CQAB Project No. 6007

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
CHEMISTRY QUALITY ASSURANCE BRANCH
OMAHA, NEBRASKA 68102

16 MAR 20

Subject: Quality Assurance Test Results

Reid 20 Mar 2001 LS

Project: Former Plumbrook Ordnance Works - TNT Area A, OH
Intended Use: FUDS
Source of Material:

Submitted by: Linda Ingram, CELRN-ED-R-M
Date Sampled: 20 - 25 Sep 00 **Date Received:** 21 - 26 Sep 00
Method of Test or Specification: See attached test result sheets

References: Nashville District Request No. W38XUDD01399330 dated 18 May 00

-- REMARKS --

1. Review comments for project data are presented on the following pages.

2. Sample receipt information and analytical data are provided in the following parts of the report.

   Part A: Sample Receipt Information (1 page)
   Part B: Chain-of-Custody Information (7 pages)
   Part C: Quality Assurance Test Results (139 pages)

3. The Quality Assurance Test Results are attached; if you have any questions please contact Laura Percifield at (402)444-4313.

✓VOA
✓BNA
✓PCB
✓Explosives
✓Metals

Submitted by:

Douglas B. Taggart

DOUGLAS B. TAGGART
Chief, Chemistry Quality
Assurance Branch

LP 2/26/01

Percifield/alm/444-4313

200-1e

G05OH001813_03.02_1002_a

TEST RESULTS

1. SUMMARY

CQAB compiled the data package according to the USACE HTRW minimum chemistry reporting requirements. CQAB performed the analyses using EPA methods. Proper quality control procedures were followed and documented. The method quality control results outlined below support the usability of the data.

2. DISCUSSION

a. Five soil and two water samples were received by CQAB between 21 Sep 00 and 26 Sep 00. The samples were analyzed for one or more of the following:
   - Volatile organics (VOA) by EPA method 8260.
   - Base/neutral/acid extractable organics (BNA) by EPA method 8270.
   - PCB by EPA method 8082.
   - Explosives by EPA method 8330.
   - Metals by EPA method: 7470 or 7471 for mercury and 6010 for aluminum, antimony, arsenic, barium, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc.

   The methods are from SW-846 (1986), "Test Methods for Evaluation of Solid Waste."

   Part "A" of this report lists all of the samples received.

b. The following shipping and chain-of-custody errors were noted for the sample shipments received by CQAB.

   1) The cooler that arrived on 21 Sep 00 contained no custody seals.

   2) There were bubbles in two of the trip blank containers received on 21 Sep 00.

   Part "B" of this report contains the chain-of-custody information.

c. The samples were analyzed by CQAB.

   Part "C" of this report lists the analytical test results.

3. METHOD QUALITY CONTROL

a. VOA:
1) Surrogate spike recoveries were within acceptable limits.
2) The method blanks were free of contamination except for a low level of acetone (page C27).
3) The trip blanks were free of contamination except for a low level of methylene chloride (page C1).
4) Laboratory duplicate results matched the results from the original field samples except for toluene whose relative percent difference (RPD) was above acceptable limits (page C17).
5) Matrix spike/matrix spike duplicate (MS/MSD) recoveries were within acceptable limits except for dichlorodifluoromethane, 1,2-dibromo-3-chloropropane, acetone, vinyl acetate, 2-butanone, 4-methyl-2-pentanone, 2-hexanone, naphthalene, 1,1,2,2-tetrachloroethane, 1,2,3-trichloropropane, and hexachlorobutadiene whose recoveries were outside acceptable limits (pages C10, C19, C20, C31, and C32). Relative percent differences (RPD) for MS/MSD recoveries were within acceptable limits except for vinyl acetate and naphthalene whose RPD were above acceptable limits (pages C19, C20, and C32). A MS/MSD was not analyzed with WG6573 due to insufficient sample amount.
6) Laboratory control sample (LCS) recoveries were within acceptable limits except for dichlorodifluoromethane, acetone, 2-butanone, 2-hexanone, naphthalene, and 1,2-dibromo-3-chloropropane whose recoveries were out (pages C21, C33, C34, and C45).
7) Holding times were met.

b. BNA:
1) Surrogate spike recoveries were within acceptable limits except in one instance in WG6578 when all of the surrogate recoveries were outside acceptable limits for the LCS (page C65).
2) The method blanks were free of contamination except for low levels of phenol, di-n-butyl phthalate, and bis(2-ethylhexyl) phthalate (page C51). The method blank for WG6576 contained low levels of 29 analytes (page C60).
3) Laboratory duplicate results matched the results from the original field samples except for 2,4-dinitrotoluene whose RPD was above acceptable limits (page C52).
4) MS/MSD recoveries were within acceptable limits except for 2,4-dinitrotoluene (97%/99%) whose recoveries were above acceptable limits (page C54). RPD for MS/MSD recoveries were within acceptable limits. A MSD was not analyzed with WG6578 due to insufficient sample volume.
5) LCS recoveries were within acceptable limits except in WG6578 recoveries of 30 analytes were outside acceptable limits (pages C64 and C65). See comment on page C59.
6) Holding times were met except sample AA1012 was extracted one day past the 14-day holding time.

c. PCB:
1) Surrogate spike recoveries were within acceptable limits.
2) The method blanks were free of contamination.
3) Laboratory duplicate results matched the results from the original field samples.
4) The MS/MSD recoveries were within acceptable limits. RPD for MS/MSD recoveries were within acceptable limits. A MSD was not analyzed with WG6547 due to insufficient sample volume.
5) LCS recoveries were within acceptable limits.
6) Holding times were met.

d. Explosives:
1) Surrogate spike recoveries were within acceptable limits.
2) The method blanks were free of contamination.
3) Laboratory duplicate results matched the results from the original field samples.
4) The MS/MSD recoveries were within acceptable limits except for 1,3,5-trinitrobenzene, nitrobenzene, and 2,4,6-trinitrotoluene whose recoveries were out (pages C93 and C102). RPD for MS/MSD recoveries were within acceptable limits. A MSD was not analyzed with WG6556 due to insufficient sample volume.
5) LCS recoveries were within acceptable limits except for nitrobenzene whose recovery was out (page C103).
6) Holding times were met.

e. Metals:
1) The method blanks were free of contamination except for a low level of nickel (page C132).
2) Laboratory duplicate results matched the results from the original field samples.
3) The MS/MSD recoveries were within acceptable limits except for calcium, potassium, manganese, and antimony whose recoveries were out (pages C116 and C120). RPD for MS/MSD recoveries were within acceptable limits.
4) LCS recoveries were within acceptable limits.
5) Holding times were met.

A1

PART A

SAMPLE RECEIPT INFORMATION

QA/QC Table #	Customer Sample ID	Date Sampled	Matrix	CQAB # Assigned	Tests Assigned	QA Test Results Page Number
	09202000-TB3	20 Sep 00	Water	M000976-002	VOA	C1-C2
001	AA2012	20 Sep 00	Water	M000976-003	Metals	C130-C131
				M000976-003	BNA	C58-C59
				M000976-003	Explosives	C84
				M000976-003	PCB	C66
				M000976-003	VOA	C3-C4
002	AA1012	20 Sep 00	Soil	M000976-001	Metals	C104-C105
				M000976-001	BNA	C46
				M000976-001	Explosives	C89
				M000976-001	PCB	C71
				M000976-001	VOA	C13-C14
003	AA0444	22 Sep 00	Soil	M000982-002	Metals	C108-C109
				M000982-002	BNA	C48
				M000982-002	Explosives	C96
				M000982-002	PCB	C77
				M000982-002	VOA	C25-C26
004	AA0439	22 Sep 00	Soil	M000982-001	Metals	C106-C107
				M000982-001	BNA	C47
				M000982-001	Explosives	C95
				M000982-001	PCB	C76
				M000982-001	VOA	C23-C24
005	AA0436	25 Sep 00	Soil	M000987-002	Metals	C112-C113
				M000987-002	BNA	C50
				M000987-002	Explosives	C98
				M000987-002	PCB	C79
				M000987-002	VOA	C37-C38
006	AA0430	25 Sep 00	Soil	M000987-001	Metals	C110-C111
				M000987-001	BNA	C49
				M000987-001	Explosives	C97
				M000987-001	PCB	C78
				M000987-001	VOA	C35-C36

PART B

CHAIN-OF-CUSTODY INFORMATION

Page No.	Chain-of-Custody No.	Date Signed
B1-B2	09202000(2)-USACE	20 Sep 00
B4	09222000-USACE	22 Sep 00
B6	09252000-USACE	25 Sep 00

IT CORPORATION
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ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No: 09202000(2)-USACE

Project Number: 773206
Samples Shipment Date: 20 SEP 2000
Project Name: PLUMBROOK ORDNANCE WOR
ab Destination: USACE Northwest Division Laboratory
Sample Coordinator: Duane Nielsen
Lab Contact: Douglas Taggart
Turnaround Time:
Project Contact: Kim Napier
Carrier/Waybill No.: Fed Ex/8212 2620 3375

Bill To: Accounts Receivable
312 Directors Drive
Knoxville TN 37923

Report To: Kim Napier
312 Directors Drive
Knoxville TN 37923

Special Instructions: LIMS # 6007

Possible Hazard Indentification:
Non-hazard | Flammable | Skin Irritant | Poison B | Unknown X

Sample Disposal:
Return to Client [ ] | Disposal by Lab X | Archive (mos.)

