kg	DHS-IC-Rev0	500	991201/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

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2466-SAINT LOUIS
Client:
Quanterra Environmental Services
Mark Loeb
13715 Rider Trail North

Earth City,MO 63045-1205

Client I.D.: F9K180237-024
Site: PJ: SLAAP
Description:

Matrix: soil-env

Page: 1 of 1
Lab No.: L62499-014

Date Reported: 12/09/99

Collected By: Client
Date: 11/17/99
Time: 2245
Submitted By: Airborne
Date: 11/30/99
Time: 0910

Constituent	Result		Method	RL	Date / Analyst
Nitrate-Nitrogen	2.	mg/kg	EPA 9056	2.	991202/RK
Total Phosphorus	430	mg/kg	EPA 6020	5.	991202/DA
Perchlorate	ND	ug/kg	DHS-IC-Rev0	500	991201/CW

ND = None detected at RL (Reporting Limit). RL units same as result.

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Wet Chemistry - Batch QC

Log #: L62499
For Client: Quanterra Environmental Services
Date Rec'd: 11/30/1999
Lab Number: L62499-001 to -014

Analyte: Total Phosphorus **WG45869** **EPA 6020**

Reference	Ref Value	Units	QC Type	Result	Units	RPD	%Rec	Batch Date	LCL	UCL
Blank	0.000	mg/kg	MB	3.0	mg/kg	---	---	991202DA	< RL	
Spike Value	200.	mg/kg	LCSICPMS	209.	mg/kg	---	105.	991202DA	80%	120%
Spike Value	200.	mg/kg	MSICPMS	650.	mg/kg	---	93.5	991202DA		(a)
WG45869-003	650.	mg/kg	MSDICPMS	611.	mg/kg	6.2	---	991202DA	Max 20 RPD	(b)

Sample Spiked: L62499-012 463 mg/kg

Analyte: Total Phosphorus **WG45776** **SM 4500-PB4E**

Reference	Ref Value	Units	QC Type	Result	Units	RPD	%Rec	Batch Date	LCL	UCL
Spike Value	0.500	mg/L	LCS	0.495	mg/L	---	99.0	991201RK	85%	115%
Spike Value	0.500	mg/L	MS	0.500	mg/L	---	98.0	991201RK		(a)
[illegible]776-002	0.500	mg/L	MSD	0.495	mg/L	1.0	---	991201RK	Max 20 RPD	(b)

ample Spiked: L62499-001 0.01 mg/L

Analyte: Nitrate-Nitrogen **WG45868** **EPA 9056**

Reference	Ref Value	Units	QC Type	Result	Units	RPD	%Rec	Batch Date	LCL	UCL
Blank	0.000	mg/kg	MB	0.0	mg/kg	---	---	991202RK	< RL	
Spike Value	10.0	mg/kg	LCS	10.3	mg/kg	---	103.	991202RK	90%	110%
L62499-012	0.59	mg/kg	DUP	0.32	mg/kg	59.	---	991202RK	Max 20 RPD	(b)
Spike Value	2.0	mg/kg	MS	2.1	mg/kg	---	75.0	991202RK		(a)
WG45868-004	2.1	mg/kg	MSD	2.2	mg/kg	3.8	---	991202RK	Max 20 RPD	(b)

Sample Spiked: L62499-012 0.59 mg/kg

(a) Target range same as LCS Control Limits. If outside range, matrix interference suspected.
(b) Exceptions: Cyanide and Kjeldahl-Nitrogen: Max 30 RPD
Oil & Grease, Suspended Solids and Organic Compounds: Max 40 RPD

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Wet Chemistry - Batch QC

Log #: L62499
For Client: Quanterra Environmental Services
Date Rec'd: 11/30/1999
Lab Number: L62499-001 to -014

Analyte: Perchlorate WG45804 DHS-IC-Rev0

Reference	Ref Value	Units	QC Type	Result	Units	RPD	%Rec	Batch Date	LCL	UCL
Blank	0.000	ug/L	MB	0.0	ug/L	---	---	991201CW	< RL	
Spike Value	20.0	ug/L	LCS	18.2	ug/L	---	91.0	991201CW	70%	130%
Blank	0.000	ug/L	MB	0.0	ug/L	---	---	991201CW	< RL	
Spike Value	20.0	ug/L	LCS	18.7	ug/L	---	93.5	991201CW	70%	130%
L62499-001	0.0	ug/L	DUP	0.0	ug/L	N/A	---	991201CW	Max 20 RPD	(b)
Spike Value	18.0	ug/L	MS	19.7	ug/L	---	109.	991201CW		(a)
WG45804-006	19.7	ug/L	MSD	19.1	ug/L	3.1	---	991201CW	Max 20 RPD	(b)
Sample Spiked:	L62499-001	0	ug/L							
Blank	0.000	ug/L	MB	0.0	ug/L	---	---	991201CW	< RL	
Spike Value	20.0	ug/L	LCS	14.6	ug/L	---	73.0	991201CW	70%	130%
L62470-003	0.0	ug/L	DUP	0.0	ug/L	N/A	---	991201CW	Max 20 RPD	(b)
Spike Value	18.0	ug/L	MS	18.4	ug/L	---	102.	991201CW		(a)
WG45804-011	18.4	ug/L	MSD	15.6	ug/L	16.	---	991201CW	Max 20 RPD	(b)
Sample Spiked:	L62470-003	0	ug/L							
Blank	0.000	ug/L	MB	0.0	ug/L	---	---	991201CW	< RL	
Spike Value	20.0	ug/L	LCS	19.9	ug/L	---	99.5	991201CW	70%	130%
L62435-004	11.1	ug/L	DUP	9.3	ug/L	17.	---	991201CW	Max 20 RPD	(b)
Spike Value	18.0	ug/L	MS	32.0	ug/L	---	117.	991201CW		(a)
WG45804-016	32.0	ug/L	MSD	29.1	ug/L	9.5	---	991201CW	Max 20 RPD	(b)
Sample Spiked:	L62435-004	11.07	ug/L							

Analyte: Perchlorate WG45803 DHS-IC-Rev0

Reference	Ref Value	Units	QC Type	Result	Units	RPD	%Rec	Batch Date	LCL	UCL
Blank	0.000	ug/kg	MB	0.0	ug/kg	---	---	991201CW	< RL	
Spike Value	200.	ug/kg	LCS	197.	ug/kg	---	98.5	991201CW	70%	130%
L62499-011	0.0	ug/kg	DUP	0.0	ug/kg	N/A	---	991201CW	Max 20 RPD	(b)
Spike Value	500.	ug/kg	MS	479.	ug/kg	---	95.7	991201CW		(a)
WG45803-004	479.	ug/kg	MSD	504.	ug/kg	5.1	---	991201CW	Max 20 RPD	(b)
Sample Spiked:	L62499-011	0	ug/kg							

(a) Target range same as LCS Control Limits. If outside range, matrix interference suspected.
(b) Exceptions: Cyanide and Kjeldahl-Nitrogen: Max 30 RPD
Oil & Grease, Suspended Solids and Organic Compounds: Max 40 RPD

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APPENDIX J
LAND SURVEY RESULTS

(One Sheet)

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APPENDIX K
ASBESTOS-CONTAINING BUILDING MATERIAL INSPECTION REPORT

(94 Sheets)

ASBESTOS-CONTAINING BUILDING MATERIALS INSPECTION REPORT

SAINT LOUIS ARMY AMMUNITIONS PLANT INSTALLATION-WIDE ASBESTOS SURVEY

January 21, 2000

Prepared for:
The U.S. Army Aviation and Missile Command
Army Materiel Command
Contract No. DAAA08-94-D-0007
Task No. 66

Prepared by:
Tetra Tech EM Inc.
625 Eden Park Drive, Suite 100
Cincinnati, Ohio 45202
(513) 241-0149

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Attachment

A LABORATORY REPORTS, ACCREDITATION, AND CHAIN-OF-CUSTODY

TABLES

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1 ACBM INVENTORY 8

GLOSSARY

Asbestos	General term for a group of six naturally occurring, fibrous minerals including chrysotile, amosite, crocidolite, actinolite, tremolite, and anthophyllite
Asbestos-containing building material (ACBM)	Any building material containing asbestos in amounts greater than 1 percent
Assessment	A formal process described in the Asbestos Hazard Emergency Response Act (AHERA) "Asbestos-Materials in Schools" Regulations. Conducted for each occurrence of asbestos to determine the potential for environmental release and the associated risk to human health and the environment
Friable	Material that can be pulverized by hand pressure alone
Homogeneous area	An area in a building or facility of similar suspect ACBM in color and texture
Polarized-light microscopy	A method of microscopic analysis that uses polarized light to identify crystalline minerals
Suspect ACBM	Any building material suspected of containing asbestos
Surfacing material	Sprayed-on or trowelled-on ACBM or suspect ACBM
Thermal system insulation (TSI)	Term used for any material used to insulate a thermal system component such as pipe, duct, or boiler

ACRONYMS AND ABBREVIATIONS

ACBM	Asbestos-containing building material
AHERA	Asbestos Hazard Emergency Response Act
AM	Amosite
CAD	Computer-assisted design
CH	Chrysotile
COC	Chain-of-Custody
CR	Crocidolite
DCW	Domestic cold water
DHW	Domestic hot water
DO	Delivery Order
Dup	Duplicate (sample)
EPA	U.S. Environmental Protection Agency
ESI	Environmental Services International, Inc.
lf	Linear feet
mag	Magnesium, a moderate temperature thermal system insulation
OSHA	Occupational Safety and Health Administration
PLM	Polarized-light microscopy
ppe	personnel protective equipment
QA/QC	Quality assurance/quality control
RIA	Rock Island Arsenal (Saint Louis Army Ammunition Plant)
sf	Square feet
Tetra Tech	Tetra Tech EM Inc.
TSI	thermal system insulation
USDL	U.S. Department of Labor

1.0 INTRODUCTION

Tetra Tech EM Inc. (Tetra Tech) prepared this inspection report of the Saint Louis Army Ammunition Plant (SLAAP)for U.S. Army Aviation and Missile Command (AMCOM) in Huntsville, Alabama under the Army Materiel Command Installations and Services Activity Environmental Services Contract No. DAAA08-94-D-0007, Delivery Order (DO) No. 0066. The purpose of this DO was to identify all friable and nonfriable asbestos-containing building materials (ACBM) in Buildings 1, 2, 3, 4, 5, 6, 7, and 13 at SLAAP and develop an inspection report as part of a comprehensive installation-wide asbestos survey for AMCOM.

The scope of work for this project consisted of the following:

- **Survey Preparation:** Reviewed existing records and building drawings, and submitted standard operating procedures with personnel, schedule, and supplies.
- **Field Investigation:** Collected and analyzed air and bulk samples; assessed the ACBM's current condition and potential for damage; quantified ACBM; and recorded information on spreadsheets, photographs, building diagrams, and logbooks.
- **Sample Analysis:** Sent air and bulk samples to an American Industrial Hygiene Association and National Voluntary Laboratory Accreditation Program laboratory; received, interpreted, and reported analytical results.
- **Report Preparation and Marking Asbestos-Containing Building Materials:** Prepared an inspection report and posted floor plans with sampling locations and locations of ACBM. This inspection report includes information on the identification, quantification, and assessment of ACBM.

Tetra Tech conducted a field investigation of SLAAP from December 8 to 17, 1999. During the field investigation, Tetra Tech inspected 8 buildings and interviewed personnel. Tetra Tech inspected buildings for the presence and condition of ACBM. For each building, Tetra Tech inventoried suspect and assumed ACBM and assessed the condition of ACBM that was identified. Tetra Tech also collected bulk samples of suspect and assumed ACBM to determine or confirm the amount of asbestos in the materials.

Tetra Tech inspected the following types of buildings for ACBM:

- Administration, General Purpose, and Instruction: Building Nos. 5 and 6
- Industrial, Manufacturing, and Storage: Building Nos. 1, 2, 3, and 4
- Other Buildings: Building No. 13 (garage)

This inspection report is divided into four sections, including this introduction:

- Section 2.0 describes the specific techniques and procedures used during the project, including preliminary investigations, field investigation activities, and sampling and assessment of suspect ACBM.
- Section 3.0 contains a summary of the laboratory results and a summary of the ACBM identified at SLAAP.
- Section 4.0 contains specific information about the ACBM that was identified. Table 2 includes an inventory, quantity, and estimated removal costs of the ACBM that was identified.

2.0 TECHNICAL APPROACH

The following sections discuss Tetra Tech's technical approach for completing work under this DO. The work was divided into three main tasks: preliminary investigation, field investigation, and sample analysis and quality assurance/quality control (QA/QC).

2.1 PRELIMINARY INVESTIGATION

Before conducting the field investigation, Tetra Tech performed a review of existing records and building floor plans of SLAAP. These records were provided by the AMCOM project manager, and included the following information:

- SLAAP map showing building locations
- Building floor plans and dates of construction for each building

Tetra Tech reviewed the records to identify data gaps and used the floor plans to note locations of suspect materials and ACBM sampled during the field investigation.

2.2 FIELD INVESTIGATION

Tetra Tech's field investigation activities consisted of identifying homogeneous areas of suspect ACBM and collecting bulk samples, quantifying suspect ACBM for each homogeneous area, and assessing the current condition and potential for damage of the suspect ACBM.

Tetra Tech identified homogeneous areas of suspect ACBM by similar color and texture, and then collected samples from each unique homogeneous area of suspect ACBM identified in each building. Tetra Tech quantified the amount of all suspect ACBM in square footage or linear footage by measuring the ACBM's dimensions or by estimating the amount of material using standard estimating techniques. In some cases, Tetra Tech quantified the amount of ACBM from information contained on floor plans. Estimated quantities of ACBM used in this report should be considered as reasonable estimates and accurate within 10 percent.

During the field investigation, Tetra Tech inspected all accessible areas, crawl spaces, and pipe chases to identify and quantify suspect ACBM. Any material concealed from view or located in locked or otherwise inaccessible areas was not included in the scope of this survey. All visual findings and field measurements were recorded on building floor plans provided by AMCOM. Photographs of suspect ACBM were also taken and logged in the field logbook.

2.2.1 Personnel

Mr. Jim Romine, Certified Industrial Hygienist, served as the Tetra Tech project manager and field inspection coordinator. Other members of Tetra Tech's inspection team were Edwardo Gasca and Bob Hill, Missouri Asbestos Hazard Emergency Response Act (AHERA) Asbestos Building Inspector Number 7028042299MOIR2164. All Tetra Tech team members who sampled suspect ACBM were certified as asbestos building inspectors and licensed in the State of Missouri. All members of Tetra

Tech's inspection team received appropriate health and safety training prior to conducting field work. Building inspections were performed by a team of two to three inspectors during each survey period.

2.2.2 Sampling Procedures

Prior to collecting a sample, Tetra Tech identified homogeneous areas of suspect ACBM by similar color, texture, location, and application. Each building typically contained several homogeneous areas of suspect ACBM. Tetra Tech classified each homogeneous area of suspect ACBM into one of the following three categories:

- **Thermal system insulation (TSI)** such as pipe or tank insulation
- **Surfacing material** such as trowelled-on plaster or sprayed-on fireproofing
- **Miscellaneous material** such as floor tile, linoleum, cove base molding, or ceiling tile

Tetra Tech collected bulk samples as required by the AHERA from each unique homogeneous area of suspect ACBM in accordance with the U.S. Environmental Protection Agency's (EPA) simplified sampling scheme (EPA 1985). These sampling procedures provided basic guidelines for ensuring that suspect ACBM was randomly sampled and that a statistically significant number of samples were obtained for analysis. Bulk samples were collected in a random process when possible. AMCOM's project manager requested that Tetra Tech collect samples in locations that could be concealed from view or repaired to existing conditions. Tetra Tech collected 109 bulk samples, from various buildings during this phase of the project. A list of all samples collected, their descriptions, locations, and analytical results are included in the sample log in Appendix A. Sampling locations are marked on the building floor plans in Appendix B.

For TSI, three samples typically were collected from each homogeneous area, unless a small amount of material (less than 6 linear feet) was identified. When sampling surfacing material such as plaster, three to seven samples were collected, depending on square footage of the homogeneous area, as follows:

•	Less than 1,000 square feet	three samples
•	Between 1,000 square feet and 5,000 square feet	five samples
•	Greater than 5,000 square feet	seven samples

In the case of miscellaneous material, such as floor tile, linoleum, cove base molding, or ceiling tile, EPA guidance does not recommend a specific number of bulk samples for collection; therefore, the number of samples collected was determined by the inspector, based on a modified, simplified sampling scheme. The inspector usually selected two or three samples of each miscellaneous material.

While collecting the samples, Tetra Tech labeled each sample container with a unique sample identification number. The sample identification number included information regarding the building where the sample was collected, the homogeneous area per building, the floor on which the sample was collected, and the number of samples per homogeneous area. The sample identification number began with a numerical prefix that represented a sequential number in the total number of samples collected. For example, 20SLAAP3.B.15.1 indicates the 20th sample (20), collected at SLAAP Building no. 3 (SLAAP 3), in the basement, from the 15th homogeneous area (15), 1st sample of homogeneous area no. 15 (1). Some of the floor tile and linoleum samples were given an -A, -B, or -C extension when enough floor tile or linoleum and mastic was present in the sample to have the materials analyzed separately. Otherwise, the tile or linoleum and mastic were analyzed together as one sample.

Suspect ACBM in a building did not always require sampling. In some instances, a homogeneous area of suspect ACBM was assumed to contain asbestos or was previously identified and labeled as ACBM. Previously identified asbestos-containing TSI in many of the buildings were marked with stickers stating, "Danger Contains Asbestos Fibers Avoid Creating Dust-Cancer And Lung Disease Hazard." In some instances, Tetra Tech collected QA samples to confirm historical data and quantify the material. Assumed suspect ACBM not confirmed through sampling also was quantified.

Tetra Tech did not collect bulk samples of a suspect ACBM if that same material was previously sampled in the same or a similar building. In some cases, a particular suspect ACBM was common and observed in several buildings. Two examples of common materials were the 2-foot by 4-foot spotted

fissured ceiling tile, and the 4-inch brown cove base molding. These suspect ACBMs were observed in most of the buildings inspected.

Tetra Tech recorded field observations and inspection notes for each building in field logbooks. Photographs of homogeneous areas were taken using a disposable camera and are included in Appendix C of this report.

2.2.3 Assessment of Asbestos-Containing Building Material

Using the guidance in AHERA, Section 763.88 (EPA 1987), Tetra Tech assessed all homogeneous areas of suspect ACBM with respect to friability, current condition, accessibility and the potential for damage, hazard potential, and building usage.

Tetra Tech initially classified each suspect ACBM as friable or nonfriable. Friable material is defined as any material that, when dry, can be pulverized by hand pressure alone. Ceiling tile is an example of a friable material. Floor tile and linoleum are two examples of nonfriable materials. Pipe insulation is classified as nonfriable if the outer covering is intact and undamaged and the insulation is not exposed. Tetra Tech classified the current condition of each suspect ACBM as good, fair, or poor. ACBM classified in good condition has an intact internal structure and cohesion and is not delaminating from the substrate. A fair classification was used to describe damaged but repairable ACBM. A poor classification was generally reserved for ACBM that was significantly damaged or damaged beyond repair. Significant damage can be defined as damage that has occurred evenly over one-tenth of the surface or localized damage that has occurred over one-quarter of the surface.

Tetra Tech also assessed the potential for physical damage due to direct impact (accessibility), air erosion, vibration, or water to each identified area of ACBM. The accessibility of the ACBM was classified as low, moderate, or high. ACBM located in a mechanical room or pipe chase typically was classified with low accessibility and therefore low potential for physical damage, whereas suspect ACBM identified in a hallway or office area typically was classified with a high accessibility. Tetra Tech also rated the potential for damage from air erosion, vibration, or water as low, moderate, or

high. These assessment factors, combined with friability and current condition, provide an overall description of the ACBM and provide the basis for the hazard ranking.

A hazard ranking was assigned to each area of ACBM corresponding to the level of risk or hazard associated with that material. A hazard ranking of 1 represents ACBM that was in good condition and had a low potential for damage and therefore, low hazard. Material in good condition received a hazard ranking of 1, 2, or 3, depending on the potential for damage. The higher the potential for damage, the higher the hazard ranking. Similarly, ACBM in fair condition received hazard rankings of 4, 5, or 6. A hazard ranking of 7 represents ACBM in poor condition. Significantly damaged ACBM is more likely to release hazardous asbestos fibers and is therefore given the highest hazard ranking. The hazard ranking is included in the ACBM inventory report in Table 2.

2.2.4 Safety Precautions and Personal Protective Equipment

Tetra Tech's field inspectors used proper safety precautions and personal protective equipment (PPE) during bulk sampling activities to prevent release of fibers and to lower the potential exposure. Proper PPE, including but not limited to, air-purifying respirators, nitrile gloves, and protective eyewear, was worn when required during sampling of friable materials. In addition, the primary ACBM sampler was monitored using a personal air sampling pump. The sampling pump, equipped with an in-line, open-faced 0.8-micrometer membrane filter air monitoring cassette, was set at an average rate of 2 liters per minute. This procedure was used to determine fiber exposure levels in the breathing zone during sampling activities. Air sampling and analysis were conducted in accordance with the Occupational Safety and Health Administration's (OSHA) reference method (U.S. Department of Labor [USDL] 1994). All air sample results were less than 0.151 fibers per cubic centimeter, based on an 8-hour time weighted average (TWA), and less than 1.18 fibers per cubic centimeter as a 30-minute short term excursion limit.

Spray bottles filled with amended water were used during the sampling process to contain asbestos fibers. Disposable sampling tools were used to avoid cross-contamination of samples. All reusable sampling tools were decontaminated after each use. Samples of suspect materials were immediately placed into sealed containers and labeled with a unique identification number. Respirators were

TABLE 2
ACBM INVENTORY

Building No.	ACBM	Quantity	Sample No.	Hazard Rank	Estimated Removal Costs
1	Building 1 roof (includes new roof)	8,800 sf	1SLAAP1.R.1.1	2	$61,600
	Transite siding	3,600 sf	2SLAAP1.1.1.2.1	3	$14,400
	Transite ceiling	400 sf	3SLAAP1.1.3.1	2	$1,600
	Window glazing	6,000 lf	4SLAAP1.1.4.1	3	$12,000
2	Tar paper over metal panels	13,000 sf	5SLAAP2.R.1.1	2	$52,000
	Smooth transite	3,520 sf	6SLAAP2.2.2.1	1	$14,080
	Textile between I-beam and corrugated transite	30 lf	7SLAAP2.2.3.1	3	$30
	Transite walls	113,000 sf	*	2	$452,000
	Window glazing	6,000 lf	*	3	$12,000
3	Elbow and domestic cold water line	2200 lf	11SLAAP3.B.1.1A	3	$33,000
	domestic cold water lagging (air cell) (insulation)	2200 lf	12SLAAP3.B.2.1B	5	$0
	Low pressure steam supply (insulation)	3860 lf	13SLAAP3.B.3.1A	4	$57,900
	Steam return air cell	2400 lf	14SLAAP3.B.4.1	4	$36,000
	High pressure steam supply at east wall (insulation)	900 lf	15SLAAP3.B.5.1B	3	$13,500
	Domestic hot water supply	960 lf	16SLAAP3.B.6.1	4	$14,400
	Domestic hot water return	960 lf	17SLAAP3.B.6.2	4	$14,400
	High pressure steam supply	900 lf	18SLAAP3.B.5.2	4	$0
	High pressure steam (insulation)	900 lf	19SLAAP3.B.6.3B	4	$0
	Pressure heater tank 1	225 sf	20SLAAP3.B.7.1A	4	$2,250
	Pressure heater tank 2	225 sf	21SLAAP3.B.7.2A	4	$2,250
	Pressure heater tank 3	225 sf	22SLAAP3.B.7.3A	4	$2,250
	Pressure heater tank 4	225 sf	23SLAAP3.B.7.4A	4	$2,250
	Valve of 6-inch fg/horsehair line S psi steam	300 sf	24SLAAP3.B.8.1A	5	$3,000
	T-fitting of fg/horsehair line S psi steam	25 fittings	25SLAAP3.B.8.2	4	$500
	Elbow of fg/horsehair line S psi steam supply	25 fittings	26SLAAP3.B.8.A	2	$500
	Black flashing	750 lf	49SLAAP3.R.11.1	2	$7,500
	Floor tile, 12-inch black	200 sf	100SLAAP3.1.19.1	2	$600
	Floor tile, 12-inch brick colored	1000 sf	101SLAAP3.1.20.1	2	$3,000
	Floor tile, 12-inch chocolate	1000 sf	102SLAAP3.1.21.1	2	$3,000
	Transite, mens room in SW corner	100 sf	103SLAAP3.1.22.1	2	$400
	Roof (includes new roof)	168,000 sf	*	2	$1,008,000
	Transite walls	20,000 sf	*	2	$80,000
	Window glazing	20,000 lf	*	3	$40,000
4	Transite walls/ ceiling	26,600 sf	*	2	$106,400
	Window glazing	2,600 lf	*	3	$5,200
5	Floor tile, red, 9-inch, checker boards with sample 27	300 sf	28SLAAP5.2.2.1A	2	$900
	Transite from janitor closet (wall and ceiling)	328 sf	42SLAAP5.2.14.1	2	$1,312

TABLE 2
ACBM INVENTORY

Building No.	ACBM	Quantity	Sample No.	Hazard Rank	Estimated Removal Costs
5 (cont.)	Black 9-inch floor tile	2,000 sf	61SLAAP5.1.19.1A	2	$6,000
	Red 9-inch floor tile	5,500 sf	62SLAAP5.1.2.3A	2	$16,500
	Brown 9-inch floor tile	5,500 sf	63SLAAP5.1.1.2A	2	$16,500
	TSI on tank 5, pressure heating tank	15 sf	64SLAAP5.B.20.1	4	$150
	White mag on tank steam drip tank	15 sf	65SLAAP5.B.21.1	4	$150
	Pipe lagging from domestic cold water line	100 lf	66SLAAP5.B.22.1	5	$1,500
	8-inch steam supply (mag) line	150 lf	67SLAAP5.B.23.1	5	$2,250
	Mag type return line	270 lf	68SLAAP5.B.24.1A	4	$4,050
	Roof (includes new roof)	10,500 sf	*	2	$73,500
	Window glazing	12,000 lf	*	3	$24,000
6	TSI on domestic cold water line (1.5-inch line)	360 lf	69SLAAP6.B.1.1A	4	$5,400
	Condensate return - horse hair and mud (cover)	360 lf	70SLAAP6.B.2.1A	4	$5,400
	Floor tile, chocolate colored 12-inch square	75 sf	71SLAAP6.1.3.1A	2	$225
	Floor tile, brick colored 12-inch square	75 sf	72SLAAP6.1.4.1A	2	$225
	Floor tile, 9-inch red	40 sf	76SLAAP6.2.8.1A	2	$1,200
	Floor tile, 9-inch brown	40 sf	77SLAAP6.2.9.1A	2	$1,200
	TSI from roof drain	10 lf	78SLAAP6.2.10.1A	3	$150
	Roof (includes new roof)	10,500 sf	*	2	$73,500
	Window glazing	12,000 lf	*	3	$24,000
7	Left pipe insulation	40 lf	9SLAAP7.1.1.1A	5	$600
	Right pipe insulation	40 lf	10SLAAP7.1.2.1A	5	$600
13	Mag pipe lagging	30 lf	*	5	$450

Notes:

ACBM = asbestos-containing building material
lf = linear feet
psi = pounds per square inch
sf = square feet
TSI = thermal system insulation
NA = not available
mag = magnesium
* = Assumed to be ACBM based on similar samples collected from other buildings or marked "danger material contains asbestos"
If roof of Building 3 is removed, flashing costs will be included.

qualitatively fit-tested prior to the inspection and are quantitatively fit-tested annually for effectiveness (USDL 1998).