1. Relinquished By (Signature/Affiliation) [signature] Date: 09/20/00 Time: 18:00
2. Relinquished By (Signature/Affiliation) Date: Time:
3. Relinquished By (Signature/Affiliation) Date: Time:

1. Received By (Signature/Affiliation) Date: Time:
2. Received By (Signature/Affiliation) Date: Time:
3. Received By (Signature/Affiliation) Date: Time:

Comments:

Sample No	Sample Name	Sample Date	Sample Time	Container	Ctr Qty	Preservative	Requested Testing Program	Fil	CID	Condition On Receipt
09202000-TB3	FIELDQC-BW-09202000-TB3-TB	20 SEP 2000	07:00	40 ml GVIAL,SEP	2	HCl<pH 2	TCL Volatiles by SW-846 8260B	N		
AA1012	PBOW-00-SD-TNTA-SD04-AA1012-(00-00)	20 SEP 2000	12:00	8 oz CWM	2	None except cool to 4 C	TCL Volatiles by SW-846 8260B	N		
AA1012	PBOW-00-SD-TNTA-SD04-AA1012-(00-00)	20 SEP 2000	12:00	8 oz CWM	1	None except cool to 4 C	PCBs by SW-846 8082, TCL Semivolatiles by SW-846 8270C	N		
AA1012	PBOW-00-SD-TNTA-SD04-AA1012-(00-00)	20 SEP 2000	12:00	8 oz CWM	1	None except cool to 4 C	Nitroaromatics by SW-846 8330, TAL Metals by SW-846 6010B/7471A in soil	N		
AA2012	PBOW-00-SW-TNTA-SW01-AA2012-(00-00)	20 SEP 2000	10:25	40 mL GVIAL,SEP	3	HCl<pH 2	TCL Volatiles by SW-846 8260B	N		
AA2012	PBOW-00-SW-TNTA-SW01-AA2012-(00-00)	20 SEP 2000	10:25	1 L Amb. Glass	2	None except cool to 4 C	TCL Semivolatiles by SW-846 8270C	N		
AA2012	PBOW-00-SW-TNTA-SW01-AA2012-(00-00)	20 SEP 2000	10:25	1 L Amb. Glass	2	None except cool to 4 C	Nitroaromatics by SW-846 8330	N		

B2

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ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No: 09202000(2)-USACE

Sample No	Sample Name	Sample Date	Sample Time	Container		Preservative	Requested Testing Program	Fil	CID	Condition On Receipt
AA2012	PBOW-00 SW-TN1A-SW01-AA2012-(00-00)	20 SEP 2000	10:25	1 L HDPE	1	HNO3, pH<2	TAL Metals by SW-846 6010B/7470A in water	N		
AA2012	PBOW-00 SW-TN1A-SW01-AA2012-(00-00)	20 SEP 2000	10:25	1 L Amb. Glass	2	None except cool to 4 C	PCBs by SW-846 8082	N		

B3

COOLER RECEIPT FORM

LIMS 6007 CQAB Cooler # — Number of Coolers 1 Contractor Cooler IT

PROJECT: Plumbrook Date received: 9/21/00

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler opened: 9/21/00 C-of-C Number: 09202000(2)-USACE

by (print) Sherry Swink (sign) Sherry Swink

1. Did cooler come with a shipping slip (air bill, etc.)? ..... YES NO

   If YES, enter carrier name & air bill number here: Fed Ex

2. Were custody seals on outside of cooler? ..... YES NO

   How many & where: _____, seal date: _____, seal name _____

3. Were custody seals unbroken and intact at the date and time of arrival? ..... YES NO

4. Did you screen samples for radioactivity using the Geiger Counter..... YES NO

5. Were custody papers sealed in a plastic bag & taped inside to the lid? ..... YES NO

6. Were custody papers filled out properly (ink, signed, etc.)? ..... YES NO

7. Did you sign custody papers in the appropriate place? ..... YES NO

8. Was project identifiable from custody papers? ..... YES NO

9. Type of ice: Reg Temperature: <2.0 Date temperature measured: 9/21

10. Describe type of packing in cooler: bubble wrap

11. Were all bottles sealed in separate plastic bags? ..... YES NO

B. LOG-IN PHASE: Date samples were logged-in: 9/21/00

by (print) Sherry Swink (sign) Sherry Swink

12. Did all bottles arrive unbroken & were labels in good condition? ..... YES NO

13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? ..... YES NO

14. Did all bottle labels agree with custody papers? ..... YES NO

15. Were correct containers used for the tests indicated? ..... YES NO

16. Were correct preservatives added to samples? ..... YES NO

17. Was a sufficient amount of sample sent for tests indicated? ..... YES NO

18. Was headspace absent in Volatile samples? If NO, list by QA#: 2-TS YES NO

    QA # (cont.) _____

19. Were the custody papers checked against the sample receipt form? By whom? gm Date: 13Oct00

B4

IT CORPORATION
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ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No: 09222000-USACE

Project Number: 807112
Samples Shipment Date: 22 SEP 2000
Project Name: PLUM BROOK ORDNANCE WKS
ab Destination: US ACE - OHIO RIVER DIVISION LABORAT
Sample Coordinator: Maureen McMyler
Lab Contact: John Adams
Turnaround Time:
Project Contact: Maureen McMyler
Carrier/Waybill No.: Fed Ex/8212 2620 3342

Bill To: Accounts Receivable
312 Directors Drive
Knoxville TN 37923

Report To: Maureen McMyler
312 Directors Drive
Knoxville TN 37923

Special Instructions: 48 HOUR HOLD TIME ON ENCORE SAMPLES

Lims # 6007

Possible Hazard Indentification:

Non-hazard | Flammable | Skin Irritant | Poison B | Unknown X

Sample Disposal:

Return to Client | Disposal by Lab X | Archive (mos.)

1. Relinquished By (Signature/Affiliation) C. Fosbury Date: 9/22/00 Time: 1800
2. Relinquished By (Signature/Affiliation) Date: Time:
3. Relinquished By (Signature/Affiliation) Date: Time:

1. Received By (Signature/Affiliation) Date: Time:
2. Received By (Signature/Affiliation) Date: Time:
3. Received By (Signature/Affiliation) Sheely Hurst Date: 9/25/00 Time: 1000

Comments:

Sample No	Sample Name	Sample Date	Sample Time	Container	Ctr Qty	Preservative	Requested Testing Program	Fil	CID	Condition On Receipt
AA0439	PBOW-00-S0-TNTA-S0094-AA0439-(02-03)	22 SEP 2000	17:20	5 oz ENCORE	3	None except cool to 4 C	TCL Volatiles by SW-846 8260B	N		
AA0439	PBOW-00-S0-TNTA-S0094-AA0439-(02-03)	22 SEP 2000	17:20	8 oz CWM	1	None except cool to 4 C	PCBs by SW-846 8082, TCL Semivolatiles by SW-846 8270C	N		
AA0439	PBOW-00-S0-TNTA-S0094-AA0439-(02-03)	22 SEP 2000	17:20	8 oz CWM	1	None except cool to 4 C	Nitroaromatics by SW-846 8330, TAL Metals by SW-846 6010B/7471A in soil	N		
AA0444	PBOW-00-S0-TNTA-S0123-AA0444-(02-03)	22 SEP 2000	16:30	5 oz ENCORE	3	None except cool to 4 C	TCL Volatiles by SW-846 8260B	N		
AA0444	PBOW-00-S0-TNTA-S0123-AA0444-(02-03)	22 SEP 2000	16:30	8 oz CWM	1	None except cool to 4 C	PCBs by SW-846 8082, TCL Semivolatiles by SW-846 8270C	N		
AA0444	PBOW-00-S0-TNTA-S0123-AA0444-(02-03)	22 SEP 2000	16:30	8 oz CWM	1	None except cool to 4 C	Nitroaromatics by SW-846 8330, TAL Metals by SW-846 6010B/7471A in soil	N		

B5

COOLER RECEIPT FORM

LIMS # 6007 CQAB Cooler # _____ Number of Coolers 1 Contractor Cooler IT

PROJECT: Plumbrook Date received: 9/23/00

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler opened: 9/25/00 C-of-C Number: 09122000-45DCE

by (print) Sherry Swink (sign) Sherry Swink

1. Did cooler come with a shipping slip (air bill, etc.)? ..... (YES) NO

   If YES, enter carrier name & air bill number here: Fed Ex

2. Were custody seals on outside of cooler? ..... (YES) NO

   How many & where: 2 (one side), seal date: 9/22/00 seal name illegible

3. Were custody seals unbroken and intact at the date and time of arrival? ..... (YES) NO
4. Did you screen samples for radioactivity using the Geiger Counter? ..... YES NO
5. Were custody papers sealed in a plastic bag & taped inside to the lid? ..... (YES) NO
6. Were custody papers filled out properly (ink, signed, etc.)? ..... (YES) NO
7. Did you sign custody papers in the appropriate place? ..... (YES) NO
8. Was project identifiable from custody papers? ..... (YES) NO
9. Type of ice: dry Temperature: 3.1° Date temperature measured: 9/25
10. Describe type of packing in cooler: bubble wrap
11. Were all bottles sealed in separate plastic bags? ..... (YES) NO

B. LOG-IN PHASE: Date samples were logged-in: 9/25/00

by (print) Sherry Swink (sign) Sherry Swink

12. Did all bottles arrive unbroken & were labels in good condition? ..... (YES) NO
13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? ..... (YES) NO
14. Did all bottle labels agree with custody papers? ..... (YES) NO
15. Were correct containers used for the tests indicated? ..... (YES) NO
16. Were correct preservatives added to samples? ..... (YES) NO
17. Was a sufficient amount of sample sent for tests indicated? ..... (YES) NO
18. Was headspace absent in Volatile samples? If NO, list by QA#: _____ (YES) NO

    QA # (cont.) _____

19. Were the custody papers checked against the sample receipt form? By whom? gm Date: 13 Oct 00

BC

IT CORPORATION
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ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No: 09252000-USACE

Project Number: 807112
Samples Shipment Date: 25 SEP 2000
Project Name: PLUM BROOK ORDNANCE WKS
ab Destination: USACE Northwest Division Laboratory
Sample Coordinator: Maureen McMyler
Lab Contact: Douglas Taggart
Turnaround Time:
Project Contact: Maureen McMyler
Carrier/Waybill No.: Fed Ex/8212 2620 3310

Bill To: Accounts Receivable
312 Directors Drive
Knoxville TN 37923

Report To: Maureen McMyler
312 Directors Drive
Knoxville TN 37923

Special Instructions: LIMS # 6007

Possible Hazard Indentification:
Non-hazard | Flammable | Skin Irritant | Poison B | Unknown X

Sample Disposal:
Return to Client [ ] Disposal by Lab X Archive (mos.)

1. Relinquished By (Signature/Affiliation) [signature] Date: 9/25/00 Time: 18:00
2. Relinquished By (Signature/Affiliation) Date: Time:
3. Relinquished By (Signature/Affiliation) Date: Time:

1. Received By (Signature/Affiliation) Date: Time:
2. Received By (Signature/Affiliation) Date: Time:
3. Received By (Signature/Affiliation) [signature] Date: 9/26/00 Time: 1030

Comments: Large acetate liner tubes are for additional VOC analysis as per request from GPL labs.
* No acetate liner tube was collected for sample # AA0436

Sample No	Sample Name	Sample Date	Sample Time	Container	Ctr Qty	Preservative	Requested Testing Program	Fil	CID	Condition On Receipt
AA0430	PBOW-00-SO-TNTA-SO016-AA0430-(02-03)	25 SEP 2000	09:30	5 oz ENCORE	3	None except cool to 4 C	TCL Volatiles by SW-846 8260B	N		
AA0430	PBOW-00-SO-TNTA-SO016-AA0430-(02-03)	25 SEP 2000	09:30	8 oz CWM	1	None except cool to 4 C	PCBs by SW-846 8082, TCL Semivolatiles by SW-846 8270C	N		
AA0430	PBOW-00-SO-TNTA-SO016-AA0430-(02-03)	25 SEP 2000	09:30	8 oz CWM	1	None except cool to 4 C	Nitroaromatics by SW-846 8330, TAL Metals by SW-846 6010B/7471A in soil	N		
AA0436	PBOW-00-SO-TNTA-SO081-AA0436-(01-02)	25 SEP 2000	08:50	5 oz ENCORE	3	None except cool to 4 C	TCL Volatiles by SW-846 8260B	N		
AA0436	PBOW-00-SO-TNTA-SO081-AA0436-(01-02)	25 SEP 2000	08:50	8 oz CWM	1	None except cool to 4 C	PCBs by SW-846 8082, TCL Semivolatiles by SW-846 8270C	N		
AA0436	PBOW-00-SO-TNTA-SO081-AA0436-(01-02)	25 SEP 2000	08:50	8 oz CWM	1	None except cool to 4 C	Nitroaromatics by SW-846 8330, TAL Metals by SW-846 6010B/7471A in soil	N		

B7

COOLER RECEIPT FORM

LIMS# 6007 CQAB Cooler # — Number of Coolers 1 Contractor Cooler IT

PROJECT: Plumbrook Date received: 9/26/00

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS.

A. PRELIMINARY EXAMINATION PHASE: Date cooler opened: 9/26/00 C-of-C Number: 09252000-21SACE

by (print) Sherry Swink (sign) Sherry Swink

1. Did cooler come with a shipping slip (air bill, etc.)? ..... YES NO

   If YES, enter carrier name & air bill number here: Fed Ex

2. Were custody seals on outside of cooler? ..... YES NO

   How many & where: 2 (lea side), seal date: 9/25/00 seal name Brunner

3. Were custody seals unbroken and intact at the date and time of arrival? ..... YES NO
4. Did you screen samples for radioactivity using the Geiger Counter..... YES NO
5. Were custody papers sealed in a plastic bag & taped inside to the lid? ..... YES NO
6. Were custody papers filled out properly (ink, signed, etc.)? ..... YES NO
7. Did you sign custody papers in the appropriate place? ..... YES NO
8. Was project identifiable from custody papers? ..... YES NO
9. Type of ice: Reg Temperature: <2.0 Date temperature measured: 9/26
10. Describe type of packing in cooler: Vermiculite
11. Were all bottles sealed in separate plastic bags? ..... YES NO

B. LOG-IN PHASE: Date samples were logged-in: 9/26/00

by (print) Sherry Swink (sign) Sherry Swink

12. Did all bottles arrive unbroken & were labels in good condition? ..... YES NO
13. Were all bottle labels complete (ID, date, time, signature, preservative, etc.)? ..... YES NO
14. Did all bottle labels agree with custody papers? ..... YES NO
15. Were correct containers used for the tests indicated? ..... YES NO
16. Were correct preservatives added to samples? ..... YES NO
17. Was a sufficient amount of sample sent for tests indicated? ..... YES NO
18. Was headspace absent in Volatile samples? If NO, list by QA#: _____ YES NO

    QA # (cont.) _____

19. Were the custody papers checked against the sample receipt form? By whom? gm Date: 13 Oct. 00

PART C

QUALITY ASSURANCE TEST RESULTS

C1

DEPARTMENT OF THE ARMY
Corps of Engineers
Chemistry Quality Assurance Branch

VOA Sample Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: 09202000-TB3
Sample ID: M000976-002
Batch ID: WG6601
Method: EPA 8260
Analyst: Leuschen

Date Sampled: 09/20/00
Date Received: 09/21/00
Date Analyzed: 09/28/00
Date Reported: 12/15/00

Matrix: Water
Units: ug/L
Dilution: 1.0

CAS Number	Compound	Result	Sample Quant Limit	Sample Det Limit
75-71-8	Dichlorodifluoromethane	u	5.0	1
74-87-3	Chloromethane	u	2.0	0.5
75-01-4	Vinyl Chloride	u	2.0	0.5
74-83-9	Bromomethane	u	2.0	0.5
75-00-3	Chloroethane	u	2.0	0.5
75-69-4	Trichlorofluoromethane	u	5.0	1
67-64-1	Acetone	u	25	10
75-35-4	1,1-Dichloroethene	u	2.0	0.5
75-09-2	Methylene Chloride	0.9 J	2.0	0.5
75-15-0	Carbon Disulfide	u	2.0	0.5
156-60-5	trans-1,2-Dichloroethene	u	2.0	0.5
108-05-4	Vinyl Acetate	u	50	10
75-34-3	1,1-Dichloroethane	u	2.0	0.5
78-93-3	2-Butanone	u	25	10
594-20-7	2,2-Dichloropropane	u	10	2
156-59-2	cis-1,2-Dichloroethene	u	2.0	0.5
67-66-3	Chloroform	u	2.0	0.5
74-97-5	Bromochloromethane	u	5.0	1
71-55-6	1,1,1-Trichloroethane	u	2.0	0.5
563-58-6	1,1-Dichloropropene	u	5.0	1
56-23-5	Carbon Tetrachloride	u	2.0	0.5
107-06-2	1,2-Dichloroethane	u	2.0	0.5
71-43-2	Benzene	u	2.0	0.5
79-01-6	Trichloroethene	u	2.0	0.5
78-87-5	1,2-Dichloropropane	u	2.0	0.5
75-27-4	Bromodichloromethane	u	2.0	0.5
74-95-3	Dibromomethane	u	5.0	1
108-10-1	4-Methyl-2-pentanone	u	25	10
10061-01-5	cis-1,3-Dichloropropene	u	2.0	0.5
108-88-3	Toluene	u	2.0	0.5
10061-02-6	trans-1,3-Dichloropropene	u	2.0	0.5
591-78-6	2-Hexanone	u	25	10
79-00-5	1,1,2-Trichloroethane	u	2.0	0.5
142-28-9	1,3-Dichloropropane	u	5.0	1
127-18-4	Tetrachloroethene	u	2.0	0.5
124-48-1	Dibromochloromethane	u	2.0	0.5
106-93-4	1,2-Dibromoethane	u	5.0	1
108-90-7	Chlorobenzene	u	2.0	0.5
100-41-4	Ethylbenzene	u	2.0	0.5
630-20-6	1,1,1,2-Tetrachloroethane	u	5.0	1
1330-20-7B	meta-/para-Xylenes	u	2.0	0.5
95-47-6	ortho-Xylene	u	2.0	0.5
100-42-5	Styrene	u	2.0	0.5
98-92-8	Isopropylbenzene	u	5.0	1
75-25-2	Bromoform	u	2.0	0.5
79-34-5	1,1,2,2-Tetrachloroethane	u	2.0	1
96-18-4	1,2,3-Trichloropropane	u	5.0	1
103-65-1	n-Propylbenzene	u	5.0	1
108-86-1	Bromobenzene	u	5.0	1

u: Below Sample Detection Limit (SDL >= MDL x Dilution)
J: Estimated Concentration below laboratory reporting limit.

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DEPARTMENT OF THE ARMY
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VOA Sample Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: 09202000-TB3
Sample ID: M000976-002
Batch ID: WG6601
Method: EPA 8260
Analyst: Leuschen

Date Sampled: 09/20/00
Date Received: 09/21/00
Date Analyzed: 09/28/00
Date Reported: 12/15/00

Matrix: Water
Units: ug/L
Dilution: 1.0

CAS Number	Compound	Result	Sample Quant Limit	Sample Det Limit
108-67-8	1,3,5-Trimethylbenzene	u	5.0	1
95-49-8	2-Chlorotoluene	u	5.0	1
106-43-4	4-Chlorotoluene	u	5.0	1
98-06-6	tert-Butylbenzene	u	5.0	1
95-63-6	1,2,4-Trimethylbenzene	u	5.0	1
135-98-8	sec-Butylbenzene	u	5.0	1
99-87-6	p-Isopropyltoluene	u	5.0	1
541-73-1	1,3-Dichlorobenzene	u	5.0	1
106-46-7	1,4-Dichlorobenzene	u	5.0	1
104-51-8	n-Butylbenzene	u	5.0	1
95-50-1	1,2-Dichlorobenzene	u	5.0	1
96-12-8	1,2-Dibromo-3-chloropropane	u	10	2
120-82-1	1,2,4-Trichlorobenzene	u	25	10
87-68-3	Hexachlorobutadiene	u	25	10
91-20-3	Naphthalene	u	25	10
87-61-6	1,2,3-Trichlorobenzene	u	25	10

u: Below Sample Detection Limit (SDL >= MDL x Dilution)

Method Quality Control

Surrogate Standard	Recovery (%)	CQAB Lab Perfomance Range	Method 8260 Acceptance Range	Spike (ug/L)
Dibromofluoromethane	93.0	80-120	80-120	50.0
1,2-Dichloroethane-d4	107.	76-114	76-114	50.0
Toluene-d8	96.4	88-110	88-110	50.0
4-Bromofluorobenzene	108.	86-115	86-115	50.0

(CQAB Laboratory performance ranges are based on in-house testing.)

Quality Assurance / Quality Control

Method Blank:	WG6601-1	Laboratory Control Sample:	WG6601-2
Laboratory Matrix Duplicate:	WG6601-3	Dilution:	NA
Matrix Spike:	WG6601-4	Dilution:	NA
Matrix Spike Duplicate:	WG6601-5		

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DEPARTMENT OF THE ARMY
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Chemistry Quality Assurance Branch

VOA Sample Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: AA2012
Sample ID: M000976-003
Batch ID: WG6601
Method: EPA 8260
Analyst: Leuschen

Date Sampled: 09/20/00
Date Received: 09/21/00
Date Analyzed: 09/28/00
Date Reported: 12/15/00