2.3 SAMPLE ANALYSIS

Bulk samples collected during this project were analyzed by Environmental Services, Inc. (ESI) located in Saint Albans, West Virginia. The bulk samples were analyzed by polarized-light microscopy (PLM). ESI maintains accreditation in the National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos analysis by PLM. NVLAP is administered by the National Institute of Standards and Technology and the Bulk Asbestos Proficiency Analytical Testing Program. A copy of ESI's laboratory accreditation is included in Attachment A.

Bulk samples were analyzed for asbestos and other fibrous constituents according to procedures outlined in the EPA guidance document entitled, "Method for the Determination of Asbestos in Bulk Building Materials" (EPA 1993). This method uses the specific light refractive properties of individual transparent compounds and minerals for positive identification and analysis. The samples initially were examined under a stereomicroscope with a magnification of 10 times to 20 times in a laboratory fume hood for general composition and phase separation. If needed, portions of the sample were removed and ground with a mortar and pestle before they were mounted on a glass slide. Mountings, representative of portions of the material, then were prepared in one or more appropriate refractive index liquids and examined by PLM at magnifications of 100x to 400x. This technique is commonly known as "dispersion staining." Concentrations of each component then were estimated on an area basis. To obtain an accurate quantification of the percentage of small amounts of asbestos in samples, a point-count analysis also may be performed.

Floor tiles and other cementitious materials may require additional treatment to evaluate the concentration of asbestos fibers bound in the material. Some samples may contain fibers that are not visible by PLM and can be discovered only through electron microscopy techniques. Floor tiles are analyzed as homogeneous materials if insufficient mastic is present or if phases have been cross-contaminated.

The members of the asbestos family known to be fibrous and identified by OSHA and EPA as health hazards are the following: chrysotile, amosite (cummingtonite-grunerite), crocidolite (riebeckite), anthophyllite, tremolite, and actinolite. Individual fibers of asbestos are positively identified by their unique morphology and light refractive characteristics such as refractive indices, birefringence, sign of elongation, and extinction angle.

A documented chain-of-custody (COC) was maintained with all samples and included receiving signatures and dates of shipment and analysis. The COCs are included with the laboratory reports in Attachment A.

3.0 SUMMARY OF RESULTS

The following sections discuss the results of the laboratory and QA/QC analysis, and the various types of ACBM identified in SLAAP buildings.

3.1 DISCUSSION OF LABORATORY RESULTS

Tetra Tech collected 109 bulk samples from suspect ACBM during this project for PLM analysis. Each sample was analyzed for the presence and percentage content of asbestos. The laboratory results are summarized in the sample log in Appendix A. The ESI laboratory reports are included as Attachment A. Asbestos was identified in 53 samples, or about 48.6 percent of the samples. These samples represent suspect material identified as ACBM in this report. Chrysotile, the most common type of asbestos, was identified in 52 of the 53 positive samples. Amosite was identified in 15 of the 53 positive samples. 14 samples contained more than one type of asbestos.

Asbestos was not identified in 56 (or 51.3 percent) of the samples collected. These samples are reported as "ND" (not detected) in the sample log. These negative samples typically contained cellulose, fiberglass, and other nonfibrous material.

Tetra Tech collected duplicate bulk samples in the field and delivered these samples to SLAAP's project manager as a QA/QC check. Tetra Tech collected 8 duplicate samples during the inspection, which

corresponds to a duplicate sampling rate of about 7 percent. All of the duplicate sample results met and exceeded the acceptance criteria (original and duplicate vary by 10 percent or less asbestos content). All duplicate samples matched to the percent of asbestos content. All duplicate sample results are denoted as "D" in the sample log (Appendix A).

3.2 POSITIVELY IDENTIFIED ASBESTOS-CONTAINING BUILDING MATERIALS

This section summarizes the three major groups of ACBM that were positively identified at SLAAP. Table 2 includes an inventory of the ACBM identified and estimated removal costs. Examples of ACBM are included in the photographic log (Appendix C). The ACBM identified during this project can be grouped into the following categories:

- **TSI** on heating, condensate, and water supply pipes, including fittings and elbows and storage tanks
- **Floor tile and linoleum** in several patterns, colors, and sizes
- **Other materials,** including transite in walls and ceilings

3.2.1 Thermal System Insulation

Tetra Tech identified many types of asbestos-containing TSI during this investigation. The most common type of ACBM TSI was identified on heating (steam supply and return) pipes. Asbestos-containing heating pipe TSI was identified in Buildings 3, 5, 6, 7, and 13. Other types of asbestos-containing TSI include insulation on domestic cold water (DCW) lines, domestic hot water (DHW) lines, and water storage tanks. Asbestos-containing insulation on DCW and DHW lines was identified in Buildings 3, 5, 6, and 13.

Asbestos-containing TSI is classified as a nonfriable material if the outer covering is in good condition and no insulation is exposed. This ACBM TSI typically was observed in low to moderately accessible areas such as basements, mechanical rooms, or pipe chases. Based on observations made during the inspection, less than 20 percent of the asbestos-containing TSI identified was observed to be damaged. Damaged asbestos-containing TSI is identified on the building floor plans in Appendix B.

3.2.2 Roofs and Walls

The roof of Building 1 contained about 7 percent chrysotile asbestos. The roofs of Buildings 3, 5, 6, and 7 appeared to be installed at the same time and are considered to be asbestos containing. The roofs had two types of flashing, black and silver. The black flashing contained 20 percent chrysotile asbestos. The walls and roof of Buildings 2 and 4 were corrugated transite, an asbestos cement product, which contained 70 percent chrysotile asbestos. Panels of transite also were found on Building 1, 3 and the skywalks between Building 3 and Buildings 2, 5, and 6. Smooth transite was identified in restrooms, other areas, offices, or janitor closets in Buildings 1, 2, 3, 4, 5, and 6.

3.2.3 Floor Tile and Linoleum

Asbestos-containing floor tile was identified in nearly every building and was the third most common type of ACBM identified at SLAAP. The condition of the flooring material was typically hard and nonfriable. By its nature, however, floor tile is subjected to physical disturbance. Asbestos-containing floor tile contained an average of 11 percent asbestos. Asbestos-containing floor tile and/or mastic was identified in Buildings 3, 5, and 6.

There were several colors and sizes of asbestos-containing floor tile identified during this project. These are presented in the following table.

Size (inches)	Building(s)	Description
12	3, 6	Black as a border
12	3, 6	Brick color, "checkerboards" with brick
12	3, 6	Chocolate color, "checkerboards" with brick
9	5, 6 and skywalks	Black as a board
9	5, 6 and skywalks	Red, "checkerboards" with brown
9	5, 6 and skywalks	Brown, "checkerboards" with red

3.2.4 Other Materials

Tetra Tech observed about 20 fire doors, which are assumed to contain asbestos and are identified on the building floor plans in Appendix B.

REFERENCES

U.S. Environmental Protection Agency (EPA). 1985. "Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials." Office of Toxic Substances. Washington DC. EPA 560/5-85-030a.

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EPA. 1993. "Method for the Determination of Asbestos in Bulk Building Materials, EPA." EPA 600/R-93/116. July.

U.S. Department of Labor (USDL). 1974. Occupational Safety and Health Administration Regulations. 29 Code of Federal Regulations 1910.134: "Respiratory Protection Standard." June.

USDL. 1994. Occupational Safety and Health Administration Regulations. 29 Code of Federal Regulations 1926.1101: "Asbestos." August.

APPENDIX A

SAMPLE LOG

APPENDIX A
SAMPLE LOG

Sample Number	Location	Description	Quantity	Results
1SLAAP1.R.1.1	Building 1	Building 1 roof	8,800 sf	7% CH
2SLAAP1.1.1.2.1	Building 1	Transite siding	3,600 sf	55% CH
2SLAAP1.1.2.1D	Building 1	Transite siding duplicate	3,600 sf	65% CH
3SLAAP1.1.3.1	Building 1	Transite ceiling	400 sf	45% CH
4SLAAP1.1.4.1	Building 1	Window glazing	6,000 lf	15% CH
5SLAAP2.R.1.1	Building 2	Tar paper over metal panels	13,000 sf	40% CH
6SLAAP2.2.2.1	Building 2	Smooth transite	3,520 sf	45% CH
7SLAAP2.2.3.1	Building 2	Textile between I-beam and corrugated transite	30 lf	40% CH
8SLAAP2.2.4.1	Building 2	Rock wool	1,800 sf	0%
9SLAAP7.1.1.1A	Building 7	Left pipe insulation	40 lf	40% CH, 10% AM
9SLAAP7.1.1.1B	Building 7	Left pipe insulation (cover)	40 lf	0%
10SLAAP7.1.2.1A	Building 7	Right pipe insulation	40 lf	45% CH, 10% AM
10SLAAP7.1.2.1B	Building 7	Right pipe insulation (cover)	40 lf	0%
11SLAAP3.B.1.1A	Building 3	Elbow domestic cold water	1200 lf	30% CH
11SLAAP3.B.1.1B	Building 3	Elbow domestic cold water	1200 lf	0%
12SLAAP3.B.2.1A	Building 3	Lagging (air cell) (cover)	1200 lf	0%
12SLAAP3.B.2.1B	Building 3	Lagging (air cell) (insulation)	1200 lf	35% CH
13SLAAP3.B.3.1A	Building 3	Low pressure steam supply (insulation)	2560 lf	35% CH, 20% AM
13SLAAP3.B.3.1B	Building 3	Low pressure steam supply (cover)	2560 lf	0%
13SLAAP3.B.3.1D	Bulding 3	Low pressure steam supply insulation	2560 lf	35% AM, 20% CH
14SLAAP3.B.4.1	Building 3	Steam return air cell	1340 lf	30% CH
15SLAAP3.B.5.1A	Building 3	High pressure steam supply at east wall (cover)	660 lf	0%
15SLAAP3.B.5.1B	Building 3	High pressure steam supply at east wall (insulation)	660 lf	35% CH
16SLAAP3.B.6.1	Building 3	Domestic hot water supply	1120 lf	25% CH, 15% AM
17SLAAP3.B.6.2	Building 3	Domestic hot water return	1200 lf	20% CH
18SLAAP3.B.5.2	Building 3	High pressure steam supply	660 lf	10% CH, 30% AM
19SLAAP3.B.6.3A	Building 3	High pressure steam at column D7 (cover)		0%
19SLAAP3.B.6.3B	Building 3	High pressure steam at column D7 (insulation)		35% CH
20SLAAP3.B.7.1A	Building 3	Pressure heater tank 1	225 sf	30% CH, 15% AM
20SLAAP3.B.7.1B	Building 3	Tank 1 (cover)	225 sf	0%
21SLAAP3.B.7.2A	Building 3	Pressure heater tank 2	225 sf	35% CH, 15% AM
21SLAAP3.B.7.2B	Building 3	Tank 2 (cover)	225 sf	0%
22SLAAP3.B.7.3A	Building 3	Pressure heater tank 3	225 sf	35% CH, 20% AM
22SLAAP3.B.7.3B	Building 3	Tank 3 (cover)	225 sf	0%

AM = amosite
CH = chrysotile
D = duplicate

fg = fiberglass
lf = linear feet
mag = magnesium

sf = square feet
TSI = thermal system insulation

APPENDIX A
SAMPLE LOG

23SLAAP3.B.7.4A	Building 3	Pressure heater tank 4	225 sf	40% CH, 20% AM
23SLAAP3.B.7.4B	Building 3	Tank 4 (cover)	225 sf	0%
24SLAAP3.B.8.1A	Building 3	Valve of 6-inch fg/horsehair line 5 pounds per square inch steam	300sf	55% CH, 15% AM
24SLAAP3.B.8.1B	Building 3	Valve of 6-inch fg/horsehair line 5 pounds per square inch steam (cover)	300 sf	0%
25SLAAP3.B.8.2	Building 3	T-fitting of fg/horsehair line steam		20% CH
26SLAAP3.B.8.A	Building 3	Elbow of fg/horsehair line steam supply		25% CH, 15% AM
26SLAAP3.B.8.B	Building 3	Elbow of fg/horsehair line steam supply (cover)		0%
27SLAAP5.2.1.1 A	Building 5	Floor tile, brown, 9-inch	300 sf	0%
27SLAAP5.2.1.1 B	Building 5	Floor tile, brown, 9-inch (mastic)	300 sf	0%
27SLAAP5.2.1.1A.D	Building 5	Floor tile, brown, 9-inch	300 sf	15% CH
27SLAAP5.2.1.1B.D	Building 5	Floor tile, brown, 9-inch (mastic)	300 sf	0%
28SLAAP5.2.2.1A	Building 5	Floor tile, red, 9-inch, checker boards with sample 27	300 sf	10% CH
28SLAAP5.2.2.1B	Building 5	Floor tile, red, 9-inch, checker boards with sample 27 (mastic)	300 sf	0%
29SLAAP5.2.2.2A	Building 5	Floor tile, red, 9-inch, checker boards with sample 27	300 sf	0%
29SLAAP5.2.2.2B	Building 5	Floor tile, red, 9-inch, checker boards with sample 27 (mastic)	300 sf	0%
30SLAAP5.2.3.1A	Building 5	Floor tile, gray w/white and black spots, 12-inch, hallway of 2nd floor	1300 sf	0%
30SLAAP5.2.3.1B	Building 5	Floor tile, gray w/white and black spots, 12-inch, hallway of 2nd floor (cream mast	1300 sf	0%
31SLAAP5.2.4.1	Building 5	Floor tile, gray vinyl, 24-inch, west stairway	592 sf	0%
32SLAAP5.2.5.1A	Building 5	Paper material under brown and red floor floor tile, 9-inch (black)	600 sf	0%
32SLAAP5.2.5.1B	Building 5	Paper material under brown and red floor floor tile, 9-inch (red)	600 sf	0%
33SLAAP5.2.6.1	Building 5	Ceiling tile, 2-foot x 4-foot spotted		0%
34SLAAP5.2.7.1	Building 5	Brown ceiling board	22000 sf	0%
35SLAAP5.2.8.1A	Building 5	Floor tile, beige, 12-inch	600 sf	0%
35SLAAP5.2.8.1B	Building 5	Floor tile, beige, 12-inch (mastic)	600 sf	0%
36SLAAP5.2.9.1A	Building 5	Floor tile, black alternates with 9-inch red which is under gray and beige FT	9950 sf bl	0%
36SLAAP5.2.9.1B	Building 5	Floor tile (mastic)	9950 sf bl	0%
36SLAAP5.2.9.1C	Building 5	Floor tile (gray tile mastic)	9950 sf bl	0%
37SLAAP5.2.10.1	Building 5	Ceiling tile, 2-foot x 4-foot, deep fissurred		0%
38SLAAP5.2.11.1A	Building 5	Wall board in womens restroom (white)	240 sf	0%
38SLAAP5.2.11.1B	Building 5	Wall board in womens restroom (black)	240 sf	0%
39SLAAP5.2.12.1A	Building 5	Cove base molding, 4-inch brown (cream mastic)	750 lf	0%
39SLAAP5.2.12.1B	Building 5	Cove base molding, 4-inch brown	750 lf	0%
39SLAAP5.2.12.1C	Building 5	Cove base molding, 4-inch brown	750 lf	0%
40SLAAP5.2.13.1	Building 5	Wastecoat wood paneling (runs 4 ft. from floor up the wall)	3000 sf	0%
41SLAAP5.2.14.2	Building 5	Wall board from south wall		0%

AM = amosite
CH = chrysotile
D = duplicate

fg = fiberglass
lf = linear feet
mag = magnesium

sf = square feet
TSI = thermal system insulation

APPENDIX A
SAMPLE LOG

42SLAAP5.2.14.1	Building 5	Transite from janitor closet (wall and ceiling)	328 sf	60% CH
43SLAAP5.2.7.2	Building 5	Ceiling board above ceiling tile		0%
44SLAAP5.2.7.3	Building 5	Ceiling board above ceiling tile		0%
45SLAAP5.2.15.1A	Building 5	Tan particle board	3200 sf	0%
45SLAAP5.2.15.1B	Building 5	Tan particle board (mastic)	3200 sf	0%
46SLAAP5.R.16.1	Building 5	Silver flashing	620 lf	0%
47SLAAP3.P.9.1	Building 3	Vibration dampener of ventilator	10 lf	0%
48SLAAP3.P.10.1	Building 3	Window glazing in penthouse	450 lf	0%
49SLAAP3.R.11.1	Building 3	Black flashing	750lf	20% CH
50SLAAP5.2.6.2	Building 5	Spotted ceiling tile at column		0%
51SLAAP5.2.6.3	Building 5	Spotted ceiling tile at column		0%
52SLAAP5.2.11.3	Building 5	Wallboard		0%
53SLAAP5.2.13.2	Building 5	Wood waist board		0%
54SLAAP5.2.15.2	Building 5	Tar particle board (laminate)		0%
55SLAAP5.1.16.1	Building 5	1 foot square ceiling glued on ceiling tile	300 sf	0%
56SLAAP5.1.17.1	Building 5	Glue which holds 1-foot x 1-foot ceiling tile in place		0%
57SLAAP5.1.16.2	Building 5	1 foot square ceiling glued on ceiling tile		0%
57SLAAP5.1.16.2D	Building 5	1-foot. x 1-foot ceiling tile, dublicate		0%
58SLAAP5.1.17.2	Building 5	Glue		0%
59SLAAP5.1.18.1	Building 5	Floor tile, 2-foot x 2-foot, gray square pattern	240 sf	0%
60SLAAP5.1.4.2A	Building 5	Gray vinyl flooring, circular pattern	180 sf	0%
60SLAAP5.1.4.2B	Building 5	Gray vinyl flooring, circular pattern (mastic)	180 sf	0%
61SLAAP5.1.19.1A	Building 5	Black 9-inch floor tile	2000 sf	2% CH
61SLAAP5.1.19.1B	Building 5	Black 9-inch floor tile (mastic)	2000 sf	0%
62SLAAP5.1.2.3A	Building 5	Red 9-inch floor tile	5500 sf	2% CH
62SLAAP5.1.2.3B	Building 5	Red 9-inch floor tile (mastic)	5500 sf	0%
63SLAAP5.1.1.2A	Building 5	Brown 9-inch floor tile	5500 sf	5% CH
63SLAAP5.1.1.2B	Building 5	Brown 9-inch floor tile (mastic)	5500 sf	0%
64SLAAP5.B.20.1	Building 5	TSI on tank 5, pressure heating tank	15 sf	20% AM
65SLAAP5.B.21.1	Building 5	White mag on tank steam drip tank	15 sf	20% CH, 10% AM
66SLAAP5.B.22.1	Building 5	Pipe lagging from domestic cold water line	100 lf	15% CH
67SLAAP5.B.23.1	Building 5	8-inch steam supply (mag) line	150 lf	15% CH, 3% AM
68SLAAP5.B.24.1A	Building 5	Mag type return line	270 lf	35% CH
68SLAAP5.B.24.1B	Building 5	Mag type return line (cover)	270 lf	0%
69SLAAP6.B.1.1A	Building 6	TSI on domestic cold water line (1.5-inch line)		10% CH

AM = amosite
CH = chrysotile
D = duplicate

fg = fiberglass
lf = linear feet
mag = magnesium

sf = square feet
TSI = thermal system insulation

APPENDIX A
SAMPLE LOG

69SLAAP6.B.1.1B	Building 6	TSI on domestic cold water line (1.5-inch line) (cover)		0%
69SLAAP6.B.1.1C	Building 6	TSI on domestic cold water line (1.5-inch line)		0%
70SLAAP6.B.2.1A	Building 6	Condensate return - horse hair and mud (insulation)		35% CH, 15% AM
70SLAAP6.B.2.1B	Building 6	Condensate return - horse hair and mud (cover)		0%
70SLAAP6.B.2.1C	Building 6	Condensate return - horse hair and mud (horse hair layer)		0%
71SLAAP6.1.3.1A	Building 6	Floor tile, chocolate colored 12-inch square	75 sf	20% CH
71SLAAP6.1.3.1B	Building 6	Floor tile, chocolate colored 12-inch square (mastic)	75 sf	0%
71SLAAP6.1.3.1A.D	Building 6	Floor tile, chocolate colored 12-inch square	75 sf	15% CH
71SLAAP6.1.3.1B.D	Building 6	Floor tile, chocolate colored 12-inch square (mastic)	75 sf	0%
72SLAAP6.1.4.1A	Building 6	Floor tile, brick colored 12-inch square	75 sf	15% CH
72SLAAP6.1.4.1B	Building 6	Floor tile, brick colored 12-inch square (mastic)	75 sf	0%
72SLAAP6.1.4.1A.D	Building 6	Floor tile, brick colored 12-inch square	75 sf	15% CH
72SLAAP6.1.4.1B.D	Building 6	Floor tile, brick colored 12-inch square (mastic)	75 sf	0%
73SLAAP6.1.5.1	Building 6	Wallboard "army green papered"	8500 sf	0%
74SLAAP6.1.6.1	Building 6	Fiber seal to polyvinyl chloride pipe and its end cap		0%
75SLAAP6.2.7.1A	Building 6	Floor tile, 12-inch gray with white and black specs		0%
75SLAAP6.2.7.1B	Building 6	Floor tile, 12-inch gray with white and black specs (mastic)		0%
76SLAAP6.2.8.1A	Building 6	Floor tile, 9-inch red	40 sf	20% CH
76SLAAP6.2.8.1B	Building 6	Floor tile, 9-inch red (mastic)	40 sf	0%
77SLAAP6.2.9.1A	Building 6	Floor tile, 9-inch brown	40 sf	15% CH
77SLAAP6.2.9.1B	Building 6	Floor tile, 9-inch brown (mastic)	40 sf	0%
78SLAAP6.2.10.1A	Building 6	TSI from roof drain	10 lf	70% CH
78SLAAP6.2.10.1B	Building 6	TSI from roof drain (cover)	10 lf	0%
79SLAAP6.2.11.1	Building 6	Vibration dampener in men's room		0%
80SLAAP6.2.12.1	Building 6	Ceiling tile, 2-foot x 4-foot, fissured in men's room		0%
81SLAAP6.2.13.1	Building 6	Cove base molding, 4-inch brown		0%
82SLAAP6.2.13.2	Building 6	Cove base moldling, 4-inch brown		0%
83SLAAP6.2.14.1	Building 6	Ceiling tile, 2-foot x 4-foot, spotted		0%
84SLAAP6.2.15.1	Building 6	Wall board from the area outside of samples 78		0%
85SLAAP3.2.9.1A	Building 3	Floor tile, 12-inch gray with gray streaks		0%
85SLAAP3.2.9.1B	Building 3	Floor tile, 12-inch gray with gray streaks (mastic)		0%
86SLAAP3.2.9.2A	Building 3	Floor tile, 12-inch gray with gray streaks (carpet mastic)		0%
86SLAAP3.2.9.2B	Building 3	Floor tile, 12-inch gray with gray streaks (tile)		0%
86SLAAP3.2.9.2C	Building 3	Floor tile, 12-inch gray with gray streaks (mastic)		0%
87SLAAP3.2.10.1A	Building 3	Floor tile, 12-inch flat gray with white flecks	1100 sf	0%

AM = amosite
CH = chrysotile
D = duplicate

fg = fiberglass
lf = linear feet
mag = magnesium

sf = square feet
TSI = thermal system insulation

APPENDIX A
SAMPLE LOG

87SLAAP3.2.10.1B	Building 3	Floor tile, 12-inch flat gray with white flecks (mastic)	1100 sf	0%
88SLAAP3.2.11.1A	Building 3	Floor tile, 12-inch gray with white flecks		0%
88SLAAP3.2.11.1B	Building 3	Floor tile, 12-inch gray with white flecks (mastic)		0%
89SLAAP3.2.10.2A	Building 3	Floor tile, 12-inch flat gray		0%
89SLAAP3.2.10.2B	Building 3	Floor tile, 12-inch flat gray (mastic)		0%
90SLAAP3.3.11.2A	Building 6	Floor tile, 12-inch gray with white flecks		0%
90SLAAP3.3.11.2B	Building 6	Floor tile, 12-inch gray with white flecks		0%
91SLAAP3.2.12.1	Building 3	Smooth drywall		0%
92SLAAP3.2.13.1	Building 3	Ceiling tile, fissured, restrooms and in east offices	300 sf	0%
93SLAAP3.2.14.1A	Building 3	Floor tile, 12-inch, dark olive		0%
93SLAAP3.2.14.1B	Building 3	Floor tile, 12-inch, dark olive (mastic)		0%
94SLAAP3.2.15.1A	Building 3	Cove base molding, 4-inch black		0%
94SLAAP3.2.15.1B	Building 3	Cove base molding, 4-inch black (mastic)		0%
95SLAAP3.2.16.1	Building 3	Textile drape		0%
96SLAAP3.2.14.2A	Building 3	Floor tile, 12-inch dark olive		0%
96SLAAP3.2.14.2B	Building 3	Floor tile, 12-inch dark olive (mastic)		0%
97SLAAP3.1.17.1	Building 3	Wall sample of thin wall board		0%
98SLAAP3.1.17.2	Building 3	Ceiling sample of thin wall board		0%
99SLAAP3.1.18.1	Building 3	Ceiling tile, 2-foot x 4-foot gold fleck	200 sf	0%
100SLAAP3.1.19.1	Building 3	Floor tile, 12-inch black	200sf	10% CH
100SLAAP3.1.19.1	Building 3	Floor tile, 12-inch black (mastic)		0%
101SLAAP3.1.20.1	Building 3	Floor tile, 12-inch brick colored	1000 sf	15% CH
101SLAAP3.1.20.1	Building 3	Floor tile, 12-inch brick colored (mastic)		0%
102SLAAP3.1.21.1	Building 3	Floor tile, 12-inch chocolate colored	1000 sf	20% CH
102SLAAP3.1.21.1	Building 3	Floor tile, 12-inch chocolate colored (mastic)		0%
103SLAAP3.1.22.1	Building 3	Transite, mens room in SW corner	100 sf	40% CH

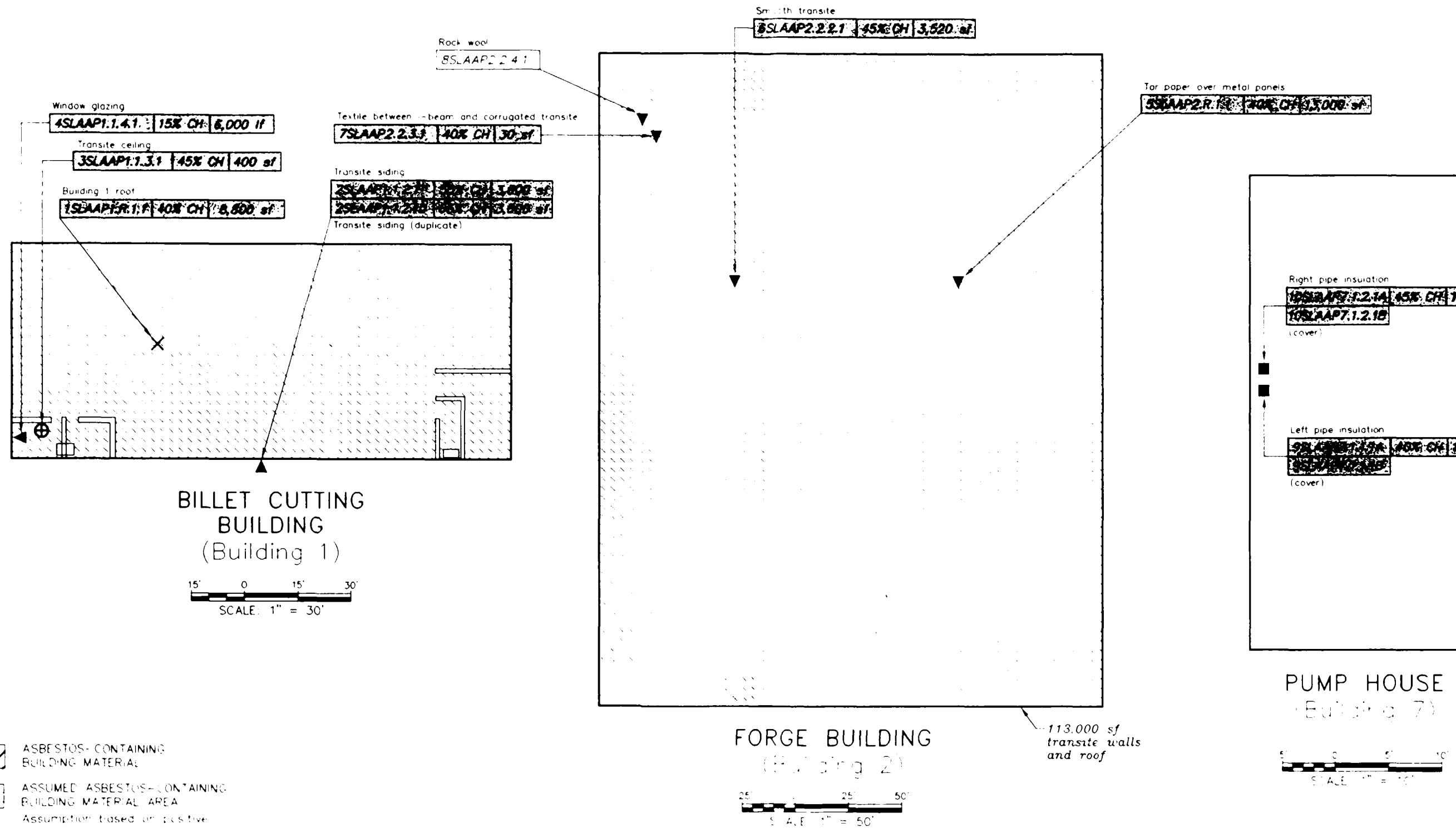
AM = amosite
CH = chrysotile
D = duplicate

fg = fiberglass
lf = linear feet
mag = magnesium

sf = square feet
TSI = thermal system insulation

APPENDIX B

BUILDING FLOOR PLANS



ASBESTOS-CONTAINING BUILDING MATERIAL

ASSUMED ASBESTOS-CONTAINING BUILDING MATERIAL AREA

(NOTE: Assumption based on positive samples of similar building materials taken at corresponding locations in other buildings)

NOTE

ALL TSI (PIPE COVERING) CONTAINS ASBESTOS UNLESS OTHERWISE IDENTIFIED

ABBREVIATIONS

FG = FIBERGLASS
MAG = MAGNESIUM
TSI = THERMAL SYSTEM INSULATION
CH = CHRYSOTILE
AM = AMOSITE

LEGEND

- ▲ WALL SAMPLE
- X FLOOR SAMPLE
- ⊕ CEILING SAMPLE
- ■ OTHER TYPE OF SAMPLE AS DESCRIBED
- ● RISER

- CHILLED WATER SUPPLY
- CHILLED WATER RETURN
- HIGH PRESSURE STEAM
- LOW PRESSURE STEAM
- STEAM SERVICE SUPPLY CONDENSATE
- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- UNINSULATED OR FIBERGLASS PIPING
- PIPE ENDS

1SLAAP1.R.1.1 | 7% CH | 8,800 sf

- AMOUNT OF ASBESTOS FOUND
- % AND TYPE OF ASBESTOS FOUND (NO PERCENTAGE NUMBER INDICATES ASBESTOS NOT DETECTED)
- SAMPLE NUMBER WITHIN SPECIFIC HOMOGENEOUS AREA
- NUMBER OF HOMOGENEOUS AREA
- FLOOR OF BUILDING
- BUILDING NUMBER
- SAMPLE IDENTIFICATION NUMBER

ALL SHADED BOXES INDICATE ASBESTOS-CONTAINING MATERIAL

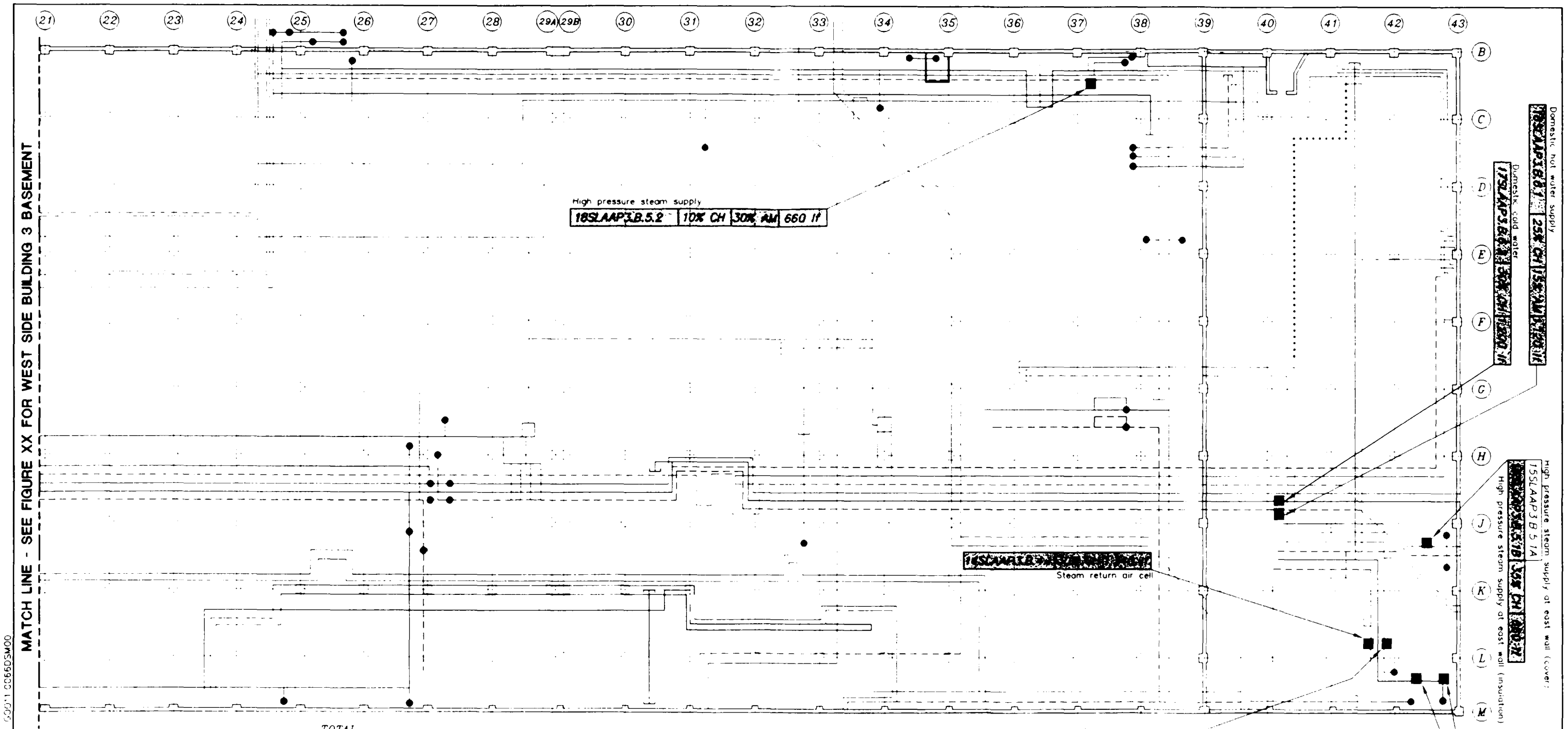
7.5' 0 7.5' 15'
SCALE: 1" = 15'

ST. LOUIS ARMY AMMUNITION PLANT
ST. LOUIS, MISSOURI

FIGURE 1-2-7
BUILDING 1, BUILDING 2 AND BUILDING 7
SAMPLE LOCATIONS AND ASBESTOS CONTAINING HOMOGENOUS AREAS

Tetra Tech EM Inc.

SLAAP-BLDGS-1-2-7.DWG - 03/13/00 PAD - 00011.00656.SM00



ASBESTOS CONTAINING TSI IN BASEMENT BUILDING 3 - EAST (linear feet)

	TOTAL
Domestic Hot Water	1,120
Domestic Cold Water	1,200
Low Pressure Steam and Steam Supply	2,560
High Pressure Steam	660
Condensate	1,340

NOTE

ALL TSI (PIPE COVERING) CONTAINS ASBESTOS UNLESS OTHERWISE IDENTIFIED

ABBREVIATIONS

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MAG = MAGNESIUM
TSI = THERMAL SYSTEM INSULATION
CH = CHRYSOTILE
AM = AMOSITE

SOURCE MODIFIED FROM

LEGEND

- ▲ WALL SAMPLE
- X FLOOR SAMPLE
- ⊕ CEILING SAMPLE
- ■ OTHER TYPE OF SAMPLE AS DESCRIBED
- ● RISER

- CHILLED WATER SUPPLY
- CHILLED WATER RETURN
- HIGH PRESSURE STEAM
- LOW PRESSURE STEAM
- STEAM SERVICE SUPPLY
- CONDENSATE
- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- UNINSULATED OR FIBERGLASS PIPING PIPE ENDS

1SDAAP1.R.1.1 | 7% CH | 8,800 sf

- AMOUNT OF ASBESTOS FOUND
- % AND TYPE OF ASBESTOS FOUND (NO PERCENTAGE NUMBER INDICATES ASBESTOS NOT DETECTED)
- SAMPLE NUMBER WITHIN SPECIFIC HOMOGENEOUS AREA
- NUMBER OF HOMOGENEOUS AREA
- FLOOR OF BUILDING
- BUILDING NUMBER
- SAMPLE IDENTIFICATION NUMBER

ALL SHADED BOXES INDICATE ASBESTOS-CONTAINING MATERIAL

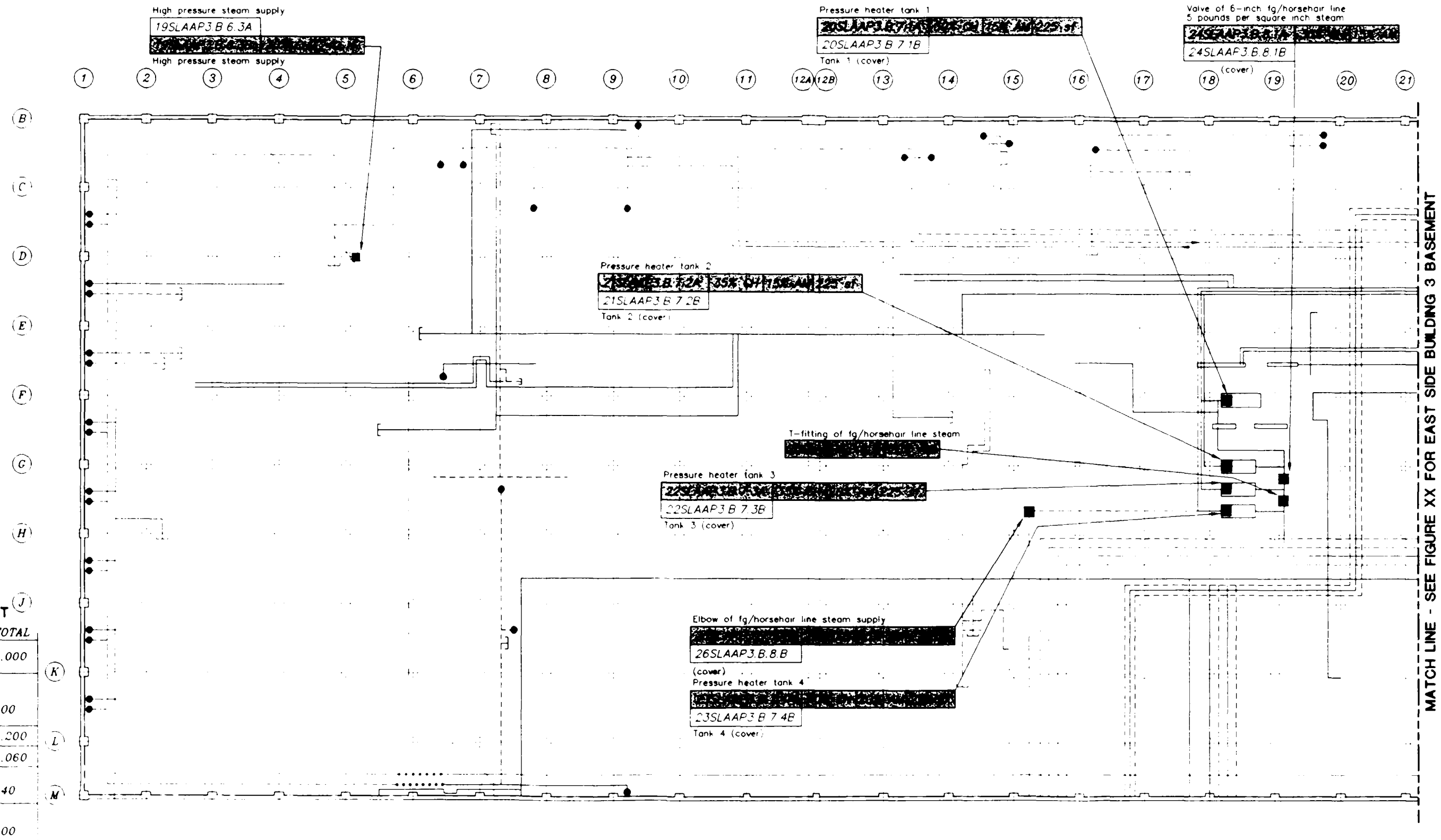
10' 0 10' 20'
SCALE 1" = 20'

ST. LOUIS ARMY AMMUNITION PLANT
ST. LOUIS, MISSOURI

FIGURE 3-B-E
MACHINING BUILDING
BUILDING 3 - BASEMENT EAST
SAMPLE LOCATIONS AND ASBESTOS CONTAINING HOMOGENOUS AREAS

Tetra Tech EM Inc.

SLAAP-BLDG3-Basmt-East.DWG 01/21/00 - RAC 600'1 CC66DSM00



ASBESTOS CONTAINING TSI IN BASEMENT BUILDING 3 - WEST (linear feet)

	TOTAL
Domestic Cold Water	1,000
Domestic Hot Water (includes return)	800
Steam Supply	1,200
Condensate	1,060
High Pressure Steam	240
Low Pressure Steam	100

NOTE

ALL TSI (PIPE COVERING) CONTAINS ASBESTOS UNLESS OTHERWISE IDENTIFIED.

ABBREVIATIONS

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TSI = THERMAL SYSTEM INSULATION
CH = CHRYSOTILE
AM = AMOSITE

SOURCE: MODIFIED FROM

LEGEND

- ▲ WALL SAMPLE
- X FLOOR SAMPLE
- ⊕ CEILING SAMPLE
- ■ OTHER TYPE OF SAMPLE AS DESCRIBED
- ● RISER

- CHILLED WATER SUPPLY
- CHILLED WATER RETURN
- HIGH PRESSURE STEAM
- LOW PRESSURE STEAM
- STEAM SERVICE SUPPLY
- CONDENSATE
- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- UNINSULATED OR FIBERGLASS PIPING
- PIPE ENDS

[redacted] — AMOUNT OF ASBESTOS FOUND
% AND TYPE OF ASBESTOS FOUND (NO PERCENTAGE NUMBER INDICATES ASBESTOS NOT DETECTED)
SAMPLE NUMBER WITHIN SPECIFIC HOMOGENEOUS AREA
NUMBER OF HOMOGENEOUS AREA
FLOOR OF BUILDING
BUILDING NUMBER
SAMPLE IDENTIFICATION NUMBER

ALL SHADED BOXES INDICATE ASBESTOS-CONTAINING MATERIAL

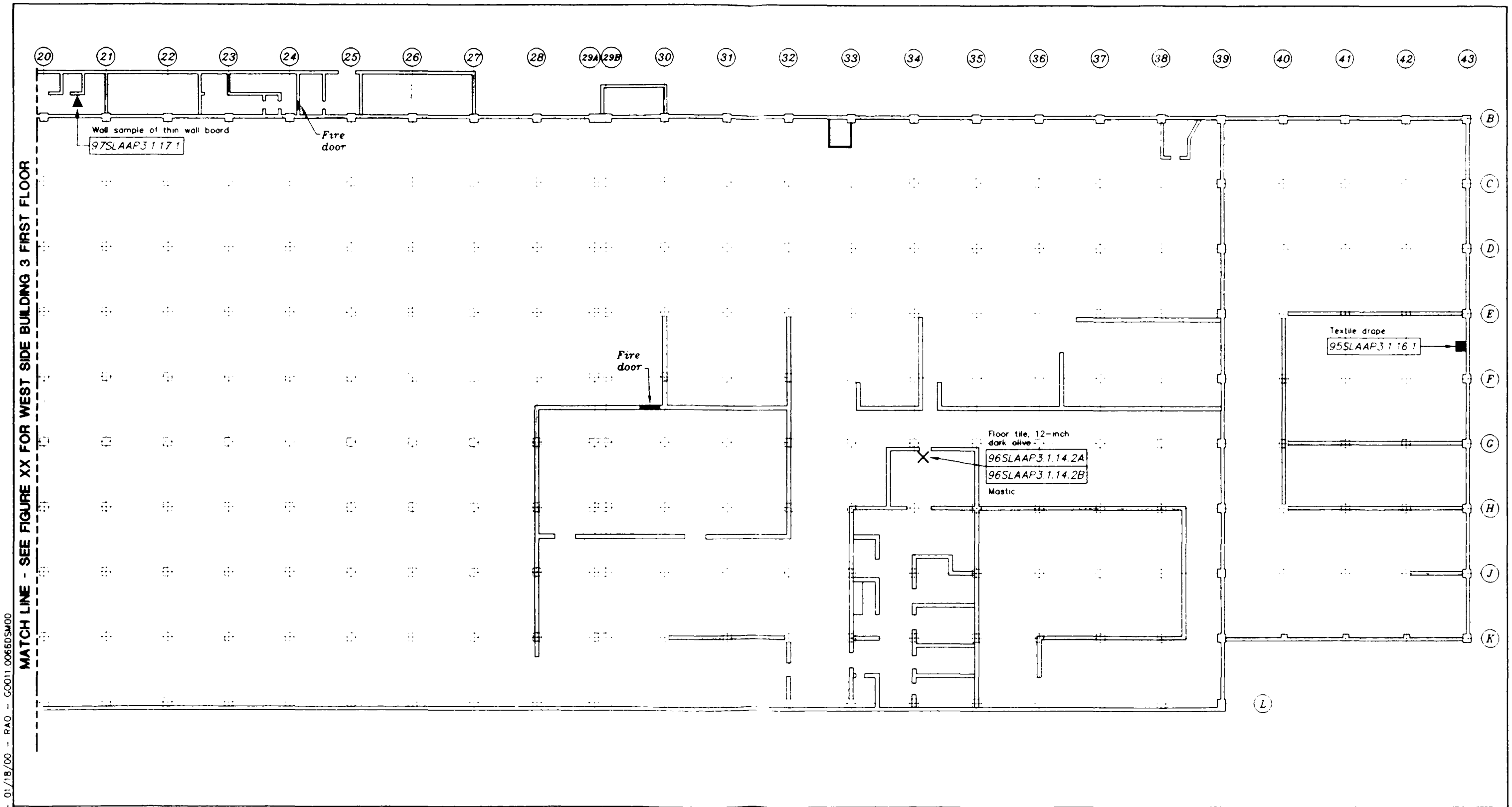
10' 0 10' 20'
SCALE 1" = 20'

ST. LOUIS ARMY AMMUNITION PLANT
ST. LOUIS, MISSOURI

FIGURE 3-B-W
MACHINING BUILDING
BUILDING 3 – BASEMENT WEST
SAMPLE LOCATIONS AND ASBESTOS CONTAINING HOMOGENOUS AREAS

Tetra Tech EM Inc.

SLAAP-BLDG3-Basemt-West DWG -- 01/17/00 -- PAN -- 60011 00660SM00



NOTE

ALL TSI (PIPE COVERING) CONTAINS ASBESTOS UNLESS OTHERWISE IDENTIFIED

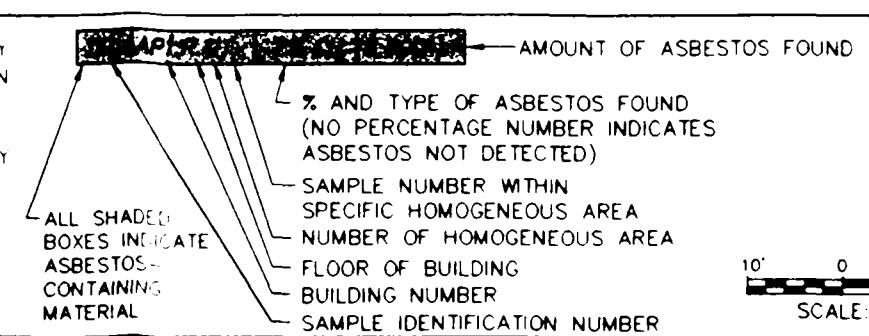
ABBREVIATIONS

FG = FIBERGLASS
MAG = MAGNESIUM
TSI = THERMAL SYSTEM INSULATION
CH = CHRYSOTILE
AM = AMOSITE

SOURCE: MODIFIED FROM

LEGEND

- ▲ WALL SAMPLE
- X FLOOR SAMPLE
- ⊕ CEILING SAMPLE
- ■ OTHER TYPE OF SAMPLE AS DESCRIBED
- ● RISER
- CHILLED WATER SUPPLY
- CHILLED WATER RETURN
- HIGH PRESSURE STEAM
- LOW PRESSURE STEAM
- STEAM SERVICE SUPPLY
- CONDENSATE
- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- UNINSULATED OR FIBERGLASS PIPING
- PIPE ENDS



N

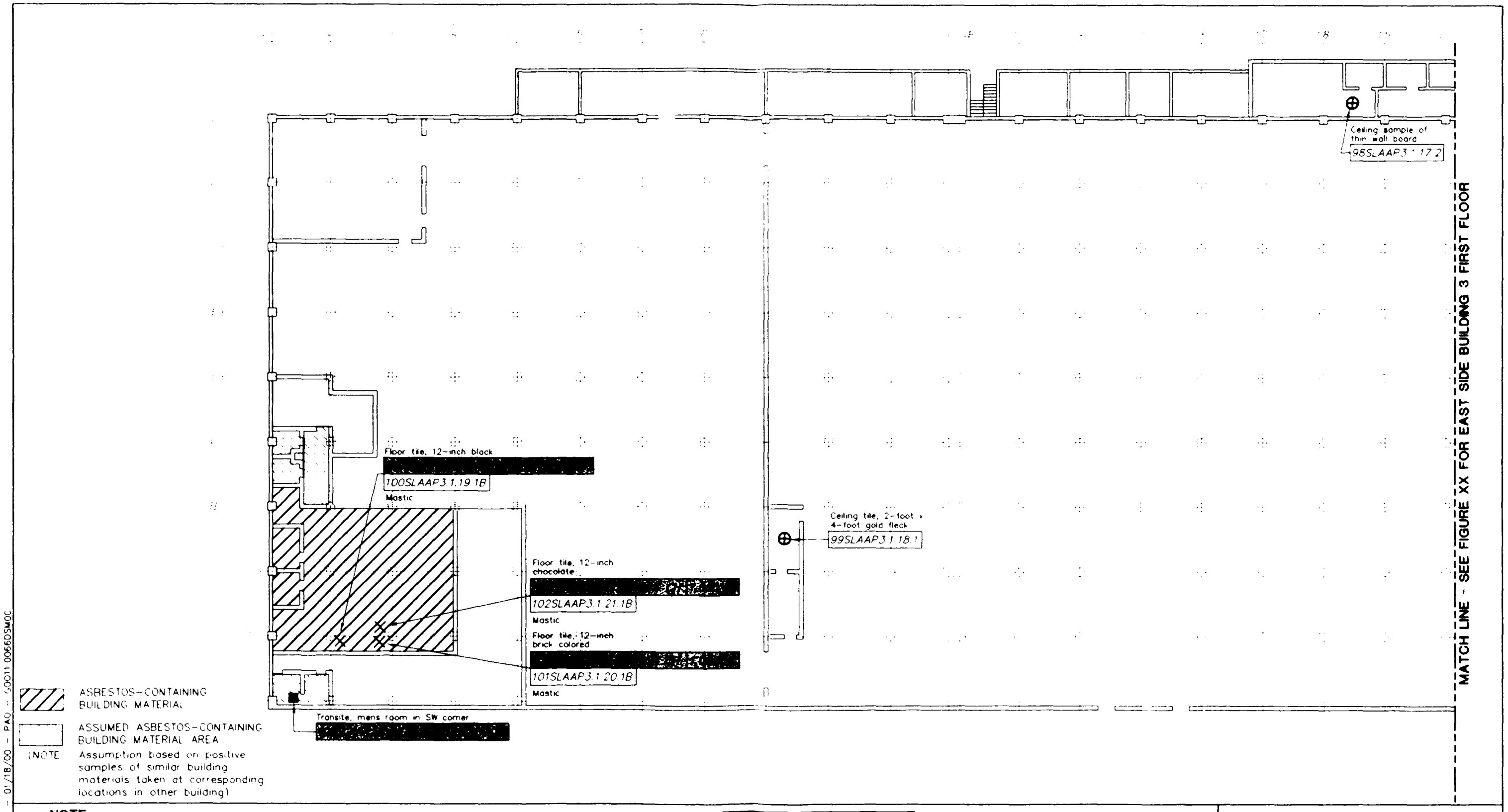
10' 0 10' 20'
SCALE: 1" = 20'

ST. LOUIS ARMY AMMUNITION PLANT
ST. LOUIS, MISSOURI

FIGURE 3-1-E
MACHINING BUILDING
BUILDING 3 - FIRST FLOOR EAST
SAMPLE LOCATIONS AND ASBESTOS CONTAINING HOMOGENOUS AREAS

Tetra Tech EM Inc.

SLAAP-BLDG3-1st-Fl-East.DWG - 01/18/00 - RAO - G0011.00660SM00



NOTE

ALL TSI (PIPE COVERING) CONTAINS ASBESTOS UNLESS OTHERWISE IDENTIFIED.