Matrix: Water
Units: ug/L
Dilution: 1.0

CAS Number	Compound	Result	Sample Quant Limit	Sample Det Limit
75-71-8	Dichlorodifluoromethane	u	5.0	1
74-87-3	Chloromethane	u	2.0	0.5
75-01-4	Vinyl Chloride	u	2.0	0.5
74-83-9	Bromomethane	u	2.0	0.5
75-00-3	Chloroethane	u	2.0	0.5
75-69-4	Trichlorofluoromethane	u	5.0	1
67-64-1	Acetone	u	25	10
75-35-4	1,1-Dichloroethene	u	2.0	0.5
75-09-2	Methylene Chloride	u	2.0	0.5
75-15-0	Carbon Disulfide	u	2.0	0.5
156-60-5	trans-1,2-Dichloroethene	u	2.0	0.5
108-05-4	Vinyl Acetate	u	50	10
75-34-3	1,1-Dichloroethane	u	2.0	0.5
78-93-3	2-Butanone	u	25	10
594-20-7	2,2-Dichloropropane	u	10	2
156-59-2	cis-1,2-Dichloroethene	u	2.0	0.5
67-66-3	Chloroform	u	2.0	0.5
74-97-5	Bromochloromethane	u	5.0	1
71-55-6	1,1,1-Trichloroethane	u	2.0	0.5
563-58-6	1,1-Dichloropropene	u	5.0	1
56-23-5	Carbon Tetrachloride	u	2.0	0.5
107-06-2	1,2-Dichloroethane	u	2.0	0.5
71-43-2	Benzene	u	2.0	0.5
79-01-6	Trichloroethene	u	2.0	0.5
78-87-5	1,2-Dichloropropane	u	2.0	0.5
75-27-4	Bromodichloromethane	u	2.0	0.5
74-95-3	Dibromomethane	u	5.0	1
108-10-1	4-Methyl-2-pentanone	u	25	10
10061-01-5	cis-1,3-Dichloropropene	u	2.0	0.5
108-88-3	Toluene	u	2.0	0.5
10061-02-6	trans-1,3-Dichloropropene	u	2.0	0.5
591-78-6	2-Hexanone	u	25	10
79-00-5	1,1,2-Trichloroethane	u	2.0	0.5
142-28-9	1,3-Dichloropropane	u	5.0	1
127-18-4	Tetrachloroethene	u	2.0	0.5
124-48-1	Dibromochloromethane	u	2.0	0.5
106-93-4	1,2-Dibromoethane	u	5.0	1
108-90-7	Chlorobenzene	u	2.0	0.5
100-41-4	Ethylbenzene	u	2.0	0.5
630-20-6	1,1,1,2-Tetrachloroethane	u	5.0	1
1330-20-7B	meta-/para-Xylenes	u	2.0	0.5
95-47-6	ortho-Xylene	u	2.0	0.5
100-42-5	Styrene	u	2.0	0.5
98-92-8	Isopropylbenzene	u	5.0	1
75-25-2	Bromoform	u	2.0	0.5
79-34-5	1,1,2,2-Tetrachloroethane	u	2.0	1
96-18-4	1,2,3-Trichloropropane	u	5.0	1
103-65-1	n-Propylbenzene	u	5.0	1
108-86-1	Bromobenzene	u	5.0	1
108-67-8	1,3,5-Trimethylbenzene	u	5.0	1

u: Below Sample Detection Limit (SDL >= MDL x Dilution)

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DEPARTMENT OF THE ARMY
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VOA Sample Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: AA2012
Sample ID: M000976-003
Batch ID: WG6601
Method: EPA 8260
Analyst: Leuschen

Date Sampled: 09/20/00
Date Received: 09/21/00
Date Analyzed: 09/28/00
Date Reported: 12/15/00

Matrix: Water
Units: ug/L
Dilution: 1.0

CAS Number	Compound	Result	Sample Quant Limit	Sample Det Limit
95-49-8	2-Chlorotoluene	u	5.0	1
106-43-4	4-Chlorotoluene	u	5.0	1
98-06-6	tert-Butylbenzene	u	5.0	1
95-63-6	1,2,4-Trimethylbenzene	u	5.0	1
135-98-8	sec-Butylbenzene	u	5.0	1
99-87-6	p-Isopropyltoluene	u	5.0	1
541-73-1	1,3-Dichlorobenzene	u	5.0	1
106-46-7	1,4-Dichlorobenzene	u	5.0	1
104-51-8	n-Butylbenzene	u	5.0	1
95-50-1	1,2-Dichlorobenzene	u	5.0	1
96-12-8	1,2-Dibromo-3-chloropropane	u	10	2
120-82-1	1,2,4-Trichlorobenzene	u	25	10
87-68-3	Hexachlorobutadiene	u	25	10
91-20-3	Naphthalene	u	25	10
87-61-6	1,2,3-Trichlorobenzene	u	25	10

u: Below Sample Detection Limit (SDL >= MDL x Dilution)

Method Quality Control

Surrogate Standard	Recovery (%)	CQAB Lab Perfomance Range	Method 8260 Acceptance Range	Spike (ug/L)
Dibromofluoromethane	94.2	80-120	80-120	50.0
1,2-Dichloroethane-d4	104.	76-114	76-114	50.0
Toluene-d8	101.	88-110	88-110	50.0
4-Bromofluorobenzene	108.	86-115	86-115	50.0

(CQAB Laboratory performance ranges are based on in-house testing.)

Quality Assurance / Quality Control

Method Blank: WG6601-1
Laboratory Matrix Duplicate: WG6601-3
Matrix Spike: WG6601-4
Matrix Spike Duplicate: WG6601-5

Laboratory Control Sample: WG6601-2
Dilution: NA
Dilution: NA

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C5

DEPARTMENT OF THE ARMY
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VOA (Method Blank) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007 Date Analyzed: 09/28/00 Matrix: Water
Method Blank ID: WG6601-1 Date Reported: 12/15/00 Units: ug/L
Method: EPA 8260
Analyst: Leuschen

CAS Number	Compound	Result	Sample Quant Limit	Sample Det Limit
75-71-8	Dichlorodifluoromethane	u	5.0	1
74-87-3	Chloromethane	u	2.0	0.5
75-01-4	Vinyl Chloride	u	2.0	0.5
74-83-9	Bromomethane	u	2.0	0.5
75-00-3	Chloroethane	u	2.0	0.5
75-69-4	Trichlorofluoromethane	u	5.0	1
67-64-1	Acetone	u	25.	10
75-35-4	1,1-Dichloroethene	u	2.0	0.5
75-09-2	Methylene Chloride	u	2.0	0.5
75-15-0	Carbon Disulfide	u	2.0	0.5
156-60-5	trans-1,2-Dichloroethene	u	2.0	0.5
108-05-4	Vinyl Acetate	u	50.	10
75-34-3	1,1-Dichloroethane	u	2.0	0.5
78-93-3	2-Butanone	u	25.	10
594-20-7	2,2-Dichloropropane	u	10.	2
156-59-2	cis-1,2-Dichloroethene	u	2.0	0.5
67-66-3	Chloroform	u	2.0	0.5
74-97-5	Bromochloromethane	u	5.0	1
71-55-6	1,1,1-Trichloroethane	u	2.0	0.5
563-58-6	1,1-Dichloropropene	u	5.0	1
56-23-5	Carbon Tetrachloride	u	2.0	0.5
107-06-2	1,2-Dichloroethane	u	2.0	0.5
71-43-2	Benzene	u	2.0	0.5
79-01-6	Trichloroethene	u	2.0	0.5
78-87-5	1,2-Dichloropropane	u	2.0	0.5
75-27-4	Bromodichloromethane	u	2.0	0.5
74-95-3	Dibromomethane	u	5.0	1
108-10-1	4-Methyl-2-pentanone	u	25.	10
10061-01-5	cis-1,3-Dichloropropene	u	2.0	0.5
108-88-3	Toluene	u	2.0	0.5
10061-02-6	trans-1,3-Dichloropropene	u	2.0	0.5
591-78-6	2-Hexanone	u	25.	10
79-00-5	1,1,2-Trichloroethane	u	2.0	0.5
142-28-9	1,3-Dichloropropane	u	5.0	1
127-18-4	Tetrachloroethene	u	2.0	0.5
124-48-1	Dibromochloromethane	u	2.0	0.5
106-93-4	1,2-Dibromoethane	u	5.0	1
108-90-7	Chlorobenzene	u	2.0	0.5
100-41-4	Ethylbenzene	u	2.0	0.5
630-20-6	1,1,1,2-Tetrachloroethane	u	5.0	1
1330-20-7B	meta-/para-Xylenes	u	2.0	0.5
95-47-6	ortho-Xylene	u	2.0	0.5
100-42-5	Styrene	u	2.0	0.5
98-92-8	Isopropylbenzene	u	5.0	1
75-25-2	Bromoform	u	2.0	0.5
79-34-5	1,1,2,2-Tetrachloroethane	u	2.0	1
96-18-4	1,2,3-Trichloropropane	u	5.0	1
103-65-1	n-Propylbenzene	u	5.0	1
108-86-1	Bromobenzene	u	5.0	1
108-67-8	1,3,5-Trimethylbenzene	u	5.0	1
95-49-8	2-Chlorotoluene	u	5.0	1

u: Below Sample Detection Limit (SDL >= MDL x Dilution)

MDL determined according to procedures in 40CFR Appendix B to part 136

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C6

DEPARTMENT OF THE ARMY
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VOA (Method Blank) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007 Date Analyzed: 09/28/00 Matrix: Water
Method Blank ID: WG6601-1 Date Reported: 12/15/00 Units: ug/L
Method: EPA 8260
Analyst: Leuschen

CAS Number	Compound	Result	Sample Quant Limit	Sample Det Limit
106-43-4	4-Chlorotoluene	u	5.0	1
98-06-6	tert-Butylbenzene	u	5.0	1
95-63-6	1,2,4-Trimethylbenzene	u	5.0	1
135-98-8	sec-Butylbenzene	u	5.0	1
99-87-6	p-Isopropyltoluene	u	5.0	1
541-73-1	1,3-Dichlorobenzene	u	5.0	1
106-46-7	1,4-Dichlorobenzene	u	5.0	1
104-51-8	n-Butylbenzene	u	5.0	1
95-50-1	1,2-Dichlorobenzene	u	5.0	1
96-12-8	1,2-Dibromo-3-chloropropane	u	10.	2
120-82-1	1,2,4-Trichlorobenzene	u	25.	10
87-68-3	Hexachlorobutadiene	u	25.	10
91-20-3	Naphthalene	u	25.	10
87-61-6	1,2,3-Trichlorobenzene	u	25.	10

u: Below Sample Detection Limit (SDL >= MDL x Dilution)

MDL determined according to procedures in 40CFR Appendix B to part 136

Method Quality Control

Surrogate Standard	Recovery (%)	CQAB Lab Perfomance Range	Method 8260 Acceptance Range	Spike (ug/L)
Dibromofluoromethane	91.7	80-120	80-120	50.0
1,2-Dichloroethane-d4	104.	76-114	76-114	50.0
Toluene-d8	93.0	88-110	88-110	50.0
4-Bromofluorobenzene	114.	86-115	86-115	50.0

(CQAB Laboratory performance ranges are based on in-house testing.)