ABBREVIATIONS

FG = FIBERGLASS
MAG = MAGNESIUM
TSI = THERMAL SYSTEM INSULATION
CH = CHRYSOTILE
AM = AMOSITE

SOURCE: MODIFIED FROM

LEGEND

- ▲ WALL SAMPLE
- × FLOOR SAMPLE
- ⊕ CEILING SAMPLE
- ■ OTHER TYPE OF SAMPLE AS DESCRIBED
- ● RISER

- CHILLED WATER SUPPLY
- CHILLED WATER RETURN
- HIGH PRESSURE STEAM
- LOW PRESSURE STEAM
- STEAM SERVICE SUPPLY
- CONDENSATE
- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- UNINSULATED OR FIBERGLASS PIPING
- PIPE ENDS

ALL SHADED BOXES INDICATE ASBESTOS-CONTAINING MATERIAL

- AMOUNT OF ASBESTOS FOUND
- % AND TYPE OF ASBESTOS FOUND (NO PERCENTAGE NUMBER INDICATES ASBESTOS NOT DETECTED)
- SAMPLE NUMBER WITHIN SPECIFIC HOMOGENEOUS AREA
- NUMBER OF HOMOGENEOUS AREA
- FLOOR OF BUILDING
- BUILDING NUMBER
- SAMPLE IDENTIFICATION NUMBER

N

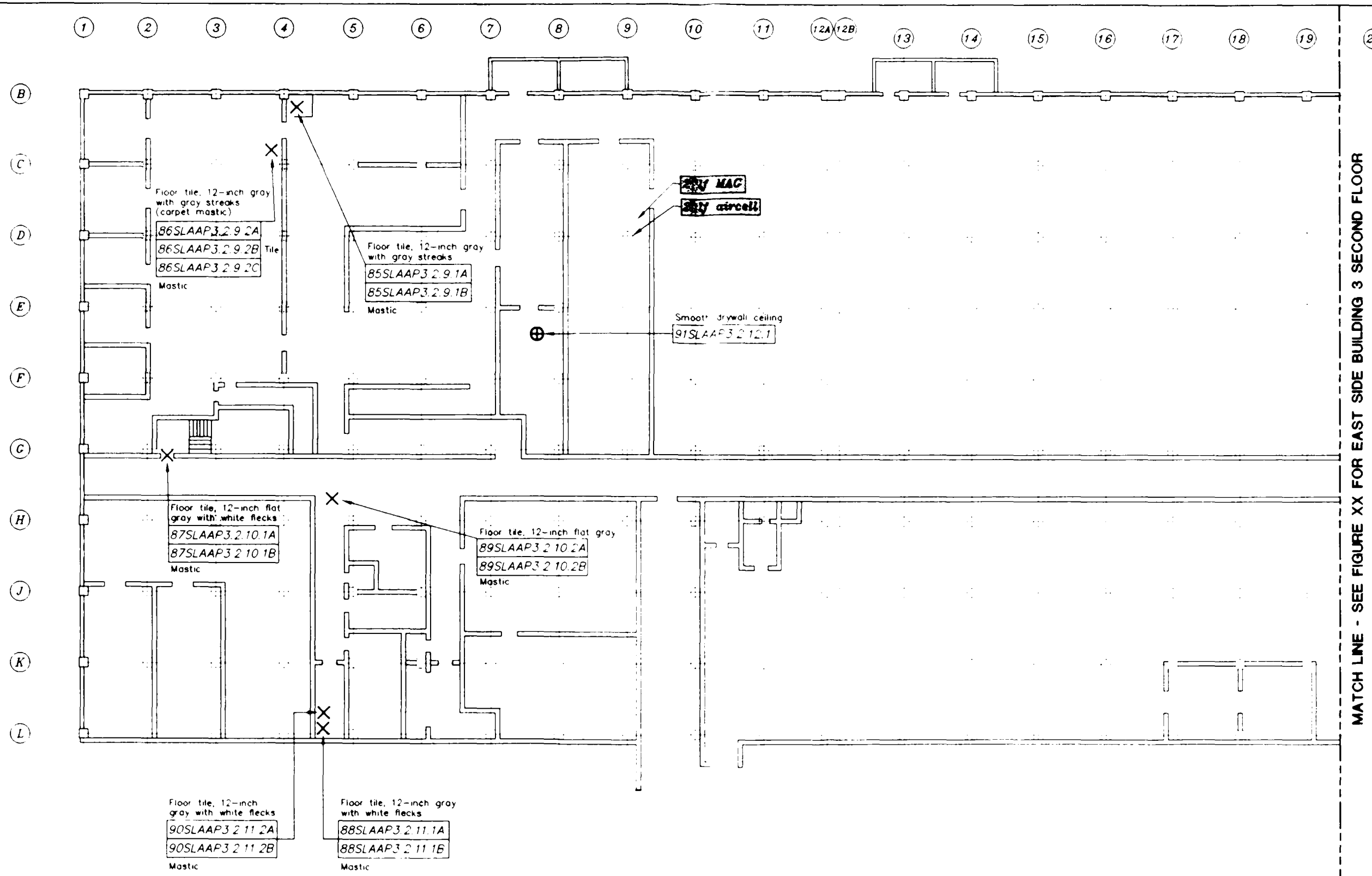
10' 0 10' 20'
SCALE: 1" = 20'

ST. LOUIS ARMY AMMUNITION PLANT
ST. LOUIS, MISSOURI

FIGURE 3-1-W
MACHINING BUILDING
BUILDING 3 - FIRST FLOOR WEST
SAMPLE LOCATIONS AND ASBESTOS CONTAINING HOMOGENOUS AREAS

Tetra Tech EM Inc.

SLAAP-BLDG3-1st-Fl-West DWG -- 01/18/00 -- PAO -- 60011 00660SMOC



NOTE

ALL TSI (PIPE COVERING) CONTAINS ASBESTOS UNLESS OTHERWISE IDENTIFIED.

ABBREVIATIONS

FG = FIBERGLASS
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TSI = THERMAL SYSTEM INSULATION
CH = CHRYSOTILE
AM = AMOSITE

SOURCE MODIFIED FROM

LEGEND

- ▲ WALL SAMPLE
- X FLOOR SAMPLE
- ⊕ CEILING SAMPLE
- ■ OTHER TYPE OF SAMPLE AS DESCRIBED
- ● RISER
- CHILLED WATER SUPPLY
- CHILLED WATER RETURN
- HIGH PRESSURE STEAM
- LOW PRESSURE STEAM
- STEAM SERVICE SUPPLY
- CONDENSATE
- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- UNINSULATED OR FIBERGLASS PIPING
- PIPE ENDS

15SLAAP1.R.1.1 | 7% CH | 6,800 sf

- AMOUNT OF ASBESTOS FOUND
- % AND TYPE OF ASBESTOS FOUND (NO PERCENTAGE NUMBER INDICATES ASBESTOS NOT DETECTED)
- SAMPLE NUMBER WITHIN SPECIFIC HOMOGENEOUS AREA
- NUMBER OF HOMOGENEOUS AREA
- FLOOR OF BUILDING
- BUILDING NUMBER
- SAMPLE IDENTIFICATION NUMBER

ALL SHADED BOXES INDICATE ASBESTOS-CONTAINING MATERIAL

N

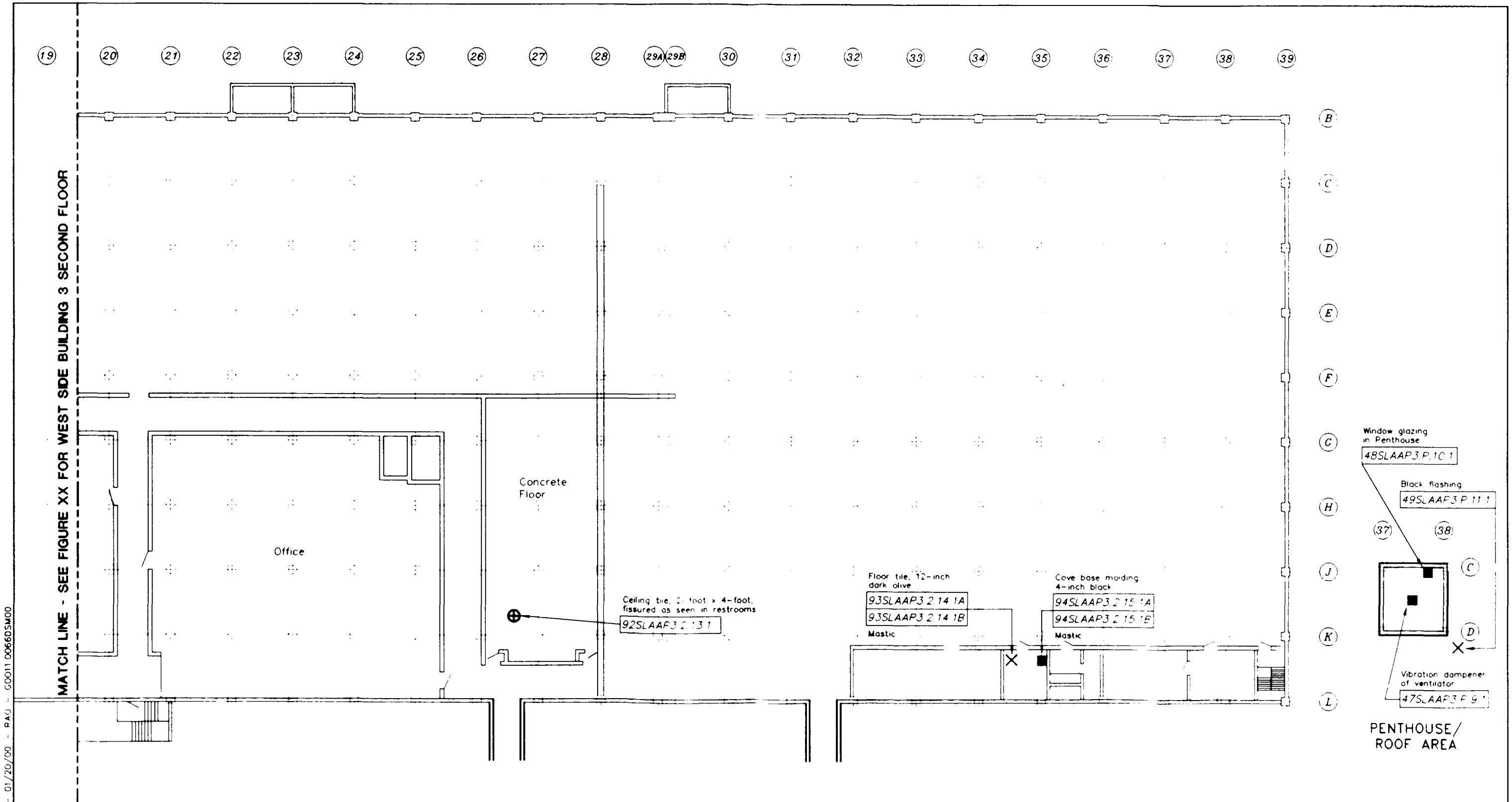
10' 0 10' 20'
SCALE: 1" = 20'

ST. LOUIS ARMY AMMUNITION PLANT
ST. LOUIS, MISSOURI

FIGURE 3-2-W
MACHINING BUILDING
BUILDING 3 - SECOND FLOOR WEST
SAMPLE LOCATIONS AND ASBESTOS CONTAINING HOMOGENOUS AREAS

Tetra Tech EM Inc.

SLAAP-BLDG3-2nd-Fl-West.DWG - 01/20/00 - RAO G0011.0066DSM00



NOTE

ALL TSI (PIPE COVERING) CONTAINS ASBESTOS UNLESS OTHERWISE IDENTIFIED.

ABBREVIATIONS

FG = FIBERGLASS
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TSI = THERMAL SYSTEM INSULATION
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SOURCE MODIFIED FROM

LEGEND

- ▲ WALL SAMPLE
- X FLOOR SAMPLE
- ⊕ CEILING SAMPLE
- ■ OTHER TYPE OF SAMPLE AS DESCRIBED
- ● RISER

- CHILLED WATER SUPPLY
- CHILLED WATER RETURN
- HIGH PRESSURE STEAM
- LOW PRESSURE STEAM
- STEAM SERVICE SUPPLY
- CONDENSATE
- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- UNINSULATED OR FIBERGLASS PIPING
- PIPE ENDS

[redacted] — AMOUNT OF ASBESTOS FOUND

% AND TYPE OF ASBESTOS FOUND (NO PERCENTAGE NUMBER INDICATES ASBESTOS NOT DETECTED)

SAMPLE NUMBER WITHIN SPECIFIC HOMOGENEOUS AREA

NUMBER OF HOMOGENEOUS AREA

FLOOR OF BUILDING

BUILDING NUMBER

SAMPLE IDENTIFICATION NUMBER

ALL SHADED BOXES INDICATE ASBESTOS-CONTAINING MATERIAL

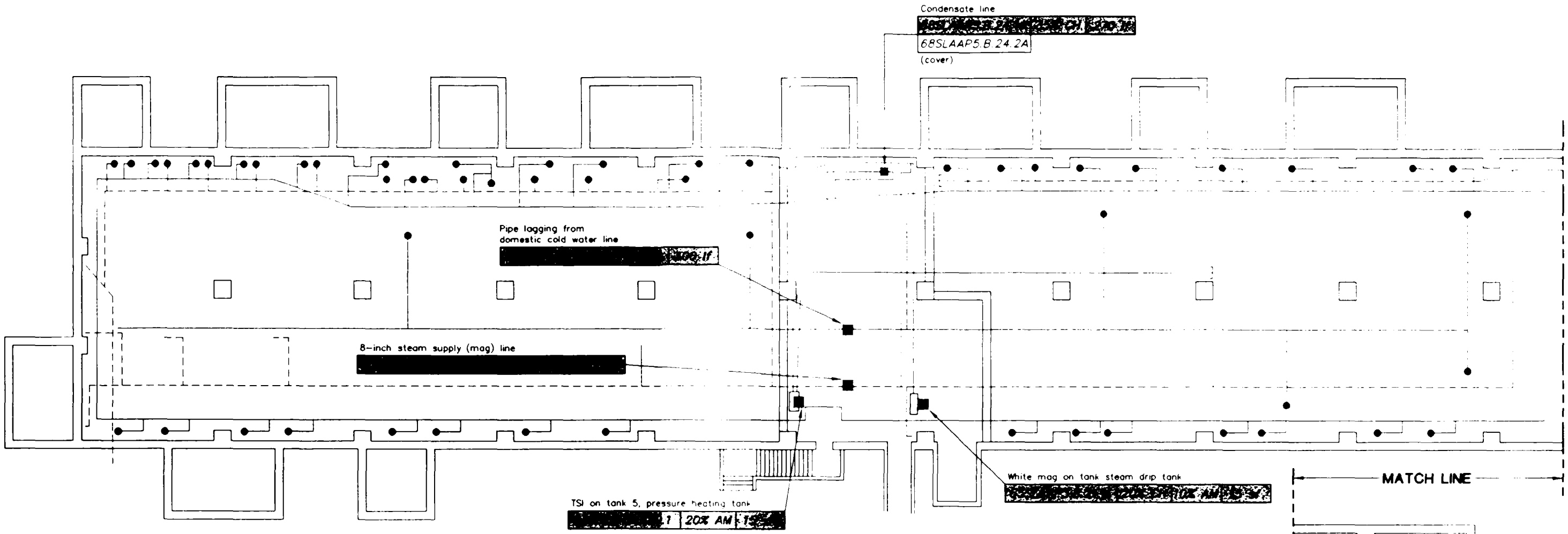
10' 0 10 20'
SCALE 1" = 20'

ST. LOUIS ARMY AMMUNITION PLANT
ST. LOUIS, MISSOURI

FIGURE 3-2-E
MACHINING BUILDING
BUILDING 3 – SECOND FLOOR EAST
SAMPLE LOCATIONS AND ASBESTOS CONTAINING HOMOGENOUS AREAS

Tetra Tech EM Inc.

SLAAP-BLDG3-2nd-Fl-East.DWG - 01/20/00 - RAO - G0011.00660SM00



ASBESTOS CONTAINING TSI IN BASEMENT BUILDING 5 (linear feet)

	TOTAL
Domestic Cold Water	100
Steam Supply	150
Condensate	270

NOTE

ALL TSI (PIPE COVERING) CONTAINS ASBESTOS UNLESS OTHERWISE IDENTIFIED.

ABBREVIATIONS

FG = FIBERGLASS
MAG = MAGNESIUM
TSI = THERMAL SYSTEM INSULATION
CH = CHRYSOTILE
AM = AMOSITE

SOURCE: MODIFIED FROM

LEGEND

- ▲ WALL SAMPLE
- X FLOOR SAMPLE
- ⊕ CEILING SAMPLE
- ■ OTHER TYPE OF SAMPLE AS DESCRIBED
- ● RISER

- CHILLED WATER SUPPLY
- CHILLED WATER RETURN
- HIGH PRESSURE STEAM
- LOW PRESSURE STEAM
- STEAM SERVICE SUPPLY
- CONDENSATE
- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- UNINSULATED OR FIBERGLASS PIPING
- PIPE ENDS

AMOUNT OF ASBESTOS FOUND
% AND TYPE OF ASBESTOS FOUND (NO PERCENTAGE NUMBER INDICATES ASBESTOS NOT DETECTED)
SAMPLE NUMBER WITHIN SPECIFIC HOMOGENEOUS AREA
NUMBER OF HOMOGENEOUS AREA
FLOOR OF BUILDING
BUILDING NUMBER
SAMPLE IDENTIFICATION NUMBER
ALL SHADED BOXES INDICATE ASBESTOS CONTAINING MATERIAL

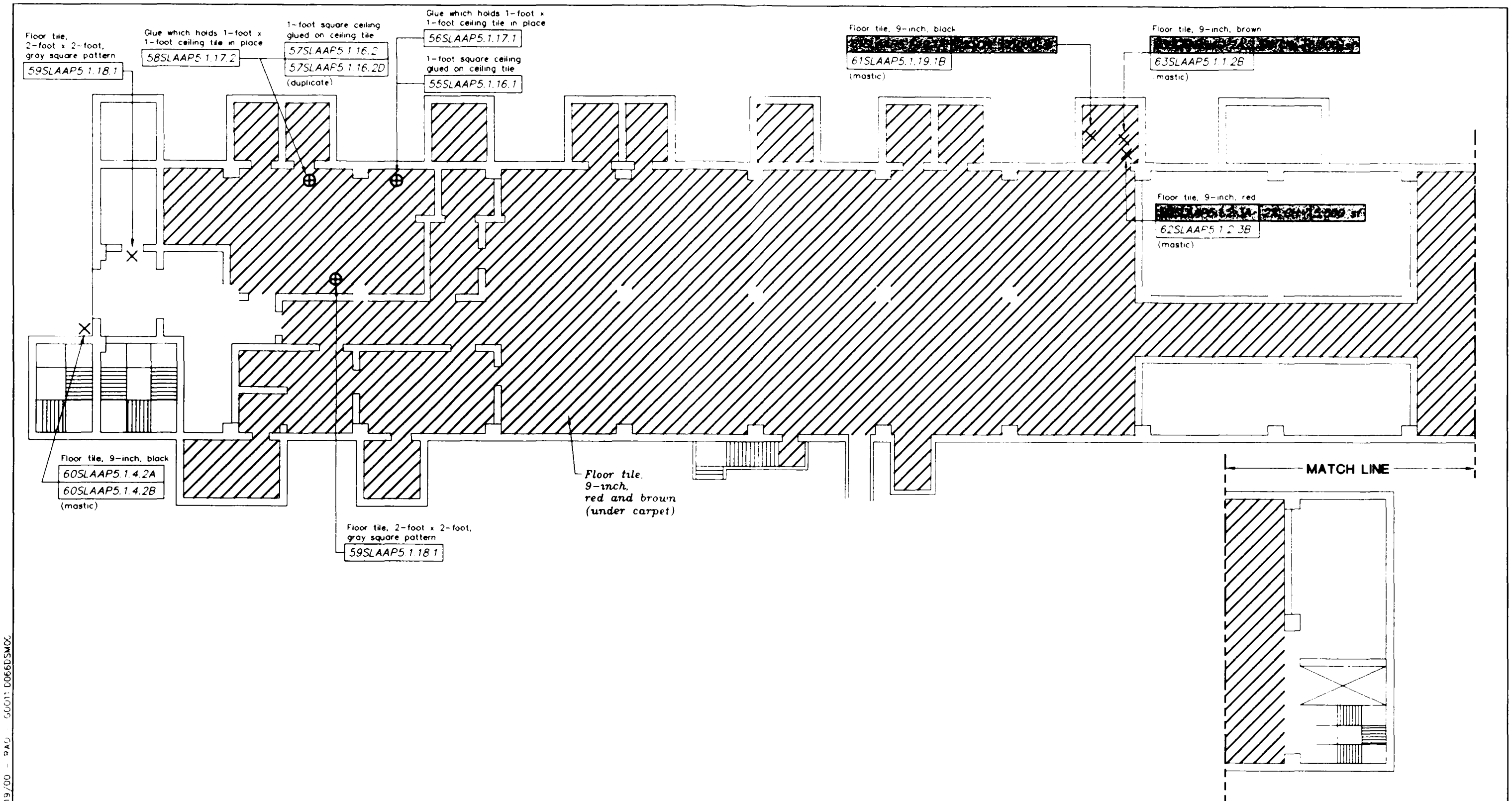
3' 0 3' 6'
SCALE: 1" = 6'

ST. LOUIS ARMY AMMUNITION PLANT
ST. LOUIS, MISSOURI

FIGURE 5-FB
EAST OFFICE BUILDING
BUILDING 5 - BASEMENT
SAMPLE LOCATIONS AND ASBESTOS CONTAINING HOMOGENOUS AREAS

Tetra Tech EM Inc.

SLAAP-BLDG5-BSMT.DWG - 01/19/00 - RAO - G0011.00660SM00



NOTE

ALL TSI (PIPE COVERING) CONTAINS ASBESTOS UNLESS OTHERWISE IDENTIFIED.

ABBREVIATIONS

FG = FIBERGLASS
MAG = MAGNESIUM
TSI = THERMAL SYSTEM INSULATION
CH = CHRYSOTILE
AM = AMOSITE

ASBESTOS-CONTAINING BUILDING MATERIAL

SOURCE MODIFIED FROM

LEGEND

- WALL SAMPLE
- FLOOR SAMPLE
- CEILING SAMPLE
- OTHER TYPE OF SAMPLE AS DESCRIBED
- RISER

- CHILLED WATER SUPPLY
- CHILLED WATER RETURN
- HIGH PRESSURE STEAM
- LOW PRESSURE STEAM
- STEAM SERVICE SUPPLY
- CONDENSATE
- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- UNINSULATED OR FIBERGLASS PIPING
- PIPE ENDS

AMOUNT OF ASBESTOS FOUND
% AND TYPE OF ASBESTOS FOUND (NO PERCENTAGE NUMBER INDICATES ASBESTOS NOT DETECTED)
SAMPLE NUMBER WITHIN SPECIFIC HOMOGENEOUS AREA
NUMBER OF HOMOGENEOUS AREA
FLOOR OF BUILDING
BUILDING NUMBER
SAMPLE IDENTIFICATION NUMBER

ALL SHADED BOXES INDICATE ASBESTOS-CONTAINING MATERIAL

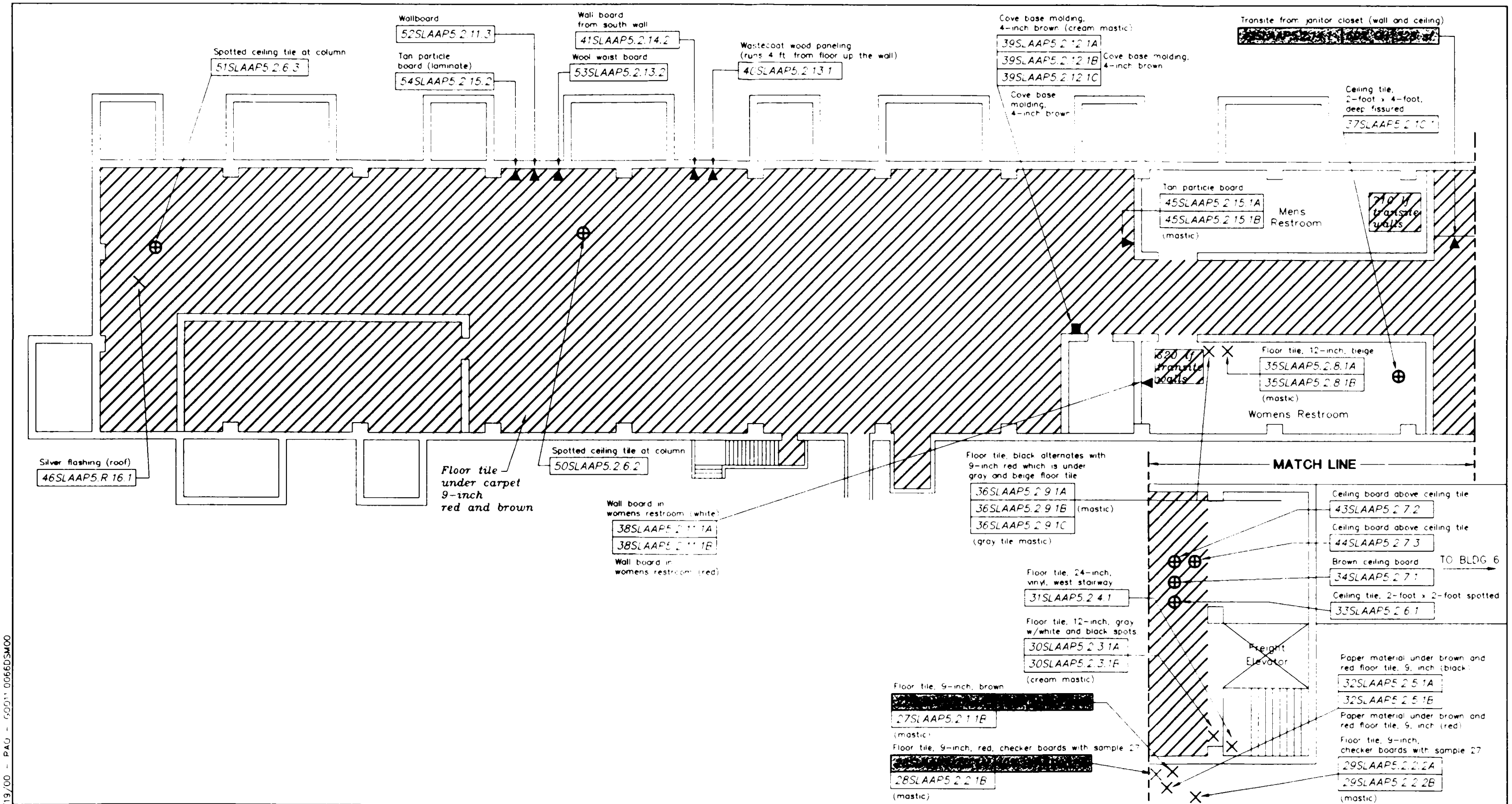
7.5' 0 7.5 15'
SCALE: 1" = 15'

ST LOUIS ARMY AMMUNITION PLANT
ST LOUIS, MISSOURI

FIGURE 5-F1
EAST OFFICE BUILDING
BUILDING 5 – FIRST FLOOR
SAMPLE LOCATIONS AND ASBESTOS CONTAINING HOMOGENOUS AREAS

Tetra Tech EM Inc.

SLAAP-BLDG6-1ST-FL.DWG - 01/19/00 - PAO - 60017 D066DSMOC



NOTE

ALL TSI (PIPE COVERING) CONTAINS ASBESTOS UNLESS OTHERWISE IDENTIFIED.

ABBREVIATIONS

FG = FIBERGLASS
MAG = MAGNESIUM
TSI = THERMAL SYSTEM INSULATION
CH = CHRYSOTILE
AM = AMOSITE

ASBESTOS-CONTAINING BUILDING MATERIAL

SOURCE: MODIFIED FROM

LEGEND

- ▲ WALL SAMPLE
- X FLOOR SAMPLE
- ⊕ CEILING SAMPLE
- ■ OTHER TYPE OF SAMPLE AS DESCRIBED
- ● RISER

- CHILLED WATER SUPPLY
- CHILLED WATER RETURN
- HIGH PRESSURE STEAM
- LOW PRESSURE STEAM
- STEAM SERVICE SUPPLY
- CONDENSATE
- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- UNINSULATED OR FIBERGLASS PIPING
- PIPE ENDS

AMOUNT OF ASBESTOS FOUND
% AND TYPE OF ASBESTOS FOUND (NO PERCENTAGE NUMBER INDICATES ASBESTOS NOT DETECTED)
SAMPLE NUMBER WITHIN SPECIFIC HOMOGENEOUS AREA
NUMBER OF HOMOGENEOUS AREA
FLOOR OF BUILDING
BUILDING NUMBER
SAMPLE IDENTIFICATION NUMBER

ALL SHADED BOXES INDICATE ASBESTOS-CONTAINING MATERIAL

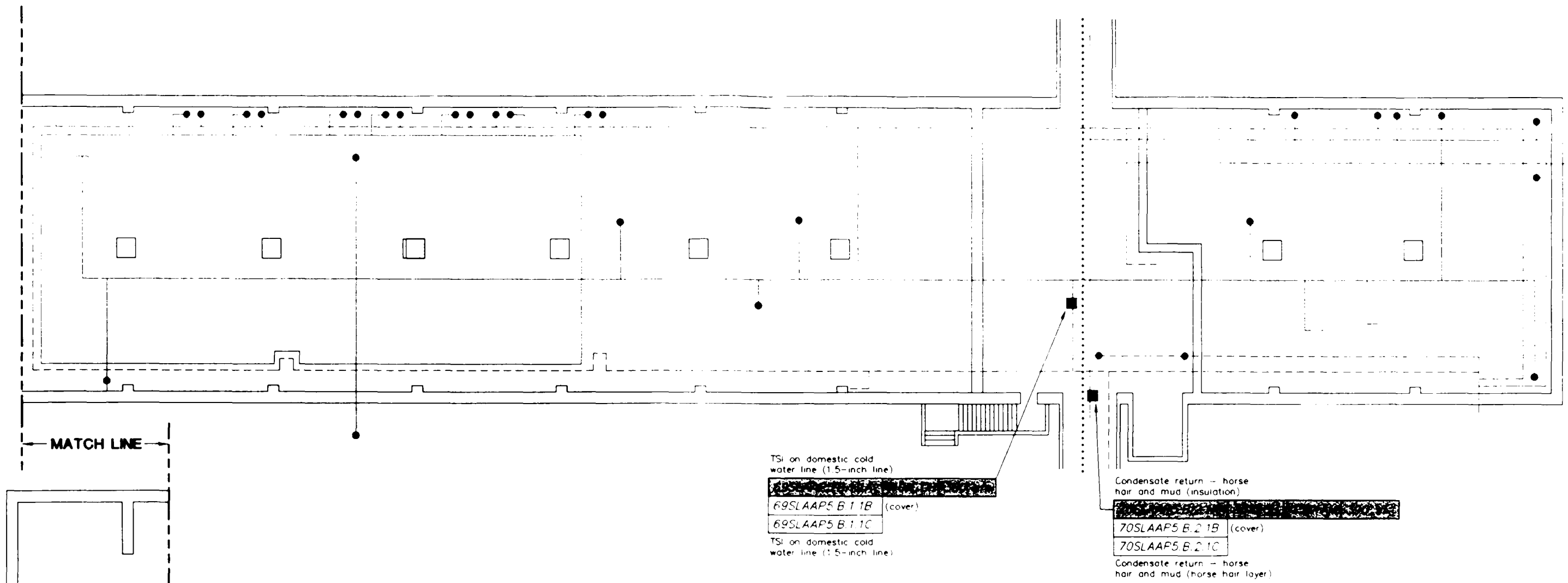
7.5' 0 7.5' 15'
SCALE: 1" = 15'

ST. LOUIS ARMY AMMUNITION PLANT
ST. LOUIS, MISSOURI

FIGURE 5-F2
EAST OFFICE BUILDING
BUILDING 5 - SECOND FLOOR
SAMPLE LOCATIONS AND ASBESTOS CONTAINING HOMOGENOUS AREAS

Tetra Tech EM Inc.

SLAAP-BLDG5: 2nd FL.DWG - 01/19/00 - PAG - 00011.00660SM00



ASBESTOS CONTAINING TSI IN BASEMENT BUILDING 6 (linear feet)

	TOTAL
Steam Supply	630
Condensate	390
Domestic Cold Water	360

NOTE

ALL TSI (PIPE COVERING) CONTAINS ASBESTOS UNLESS OTHERWISE IDENTIFIED.

ABBREVIATIONS

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MAG = MAGNESIUM
TSI = THERMAL SYSTEM INSULATION
CH = CHRYSOTILE
AM = AMOSITE

SOURCE: MODIFIED FROM

LEGEND

- ▲ WALL SAMPLE
- X FLOOR SAMPLE
- ⊕ CEILING SAMPLE
- ■ OTHER TYPE OF SAMPLE AS DESCRIBED
- ● RISER

- CHILLED WATER SUPPLY
- CHILLED WATER RETURN
- HIGH PRESSURE STEAM
- LOW PRESSURE STEAM
- STEAM SERVICE SUPPLY
- CONDENSATE
- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- UNINSULATED OR FIBERGLASS PIPING
- PIPE ENDS

ALL SHADED BOXES INDICATE ASBESTOS-CONTAINING MATERIAL

- AMOUNT OF ASBESTOS FOUND
- % AND TYPE OF ASBESTOS FOUND (NO PERCENTAGE NUMBER INDICATES ASBESTOS NOT DETECTED)
- SAMPLE NUMBER WITHIN SPECIFIC HOMOGENEOUS AREA
- NUMBER OF HOMOGENEOUS AREA
- FLOOR OF BUILDING
- BUILDING NUMBER
- SAMPLE IDENTIFICATION NUMBER

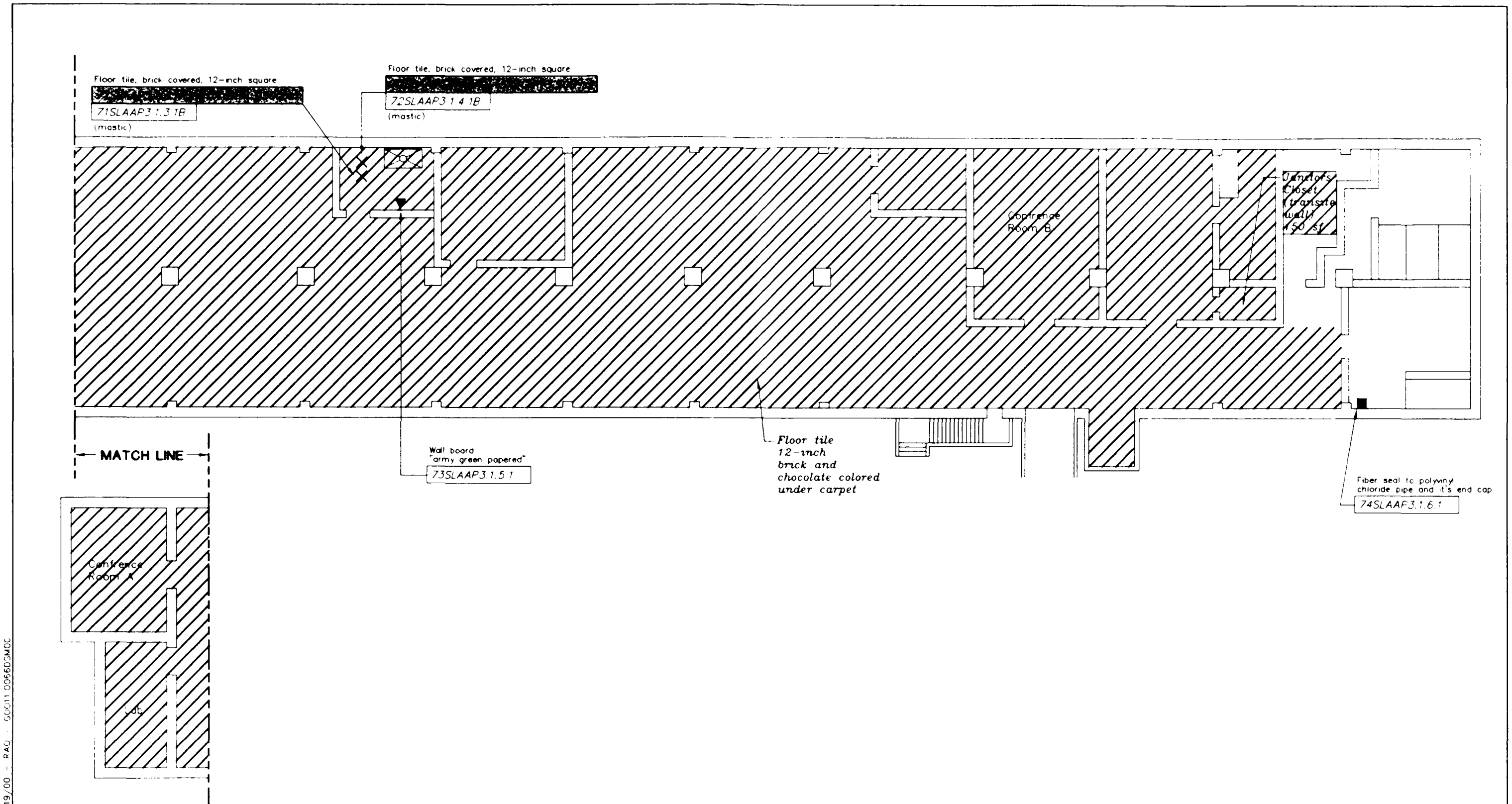
7.5' 0 7.5' 15'
SCALE: 1" = 15'

ST. LOUIS ARMY AMMUNITION PLANT
ST. LOUIS, MISSOURI

FIGURE 6-FB
WEST OFFICE BUILDING
BUILDING 6 – BASEMENT
SAMPLE LOCATIONS AND ASBESTOS CONTAINING HOMOGENOUS AREAS

Tetra Tech EM Inc.

SLAAP-BLDG6-BSMT.DWG - 01/19/00 - RAO 60011.0066DSM00



NOTE

ALL TSI (PIPE COVERING) CONTAINS ASBESTOS UNLESS OTHERWISE IDENTIFIED.

ABBREVIATIONS

FG = FIBERGLASS
MAG = MAGNESIUM
TSI = THERMAL SYSTEM INSULATION
CH = CHRYSOTILE
AM = AMOSITE

ASBESTOS-CONTAINING BUILDING MATERIAL

SOURCE: MODIFIED FROM

LEGEND

- WALL SAMPLE
- FLOOR SAMPLE
- CEILING SAMPLE
- OTHER TYPE OF SAMPLE AS DESCRIBED
- RISER

- CHILLED WATER SUPPLY
- CHILLED WATER RETURN
- HIGH PRESSURE STEAM
- LOW PRESSURE STEAM
- STEAM SERVICE SUPPLY
- CONDENSATE
- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- UNINSULATED OR FIBERGLASS PIPING
- PIPE ENDS

AMOUNT OF ASBESTOS FOUND
% AND TYPE OF ASBESTOS FOUND (NO PERCENTAGE NUMBER INDICATES ASBESTOS NOT DETECTED)
SAMPLE NUMBER WITHIN SPECIFIC HOMOGENEOUS AREA
NUMBER OF HOMOGENEOUS AREA
FLOOR OF BUILDING
BUILDING NUMBER
SAMPLE IDENTIFICATION NUMBER
ALL SHADED BOXES INDICATE ASBESTOS-CONTAINING MATERIAL

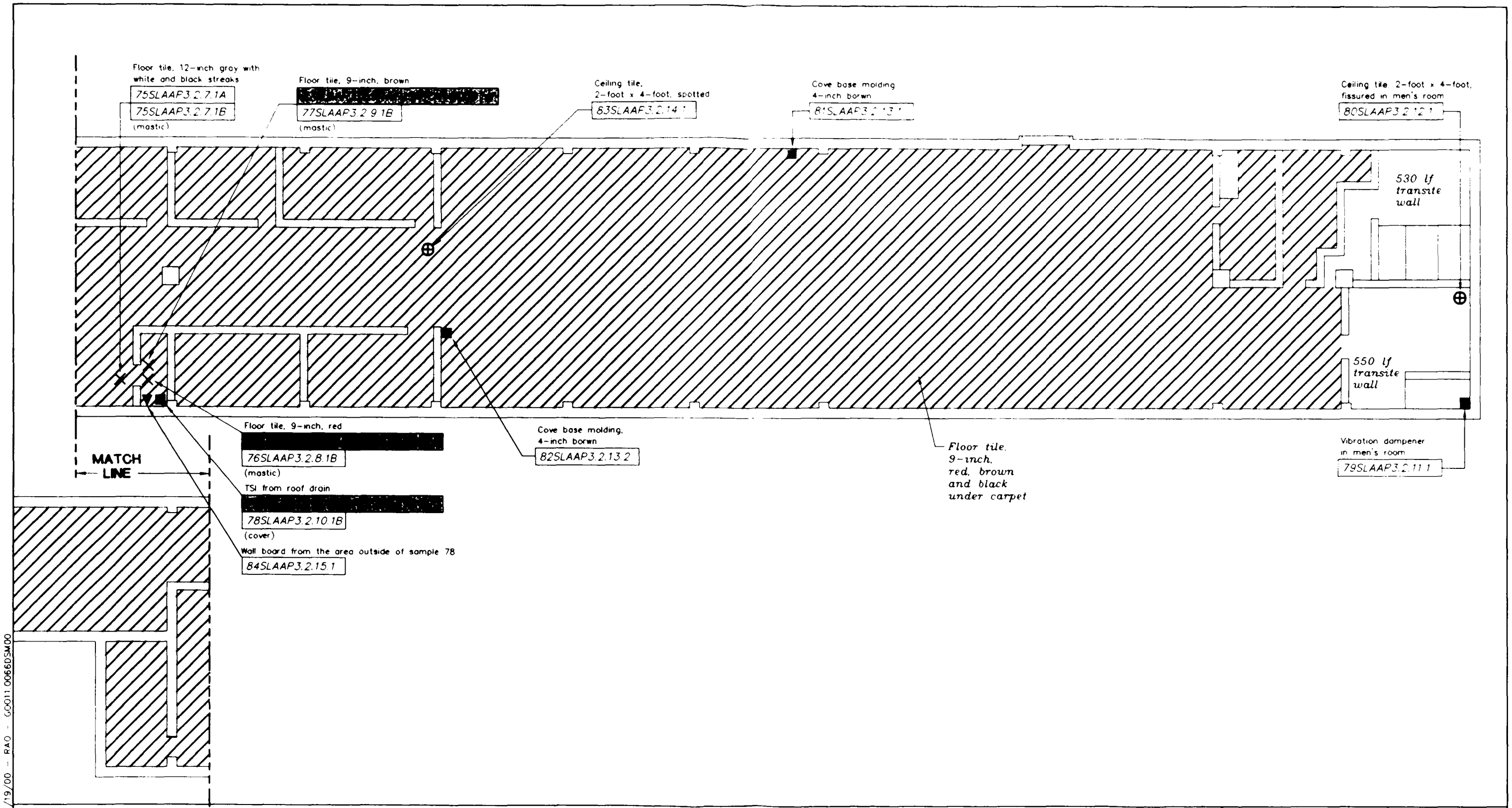
7.5' 0 7.5' 15'
SCALE: 1" = 15'

ST. LOUIS ARMY AMMUNITION PLANT
ST. LOUIS, MISSOURI

FIGURE 6-F1
WEST OFFICE BUILDING
BUILDING 6 – FIRST FLOOR
SAMPLE LOCATIONS AND ASBESTOS CONTAINING HOMOGENOUS AREAS

Tetra Tech EM Inc.

SLAAP-BLDG6-1st-FL.DWG - 01/19/00 - PAO - 5G011.00660.3MOC



NOTE

ALL TSI (PIPE COVERING) CONTAINS ASBESTOS UNLESS OTHERWISE IDENTIFIED.

ABBREVIATIONS

FG = FIBERGLASS
MAG = MAGNESIUM
TSI = THERMAL SYSTEM INSULATION
CH = CHRYSOTILE
AM = AMOSITE

ASBESTOS-CONTAINING BUILDING MATERIAL

SOURCE: MODIFIED FROM

LEGEND

- WALL SAMPLE
- FLOOR SAMPLE
- CEILING SAMPLE
- OTHER TYPE OF SAMPLE AS DESCRIBED
- RISER

- CHILLED WATER SUPPLY
- CHILLED WATER RETURN
- HIGH PRESSURE STEAM
- LOW PRESSURE STEAM
- STEAM SERVICE SUPPLY
- CONDENSATE
- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- UNINSULATED OR FIBERGLASS PIPING
- PIPE ENDS

[redacted] — AMOUNT OF ASBESTOS FOUND

% AND TYPE OF ASBESTOS FOUND (NO PERCENTAGE NUMBER INDICATES ASBESTOS NOT DETECTED)
SAMPLE NUMBER WITHIN SPECIFIC HOMOGENEOUS AREA
NUMBER OF HOMOGENEOUS AREA
FLOOR OF BUILDING
BUILDING NUMBER
SAMPLE IDENTIFICATION NUMBER

ALL SHADED BOXES INDICATE ASBESTOS-CONTAINING MATERIAL

7.5' 0 7.5' 15'
SCALE: 1" = 15'

ST. LOUIS ARMY AMMUNITION PLANT
ST. LOUIS, MISSOURI

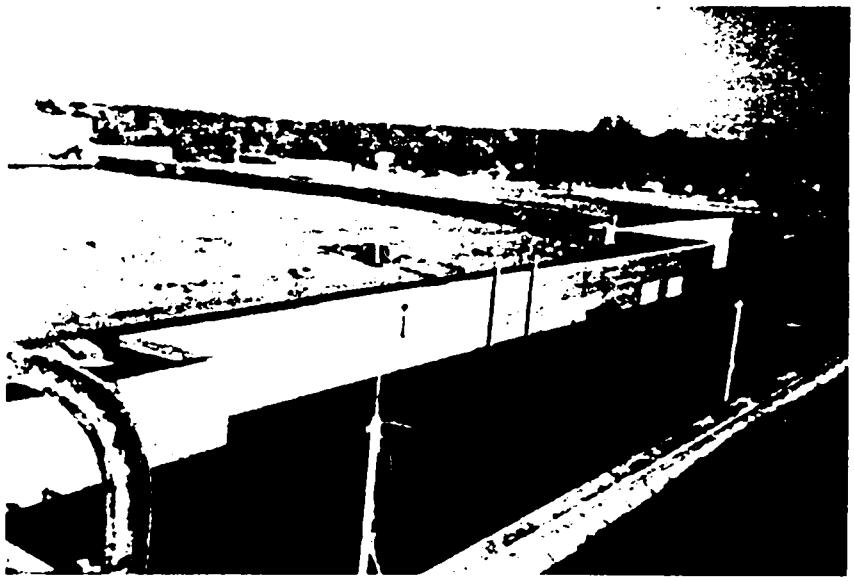
FIGURE 6-F2
WEST OFFICE BUILDING
BUILDING 6 – SECOND FLOOR
SAMPLE LOCATIONS AND ASBESTOS CONTAINING HOMOGENOUS AREAS

Tetra Tech EM Inc.

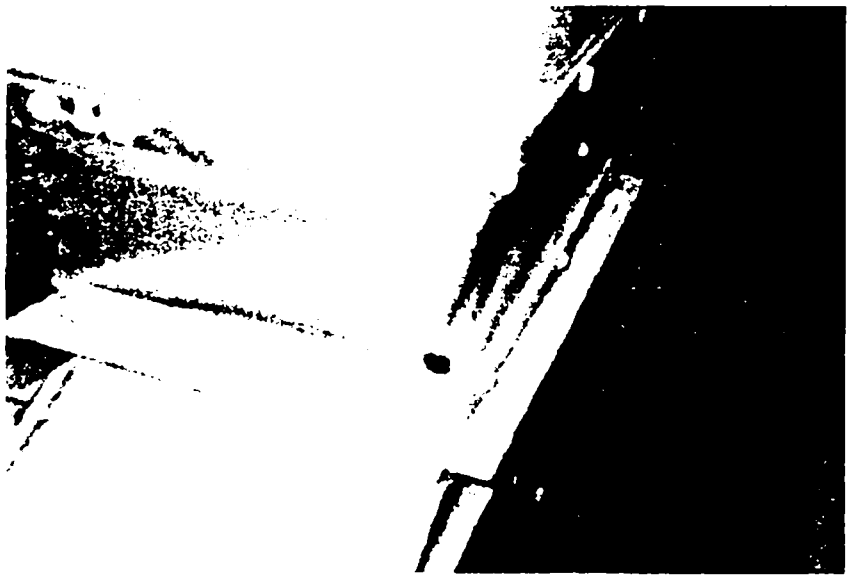
SLAAP-BLDG6-2nd-FL.DWG – 01/19/00 – RAO – G0011.00660SM00

APPENDIX C

PHOTOGRAPHIC LOG

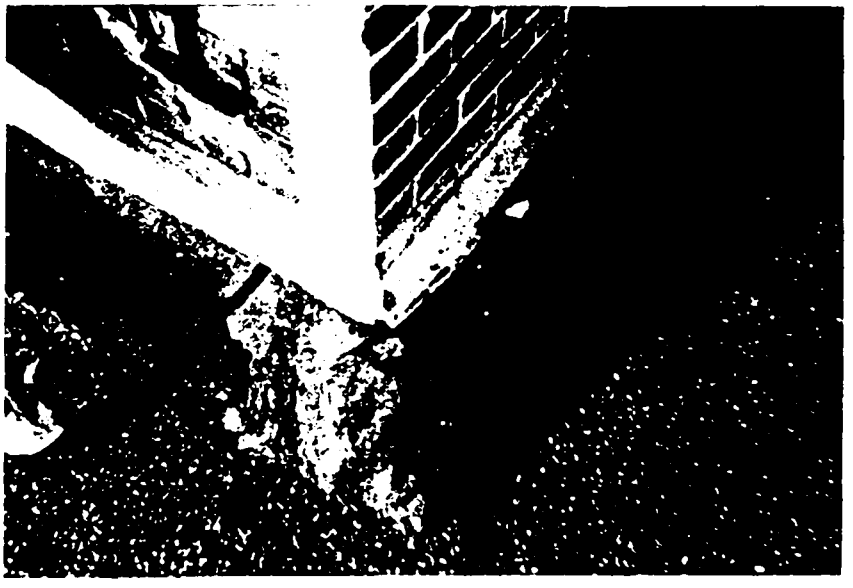


Photograph No. 1 Location: SLAAP
Orientation: East Date: December 10, 1999
Description: Building 3, black flashing.



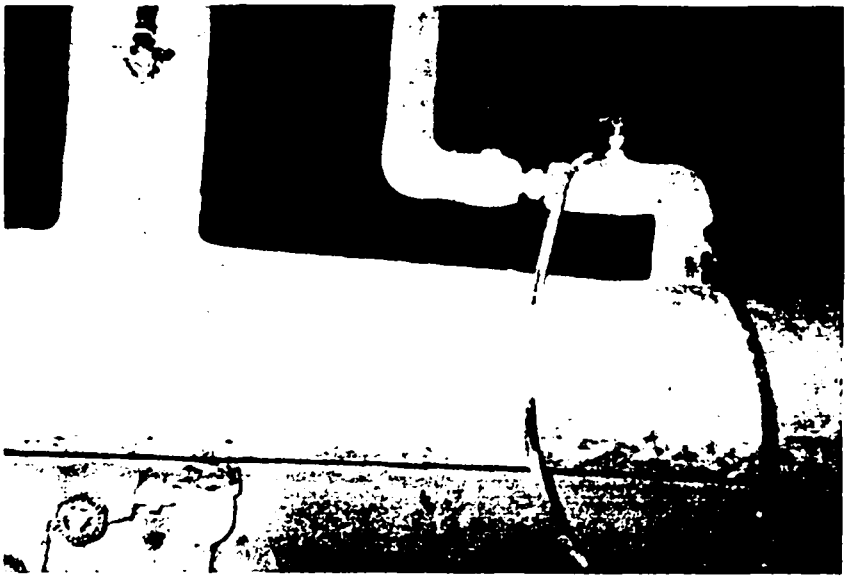
Photograph No. 2 Location: SLAAP
Orientation: NA Date: December 10, 1999
Description: Building 3, vibration dampener for ventilator (sample 47SLAAP3.P.9.1).

Photograph No. 3 Location: SLAAP
Orientation: NA Date: December 10, 1999
Description: Building 3, window glazing in penthouse (sample 48SLAAP3.P.10.1).



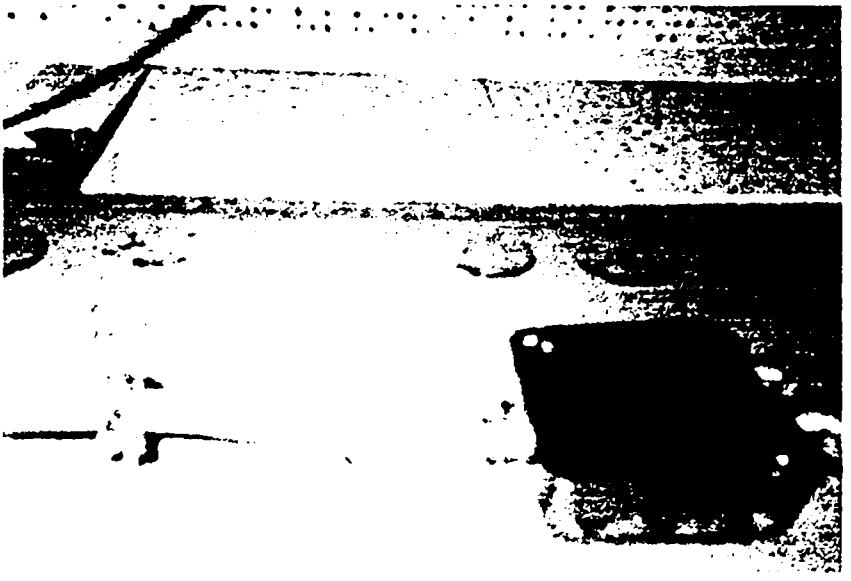
Photograph No. 4 Location: SLAAP
Orientation: NA Date: December 10, 1999
Description: Building 3, black flashing (sample 49SLAAP3.R.11.1).

Photograph No. 5 Location: SLAAP
Orientation: NA Date: December 15, 1999
Description: Building 5, white magnesium TSI on tank (sample 65SLAAP5.B.21.1).



Photograph No. 6 Location: SLAAP
Orientation: NA Date: December 15, 1999
Description: Building 5, pipe lagging from domestic cold water line (sample 66SLAAP5.B.22.1).