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C7

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VOA (Laboratory Matrix Duplicate) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007 Date Sampled: 09/26/00 Matrix: Water
Client Sample ID: Batch Specific Date Received: 09/27/00 Units: ug/L
Sample ID: M000993-002 Date Analyzed: 09/28/00
Lab Duplicate ID: WG6601-3 Date Reported: 12/15/00 Analyst: Leuschen
Method: EPA 8260

CAS Number	Compound	Sample Result	Dup Result	RPD (%)	QC Limits	Sample Quant Limit
75-71-8	Dichlorodifluoromethane	u	u	NC	25	5
74-87-3	Chloromethane	u	u	NC	25	2
75-01-4	Vinyl Chloride	u	u	NC	25	2
74-83-9	Bromomethane	u	u	NC	25	2
75-00-3	Chloroethane	u	u	NC	25	2
75-69-4	Trichlorofluoromethane	u	u	NC	25	5
67-64-1	Acetone	u	u	NC	25	25
75-35-4	1,1-Dichloroethene	u	u	NC	25	2
75-09-2	Methylene Chloride	u	u	NC	25	2
75-15-0	Carbon Disulfide	u	u	NC	25	2
156-60-5	trans-1,2-Dichloroethene	u	u	NC	25	2
108-05-4	Vinyl Acetate	u	u	NC	25	50
75-34-3	1,1-Dichloroethane	u	u	NC	25	2
78-93-3	2-Butanone	u	u	NC	25	25
594-20-7	2,2-Dichloropropane	u	u	NC	25	10
156-59-2	cis-1,2-Dichloroethene	u	u	NC	25	2
67-66-3	Chloroform	u	u	NC	25	2
74-97-5	Bromochloromethane	u	u	NC	25	5
71-55-6	1,1,1-Trichloroethane	u	u	NC	25	2
563-58-6	1,1-Dichloropropene	u	u	NC	25	5
56-23-5	Carbon Tetrachloride	u	u	NC	25	2
107-06-2	1,2-Dichloroethane	u	u	NC	25	2
71-43-2	Benzene	11.3	10.9	3.1	25	2
79-01-6	Trichloroethene	u	u	NC	25	2
78-87-5	1,2-Dichloropropane	u	u	NC	25	2
75-27-4	Bromodichloromethane	u	u	NC	25	2
74-95-3	Dibromomethane	u	u	NC	25	5
108-10-1	4-Methyl-2-pentanone	u	u	NC	25	25
10061-01-5	cis-1,3-Dichloropropene	u	u	NC	25	2
108-88-3	Toluene	u	u	NC	25	2
10061-02-6	trans-1,3-Dichloropropene	u	u	NC	25	2
591-78-6	2-Hexanone	u	u	NC	25	25
79-00-5	1,1,2-Trichloroethane	u	u	NC	25	2
142-28-9	1,3-Dichloropropane	u	u	NC	25	5
127-18-4	Tetrachloroethene	u	u	NC	25	2
124-48-1	Dibromochloromethane	u	u	NC	25	2
106-93-4	1,2-Dibromoethane	u	u	NC	25	5
108-90-7	Chlorobenzene	u	u	NC	25	2
100-41-4	Ethylbenzene	16.5	15.4	6.4	25	2
630-20-6	1,1,1,2-Tetrachloroethane	u	u	NC	25	5
1330-20-7B	meta-/para-Xylenes	0.9 J	u	NC	25	2
95-47-6	ortho-Xylene	u	u	NC	25	2
100-42-5	Styrene	u	u	NC	25	2
98-92-8	Isopropylbenzene	10.7	9.7	9.4	25	5
75-25-2	Bromoform	u	u	NC	25	2
79-34-5	1,1,2,2-Tetrachloroethane	u	u	NC	25	2
96-18-4	1,2,3-Trichloropropane	u	u	NC	25	5
103-65-1	n-Propylbenzene	8.7	8.0	8.1	25	5
108-86-1	Bromobenzene	u	u	NC	25	5

NC: Parameter is Not Calculable
u: Below Sample Detection Limit (SDL >= MDL x Dilution)
Batch Specific: The sample used for batch QC was from another project within this work group.
J: Estimated Concentration below laboratory reporting limit.

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VOA (Laboratory Matrix Duplicate) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: Batch Specific
Sample ID: M000993-002
Lab Duplicate ID: WG6601-3
Method: EPA 8260

Date Sampled: 09/26/00
Date Received: 09/27/00
Date Analyzed: 09/28/00
Date Reported: 12/15/00

Matrix: Water
Units: ug/L
Analyst: Leuschen

CAS Number	Compound	Sample Result	Dup Result	RPD (%)	QC Limits	Sample Quant Limit
108-67-8	1,3,5-Trimethylbenzene	u	u	NC	25	5
95-49-8	2-Chlorotoluene	u	u	NC	25	5
106-43-4	4-Chlorotoluene	u	u	NC	25	5
98-06-6	tert-Butylbenzene	4.3 J	4.1 J	4.3	25	5
95-63-6	1,2,4-Trimethylbenzene	3.2 J	3.1 J	2.5	25	5
135-98-8	sec-Butylbenzene	3.5 J	3.2 J	6.3	25	5
99-87-6	p-Isopropyltoluene	u	u	NC	25	5
541-73-1	1,3-Dichlorobenzene	u	u	NC	25	5
106-46-7	1,4-Dichlorobenzene	u	u	NC	25	5
104-51-8	n-Butylbenzene	2.5 J	2.4 J	4.5	25	5
95-50-1	1,2-Dichlorobenzene	u	u	NC	25	5
96-12-8	1,2-Dibromo-3-chloropropane	u	u	NC	25	10
120-82-1	1,2,4-Trichlorobenzene	u	u	NC	25	25
87-68-3	Hexachlorobutadiene	u	u	NC	25	25
91-20-3	Naphthalene	76.1	77.3	1.4	25	25
87-61-6	1,2,3-Trichlorobenzene	u	u	NC	25	25

NC: Parameter is Not Calculable
u: Below Sample Detection Limit (SDL >= MDL x Dilution)
Batch Specific: The sample used for batch QC was from another project within this work group.
J: Estimated Concentration below laboratory reporting limit.

Method Quality Control

Surrogate Standard Name	Added (ug/L)	Sample (ug/L)	Sample Rec (%)	Dup (ug/L)	Dup Rec (%)	CQAB Lab Performanc Range	Method 8260 Acceptance Range	RPD (%)	CQAB Lab Performance Range
Dibromofluoromethane	50.0	46.9	93.8	49.8	99.5	80-120	80-120	5.9	25
1,2-Dichloroethane-d4	50.0	51.6	103.	53.3	107.	76-114	76-114	3.2	25
Toluene-d8	50.0	45.1	90.2	45.6	91.3	88-110	88-110	1.2	25
4-Bromofluorobenzene	50.0	55.9	112.	56.1	112.	86-115	86-115	0.30	25

(CQAB Laboratory performance ranges are based on in-house testing.)

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DEPARTMENT OF THE ARMY
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Chemistry Quality Assurance Branch

VOA (Matrix Spike, Matrix Spike Duplicate) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007 Date Analyzed: 09/28/00 Matrix: Water
Sample ID: M000993-002 Batch Specific Date Reported: 12/15/00 Units: ug/L
MS Sample ID: WG6601-4
Method: EPA 8260
Analyst: Leuschen

CAS Number	Compound	Sample Result	MS Conc	MS %Rec	QC Limits	MSD Conc	MSD %Rec	RPD (%)	QC Limits
75-71-8	Dichlorodifluoromethane	u	91.9	91.9	60-140	83.4	83.4	9.7	25
74-87-3	Chloromethane	u	122	122	60-140	111	111	9.4	25
75-01-4	Vinyl Chloride	u	122	122	60-140	112	112	8.5	25
74-83-9	Bromomethane	u	71.1	71.1	60-140	64.9	64.9	9.1	25
75-00-3	Chloroethane	u	81.8	81.8	60-140	77.7	77.7	5.1	25
75-69-4	Trichlorofluoromethane	u	109	109	60-140	103	103	5.7	25
67-64-1	Acetone	u	96.0	91.0	60-140	95.8	90.8	0.2	25
75-35-4	1,1-Dichloroethene	u	122	122	61-145	116	116	5.0	25
75-09-2	Methylene Chloride	u	108	108	70-130	104	104	3.8	25
75-15-0	Carbon Disulfide	u	105	105	70-130	99.1	98.8	5.8	25
156-60-5	trans-1,2-Dichloroethene	u	117	117	70-130	114	114	2.6	25
108-05-4	Vinyl Acetate	u	111	111	60-140	112	112	0.9	25
75-34-3	1,1-Dichloroethane	u	103	103	70-130	99.7	99.7	3.3	25
78-93-3	2-Butanone	u	99.9	98.9	60-140	101	100	1.1	25
594-20-7	2,2-Dichloropropane	u	115	115	70-130	109	109	5.4	25
156-59-2	cis-1,2-Dichloroethene	u	115	115	70-130	110	110	4.4	25
67-66-3	Chloroform	u	105	105	70-130	101	101	3.9	25
74-97-5	Bromochloromethane	u	110	110	70-130	106	106	3.7	25
71-55-6	1,1,1-Trichloroethane	u	108	108	70-130	103	103	4.7	25
563-58-6	1,1-Dichloropropene	u	114	114	70-130	110	110	3.6	25
56-23-5	Carbon Tetrachloride	u	102	102	70-130	96.8	96.8	5.2	25
107-06-2	1,2-Dichloroethane	u	99.5	99.2	70-130	97.7	97.4	1.8	25
71-43-2	Benzene	11.3	110	98.7	76-127	106	94.7	4.1	25
79-01-6	Trichloroethene	u	110	110	71-120	108	108	1.8	25
78-87-5	1,2-Dichloropropane	u	99.1	99.1	70-130	97.3	97.3	1.8	25
75-27-4	Bromodichloromethane	u	104	104	70-130	98.6	98.6	5.3	25
74-95-3	Dibromomethane	u	106	106	70-130	105	105	0.9	25
108-10-1	4-Methyl-2-pentanone	u	112	112	60-140	120	120	6.9	25
10061-01-5	cis-1,3-Dichloropropene	u	110	110	70-130	107	107	2.8	25
108-88-3	Toluene	u	117	117	76-125	106	106	9.9	25
10061-02-6	trans-1,3-Dichloropropene	u	97.4	97.4	60-140	91.5	91.5	6.2	25
591-78-6	2-Hexanone	u	103	103	70-130	106	106	2.9	25
79-00-5	1,1,2-Trichloroethane	u	113	113	70-130	108	108	4.5	25
142-28-9	1,3-Dichloropropane	u	107	107	70-130	104	104	2.8	25
127-18-4	Tetrachloroethene	u	117	117	70-130	111	111	5.3	25
124-48-1	Dibromochloromethane	u	104	104	70-130	99.7	99.7	4.2	25
106-93-4	1,2-Dibromoethane	u	115	115	70-130	112	112	2.6	25
108-90-7	Chlorobenzene	u	102	102	75-130	99.1	99.1	2.9	25
100-41-4	Ethylbenzene	16.5	115	98.5	70-130	108	91.5	7.4	25
630-20-6	1,1,1,2-Tetrachloroethane	u	98.9	98.9	70-130	92.6	92.6	6.6	25
1330-20-7B	meta-/para-Xylenes	0.9 J	211	105	70-130	195	97.0	7.9	25
95-47-6	ortho-Xylene	u	104	104	70-130	96.9	96.9	7.1	25
100-42-5	Styrene	u	103	103	70-130	95.9	95.9	7.1	25
98-92-8	Isopropylbenzene	10.7	108	97.3	70-130	101	90.3	7.5	25
75-25-2	Bromoform	u	107	107	70-130	103	103	3.8	25
79-34-5	1,1,2,2-Tetrachloroethane	u	118	118	70-130	122	122	3.3	25
96-18-4	1,2,3-Trichloropropane	u	116	116	70-130	120	120	3.4	25
103-65-1	n-Propylbenzene	8.7	114	105	70-130	112	103	1.9	25
108-86-1	Bromobenzene	u	120	120	70-130	119	119	0.8	25
108-67-8	1,3,5-Trimethylbenzene	u	120	120	70-130	114	114	5.1	25

u: Below Sample Detection Limit (SDL >= MDL x Dilution)
Batch Specific: The sample used for batch QC was from another project within this work group.
%Rec: Percent of the spike recovered from the matrix
J: Estimated Concentration below laboratory reporting limit.

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DEPARTMENT OF THE ARMY
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VOA (Matrix Spike, Matrix Spike Duplicate) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007 Date Analyzed: 09/28/00 Matrix: Water
Sample ID: M000993-002 Batch Specific Date Reported: 12/15/00 Units: ug/L
MS Sample ID: WG6601-4
Method: EPA 8260
Analyst: Leuschen

CAS Number	Compound	Sample Result	MS Conc	MS %Rec	QC Limits	MSD Conc	MSD %Rec	RPD (%)	QC Limits
95-49-8	2-Chlorotoluene	u	118	118	70-130	114	114	3.4	25
106-43-4	4-Chlorotoluene	u	122	122	70-130	115	115	5.9	25
98-06-6	tert-Butylbenzene	4.3 J	106	102	70-130	102	97.7	4.0	25
95-63-6	1,2,4-Trimethylbenzene	3.2 J	106	103	70-130	104	101	2.0	25
135-98-8	sec-Butylbenzene	3.5 J	107	104	70-130	105	102	2.0	25
99-87-6	p-Isopropyltoluene	u	108	108	70-130	105	105	2.8	25
541-73-1	1,3-Dichlorobenzene	u	114	114	70-130	112	112	1.8	25
106-46-7	1,4-Dichlorobenzene	u	97.6	97.5	70-130	95.4	95.3	2.3	25
104-51-8	n-Butylbenzene	2.5 J	104	101	70-130	101	98.5	3.0	25
95-50-1	1,2-Dichlorobenzene	u	104	104	70-130	103	103	1.0	25
96-12-8	1,2-Dibromo-3-chloropropane	u	131	131 *	70-130	136	136 *	3.7	25
120-82-1	1,2,4-Trichlorobenzene	u	119	119	70-130	118	118	0.8	25
87-68-3	Hexachlorobutadiene	u	111	111	70-130	105	105	5.6	25
91-20-3	Naphthalene	76.1	194	118	70-130	199	123	4.2	25
87-61-6	1,2,3-Trichlorobenzene	u	125	125	70-130	127	127	1.6	25

%Rec: Percent of the spike recovered from the matrix
u: Below Sample Detection Limit (SDL >= MDL x Dilution)
Batch Specific: The sample used for batch QC was from another project within this work group.
J: Estimated Concentration below laboratory reporting limit.
*: Indicates the value is outside control limits.

Method Quality Control

Surrogate Standard Name	Added (ug/L)	MS (ug/L)	MS Rec (%)	MSD (ug/L)	MSD Rec (%)	CQAB Lab %Rec Limits	Method 8260 Acceptance Range	RPD (%)	CQAB Lab RPD Limits
Dibromofluoromethane	50.0	46.7	93.5	45.6	91.2	80-120	80-120	2.5	25
1,2-Dichloroethane-d4	50.0	51.1	102.	50.6	101.	76-114	76-114	1.	25
Toluene-d8	50.0	48.6	97.3	46.9	93.8	88-110	88-110	3.6	25
4-Bromofluorobenzene	50.0	55.1	110.	55.8	112.	86-115	86-115	1.2	25

(CQAB Laboratory performance ranges are based on in-house testing.)

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DEPARTMENT OF THE ARMY
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VOA (Laboratory Control Sample) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007 Date Analyzed: 09/28/00 Matrix: Water
LCS ID: WG6601-2 Date Reported: 12/15/00 Units: ug/L
Method: EPA 8260
Analyst: Leuschen

CAS Number	Compound	LCS Result	Spike Added	LCS %Rec	Acceptance Range
75-71-8	Dichlorodifluoromethane	95.1	100	95.1	60-140
74-87-3	Chloromethane	125	100	125	60-140
75-01-4	Vinyl Chloride	116	100	116	60-140
74-83-9	Bromomethane	75.0	100	75.0	60-140
75-00-3	Chloroethane	85.8	100	85.8	60-140
75-69-4	Trichlorofluoromethane	103	100	103	60-140
67-64-1	Acetone	102	100	102	60-140
75-35-4	1,1-Dichloroethene	115	100	115	61-145
75-09-2	Methylene Chloride	109	100	109	70-130
75-15-0	Carbon Disulfide	98.8	100	98.8	70-130
156-60-5	trans-1,2-Dichloroethene	113	100	113	70-130
108-05-4	Vinyl Acetate	111	100	111	60-140
75-34-3	1,1-Dichloroethane	102	100	102	70-130
78-93-3	2-Butanone	103	100	103	60-140
594-20-7	2,2-Dichloropropane	107	100	107	70-130
156-59-2	cis-1,2-Dichloroethene	113	100	113	70-130
67-66-3	Chloroform	105	100	105	70-130
74-97-5	Bromochloromethane	112	100	112	70-130
71-55-6	1,1,1-Trichloroethane	102	100	102	70-130
563-58-6	1,1-Dichloropropene	107	100	107	70-130
56-23-5	Carbon Tetrachloride	95.4	100	95.4	70-130
107-06-2	1,2-Dichloroethane	102	100	102	70-130
71-43-2	Benzene	104	100	104	76-127
79-01-6	Trichloroethene	105	100	105	71-120
78-87-5	1,2-Dichloropropane	99.1	100	99.1	70-130
75-27-4	Bromodichloromethane	105	100	105	70-130
74-95-3	Dibromomethane	109	100	109	70-130
108-10-1	4-Methyl-2-pentanone	109	100	109	60-140
10061-01-5	cis-1,3-Dichloropropene	108	100	108	70-130
108-88-3	Toluene	109	100	109	76-125
10061-02-6	trans-1,3-Dichloropropene	96.2	100	96.2	60-140
591-78-6	2-Hexanone	97.1	100	97.1	70-130
79-00-5	1,1,2-Trichloroethane	115	100	115	70-130
142-28-9	1,3-Dichloropropane	109	100	109	70-130
127-18-4	Tetrachloroethene	106	100	106	70-130
124-48-1	Dibromochloromethane	107	100	107	70-130
106-93-4	1,2-Dibromoethane	117	100	117	70-130
108-90-7	Chlorobenzene	102	100	102	75-130
100-41-4	Ethylbenzene	101	100	101	70-130
630-20-6	1,1,1,2-Tetrachloroethane	97.1	100	97.1	70-130
1330-20-7B	meta-/para-Xylenes	201	200	101	70-130
95-47-6	ortho-Xylene	99.8	100	99.8	70-130
100-42-5	Styrene	99.4	100	99.4	70-130
98-92-8	Isopropylbenzene	94.3	100	94.3	70-130
75-25-2	Bromoform	109	100	109	70-130
79-34-5	1,1,2,2-Tetrachloroethane	116	100	116	70-130
96-18-4	1,2,3-Trichloropropane	117	100	117	70-130
103-65-1	n-Propylbenzene	102	100	102	70-130
108-86-1	Bromobenzene	115	100	115	70-130
108-67-8	1,3,5-Trimethylbenzene	113	100	113	70-130
95-49-8	2-Chlorotoluene	112	100	112	70-130
106-43-4	4-Chlorotoluene	115	100	115	70-130
98-06-6	tert-Butylbenzene	98.8	100	98.8	70-130
95-63-6	1,2,4-Trimethylbenzene	104	100	104	70-130
135-98-8	sec-Butylbenzene	101	100	101	70-130

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DEPARTMENT OF THE ARMY
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VOA (Laboratory Control Sample) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007 Date Analyzed: 09/28/00 Matrix: Water
LCS ID: WG6601-2 Date Reported: 12/15/00 Units: ug/L
Method: EPA 8260
Analyst: Leuschen

CAS Number	Compound	LCS Result	Spike Added	LCS %Rec	Acceptance Range
99-87-6	p-Isopropyltoluene	104	100	104	70-130
541-73-1	1,3-Dichlorobenzene	112	100	112	70-130
106-46-7	1,4-Dichlorobenzene	96.9	100	96.9	70-130
104-51-8	n-Butylbenzene	98.8	100	98.8	70-130
95-50-1	1,2-Dichlorobenzene	102	100	102	70-130
96-12-8	1,2-Dibromo-3-chloropropane	122	100	122	70-130
120-82-1	1,2,4-Trichlorobenzene	107	100	107	70-130
87-68-3	Hexachlorobutadiene	100	100	100	70-130
91-20-3	Naphthalene	129	100	129	70-130
87-61-6	1,2,3-Trichlorobenzene	111	100	111	70-130

Method Quality Control

Surrogate Standard	Recovery (%)	CQAB Lab Perfomance Range	Method 8260 Acceptance Range	Spike (ug/L)
Dibromofluoromethane	95.6	80-120	80-120	50.0
1,2-Dichloroethane-d4	104.	76-114	76-114	50.0
Toluene-d8	96.0	88-110	88-110	50.0
4-Bromofluorobenzene	107.	86-115	86-115	50.0

(CQAB Laboratory performance ranges are based on in-house testing.)