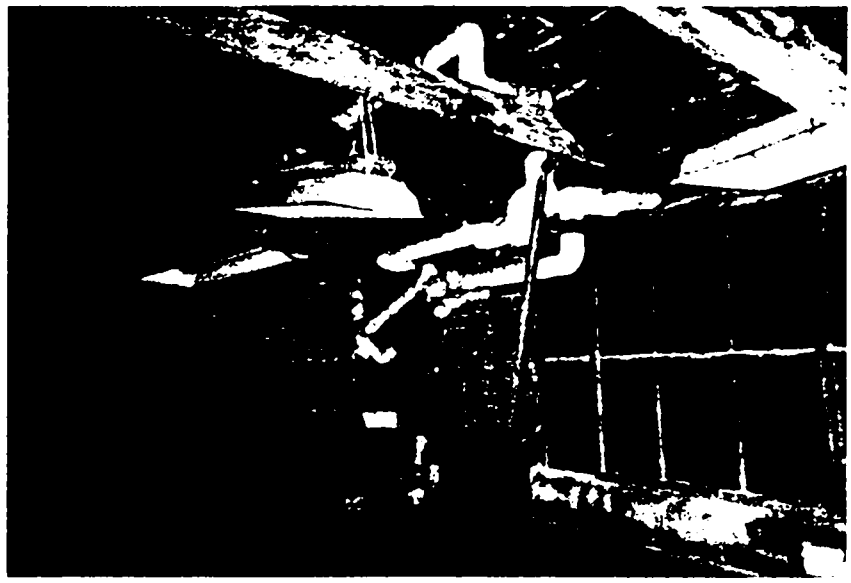
Photograph No. 7 Location: SLAAP
Orientation: NA Date: December 15, 1999
Description: Building 5, 8" steam supply (magnesium) line (sample 67SLAAP5.B.23.1).



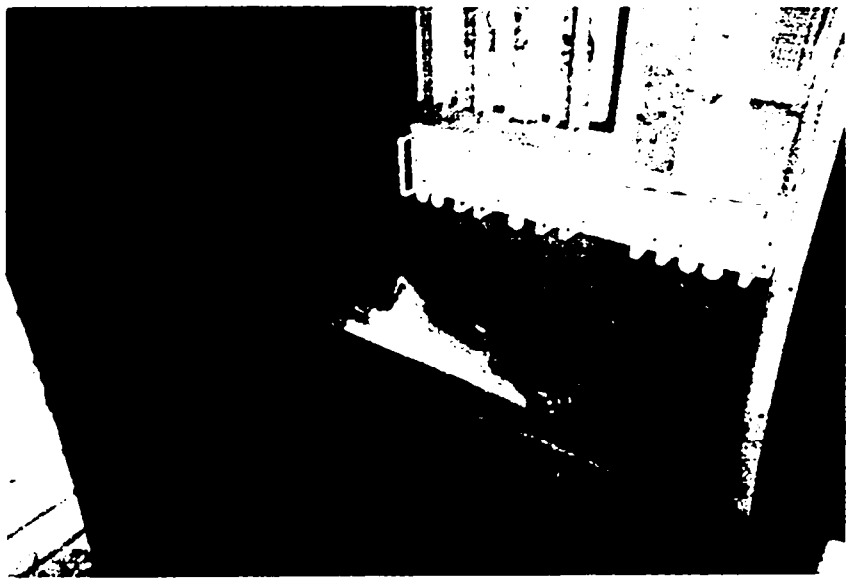
Photograph No. 8 Location: SLAAP
Orientation: NA Date: December 15, 1999
Description: Building 5, 1 foot square CT (sample 55SLAAP5.1.16.1) and CT glue (sample 56SLAAP5.1).

Photograph No. 9 Location: SLAAP
Orientation: NA Date: December 17, 1999
Description: Building 3, fissured CT in computer room (sample 92SLAAP3.2.13.1).

Photograph No. 10 Location: SLAAP
Orientation: NA Date: December 16, 1999
Description: Building 6, fissured CT in men's restroom (sample 80SLAAP6.2.11.1).



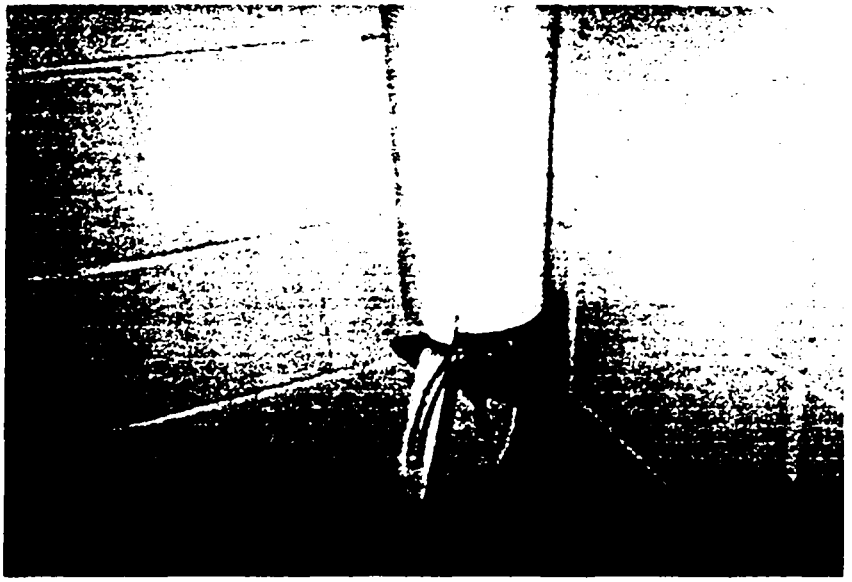
Photograph No. 11 Location: SLAAP
Orientation: NA Date: December 17, 1999
Description: Building 13, garage with 30 linear feet of magnesium.



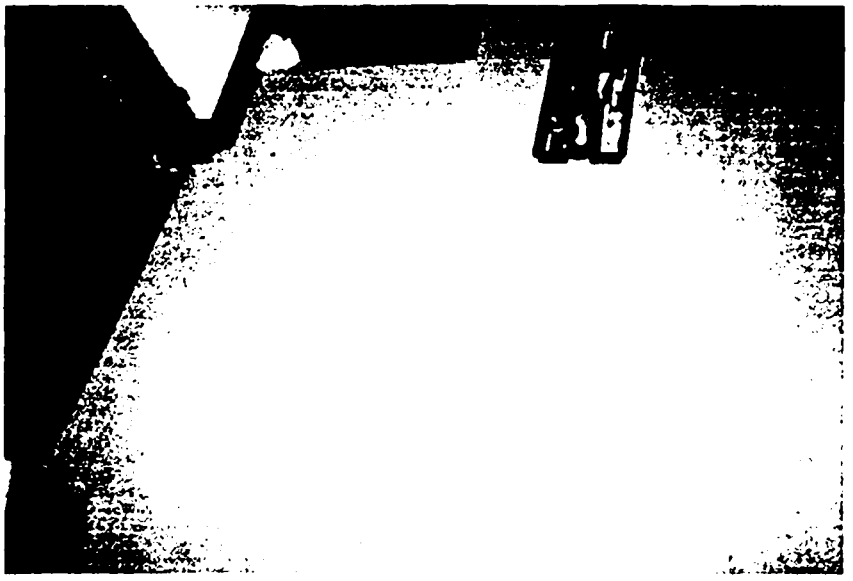
Photograph No. 12 Location: SLAAP
Orientation: NA Date: December 16, 1999
Description: Building 6, wallboard, brick and chocolate floor tiles (samples 71SLAAP6.1.3.1, 72SLAAP6.1.4.1, and 73SLAAP6.1.5.1).

Photograph No. 13 Location: SLAAP
Orientation: NA Date: December 16, 1999
Description: Building 5, gray, red and brown FT (samples 75SLAAP6.2.7.1, 76SLAAP6.2.8.1, and 77SLAAP6.2.9.1).

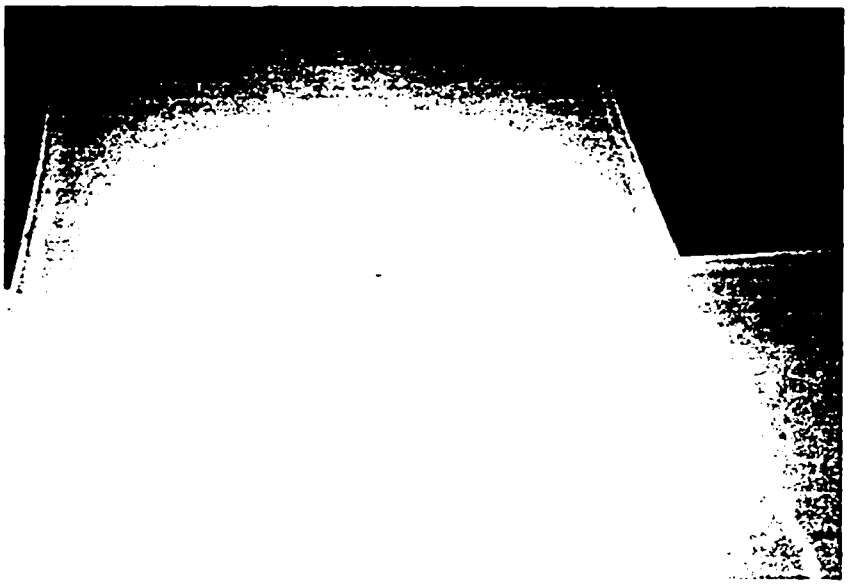
Photograph No. 14 Location: SLAAP
Orientation: NA Date: December 17, 1999
Description: Building 3, gray FT with gray streaks (sample 85SLAAP3.2.9.1).



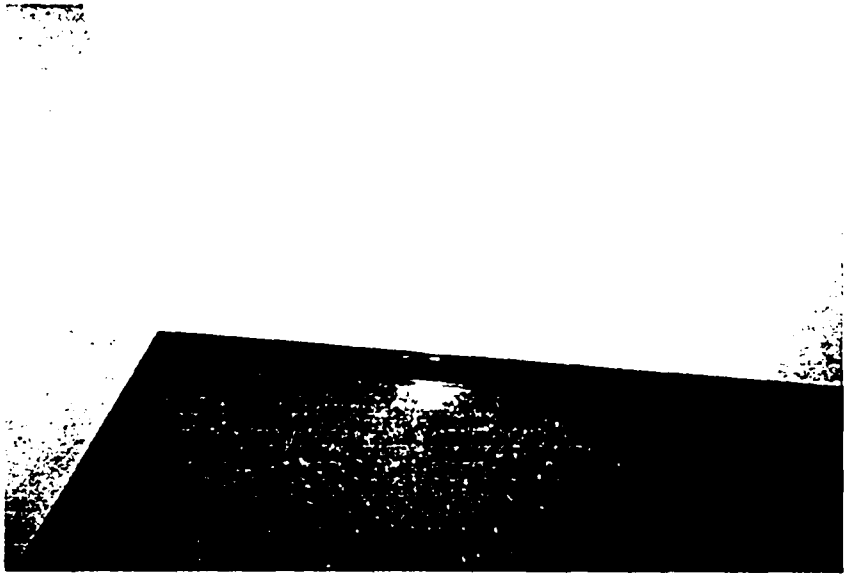
Photograph No. 15 Location: SLAAP
Orientation: NA Date: December 16, 1999
Description: Building 6, sample of vibration dampener in men's restroom (sample 79SLAAP6.2.11.1).



Photograph No. 16 Location: SLAAP
Orientation: NA Date: December 17, 1999
Description: Building 3, gray FT with white flecks (samples 87SLAAP3.2.10.1 and 87SLAAP3.2.10.1).

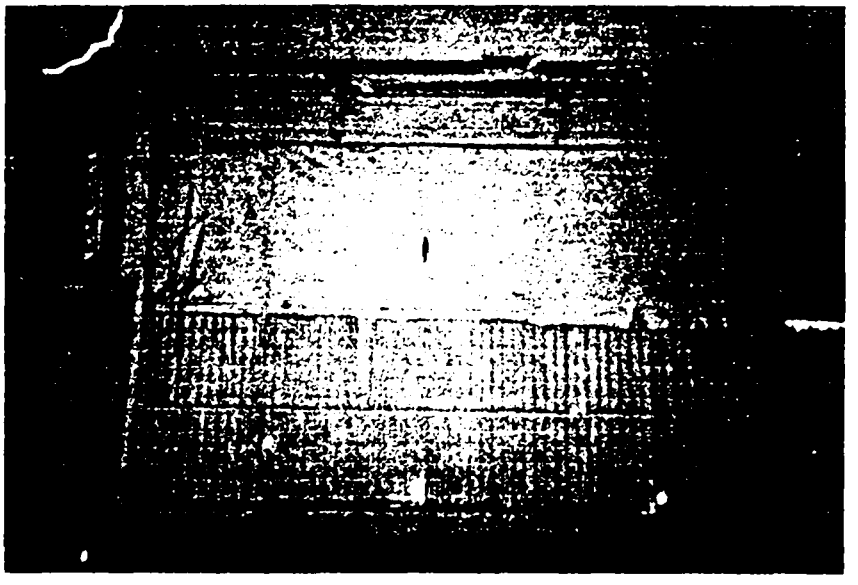


Photograph No. 17 Location: SLAAP
Orientation: NA Date: December 17, 1999
Description: Building 3, smooth dry well in ceiling (sample 91SLAAP3.2.12.1).

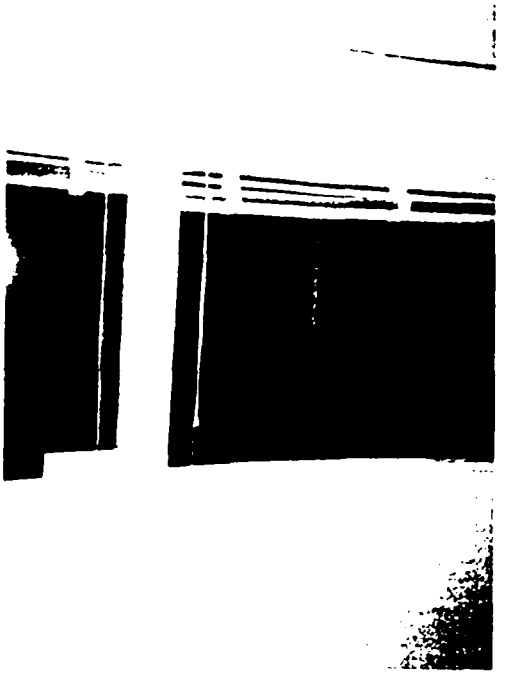


Photograph No. 18 Location: SLAAP
Orientation: NA Date: December 17, 1999
Description: Building 3, sample of thin wall board (sample 97SLAAP3.1.17.1).

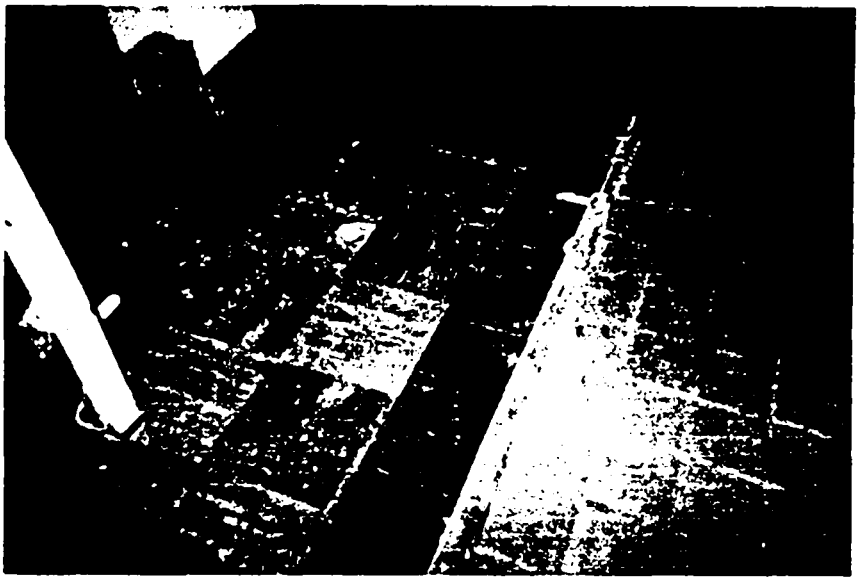
Photograph No. 19 Location: SLAAP
Orientation: NA Date: December 17, 1999
Description: Building 3, dark olive FT and black CBM (samples 93SLAAP3.2.14.1 and 94SLAAP3.2.15.1).



Photograph No. 20 Location: SLAAP
Orientation: NA Date: December 17, 1999
Description: Building 3, textile drape (sample 95SLAAP3.2.16.1).



Photograph No. 21 Location: SLAAP
Orientation: NA Date: December 17, 1999
Description: Building 3, CT in security office (sample 99SLAAP3.1.18.1).



Photograph No. 22 Location: SLAAP
Orientation: NA Date: December 17, 1999
Description: Building 3, black FT, brick-colored FT and chocolate FT in main and small offices (samples 100SLAAP3.1.19.1, 101SLAAP3.1.20.1, and 102SLAAP3.1.21.1).

Photograph No. 23 Location: SLAAP
Orientation: NA Date: December 17, 1999
Description: Building 3, transite sample from men's restroom, southwest corner (sample 103SLAAP3.1.22.1).

ATTACHMENT A

LABORATORY REPORTS, ACCREDITATION, AND CHAIN-OF-CUSTODY

LABORATORY ANALYSIS REPORT

6404 MacCorkle Avenue, SW Suite 2
St. Albans, West Virginia 25177
Voice: 304-768-2233
Fax: 304-768-9988

Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Drive
Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12/23/99
Date Analyzed: 12/23/99
Date Reported: 12/31/99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code: 101306-0

nt ID:	1	Client ID:	2	Client ID:	3	Client ID:	4
Location:		Location:		Location:		Location:	
Lab Number	9915381	Lab Number	9915382	Lab Number	9915383	Lab Number	9915384
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	Black	Color:	Gray	Color:	Gray	Color:	Tan
Chrysotile:	7	Chrysotile:	55	Chrysotile:	45	Chrysotile:	15
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**7**	**TOTAL ASBESTOS**	**55**	**TOTAL ASBESTOS**	**45**	**TOTAL ASBESTOS**	**15**
Cellulose:	0	Cellulose:	0	Cellulose:	0	Cellulose:	0
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	20	Other Fibers:	2	Other Fibers:	2	Other Fibers:	10
Filler/Binder:	73	Filler/Binder:	43	Filler/Binder:	53	Filler/Binder:	75

Analyzed by: Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

6404 MacCorkle Avenue, SW Suite 2
St. Albans, West Virginia 25177
Voice: 304-768-2233
Fax: 304-768-9988

Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Drive
Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12/23/99
Date Analyzed: 12/23/99
Date Reported: 12/31/99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code: 101306-0

Client ID:	5	Client ID:	6	Client ID:	7	Client ID:	8
ation:		Location:		Location:		Location:	
Lab Number	9915385	Lab Number	9915386	Lab Number	9915387	Lab Number	9915388
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Fibrous	Matrix Desc:	Fibrous
Color:	Black	Color:	Gray	Color:	Gray	Color:	White
Chrysotile:	40	Chrysotile:	45	Chrysotile:	40	Chrysotile:	0
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**40**	**TOTAL ASBESTOS**	**45**	**TOTAL ASBESTOS**	**40**	**TOTAL ASBESTOS**	**0**
Cellulose:	30	Cellulose:	0	Cellulose:	20	Cellulose:	0
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	90
Other Fibers:	0	Other Fibers:	10	Other Fibers:	15	Other Fibers:	0
Filler/Binder:	30	Filler/Binder:	45	Filler/Binder:	25	Filler/Binder:	10

Analyzed by: Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

6404 MacCorkle Avenue, SW Suite 2
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Fax: 304-768-9988

Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Drive
Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12 23 99
Date Analyzed: 12 23 99
Date Reported: 12 31 99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U S. Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code: 101306-0

Client ID:	9	Client ID:	9	Client ID:	10	Client ID:	10
ation:		Location:		Location:		Location:	
Lab Number	9915389A	Lab Number	9915389B	Lab Number	9915390A	Lab Number	9915390B
Matrix Desc:	Solid/Insulation	Matrix Desc:	Solid/Mastic	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	White	Color:	Black	Color:	White	Color:	Black
Chrysotile:	40	Chrysotile:	0	Chrysotile:	45	Chrysotile:	0
Amosite:	10	Amosite:	0	Amosite:	10	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**50**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**55**	**TOTAL ASBESTOS**	**0**
Cellulose:	0	Cellulose:	45	Cellulose:	0	Cellulose:	30
Fibrous Glass:	10	Fibrous Glass:	0	Fibrous Glass:	10	Fibrous Glass:	0
Other Fibers:	0	Other Fibers:	0	Other Fibers:	0	Other Fibers:	0
Filler/Binder:	40	Filler/Binder:	55	Filler/Binder:	35	Filler/Binder:	70

Analyzed by: James R Stout, Lee Miller
Lee Miller and Jim Stout

Reviewed by: J Scott Rodeheaver
J Scott Rodeheaver, Interim Laboratory Director

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RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012

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Date Analyzed: 12 23 99

Date Reported: 12 31 99

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Client ID:	11	Client ID:	11	Client ID:	12	Client ID:	12
ation:		Location:		Location:		Location:	
Lab Number	9915391A	Lab Number	9915391B	Lab Number	9915392A	Lab Number	9915392B
Matrix Desc	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	Brown	Color:	Brown	Color:	Brown	Color:	Black
Chrysotile:	30	Chrysotile:	0	Chrysotile:	0	Chrysotile:	35
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**30**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**35**
Cellulose:	0	Cellulose:	0	Cellulose:	95	Cellulose:	25
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	35	Other Fibers:	95	Other Fibers:	0	Other Fibers:	0
Filler/Binder:	35	Filler/Binder:	5	Filler/Binder:	5	Filler/Binder:	40

Analyzed by: Lee Miller and Jim Stout

Reviewed by: **J. Scott Rodeheaver, Interim Laboratory Director**

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ESI Project #: 32700-00012
Client Project #:

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Client ID:	13	Client ID:	13	Client ID:	14	Client ID:	15
ation:		Location:		Location:		Location:	
Lab Number	9915393A	Lab Number	9915393B	Lab Number	9915394	Lab Number	9915395A
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	White	Color:	White	Color:	Gray	Color:	Brown
Chrysotile:	35	Chrysotile:	0	Chrysotile:	30	Chrysotile:	0
Amosite:	20	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**55**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**30**	**TOTAL ASBESTOS**	**0**
Cellulose:	0	Cellulose:	99	Cellulose:	20	Cellulose:	90
Fibrous Glass:	10	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	0	Other Fibers:	0	Other Fibers:	15	Other Fibers:	0
Filler/Binder:	35	Filler/Binder:	1	Filler/Binder:	35	Filler/Binder:	10

Analyzed by: James R Stout
Lee Miller and Jim Stout

Reviewed by: J Scott Rodeheaver
J. Scott Rodeheaver, Interim Laboratory Director

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Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12/23/99
Date Analyzed: 12/23/99
Date Reported: 12/31/99

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Client ID:	15	Client ID:	16	Client ID:	17	Client ID:	18
Location:		Location:		Location:		Location:	
Lab Number	9915395B	Lab Number	9915396	Lab Number	9915397	Lab Number	9915398
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	Black	Color:	Brown	Color:	Tan	Color:	White
Chrysotile:	35	Chrysotile:	25	Chrysotile:	20	Chrysotile:	10
Amosite:	0	Amosite:	15	Amosite:	0	Amosite:	30
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**35**	**TOTAL ASBESTOS**	**40**	**TOTAL ASBESTOS**	**20**	**TOTAL ASBESTOS**	**40**
Cellulose:	25	Cellulose:	10	Cellulose:	10	Cellulose:	0
Fibrous Glass:	0	Fibrous Glass:	20	Fibrous Glass:	25	Fibrous Glass:	5
Other Fibers:	0	Other Fibers:	0	Other Fibers:	0	Other Fibers:	0
Filler/Binder:	40	Filler/Binder:	30	Filler/Binder:	45	Filler/Binder:	55

Analyzed by: Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

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Client ID:	19	Client ID:	19	Client ID:	20	Client ID:	20
Location:		Location:		Location:		Location:	
Lab Number	9915399A	Lab Number	9915399B	Lab Number	9915400A	Lab Number	9915400B
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	Brown	Color:	Black	Color:	White	Color:	Black
Chrysotile:	0	Chrysotile:	35	Chrysotile:	30	Chrysotile:	0
Amosite:	0	Amosite:	0	Amosite:	15	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**0**	**TOTAL ASBESTOS**	**35**	**TOTAL ASBESTOS**	**45**	**TOTAL ASBESTOS**	**0**
Cellulose:	90	Cellulose:	25	Cellulose:	0	Cellulose:	90
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	10	Fibrous Glass:	0
Other Fibers:	0	Other Fibers:	0	Other Fibers:	0	Other Fibers:	0
Filler/Binder:	10	Filler/Binder:	40	Filler/Binder:	45	Filler/Binder:	10

Analyzed by: Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

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Client ID:	21	Client ID:	21	Client ID:	22	Client ID:	22
Location:		Location:		Location:		Location:	
Lab Number	9915401A	Lab Number	9915401B	Lab Number	9915402A	Lab Number	9915402B
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	White	Color:	Black	Color:	White	Color:	Black
Chrysotile:	35	Chrysotile:	0	Chrysotile:	35	Chrysotile:	0
Amosite:	15	Amosite:	0	Amosite:	20	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**50**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**55**	**TOTAL ASBESTOS**	**0**
Cellulose:	0	Cellulose:	100	Cellulose:	0	Cellulose:	90
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	0	Other Fibers:	0	Other Fibers:	0	Other Fibers:	0
Filler/Binder:	50	Filler/Binder:	0	Filler/Binder:	45	Filler/Binder:	10

Analyzed by: Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

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Client ID:	23	Client ID:	23	Client ID:	24	Client ID:	24
ation:		Location:		Location:		Location:	
Lab Number	9915403A	Lab Number	9915403B	Lab Number	9915404A	Lab Number	9915404B
Matrix Desc.	Solid	Matrix Desc.	Solid	Matrix Desc.	Solid	Matrix Desc.	Solid
Color:	White	Color:	Brown	Color:	White	Color:	Brown
Chrysotile:	40	Chrysotile:	0	Chrysotile:	55	Chrysotile:	0
Amosite:	20	Amosite:	0	Amosite:	15	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**60**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**70**	**TOTAL ASBESTOS**	**0**
Cellulose:	0	Cellulose:	90	Cellulose:	0	Cellulose:	90
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	0	Other Fibers:	0	Other Fibers:	0	Other Fibers:	0
Filler/Binder:	40	Filler/Binder:	10	Filler/Binder:	30	Filler/Binder:	10

Analyzed by: James R. Stout, Lee Miller
Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver
J. Scott Rodeheaver, Interim Laboratory Director

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Date Analyzed: 12 23 99
Date Reported: 12 31 99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U S Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code 101306-0

Client ID:	25	Client ID:	26	Client ID:	26	Client ID	27
ation:		Location:		Location:		Location:	
Lab Number	9915405	Lab Number	9915406A	Lab Number	9915406B	Lab Number	9915407A
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Fibrous	Matrix Desc	Solid
Color:	White	Color:	White	Color:	Yellow	Color	Brown
Chrysotile:	20	Chrysotile:	25	Chrysotile:	0	Chrysotile	0
Amosite:	0	Amosite:	15	Amosite:	0	Amosite	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite	0
TOTAL ASBESTOS	**20**	**TOTAL ASBESTOS**	**40**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**
Cellulose:	0	Cellulose:	0	Cellulose:	0	Cellulose	0
Fibrous Glass:	35	Fibrous Glass:	25	Fibrous Glass:	95	Fibrous Glass	0
Other Fibers:	0	Other Fibers:	0	Other Fibers:	0	Other Fibers	2
Filler/Binder:	45	Filler/Binder:	35	Filler/Binder:	5	Filler/Binder	98

Analyzed by Lee Miller and Jim Stout

Reviewed by J. Scott Rodeheaver, Interim Laboratory Director

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St. Albans, West Virginia 25177
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Fax: 304-768-9988

Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Drive
Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12/23/99
Date Analyzed: 12/23/99
Date Reported: 12/31/99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code 101306-0

Client ID:	27	Client ID:	28	Client ID:	28	Client ID:	29
Location:		Location:		Location:		Location:	
Lab Number	9915407B	Lab Number	9915408A	Lab Number	9915408B	Lab Number	9915409A
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	Cream	Color:	Red	Color:	Black	Color:	Red
Chrysotile:	0	Chrysotile:	10	Chrysotile:	0	Chrysotile:	0
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**0**	**TOTAL ASBESTOS**	**10**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**
Cellulose:	0	Cellulose:	0	Cellulose:	<1	Cellulose:	0
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	0	Other Fibers:	0	Other Fibers:	<1	Other Fibers:	10
Filler/Binder:	100	Filler/Binder:	90	Filler/Binder:	>98	Filler/Binder:	90

Analyzed by: Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

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Environmental Services International, Inc.