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DEPARTMENT OF THE ARMY
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Chemistry Quality Assurance Branch

VOA Sample Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: AA1012
Sample ID: M000976-001
Batch ID: WG6548
Method: EPA 8260
Analyst: Robert Williams

Date Sampled: 09/20/00
Date Received: 09/21/00
Date Analyzed: 09/22/00
Date Reported: 09/25/00

Matrix: Soil
Units: ug/kg
% Solids: 79.3
Dilution: 0.9

CAS Number	Compound	Result	Sample Quant Limit	Sample Det Limit
75-71-8	Dichlorodifluoromethane	u	12	0.9
74-87-3	Chloromethane	u	6.0	0.9
75-01-4	Vinyl Chloride	u	6.0	0.9
74-83-9	Bromomethane	u	6.0	0.9
75-00-3	Chloroethane	u	12	0.9
75-69-4	Trichlorofluoromethane	u	6.0	0.9
67-64-1	Acetone	26 J	60	20
75-35-4	1,1-Dichloroethene	u	6.0	0.9
75-09-2	Methylene Chloride	u	6.0	0.9
75-15-0	Carbon Disulfide	u	6.0	0.9
156-60-5	trans-1,2-Dichloroethene	u	6.0	0.9
108-05-4	Vinyl Acetate	u	60	9
75-34-3	1,1-Dichloroethane	u	6.0	0.9
78-93-3	2-Butanone	u	60	20
594-20-7	2,2-Dichloropropane	u	6.0	0.9
156-59-2	cis-1,2-Dichloroethene	u	6.0	0.9
67-66-3	Chloroform	u	6.0	0.9
74-97-5	Bromochloromethane	u	6.0	0.9
71-55-6	1,1,1-Trichloroethane	u	6.0	0.9
563-58-6	1,1-Dichloropropene	u	6.0	0.9
56-23-5	Carbon Tetrachloride	u	6.0	0.9
107-06-2	1,2-Dichloroethane	u	6.0	0.9
71-43-2	Benzene	u	6.0	0.9
79-01-6	Trichloroethene	u	6.0	0.9
78-87-5	1,2-Dichloropropane	u	6.0	0.9
75-27-4	Bromodichloromethane	u	6.0	0.9
74-95-3	Dibromomethane	u	6.0	0.9
108-10-1	4-Methyl-2-pentanone	u	60	20
10061-01-5	cis-1,3-Dichloropropene	u	6.0	0.9
108-88-3	Toluene	u	6.0	0.9
10061-02-6	trans-1,3-Dichloropropene	u	6.0	0.9
591-78-6	2-Hexanone	u	60	20
79-00-5	1,1,2-Trichloroethane	u	6.0	0.9
142-28-9	1,3-Dichloropropane	u	6.0	0.9
127-18-4	Tetrachloroethene	u	6.0	0.9
124-48-1	Dibromochloromethane	u	6.0	0.9
106-93-4	1,2-Dibromoethane	u	6.0	0.9
108-90-7	Chlorobenzene	u	6.0	0.9
100-41-4	Ethylbenzene	u	6.0	0.9
630-20-6	1,1,1,2-Tetrachloroethane	u	6.0	0.9
1330-20-7B	meta-/para-Xylenes	u	6.0	0.9
95-47-6	ortho-Xylene	u	6.0	0.9
100-42-5	Styrene	u	6.0	0.9
98-92-8	Isopropylbenzene	u	6.0	0.9
75-25-2	Bromoform	u	6.0	0.9
79-34-5	1,1,2,2-Tetrachloroethane	u	6.0	0.9
96-18-4	1,2,3-Trichloropropane	u	6.0	0.9
103-65-1	n-Propylbenzene	u	6.0	0.9
108-86-1	Bromobenzene	u	6.0	0.9

u: Below Sample Detection Limit (SDL >= MDL x Dilution)
J: Estimated Concentration below laboratory reporting limit.

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DEPARTMENT OF THE ARMY
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VOA Sample Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: AA1012
Sample ID: M000976-001
Batch ID: WG6548
Method: EPA 8260
Analyst: Robert Williams

Date Sampled: 09/20/00
Date Received: 09/21/00
Date Analyzed: 09/22/00
Date Reported: 09/25/00

Matrix: Soil
Units: ug/kg
% Solids: 79.3
Dilution: 0.9

CAS Number	Compound	Result	Sample Quant Limit	Sample Det Limit
108-67-8	1,3,5-Trimethylbenzene	u	6.0	0.9
95-49-8	2-Chlorotoluene	u	6.0	0.9
106-43-4	4-Chlorotoluene	u	6.0	0.9
98-06-6	tert-Butylbenzene	u	6.0	0.9
95-63-6	1,2,4-Trimethylbenzene	u	6.0	0.9
135-98-8	sec-Butylbenzene	u	6.0	0.9
99-87-6	p-Isopropyltoluene	u	6.0	0.9
541-73-1	1,3-Dichlorobenzene	u	6.0	0.9
106-46-7	1,4-Dichlorobenzene	u	6.0	0.9
104-51-8	n-Butylbenzene	u	6.0	0.9
95-50-1	1,2-Dichlorobenzene	u	6.0	0.9
96-12-8	1,2-Dibromo-3-chloropropane	u	30	5
120-82-1	1,2,4-Trichlorobenzene	u	30	9
87-68-3	Hexachlorobutadiene	u	30	9
91-20-3	Naphthalene	u	30	9
87-61-6	1,2,3-Trichlorobenzene	u	30	9

u: Below Sample Detection Limit (SDL >= MDL x Dilution)

Method Quality Control (Surrogate recoveries unadjusted for percent solids)

Surrogate Standard	Recovery (%)	CQAB Lab Perfomance Range	Method 8260 Acceptance Range	Spike (ug/kg)
Dibromofluoromethane	102.	80-120	80-120	50.0
1,2-Dichloroethane-d4	107.	70-121	70-121	50.0
Toluene-d8	99.2	81-117	81-117	50.0
4-Bromofluorobenzene	104.	74-121	74-121	50.0

(CQAB Laboratory performance ranges are based on in-house testing.)

Quality Assurance / Quality Control

Method Blank:	WG6548-1	Laboratory Control Sample:	WG6548-2
Laboratory Matrix Duplicate:	WG6548-3	Dilution:	NA
Matrix Spike:	WG6548-4	Dilution:	NA
Matrix Spike Duplicate:	WG6548-5		

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VOA (Method Blank) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007 Date Analyzed: 09/22/00 Matrix: Soil
Method Blank ID: WG6548-1 Date Reported: 09/25/00 Units: ug/kg
Method: EPA 8260
Analyst: Robert Williams

CAS Number	Compound	Result	Sample Quant Limit	Sample Det Limit
75-71-8	Dichlorodifluoromethane	u	9.9	1
74-87-3	Chloromethane	u	4.9	1
75-01-4	Vinyl Chloride	u	4.9	1
74-83-9	Bromomethane	u	4.9	1
75-00-3	Chloroethane	u	9.9	1
75-69-4	Trichlorofluoromethane	u	4.9	1
67-64-1	Acetone	u	49.	20
75-35-4	1,1-Dichloroethene	u	4.9	1
75-09-2	Methylene Chloride	u	4.9	1
75-15-0	Carbon Disulfide	u	4.9	1
156-60-5	trans-1,2-Dichloroethene	u	4.9	1
108-05-4	Vinyl Acetate	u	49.	10
75-34-3	1,1-Dichloroethane	u	4.9	1
78-93-3	2-Butanone	u	49.	20
594-20-7	2,2-Dichloropropane	u	4.9	1
156-59-2	cis-1,2-Dichloroethene	u	4.9	1
67-66-3	Chloroform	u	4.9	1
74-97-5	Bromochloromethane	u	4.9	1
71-55-6	1,1,1-Trichloroethane	u	4.9	1
563-58-6	1,1-Dichloropropene	u	4.9	1
56-23-5	Carbon Tetrachloride	u	4.9	1
107-06-2	1,2-Dichloroethane	u	4.9	1
71-43-2	Benzene	u	4.9	1
79-01-6	Trichloroethene	u	4.9	1
78-87-5	1,2-Dichloropropane	u	4.9	1
75-27-4	Bromodichloromethane	u	4.9	1
74-95-3	Dibromomethane	u	4.9	1
108-10-1	4-Methyl-2-pentanone	u	49.	20
10061-01-5	cis-1,3-Dichloropropene	u	4.9	1
108-88-3	Toluene	u	4.9	1
10061-02-6	trans-1,3-Dichloropropene	u	4.9	1
591-78-6	2-Hexanone	u	49.	20
79-00-5	1,1,2-Trichloroethane	u	4.9	1
142-28-9	1,3-Dichloropropane	u	4.9	1
127-18-4	Tetrachloroethene	u	4.9	1
124-48-1	Dibromochloromethane	u	4.9	1
106-93-4	1,2-Dibromoethane	u	4.9	1
108-90-7	Chlorobenzene	u	4.9	1
100-41-4	Ethylbenzene	u	4.9	1
630-20-6	1,1,1,2-Tetrachloroethane	u	4.9	1
1330-20-7B	meta-/para-Xylenes	u	4.9	1
95-47-6	ortho-Xylene	u	4.9	1
100-42-5	Styrene	u	4.9	1
98-92-8	Isopropylbenzene	u	4.9	1
75-25-2	Bromoform	u	4.9	1
79-34-5	1,1,2,2-Tetrachloroethane	u	4.9	1
96-18-4	1,2,3-Trichloropropane	u	4.9	1
103-65-1	n-Propylbenzene	u	4.9	1
108-86-1	Bromobenzene	u	4.9	1
108-67-8	1,3,5-Trimethylbenzene	u	4.9	1
95-49-8	2-Chlorotoluene	u	4.9	1

u: Below Sample Detection Limit (SDL >= MDL x Dilution)

MDL determined according to procedures in 40CFR Appendix B to part 136

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DEPARTMENT OF THE ARMY
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VOA (Method Blank) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007 Date Analyzed: 09/22/00 Matrix: Soil
Method Blank ID: WG6548-1 Date Reported: 09/25/00 Units: ug/kg
Method: EPA 8260
Analyst: Robert Williams

CAS Number	Compound	Result	Sample Quant Limit	Sample Det Limit
106-43-4	4-Chlorotoluene	u	4.9	1
98-06-6	tert-Butylbenzene	u	4.9	1
95-63-6	1,2,4-Trimethylbenzene	u	4.9	1
135-98-8	sec-Butylbenzene	u	4.9	1
99-87-6	p-Isopropyltoluene	u	4.9	1
541-73-1	1,3-Dichlorobenzene	u	4.9	1
106-46-7	1,4-Dichlorobenzene	u	4.9	1
104-51-8	n-Butylbenzene	u	4.9	1
95-50-1	1,2-Dichlorobenzene	u	4.9	1
96-12-8	1,2-Dibromo-3-chloropropane	u	25.	5
120-82-1	1,2,4-Trichlorobenzene	u	25.	10
87-68-3	Hexachlorobutadiene	u	25.	10
91-20-3	Naphthalene	u	25.	10
87-61-6	1,2,3-Trichlorobenzene	u	25.	10

u: Below Sample Detection Limit (SDL >= MDL x Dilution)

MDL determined according to procedures in 40CFR Appendix B to part 136

Method Quality Control (Surrogate recoveries unadjusted for percent solids)

Surrogate Standard	Recovery (%)	CQAB Lab Perfomance Range	Method 8260 Acceptance Range	Spike (ug/kg)
Dibromofluoromethane	96.2	80-120	80-120	50.0
1,2-Dichloroethane-d4	101.	70-121	70-121	50.0
Toluene-d8	90.5	81-117	81-117	50.0
4-Bromofluorobenzene	81.8	74-121	74-121	50.0

(CQAB Laboratory performance ranges are based on in-house testing.)