Tetra Tech EM, Inc.
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Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12 23 99
Date Analyzed: 12 23 99
Date Reported: 12 31 99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U S Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code 101306-0

Client ID:	29	Client ID:	30	Client ID:	30	Client ID:	31
Location:		Location:		Location:		Location:	
Lab Number	9915409B	Lab Number	9915410A	Lab Number	9915410B	Lab Number	9915411
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	Cream	Color:	Gray	Color:	Cream	Color:	Gray
Chrysotile:	0	Chrysotile:	0	Chrysotile:	0	Chrysotile:	0
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**
Cellulose:	2	Cellulose:	0	Cellulose:	0	Cellulose:	0
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	0	Other Fibers:	0	Other Fibers:	0	Other Fibers:	0
Filler/Binder:	98	Filler/Binder:	100	Filler/Binder:	100	Filler/Binder:	100

Analyzed by: Lee Miller and Jim Stout

Reviewed by: **J. Scott Rodeheaver, Interim Laboratory Director**

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Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Drive
Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12/23/99
Date Analyzed: 12/23/99
Date Reported: 12/31/99

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Client ID:	32	Client ID:	32	Client ID:	33	Client ID:	34
ation:		Location:		Location:		Location:	
Lab Number	9915412A	Lab Number	9915412B	Lab Number	9915413	Lab Number	9915414
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	Black	Color:	Red	Color:	Gray	Color:	Brown
Chrysotile:	0	Chrysotile:	0	Chrysotile:	0	Chrysotile:	0
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**
Cellulose:	0	Cellulose:	0	Cellulose:	45	Cellulose:	95
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	35	Fibrous Glass:	0
Other Fibers:	15	Other Fibers:	10	Other Fibers:	0	Other Fibers:	0
Filler/Binder:	85	Filler/Binder:	90	Filler/Binder:	20	Filler/Binder:	5

Analyzed by: Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

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Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Drive
Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12 23 99
Date Analyzed: 12 23 99
Date Reported: 12 31 99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U S Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code: 101306-0

Client ID:	35	Client ID:	35	Client ID:	36	Client ID:	36
Location:		Location:		Location:		Location:	
Lab Number	9915415A	Lab Number	9915415B	Lab Number	9915416A	Lab Number	9915416B
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	Mauve	Color:	Clear	Color:	Black	Color:	Black
Chrysotile:	0	Chrysotile:	0	Chrysotile:	0	Chrysotile:	0
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**
Cellulose:	0	Cellulose:	<1	Cellulose:	0	Cellulose:	<1
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	0	Other Fibers:	<1	Other Fibers:	0	Other Fibers:	0
Filler/Binder:	100	Filler/Binder:	>98	Filler/Binder:	100	Filler/Binder:	>99

Analyzed by: Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

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Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Drive
Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12 23 99
Date Analyzed: 12 23 99
Date Reported: 12 31 99

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Client ID:	36	Client ID:	37	Client ID:	38	Client ID:	38
Location:		Location:		Location:		Location:	
Lab Number	9915416C	Lab Number	9915417	Lab Number	9915418A	Lab Number	9915418B
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	Cream	Color:	Gray	Color:	White	Color:	Black
Chrysotile:	0	Chrysotile:	0	Chrysotile:	0	Chrysotile:	0
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**
Cellulose:	<1	Cellulose:	45	Cellulose:	70	Cellulose:	15
Fibrous Glass:	0	Fibrous Glass:	30	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	<1	Other Fibers:	0	Other Fibers:	0	Other Fibers:	0
Filler/Binder:	>98	Filler/Binder:	25	Filler/Binder:	30	Filler/Binder:	85

Analyzed by: Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

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Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Drive
Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12 23 99
Date Analyzed: 12 23 99
Date Reported: 12 31 99

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Client ID:	39	Client ID:	39	Client ID:	39	Client ID	40
Location:		Location:		Location:		Location:	
Lab Number	9915419A	Lab Number	9915419B	Lab Number	9915419C	Lab Number	9915420
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	Brown	Color:	Cream	Color:	Brown	Color:	Brown
Chrysotile:	0	Chrysotile:	0	Chrysotile:	0	Chrysotile:	0
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**
Cellulose:	95	Cellulose:	3	Cellulose:	0	Cellulose:	95
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass	0
Other Fibers:	0	Other Fibers:	0	Other Fibers:	0	Other Fibers:	0
Filler/Binder:	5	Filler/Binder:	97	Filler/Binder:	100	Filler/Binder	5

Analyzed by: Lee Miller and Jim Stout

Reviewed by: **J. Scott Rodeheaver, Interim Laboratory Director**

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Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12 23 99
Date Analyzed: 12 23 99
Date Reported: 12 31 99

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Client ID:	41	Client ID:	42	Client ID:	43	Client ID:	44
Location:		Location:		Location:		Location:	
Lab Number	9915421	Lab Number	9915422	Lab Number	9915423	Lab Number	9915424
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	White	Color:	Gray	Color:	Brown	Color:	Brown
Chrysotile:	0	Chrysotile:	60	Chrysotile:	0	Chrysotile:	0
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**0**	**TOTAL ASBESTOS**	**60**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**
Cellulose:	10	Cellulose:	0	Cellulose:	95	Cellulose:	95
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	20	Other Fibers:	0	Other Fibers:	0	Other Fibers:	0
Filler/Binder:	70	Filler/Binder:	40	Filler/Binder:	5	Filler/Binder:	5

Analyzed by Lee Miller and Jim Stout

Reviewed by J. Scott Rodeheaver, Interim Laboratory Director

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RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012

Client Project #:

Date Received: 12 23 99

Date Analyzed: 12 23 99

Date Reported: 12 31 99

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Client ID:	45	Client ID:	45	Client ID:	46	Client ID:	47
Location:		Location:		Location:		Location:	
Lab Number	9915425A	Lab Number	9915425B	Lab Number	9915426	Lab Number	9915427
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	Brown	Color:	Cream	Color:	Black	Color:	Gray
Chrysotile:	0	Chrysotile:	0	Chrysotile:	15	Chrysotile:	0
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**15**	**TOTAL ASBESTOS**	**0**
Cellulose:	90	Cellulose:	<1	Cellulose:	20	Cellulose:	0
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	5	Fibrous Glass:	0
Other Fibers:	0	Other Fibers:	0	Other Fibers:	10	Other Fibers:	90
Filler/Binder:	10	Filler/Binder:	>99	Filler/Binder:	50	Filler/Binder:	10

Analyzed by: Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

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Fax: 304-768-9988

Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Drive
Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12 23 99
Date Analyzed: 12 23 99
Date Reported: 12 31 99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U S Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code: 101306-0

Client ID:	48	Client ID:	49	Client ID:	50	Client ID	51
ation:		Location:		Location:		Location:	
Lab Number	9915428	Lab Number	9915429	Lab Number	9915430	Lab Number	9915431
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	Tan	Color:	Black	Color:	Gray	Color:	Gray
Chrysotile:	0	Chrysotile:	20	Chrysotile:	0	Chrysotile	0
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**0**	**TOTAL ASBESTOS**	**20**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**
Cellulose:	<1	Cellulose:	35	Cellulose:	60	Cellulose:	60
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	15	Fibrous Glass:	15
Other Fibers:	0	Other Fibers:	0	Other Fibers:	0	Other Fibers:	0
Filler/Binder:	>99	Filler/Binder:	45	Filler/Binder:	25	Filler/Binder:	25

Analyzed by: Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

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Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Drive
Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12 23 99
Date Analyzed: 12 23 99
Date Reported: 12 31 99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U S Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code: 101306-0

Client ID:	52	Client ID:	53	Client ID:	54	Client ID:	55
ation:		Location:		Location:		Location:	
Lab Number	9915432	Lab Number	9915433	Lab Number	9915434	Lab Number	9915435
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	White	Color:	Brown	Color:	Brown	Color:	Brown
Chrysotile:	0	Chrysotile:	0	Chrysotile:	0	Chrysotile:	0
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**
Cellulose:	10	Cellulose:	90	Cellulose:	95	Cellulose:	98
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	15	Other Fibers:	0	Other Fibers:	0	Other Fibers:	0
Filler/Binder:	75	Filler/Binder:	10	Filler/Binder:	5	Filler/Binder:	2

Analyzed by: Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

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Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Drive
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Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12/23/99
Date Analyzed: 12/23/99
Date Reported: 12/31/99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. *If there are any questions regarding this report, please contact us at your convenience.* NVLAP Lab Code 101306-0

Client ID:	56	Client ID:	57	Client ID:	58	Client ID:	59
Location:		Location:		Location:		Location:	
Lab Number:	9915436	Lab Number:	9915437	Lab Number:	9915438	Lab Number:	9915439
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	Brown	Color:	Brown	Color:	Brown	Color:	Gray
Chrysotile:	0	Chrysotile:	0	Chrysotile:	0	Chrysotile:	0
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**
Cellulose:	8	Cellulose:	97	Cellulose:	8	Cellulose:	0
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	0	Other Fibers:	0	Other Fibers:	0	Other Fibers:	<1
Filler/Binder:	92	Filler/Binder:	3	Filler/Binder:	92	Filler/Binder:	>99

Analyzed by: Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

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Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Drive
Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12 23 99
Date Analyzed: 12 23 99
Date Reported: 12 31 99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U S Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code 101306-0

Client ID:	60	Client ID:	60	Client ID:	61	Client ID	61
ation:		Location:		Location:		Location:	
Lab Number	9915440A	Lab Number	9915440B	Lab Number	9915441A	Lab Number	9915441B
Matrix Desc	Solid	Matrix Desc:	Solid/Mastic	Matrix Desc	Solid	Matrix Desc	Solid/Mastic
Color:	Gray	Color:	Yellow	Color:	Brown	Color	Black
Chrysotile:	0	Chrysotile:	0	Chrysotile:	2	Chrysotile	0
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**2**	**TOTAL ASBESTOS**	**0**
Cellulose:	0	Cellulose:	0	Cellulose:	0	Cellulose:	0
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass	0
Other Fibers:	<1	Other Fibers:	<1	Other Fibers:	<1	Other Fibers:	1
Filler/Binder:	>99	Filler/Binder:	>99	Filler/Binder:	>97	Filler/Binder	99

Analyzed by: Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

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Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Drive
Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12/23/99
Date Analyzed: 12/23/99
Date Reported: 12/31/99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code: 101306-0

Client ID:	62	Client ID:	62	Client ID:	63	Client ID:	63
ation:		Location:		Location:		Location:	
Lab Number	9915442A	Lab Number	9915442B	Lab Number	9915443A	Lab Number	9915443B
Matrix Desc:	Solid	Matrix Desc:	Solid/Mastic	Matrix Desc:	Solid	Matrix Desc:	Solid/Mastic
Color:	Black	Color:	Black	Color:	Red	Color:	Black
Chrysotile:	2	Chrysotile:	0	Chrysotile:	5	Chrysotile:	0
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**2**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**5**	**TOTAL ASBESTOS**	**0**
Cellulose:	0	Cellulose:	0	Cellulose:	0	Cellulose:	2
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	0	Other Fibers:	1	Other Fibers:	0	Other Fibers:	0
Filler/Binder:	98	Filler/Binder:	99	Filler/Binder:	95	Filler/Binder:	98

Analyzed by: Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

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Fax: 304-768-9988

Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Drive
Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12 23 99
Date Analyzed: 12 23 99
Date Reported: 12 31 99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U S Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code. 101306-0

Client ID:	64	Client ID:	65	Client ID:	66	Client ID:	67
ation:		Location:		Location:		Location:	
Lab Number	9915444	Lab Number	9915445	Lab Number	9915446	Lab Number	9915447
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	White	Color:	White	Color:	Gray	Color:	White
Chrysotile:	0	Chrysotile:	20	Chrysotile:	15	Chrysotile:	15
Amosite:	20	Amosite:	10	Amosite:	0	Amosite:	3
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**20**	**TOTAL ASBESTOS**	**30**	**TOTAL ASBESTOS**	**15**	**TOTAL ASBESTOS**	**18**
Cellulose:	0	Cellulose:	0	Cellulose:	0	Cellulose:	0
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	2
Other Fibers:	0	Other Fibers:	0	Other Fibers:	75	Other Fibers:	5
Filler/Binder:	80	Filler/Binder:	70	Filler/Binder:	10	Filler/Binder:	75

Analyzed by: Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

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Tetra Tech EM, Inc.
625 Eden Park Drive
Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12/23/99
Date Analyzed: 12/23/99
Date Reported: 12/31/99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code: 101306-0

Client ID:	68	Client ID:	68	Client ID:	69	Client ID:	69
Location:		Location:		Location:		Location:	
Lab Number:	9915448A	Lab Number:	9915448B	Lab Number:	9915449A	Lab Number:	9915449B
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	White	Color:	Brown	Color:	Black	Color:	Brown
Chrysotile:	35	Chrysotile:	0	Chrysotile:	10	Chrysotile:	0
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**35**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**10**	**TOTAL ASBESTOS**	**0**
Cellulose:	5	Cellulose:	0	Cellulose:	30	Cellulose:	0
Fibrous Glass:	20	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	0	Other Fibers:	95	Other Fibers:	5	Other Fibers:	98
Filler/Binder:	40	Filler/Binder:	5	Filler/Binder:	55	Filler/Binder:	2

Analyzed by: Lee Miller and Jim Stout

Reviewed by: Scott Rodeheaver, Interim Laboratory Director

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Tetra Tech EM, Inc.
625 Eden Park Drive
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Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12 23 99
Date Analyzed: 12 23 99
Date Reported: 12 31 99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U S Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code: 101306-0

Client ID:	69	Client ID:	70	Client ID:	70	Client ID:	70
Location:		Location:		Location:		Location:	
Lab Number	9915449C	Lab Number	9915450A	Lab Number	9915450B	Lab Number	9915450C
Matrix Desc	Fibrous	Matrix Desc	Solid	Matrix Desc	Fibrous	Matrix Desc	Solid
Color:	Gray	Color:	White	Color:	Brown	Color:	Tan
Chrysotile:	0	Chrysotile:	35	Chrysotile:	0	Chrysotile:	0
Amosite:	0	Amosite:	15	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**0**	**TOTAL ASBESTOS**	**50**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**
Cellulose:	45	Cellulose:	0	Cellulose:	0	Cellulose:	0
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	20	Other Fibers:	35	Other Fibers:	98	Other Fibers:	95
Filler/Binder:	35	Filler/Binder:	15	Filler/Binder:	2	Filler/Binder:	5

Analyzed by: Lee Miller and Jim Stout

Reviewed by: Scott Rodeheaver, Interim Laboratory Director

6404 MacCorkle Avenue, SW Suite 2
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Voice: 304-768-2233
Fax: 304-768-9988

Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Drive
Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12/23/99
Date Analyzed: 12/23/99
Date Reported: 12/31/99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code: 101306-0

Client ID:	71	Client ID:	71	Client ID:	72	Client ID:	72
ation:		Location:		Location:		Location:	
Lab Number	9915451A	Lab Number	9915451B	Lab Number	9915452A	Lab Number	9915452B
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	Red	Color:	Black	Color:	Red	Color:	Black
Chrysotile:	20	Chrysotile:	0	Chrysotile:	15	Chrysotile:	0
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**20**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**15**	**TOTAL ASBESTOS**	**0**
Cellulose:	0	Cellulose:	<1	Cellulose:	0	Cellulose:	<1
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	0	Other Fibers:	0	Other Fibers:	0	Other Fibers:	0
Filler/Binder:	80	Filler/Binder:	>99	Filler/Binder:	85	Filler/Binder:	>99

Analyzed by: Lee Miller and Jim Stout

Reviewed by: Scott Rodeheaver, Interim Laboratory Director

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Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Drive
Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12/23/99
Date Analyzed: 12/23/99
Date Reported: 12/31/99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U S Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code: 101306-0

Client ID:	73	Client ID:	74	Client ID:	75	Client ID:	75
ation:		Location:		Location:		Location:	
Lab Number	9915453	Lab Number	9915454	Lab Number	9915455A	Lab Number	9915455B
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	White	Color:	Gray	Color:	White	Color:	Brown
Chrysotile:	0	Chrysotile:	0	Chrysotile:	0	Chrysotile:	0
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**
Cellulose:	35	Cellulose:	0	Cellulose:	0	Cellulose:	<1
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	5	Other Fibers:	65	Other Fibers:	0	Other Fibers:	0
Filler/Binder:	60	Filler/Binder:	35	Filler/Binder:	100	Filler/Binder:	>99

Analyzed by: Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

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Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Drive
Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12/23/99
Date Analyzed: 12/23/99
Date Reported: 12/31/99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code: 101306-0

Client ID:	76	Client ID:	76	Client ID:	77	Client ID:	77
ation:		Location:		Location:		Location:	
Lab Number	9915456A	Lab Number	9915456B	Lab Number	9915457A	Lab Number	9915457B
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	Red	Color:	Black	Color:	Brown	Color:	Black
Chrysotile:	20	Chrysotile:	0	Chrysotile:	15	Chrysotile:	0
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**20**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**15**	**TOTAL ASBESTOS**	**0**
Cellulose:	0	Cellulose:	<1	Cellulose:	0	Cellulose:	2
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	0	Other Fibers:	0	Other Fibers:	0	Other Fibers:	0
Filler/Binder:	80	Filler/Binder:	>99	Filler/Binder:	85	Filler/Binder:	98

Analyzed by: Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

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Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Drive
Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12/23/99
Date Analyzed: 12/23/99
Date Reported: 12/31/99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code: 101306-0

Client ID:	78	Client ID:	78	Client ID:	79	Client ID:	80
Location:		Location:		Location:		Location:	
Lab Number	9915458A	Lab Number	9915458B	Lab Number	9915459	Lab Number	9915460
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	White	Color:	Brown	Color:	Black	Color:	Gray
Chrysotile:	60	Chrysotile:	0	Chrysotile:	0	Chrysotile:	0
Amosite:	10	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**70**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**
Cellulose:	0	Cellulose:	0	Cellulose:	0	Cellulose:	60
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	15
Other Fibers:	0	Other Fibers:	95	Other Fibers:	65	Other Fibers:	0
Filler/Binder:	30	Filler/Binder:	5	Filler/Binder:	35	Filler/Binder:	25

Analyzed by: Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

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Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Drive
Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12/23/99
Date Analyzed: 12/23/99
Date Reported: 12/31/99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code: 101306-0

Client ID:	81	Client ID:	82	Client ID:	83	Client ID:	84
tion:		Location:		Location:		Location:	
Lab Number	9915461	Lab Number	9915462	Lab Number	9915463	Lab Number	9915464
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	Brown	Color:	Brown	Color:	Gray	Color:	White
Chrysotile:	0	Chrysotile:	0	Chrysotile:	0	Chrysotile:	0
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**
Cellulose:	0	Cellulose:	0	Cellulose:	55	Cellulose:	45
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	20	Fibrous Glass:	0
Other Fibers:	0	Other Fibers:	0	Other Fibers:	0	Other Fibers:	15
Filler/Binder:	100	Filler/Binder:	100	Filler/Binder:	25	Filler/Binder:	40

Analyzed by: James R. Stout, Lee Miller
Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver
J. Scott Rodeheaver, Interim Laboratory Director

6404 MacCorkle Avenue, SW Suite 2
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Fax: 304-768-9988

Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Drive
Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12/23/99
Date Analyzed: 12/23/99
Date Reported: 12/31/99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code: 101306-0

Client ID:	85	Client ID:	85	Client ID:	86	Client ID:	86
ation:		Location:		Location:		Location:	
Lab Number	9915465A	Lab Number	9915465B	Lab Number	9915466A	Lab Number	9915466B
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	White	Color:	Black	Color:	Tan	Color:	Black
Chrysotile:	0	Chrysotile:	0	Chrysotile:	0	Chrysotile:	0
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**
Cellulose:	0	Cellulose:	0	Cellulose:	0	Cellulose:	2
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	0	Other Fibers:	<1	Other Fibers:	0	Other Fibers:	0
Filler/Binder:	100	Filler/Binder:	>99	Filler/Binder:	100	Filler/Binder:	98

Analyzed by: Lee Muller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

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Tetra Tech EM, Inc.
625 Eden Park Drive
Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12/23/99
Date Analyzed: 12/23/99
Date Reported: 12/31/99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code: 101306-0

Client ID:	86	Client ID:	87	Client ID:	87	Client ID:	88
ation:		Location:		Location:		Location:	
Lab Number	9915466C	Lab Number	9915467A	Lab Number	9915467B	Lab Number	9915468A
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	Brown	Color:	Gray	Color:	Clear	Color:	Gray
Chrysotile:	0	Chrysotile:	0	Chrysotile:	0	Chrysotile:	0
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**
Cellulose:	<1	Cellulose:	0	Cellulose:	<1	Cellulose:	0
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	0	Other Fibers:	0	Other Fibers:	0	Other Fibers:	0
Filler/Binder:	>99	Filler/Binder:	100	Filler/Binder:	>99	Filler/Binder:	100

Analyzed by: Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

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Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12/23/99
Date Analyzed: 12/23/99
Date Reported: 12/31/99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U S Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code. 101306-0

Client ID:	88	Client ID:	89	Client ID:	89	Client ID:	90
ation:		Location:		Location:		Location:	
Lab Number	9915468B	Lab Number	9915469A	Lab Number	9915469B	Lab Number	9915470A
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	Brown	Color:	Gray	Color:	Brown	Color:	Gray
Chrysotile:	0	Chrysotile:	0	Chrysotile:	0	Chrysotile:	0
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**
Cellulose:	0	Cellulose:	0	Cellulose:	<1	Cellulose:	0
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	<1	Other Fibers:	0	Other Fibers:	0	Other Fibers:	0
Filler/Binder:	>99	Filler/Binder:	100	Filler/Binder:	>99	Filler/Binder:	100

Analyzed by: Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

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Fax: 304-768-9988

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Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12 23 99
Date Analyzed: 12 23 99
Date Reported: 12 31 99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code: 101306-0

Client ID:	90	Client ID:	91	Client ID:	92	Client ID:	93
Location:		Location:		Location:		Location:	
Lab Number	9915470B	Lab Number	9915471	Lab Number	9915472	Lab Number	9915473A
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	Brown	Color:	White	Color:	Brown	Color:	Gray
Chrysotile:	0	Chrysotile:	0	Chrysotile:	0	Chrysotile:	0
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**
Cellulose:	<1	Cellulose:	40	Cellulose:	20	Cellulose:	2
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	55	Fibrous Glass:	0
Other Fibers:	0	Other Fibers:	20	Other Fibers:	0	Other Fibers:	10
Filler/Binder:	>99	Filler/Binder:	40	Filler/Binder:	25	Filler/Binder:	88

Analyzed by: Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

6404 MacCorkle Avenue, SW Suite 2
St. Albans, West Virginia 25177
Voice: 304-768-2233
Fax: 304-768-9988

Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Drive
Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12 23 99
Date Analyzed: 12 23 99
Date Reported: 12 31 99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U S Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code 101306-0

Client ID:	93	Client ID:	94	Client ID:	94	Client ID:	95
ation:		Location:		Location:		Location:	
Lab Number	9915473B	Lab Number	9915474A	Lab Number	9915474B	Lab Number	9915475
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	Black	Color:	Gray	Color:	Cream	Color:	Green
Chrysotile:	0	Chrysotile:	0	Chrysotile:	0	Chrysotile:	0
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**
Cellulose:	2	Cellulose:	0	Cellulose:	<1	Cellulose:	0
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	0	Other Fibers:	0	Other Fibers:	0	Other Fibers:	85
Filler/Binder:	98	Filler/Binder:	100	Filler/Binder:	>99	Filler/Binder:	15

Analyzed by: Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

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Fax: 304-768-9988

Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Drive
Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12 23 99
Date Analyzed: 12 23 99
Date Reported: 12 31 99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code 101306-0

Client ID:	96	Client ID:	96	Client ID:	97	Client ID:	98
Location:		Location:		Location:		Location:	
Lab Number	9915476A	Lab Number	9915476B	Lab Number	9915477	Lab Number	9915478
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	Gray	Color:	Brown	Color:	White	Color:	White
Chrysotile:	0	Chrysotile:	0	Chrysotile:	0	Chrysotile:	0
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**0**
Cellulose:	0	Cellulose:	<1	Cellulose:	20	Cellulose:	15
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	0	Other Fibers:	0	Other Fibers:	20	Other Fibers:	20
Filler/Binder:	100	Filler/Binder:	>99	Filler/Binder:	60	Filler/Binder:	65

Analyzed by: James R. Stout
Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver
J. Scott Rodeheaver, Interim Laboratory Director

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Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Drive
Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12/23/99
Date Analyzed: 12/23/99
Date Reported: 12/31/99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code: 101306-0

Client ID:	99	Client ID:	100	Client ID:	100	Client ID:	101
ation:		Location:		Location:		Location:	
Lab Number	9915479	Lab Number	9915480A	Lab Number	9915480B	Lab Number	9915481A
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	Brown	Color:	Black	Color:	Black	Color:	Red
Chrysotile:	0	Chrysotile:	10	Chrysotile:	0	Chrysotile:	15
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**0**	**TOTAL ASBESTOS**	**10**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**15**
Cellulose:	95	Cellulose:	0	Cellulose:	<1	Cellulose:	0
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	0	Other Fibers:	0	Other Fibers:	0	Other Fibers:	0
Filler/Binder:	5	Filler/Binder:	90	Filler/Binder:	>99	Filler/Binder:	85

Analyzed by: Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

6404 MacCorkle Avenue, SW Suite 2
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Fax: 304-768-9988

Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Drive
Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: St. Louis Army Ammunition Plant

ESI Project #: 32700-00012
Client Project #:

Date Received: 12/23/99
Date Analyzed: 12/23/99
Date Reported: 12/31/99

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate. The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U S Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code: 101306-0

Client ID:	101	Client ID:	102	Client ID:	102	Client ID:	103
ition:		Location:		Location:		Location:	
Lab Number	9915481B	Lab Number	9915482A	Lab Number	9915482B	Lab Number	9915483
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid
Color:	Black	Color:	Red	Color:	Black	Color:	Brown
Chrysotile:	0	Chrysotile:	20	Chrysotile:	0	Chrysotile:	40
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**0**	**TOTAL ASBESTOS**	**20**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**40**
Cellulose:	0	Cellulose:	0	Cellulose:	0	Cellulose:	2
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	<1	Other Fibers:	0	Other Fibers:	<1	Other Fibers:	<1
Filler/Binder:	>99	Filler/Binder:	80	Filler/Binder:	>99	Filler/Binder:	>57

Analyzed by: Lee Miller and Jim Stout

Reviewed by: J. Scott Rodeheaver, Interim Laboratory Director

LABORATORY ANALYSIS REPORT

6404 MacCorkle Avenue, SW Suite 2
St. Albans, West Virginia 25177
Voice: 304-768-2233
Fax: 304-768-9988

Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Dr., Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: Saint Louis Army Ammunitions

ESI Project #: 32700-00001
Client Project #:
Date Received: 1 10 00
Date Analyzed: 1 10 00
Date Reported: 1 11 00

Samples are analyzed utilizing Polarized Light Microscopy (PLM) with dispersion staining techniques according to USEPA "Interim Method For Determination Of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116), July 1993". In this report, asbestos is reported as a calibrated visual area estimate The Asbestos NESHAP clarification fo 1994 (40 CFR Part 61) states in general, when a sample consists of distinct layers or materials, each layer or material should be treated separately and those results reported by layer. Asbestos Containing Material (ACM), is defined as having an asbestos concentration of greater than one (1) percent, by area (NESHAP Standard, 40 CFR Part 61, Subpart M). The above referenced rule recommends that Regulated Asbestos Containing Material (RACM) be Point Counted to quantify asbestos in materials which were visually estimated to contain less than ten (10) percent asbestos. Samples with 0% asbestos should be interpreted as "No Asbestos Detected". This report relates only to the samples listed and must not be reproduced except in full. Samples that have been analyzed for asbestos will be retained for thirty (30) days from the date received unless requested otherwise by the client. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U S. Government. If there are any questions regarding this report, please contact us at your convenience. NVLAP Lab Code: 101306-0

t ID:	2 SLAAP	Client ID:	13 SLAAP	Client ID:	27 SLAAP	Client ID	27 SLAAP
Location:		Location:		Location:		Location	
Lab Number	0000143	Lab Number	0000144	Lab Number	0000145A	Lab Number	0000145B
Matrix Desc:	Solid	Matrix Desc:	Solid	Matrix Desc:	Solid/Tile	Matrix Desc	Solid/Mastic
Color:	Gray	Color:	White	Color:	Brown	Color	Black
Chrysotile:	65	Chrysotile:	20	Chrysotile:	15	Chrysotile	0
Amosite:	0	Amosite:	35	Amosite:	0	Amosite	0
Crocidilite:	0	Crocidilite:	0	Crocidilite	0	Crocidilite	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite	0
TOTAL ASBESTOS	**65**	**TOTAL ASBESTOS**	**55**	**TOTAL ASBESTOS**	**15**	**TOTAL ASBESTOS**	**0**
Cellulose:	0	Cellulose:	0	Cellulose:	0	Cellulose	<1
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass	0
Other Fibers:	0	Other Fibers:	0	Other Fibers:	0	Other Fibers	0
Filler/Binder:	35	Filler/Binder:	45	Filler/Binder:	85	Filler/Binder	>99

Analyzed by: Lee Miller

Reviewed by: J. Scott Rodeheaver
J. Scott Rodeheaver, Interim Laboratory Director

6404 MacCorkle Avenue, SW Suite 2
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Voice: 304-768-2233
Fax: 304-768-9988

Environmental Services International, Inc.