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VOA (Laboratory Matrix Duplicate) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: Batch Specific
Sample ID: M000975-004
Lab Duplicate ID: WG6548-3
Method: EPA 8260

Date Sampled: 09/19/00
Date Received: 09/21/00
Date Analyzed: 09/22/00
Date Reported: 09/25/00

Matrix: Soil
Units: ug/kg
% Solids: 79.3
Analyst: Robert Williams

CAS Number	Compound	Sample Result	Dup Result	RPD (%)	QC Limits	Sample Quant Limit
75-71-8	Dichlorodifluoromethane	u	u	NC	25	11
74-87-3	Chloromethane	u	u	NC	25	5.6
75-01-4	Vinyl Chloride	u	u	NC	25	5.6
74-83-9	Bromomethane	u	u	NC	25	5.6
75-00-3	Chloroethane	u	u	NC	25	11
75-69-4	Trichlorofluoromethane	u	u	NC	25	5.6
67-64-1	Acetone	28 J	23 J	17	25	56
75-35-4	1,1-Dichloroethene	u	u	NC	25	5.6
75-09-2	Methylene Chloride	u	u	NC	25	5.6
75-15-0	Carbon Disulfide	u	u	NC	25	5.6
156-60-5	trans-1,2-Dichloroethene	u	u	NC	25	5.6
108-05-4	Vinyl Acetate	u	u	NC	25	56
75-34-3	1,1-Dichloroethane	u	u	NC	25	5.6
78-93-3	2-Butanone	u	u	NC	25	56
594-20-7	2,2-Dichloropropane	u	u	NC	25	5.6
156-59-2	cis-1,2-Dichloroethene	u	u	NC	25	5.6
67-66-3	Chloroform	u	u	NC	25	5.6
74-97-5	Bromochloromethane	u	u	NC	25	5.6
71-55-6	1,1,1-Trichloroethane	u	u	NC	25	5.6
563-58-6	1,1-Dichloropropene	u	u	NC	25	5.6
56-23-5	Carbon Tetrachloride	u	u	NC	25	5.6
107-06-2	1,2-Dichloroethane	u	u	NC	25	5.6
71-43-2	Benzene	u	u	NC	25	5.6
79-01-6	Trichloroethene	u	u	NC	25	5.6
78-87-5	1,2-Dichloropropane	u	u	NC	25	5.6
75-27-4	Bromodichloromethane	u	u	NC	25	5.6
74-95-3	Dibromomethane	u	u	NC	25	5.6
108-10-1	4-Methyl-2-pentanone	u	u	NC	25	56
10061-01-5	cis-1,3-Dichloropropene	u	u	NC	25	5.6
108-88-3	Toluene	8.2	2.9 J	95 *	25	5.6
10061-02-6	trans-1,3-Dichloropropene	u	u	NC	25	5.6
591-78-6	2-Hexanone	u	u	NC	25	56
79-00-5	1,1,2-Trichloroethane	u	u	NC	25	5.6
142-28-9	1,3-Dichloropropane	u	u	NC	25	5.6
127-18-4	Tetrachloroethene	u	u	NC	25	5.6
124-48-1	Dibromochloromethane	u	u	NC	25	5.6
106-93-4	1,2-Dibromoethane	u	u	NC	25	5.6
108-90-7	Chlorobenzene	u	u	NC	25	5.6
100-41-4	Ethylbenzene	u	u	NC	25	5.6
630-20-6	1,1,1,2-Tetrachloroethane	u	u	NC	25	5.6
1330-20-7B	meta-/para-Xylenes	u	u	NC	25	5.6
95-47-6	ortho-Xylene	u	u	NC	25	5.6
100-42-5	Styrene	u	u	NC	25	5.6
98-92-8	Isopropylbenzene	u	u	NC	25	5.6
75-25-2	Bromoform	u	u	NC	25	5.6
79-34-5	1,1,2,2-Tetrachloroethane	u	u	NC	25	5.6
96-18-4	1,2,3-Trichloropropane	u	u	NC	25	5.6
103-65-1	n-Propylbenzene	u	u	NC	25	5.6

NC: Parameter is Not Calculable
u: Below Sample Detection Limit (SDL >= MDL x Dilution)
Batch Specific: The sample used for batch QC was from another project within this work group.
J: Estimated Concentration below laboratory reporting limit.
*: Indicates the value is outside control limits.

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VOA (Laboratory Matrix Duplicate) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: Batch Specific
Sample ID: M000975-004
Lab Duplicate ID: WG6548-3
Method: EPA 8260

Date Sampled: 09/19/00
Date Received: 09/21/00
Date Analyzed: 09/22/00
Date Reported: 09/25/00

Matrix: Soil
Units: ug/kg
% Solids: 79.3
Analyst: Robert Williams

CAS Number	Compound	Sample Result	Dup Result	RPD (%)	QC Limits	Sample Quant Limit
108-86-1	Bromobenzene	u	u	NC	25	5.6
108-67-8	1,3,5-Trimethylbenzene	u	u	NC	25	5.6
95-49-8	2-Chlorotoluene	u	u	NC	25	5.6
106-43-4	4-Chlorotoluene	u	u	NC	25	5.6
98-06-6	tert-Butylbenzene	u	u	NC	25	5.6
95-63-6	1,2,4-Trimethylbenzene	u	u	NC	25	5.6
135-98-8	sec-Butylbenzene	u	u	NC	25	5.6
99-87-6	p-Isopropyltoluene	u	u	NC	25	5.6
541-73-1	1,3-Dichlorobenzene	u	u	NC	25	5.6
106-46-7	1,4-Dichlorobenzene	u	u	NC	25	5.6
104-51-8	n-Butylbenzene	u	u	NC	25	5.6
95-50-1	1,2-Dichlorobenzene	u	u	NC	25	5.6
96-12-8	1,2-Dibromo-3-chloropropane	u	u	NC	25	28
120-82-1	1,2,4-Trichlorobenzene	u	u	NC	25	28
87-68-3	Hexachlorobutadiene	u	u	NC	25	28
91-20-3	Naphthalene	u	u	NC	25	28
87-61-6	1,2,3-Trichlorobenzene	u	u	NC	25	28

NC: Parameter is Not Calculable
u: Below Sample Detection Limit (SDL >= MDL x Dilution)
Batch Specific: The sample used for batch QC was from another project within this work group.

Method Quality Control (Surrogate recoveries unadjusted for percent solids)

Surrogate Standard Name	Added (ug/kg)	Sample (ug/kg)	Sample Rec (%)	Dup (ug/kg)	Dup Rec (%)	CQAB Lab Performanc Range	Method 8260 Acceptance Range	RPD (%)	CQAB Lab Performance Range
Dibromofluoromethane	50.0	46.7	93.4	47.1	94.2	80-120	80-120	0.80	25
1,2-Dichloroethane-d4	50.0	46.7	93.4	48.1	96.1	70-121	70-121	2.8	25
Toluene-d8	50.0	43.6	87.3	44.6	89.2	81-117	81-117	2.2	25
4-Bromofluorobenzene	50.0	39.4	78.8	41.3	82.6	74-121	74-121	4.7	25

(CQAB Laboratory performance ranges are based on in-house testing.)

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DEPARTMENT OF THE ARMY
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VOA (Matrix Spike, Matrix Spike Duplicate) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007 Date Analyzed: 09/22/00 Matrix: Soil
Sample ID: M000975-004 Batch Specific Date Reported: 09/25/00 Units: ug/kg
MS Sample ID: WG6548-4 % Solids: 79.3
Method: EPA 8260
Analyst: Robert Williams

CAS Number	Compound	Sample Result	MS Conc	MS %Rec	QC Limits	MSD Conc	MSD %Rec	RPD (%)	QC Limits
75-71-8	Dichlorodifluoromethane	u	89.1	159 *	50-150	94.8	169 *	5.8	25
74-87-3	Chloromethane	u	67.7	121	50-150	72.9	130	7.0	25
75-01-4	Vinyl Chloride	u	56.1	100	50-150	62.7	112	10.8	25
74-83-9	Bromomethane	u	54.6	97.7	50-150	57.5	103	4.8	25
75-00-3	Chloroethane	u	53.4	95.6	50-150	58.6	105	8.9	25
75-69-4	Trichlorofluoromethane	u	58.9	105	50-150	63.3	113	6.8	25
67-64-1	Acetone	28 J	145	210 *	50-150	143	206 *	2.1	25
75-35-4	1,1-Dichloroethene	u	53.1	95.0	59-172	55.6	99.2	4.2	25
75-09-2	Methylene Chloride	u	51.4	92.0	60-140	54.8	97.7	6.0	25
75-15-0	Carbon Disulfide	u	47.5	85.0	60-140	52.5	93.6	9.6	25
156-60-5	trans-1,2-Dichloroethene	u	51.5	92.2	60-140	53.5	95.4	3.5	25
108-05-4	Vinyl Acetate	u	15.5	27.7 *	50-150	35.1	62.6	77.2 *	25
75-34-3	1,1-Dichloroethane	u	57.4	103	60-140	59.9	107	3.9	25
78-93-3	2-Butanone	u	112	200 *	50-140	119	212 *	5.7	25
594-20-7	2,2-Dichloropropane	u	61.2	110	60-140	63.1	113	2.7	25
156-59-2	cis-1,2-Dichloroethene	u	56.8	102	60-140	58.7	105	2.9	25
67-66-3	Chloroform	u	60.7	109	60-140	62.0	111	1.8	25
74-97-5	Bromochloromethane	u	60.5	108	60-140	62.2	111	2.4	25
71-55-6	1,1,1-Trichloroethane	u	59.6	107	60-140	60.8	108	1.6	25
563-58-6	1,1-Dichloropropene	u	58.0	104	60-140	59.4	106	2.0	25
56-23-5	Carbon Tetrachloride	u	51.6	92.4	60-140	57.4