Tetra Tech EM, Inc.
625 Eden Park Dr., Suite 100
Cincinnati, OH 45202
Attn: James Romine

RE: Saint Louis Army Ammunitions

ESI Project #: 32700-00001
Client Project #:
Date Received: 1 10 00
Date Analyzed: 1 10 00
Date Reported: 1 11 00

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Client ID:	57 SLAAP	Client ID:	71 SLAAP	Client ID:	71 SLAAP	Client ID:	72 SLAAP
ation:		Location:		Location:		Location:	
Lab Number	0000146	Lab Number	0000147A	Lab Number	0000147B	Lab Number	0000148A
Matrix Desc:	Solid	Matrix Desc:	Solid/Tile	Matrix Desc:	Solid/Mastic	Matrix Desc:	Solid/Tile
Color:	Brown	Color:	Red	Color:	Black	Color:	Red
Chrysotile:	0	Chrysotile:	15	Chrysotile:	0	Chrysotile:	15
Amosite:	0	Amosite:	0	Amosite:	0	Amosite:	0
Crocidilite:	0	Crocidilite:	0	Crocidilite:	0	Crocidilite:	0
Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0	Anthophyllite:	0
Tremolite:	0	Tremolite:	0	Tremolite:	0	Tremolite:	0
Actinolite:	0	Actinolite:	0	Actinolite:	0	Actinolite:	0
TOTAL ASBESTOS	**0**	**TOTAL ASBESTOS**	**15**	**TOTAL ASBESTOS**	**0**	**TOTAL ASBESTOS**	**15**
Cellulose:	90	Cellulose:	0	Cellulose:	<1	Cellulose:	0
Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0	Fibrous Glass:	0
Other Fibers:	0	Other Fibers:	0	Other Fibers:	0	Other Fibers:	0
Filler/Binder:	10	Filler/Binder:	85	Filler/Binder:	>99	Filler/Binder:	85

Analyzed by: Lee Miller

Reviewed by: J. Scott Rodeheaver
J. Scott Rodeheaver, Interim Laboratory Director

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St. Albans, West Virginia 25177
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Date Received: 1 10 00
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Client ID:	72 SLAAP
ation:	
Lab Number	0000148B
Matrix Desc:	Solid/Mastic
Color:	Black
Chrysotile:	0
Amosite:	0
Crocidilite:	0
Anthophyllite:	0
Tremolite:	0
Actinolite:	0
TOTAL ASBESTOS	**0**
Cellulose:	<1
Fibrous Glass:	0
Other Fibers:	0
Filler/Binder:	>99

Analyzed by: Lee Miller

Reviewed by: J. Scott Rodeheaver
J. Scott Rodeheaver, Interim Laboratory Director

6404 MacCorkle Avenue, SW
Suite #2
St. Albans, West Virginia 25177
Voice: 304/ 768-2233
Fax: 304/ 768-9968

Environmental Services International, Inc.

POLARIZED LIGHT MICROSCOPY (PLM) DISCLAIMER NOTES

- ✔ Samples are analyzed according to the USEPA *Interim Method For Determination of Asbestos In Bulk Insulation Samples, (EPA-600/R-93-116) July 1993.*

- ✔ This report relates only to the samples listed and must not be reproduced except in full.

- ✔ This report may not be used by anyone to claim product endorsement by NVLAP or any agency of the U.S. Government.

- ✔ This report is not valid unless it bears the name of a NVLAP-approved signatory.

- ✔ "0" or "NAD" indicates that no asbestos was detected; the method detection limit is "1%". "Trace" or "<1" indicates that asbestos was detected, but the concentration is less than the method quantitation limit of 1%.

- ✔ All regulated asbestos minerals were sought in each sample, but only those asbestos minerals detected are listed. Amosite is the common name used for the asbestiform variety of the minerals cummingtonite and grunerite. Crocidolite is the common name used for the asbestiform variety of the mineral riebeckite.

- ✔ All of the samples listed will be archived for a period of 30 days from report date received and then will be properly discarded.

- ✔ Certain materials (i.e. tiles, vinyl, foam, plastic, fine powder, and plaster) may contain asbestos fibers of such small diameter that these fibers cannot be detected by PLM. For such samples, more sensitive analytical methods (e.g. TEM, SEM, or XRD) are recommended if greater certainty about asbestos content is required.

- ✔ Separate components in a sample are combined in proportion to their abundance and a single analytical result provided for each sample.

Should you have any questions regarding your analytical results, please contact us at your convenience.

ENVIRONMENTAL SERVICES INTERNATIONAL

CLIENT: Tetra Tech EMI Inc INSPECTOR: Jim Remine

ESI JOB #: INSPECTOR: [illegible]

TURN AROUND TIME: [illegible] DATE: 22 Dec 99

JOB LOCATION: Saint Louis [illegible] Depot / Total

ASBESTOS BULK SAMPLE CHAIN OF CUSTODY

SAMPLE ID	LAB ID	SAMPLE MATERIAL (11)	LOCATION/REMARKS
	9915381	1 SLAAP R.1.1.1.1	[illegible]
	9915382	2 SLAAP 1.1.2.1	
	9915383	3 SLAAP 1.3.1	
	9915384	4 SLAAP 1.1.4.1	
	9915385	5 SLAAP 2.R.1.1	
	9915386	6 SLAAP 2.2.1.1	
	9915387	7 SLAAP 2.2.3.1	
	9915388	8 SLAAP 2.2.4.1	
	9915389	9 SLAAP 7.1.1.1	
	9915390	10 SLAAP 7.1.2.1	
	9915391	11 SLAAP 3.B.1.1	
	9915392	12 SLAAP 3.B.2.1	
	9915393	13 SLAAP 3.B.3.1	
	9915394	14 SLAAP 3.B.4.1	
	9915395	15 SLAAP 3.B.5.1	
	9915396	16 SLAAP 3.B.6.1	
	9915397	17 SLAAP 3.B.6.2	
	9915398	18 SLAAP 3.B.5.2	
	9915399	19 SLAAP 3.B.6.3	
	9915400	20 SLAAP 3.B.7.1	
	9915401	21 SLAAP 3.B.7.2	
	[illegible]	22 SLAAP 3.B.7.3	
	[illegible]	23 SLAAP 3.B.7.4	
	9915404	24. SLAAP 3.B.8.1	
	9915405	25 SLAAP 3.B.8.2	
	9915406	26 SLAAP 3.B.8.3	
	9915407	27 SLAAP 5.2.1.1	
	9915408	28 SLAAP 5.2.2.1	
	9915409	29 SLAAP 5.2.2.2	
	9915410	30 SLAAP 5.2.3.1	
	9915411	31 SLAAP 5.2.4.1	
	9915412	32 SLAAP 5.2.5.1	
	9915413	33 SLAAP 5.2.6.1	
	9915414	34 SLAAP 5.2.7.1	
	9915415	35 SLAAP 5.2.8.1	
	9915416	36 SLAAP 5.2.9.1	
	9915417	37 SLAAP 5.2.10.1	
	9915418	38 SLAAP 5.2.11.1	
	9915419	39 SLAAP 5.2.12.1	

Relinquished by:	Date/Time:	Received by:	Date/Time:
James D Remine	12/22/99 5pm	Amanda C Southerny	12-23 1105
Relinquished by:	Date/Time:	Received by:	Date/Time:
		[illegible]	12-23 11:45

ENVIRONMENTAL SERVICES INTERNATIONAL

CLIENT: TetraTech EM Inc. INSPECTOR: Jim Romine

ESI JOB #: INSPECTOR: Bob Hill

TURN AROUND TIME: one week (normal) DATE: 22 Dec. 99

JOB LOCATION: Saint Louis Army Ammunition Plant

ASBESTOS BULK SAMPLE CHAIN OF CUSTODY

SAMPLE ID	LAB ID	SAMPLE MATERIAL ID	LOCATION/REMARKS
	9915422C	40SLAAP5.2.13.1	Vanes
	9915421	41SLAAP5.2.11.2	
	9915423	42SLAAP5.2.14.1	
	9915423	43SLAAP5.2.7.2	
	9915424	44SLAAP5.2.7.3	
	9915425	45SLAAP5.2.15.1	
	9915426	46SLAAP5.R.16.1	
	427	47SLAAP3.P.9.1	
	428	48SLAAP3.P.10.1	
	429	49SLAAP3.R.11.1	
	430	50SLAAP5.2.6.2	
	431	51SLAAP5.2.6.3	
	432	52SLAAP5.2.11.3	
	433	53SLAAP5.2.13.2	
	434	54SLAAP5.2.15.2	
	435	55SLAAP5.1.16.1	
	436	56SLAAP5.1.17.1	
	437	57SLAAP5.1.16.2 (D)	
	438	58SLAAP5.1.17.2	
	439	59SLAAP5.1.18.1	
	440	60SLAAP5.1.4.2	
	441	61SLAAP5.1.19.1	
		~~62SLAAP5.1.2.3~~	
		~~63SLAAP5~~	
	442	62SLAAP5.1.1.2	
	443	63SLAAP5.1.2.3	
	444	64SLAAP5.3.20.1	
	445	65SLAAP5.B.21.1	
	446	66SLAAP5.B.22.1	
	447	67SLAAP5.B.23.1	
	448	68SLAAP5.B.24.1	
	449	69SLAAP6.B.1.1	
	450	70SLAAP6.B.2.1	
	451	71SLAAP6.1.3.1	
	452	72SLAAP6.1.4.1	
	453	73SLAAP6.1.5.1	
	454	74SLAAP6.1.6.1	
	455	75SLAAP6.2.7.1	
	456	76SLAAP6.2.8.1	

Relinquished by:	Date/Time:	Received by:	Date/Time:
[signature]	12/22 1 5p	Amanda C Scarborough	12-23 11:05
Relinquished by:	Date/Time:	Received by:	Date/Time:
		[signature]	12-23 11:45

ENVIRONMENTAL SERVICES INTERNATIONAL

CLIENT: Tetra Tech EM Inc. INSPECTOR: Jim Romine

ESI JOB #: INSPECTOR: Bob Hill

TURN AROUND TIME: one week (normal) DATE: 22 Dec. 99

JOB LOCATION: Saint Louis Army Ammunition Plant

ASBESTOS BULK SAMPLE CHAIN OF CUSTODY

SAMPLE ID	LAB ID	SAMPLE ~~MATERIAL~~ ID	LOCATION/REMARKS
	99154457	77 SLAAP 6.2.9.1	varies
	458	78 SLAAP 6.2.10.1	
	459	79 SLAAP 6.2.11.1	
	460	80 SLAAP 6.2.12.1	
	461	81 SLAAP 6.2.13.1	
	462	82 SLAAP 6.2.13.2	
	463	83 SLAAP 6.2.14.1	
	464	84 SLAAP 6.2.15.1	
	465	85 SLAAP 3.2.9.1	
	466	86 SLAAP 3.2.9.2	
	467	87 SLAAP 3.2.10.1	
	468	88 SLAAP 3.2.11.1	
	469	89 SLAAP 6.2.10.2	
	470	90 SLAAP 3.2.11.2	
	471	91 SLAAP 3.2.12.1	
	472	92 SLAAP 3.2.13.1	
	473	93 SLAAP 3.2.14.1	
	474	94 SLAAP 3.2.15.1	
	475	95 SLAAP 3.2.16.1	
	476	96 SLAAP 3.1.14.2	
	477	97 SLAAP 3.1.17.1	
	478	98 SLAAP 3.1.17.2	
99154479	[illegible]	99 SLAAP 3.1.18.1	
99154480	[illegible]	100 SLAAP 3.1.19.1	
	99154481	101 SLAAP 3.1.20.1	
	99154482	102 SLAAP 3.1.21.1	
	99154483	103 SLAAP 3.1.22.1	

Relinquished by:	Date/Time:	Received by:	Date/Time:
[signature]	12/22 1 5pm	Clinnarda C. Scrabery	12-23 10:05
Relinquished by:	Date/Time:	Received by:	Date/Time:
		[signature]	12-23 11:15

6404 MacCorkle Avenue, SW
Suite #2
St. Albans, West Virginia 25177
Voice: 304/ 768-2233
Fax: 304/ 768-9968

Environmental Services International Inc.

POLARIZED LIGHT MICROSCOPY (PLM) DISCLAIMER NOTES

- ✔ Samples are analyzed according to the USEPA *Interim Method For Determination of Asbestos in Bulk Insulation Samples, (EPA-600/R-93-116) July 1993.*
- ✔ This report relates only to the samples listed and must not be reproduced except in full.
- ✔ This report may not be used by anyone to claim product endorsement by NVLAP or any agency of the U.S. Government.
- ✔ This report is not valid unless it bears the name of a NVLAP-approved signatory.
- ✔ "0" or "NAD" indicates that no asbestos was detected; the method detection limit is "1%". "Trace" or "<1" indicates that asbestos was detected, but the concentration is less than the method quantitation limit of 1%.
- ✔ All regulated asbestos minerals were sought in each sample, but only those asbestos minerals detected are listed. Amosite is the common name used for the asbestiform variety of the minerals cummingtonite and grunerite. Crocidolite is the common name used for the asbestiform variety of the mineral riebeckite.
- ✔ All of the samples listed will be archived for a period of 30 days from report date received and then will be properly discarded.
- ✔ Certain materials (i.e. tiles, vinyl, foam, plastic, fine powder, and plaster) may contain asbestos fibers of such small diameter that these fibers cannot be detected by PLM. For such samples, more sensitive analytical methods (e.g. TEM, SEM, or XRD) are recommended if greater certainty about asbestos content is required.
- ✔ Separate components in a sample are combined in proportion to their abundance and a single analytical result provided for each sample.

Should you have any questions regarding your analytical results, please contact us at your convenience.

ENVIRONMENTAL SERVICES INTERNATIONAL

CLIENT: Tetra Tech EMI Inc INSPECTOR: Jim Remine

ESI JOB #: INSPECTOR: Bob Hill

TURN AROUND TIME: One week (Monday) DATE: 22 Dec 99

JOB LOCATION: Saint Louis Army Ammunition Plant Depot / Total

ASBESTOS BULK SAMPLE CHAIN OF CUSTODY

SAMPLE ID	LAB ID	SAMPLE MATERIAL (1)	LOCATION/REMARKS
		1 SLAAP R.1.1.1.1	VARIES
		2 SLAAP 1.1.2.1	
		3 SLAAP 1.3.1	
		4 SLAAP 1.1.4.1	
		5 SLAAP 2.R.1.1	
		6 SLAAP 2.2.1.1	
		7 SLAAP 2.2.3.1	
		8 SLAAP 2.2.4.1	
		9 SLAAP 7.1.1.1	
		10 SLAAP 7.1.2.1	
		11 SLAAP 3.B.1.1	
		12 SLAAP 3.B.2.1	
		13 SLAAP 3.B.3.1	
		14 SLAAP 3.B.4.1	
		15 SLAAP 3.B.5.1	
		16 SLAAP 3.B.6.1	
		17 SLAAP 3.B.6.2	
		18 SLAAP 3.B.5.2	
		19 SLAAP 3.B.6.3	
		20 SLAAP 3.B.7.1	
		21 SLAAP 3.B.7.2	
		22 SLAAP 3.B.7.3	
		23 SLAAP 3.B.7.4	
		24. SLAAP 3.B.8.1	
		25 SLAAP 3.B.8.2	
		26 SLAAP 3.B.8.3	
		27 SLAAP 5.2.1.1	
		28 SLAAP 5.2.2.1	
		29 SLAAP 5.2.2.2	
		30 SLAAP 5.2.3.1	
		31 SLAAP 5.2.4.1	
		32 SLAAP 5.2.5.1	
		33 SLAAP 5.2.6.1	
		34 SLAAP 5.2.7.1	
		35 SLAAP 5.2.8.1	
		36 SLAAP 5.2.9.1	
		37 SLAAP 5.2.10.1	
		38 SLAAP 5.2.11.1	
		39 SLAAP 5.2.12.1	

Relinquished by:	Date/Time:	Received by:	Date/Time:
James D Remine	12/22/99 5pm		
Inquir			
Relinquished by:	Date/Time:	Received by:	Date/Time:

ENVIRONMENTAL SERVICES INTERNATIONAL

CLIENT: TetraTech EM Inc. INSPECTOR: Jim Romine

ESI JOB #: INSPECTOR: Bob Hill

TURN AROUND TIME: one week (normal) DATE: 22 Dec. 99

JOB LOCATION: Saint Louis Army Ammunition Plant

ASBESTOS BULK SAMPLE CHAIN OF CUSTODY

SAMPLE ID	LAB ID	SAMPLE MATERIAL ID	LOCATION/REMARKS
		40SLAAP5.2.13.1	vanes
		41SLAAP5.2.11.2	
		42SLAAP5.2.14.1	
		43SLAAP5.2.7.2	
		44SLAAP5.2.7.3	
		45SLAAP5.2.15.1	
		46SLAAP5.R.16.1	
		47SLAAP3.P.9.1	
		48SLAAP3.P.10.1	
		49SLAAP3.R.11.1	
		50SLAAP5.2.6.2	
		51SLAAP5.2.6.3	
		52SLAAP5.2.11.3	
		53SLAAP5.2.13.2	
		54SLAAP5.2.15.2	
		55SLAAP5.1.16.1	
		56SLAAP5.1.17.1	
		57SLAAP5.1.16.2 (D)	
		58SLAAP5.1.17.2	
		59SLAAP5.1.18.1	
		60SLAAP5.1.4.2	
		61SLAAP5.1.19.1	
		~~62SLAAP5.1.2.3~~	
		~~63SLAAP5~~	
		62SLAAP5.1.1.2	
		63SLAAP5.1.2.3	
		64SLAAP5.3.20.1	
		65SLAAP5.B.21.1	
		66SLAAP5.B.22.1	
		67SLAAP5.B.23.1	
		68SLAAP5.B.24.1	
		69SLAAP6.B.1.1.	
		70SLAAP6.B.21	
		71SLAAP6.1.3.1	
		72SLAAP6.1.4.1	
		73SLAAP6.1.5.1	
		74SLAAP6.1.6.1	
		75SLAAP6.2.7.1	
		76SLAAP6.2.8.1	

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[signature]	12/22 | 5p		

elinquished by:	Date/Time:	Received by:	Date/Time:

ENVIRONMENTAL SERVICES INTERNATIONAL

CLIENT: TetraTech EM Inc. INSPECTOR: Jim Romine

ESI JOB #: INSPECTOR: Bob Hill

TURN AROUND TIME: one week (normal) DATE: 22 Dec. 99

JOB LOCATION: Saint Louis Army Ammunition Plant

ASBESTOS BULK SAMPLE CHAIN OF CUSTODY

SAMPLE ID	LAB ID	SAMPLE ~~MATERIAL~~ ID	LOCATION/REMARKS
		77 SLAAP 6.2.9.1	varies
		78 SLAAP 6.2.10.1	
		79 SLAAP 6.2.11.1	
		80 SLAAP 6.2.12.1	
		81 SLAAP 6.2.13.1	
		82 SLAAP 6.2.13.2	
		83 SLAAP 6.2.14.1	
		84 SLAAP 6.2.15.1	
		85 SLAAP 3.2.9.1	
		86 SLAAP 3.2.9.2	
		87 SLAAP 3.2.10.1	
		88 SLAAP 3.2.11.1	
		89 SLAAP 6.2.10.2	
		90 SLAAP 3.2.11.2	
		91 SLAAP 3.2.12.1	
		92 SLAAP 3.2.13.1	
		93 SLAAP 3.2.14.1	
		94 SLAAP 3.2.15.1	
		95 SLAAP 3.2.16.1	
		96 SLAAP 3.1.14.2	
		97 SLAAP 3.1.17.1	
		98 SLAAP 3.1.17.2	
		99 SLAAP 3.1.18.1	
		100 SLAAP 3.1.19.1	
		101 SLAAP 3.1.20.1	
		102 SLAAP 3.1.21.1	
		103 SLAAP 3.1.22.1	

Relinquished by:	Date/Time:	Received by:	Date/Time:
[signature]	12/22 | 5pm		

Relinquished by:	Date/Time:	Received by:	Date/Time:

ENVIRONMENTAL SERVICES INTERNATIONAL

CLIENT: Tetra Tech EM Inc. INSPECTOR: Jim Romine

ESI JOB #: INSPECTOR: Bob Hill

TURN AROUND TIME: One Week (normal) DATE: 7 January 2000

JOB LOCATION: Saint Louis Army Ammunitions

ASBESTOS BULK SAMPLE CHAIN OF CUSTODY

SAMPLE ID	LAB ID	SAMPLE ~~MATERIAL~~ ID	LOCATION/REMARKS
		2SLAAP1.1.2.1D	varies
		13SLAAP3.B.3.1D	
		27SLAAP5.2.1D	
		57SLAAP5.1.16.2D	
		71SLAAP6.1.3.1D	
		72SLAAP6.1.4D	

Relinquished by:	Date/Time:	Received by:	Date/Time:
James Romine	01/07/00 1:51pm		
Relinquished by:	Date/Time:	Received by:	Date/Time:

ENVIRONMENTAL SERVICES INTERNATIONAL
6404 MacCORKLE AVENUE, SW
SUITE #2
ST. ALBANS, WEST VIRGINIA 25177
Voice: 304/768-[redacted]2233
Fax: 304/768-9988

Tetra Tech EM Inc.
CLIENT

G0011 D066 D PM00
PROJECT #

St Louis Army Ammunition Plant
PROJECT NAME

SAMPLER SIGNATURE

(20)

SAMPLE ID #	SAMPLE LOCATION / REMARKS	DATE	TIME	COMP	GRAB	MATRIX	TURN AROUND TIME	LAB I.D. NUMBER	LABORATORY ANALYSIS: MW3W 7400					
SAB	SLAAP	12/9/99				S		9915484						
SA1	SLAAP	12/9/99	11:55-12:25			↓		9915485						
SA2	SLAAP	12/9/99	434/min.			↓		9915488						
SA3	SLAAP	12/15/99	5:15/12:50 4:30/5:18			↓		9915487						

MATRIX: 1-SOIL WATER 3-EFFLUENT 4-SEDIMENT 5-AIR 6-BULK 7-PAINT CHIP 8-WIPE

TAT: 1-<24 hrs 2-24-48 hrs 3-<48 hrs

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
James D Romine	12/22/99	Amanda Scarberry	10-23-00 10:05
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Date/Time	Received in Laboratory by: (Signature)	Date/Time

Project Manager

Phone Number

1304-768-9988
754 P03
JAN 06 '00 08:59

ENVIRONMENTAL SERVICES INTERNATIONAL
6404 MacCORKLE AVENUE, SW
SUITE #2
ST. ALBANS, WEST VIRGINIA 25177
Voice: 304/768-[redacted]2233
Fax: 304/768-9988

CLIENT: [illegible]
PROJECT #: [illegible]
PROJECT NAME: [illegible]
SAMPLER SIGNATURE:

(2.0)

SAMPLE ID #	SAMPLE LOCATION / REMARKS	DATE	TIME	COMP	GRAB	MATRIX	TURN AROUND TIME	LAB I.D. NUMBER	LABORATORY ANALYSIS: [illegible]					
SAB	[illegible]	12/9/99				S		9915484						
SA1	SLAAP	12/9/99	11:55-12:25					9915485						
SA2	SLAAP	12/9/99	434/min.					9915486						
SA3	SLAAP	12/15/99	8:15/12:50 4:30/5:18					9915487						

MATRIX: 1-SOIL WATER 3-EFFLUENT 4-SEDIMENT 5-AIR 6-BULK 7-PAINT CHIP 8-WIPE

TAT: 1-<24 hrs 2-24-48 hrs 3-<48 hrs

Relinquished by (Signature)	Date/Time	Received by: (Signature)	Date/Time
James D Romine	12/22/99	[illegible]	12/23/99 10:05
Relinquished by (Signature)	Date/Time	Received by: (Signature)	Date/Time
Relinquished by (Signature)	Date/Time	Received in Laboratory by: (Signature)	Date/Time

Project Manager:

Phone Number: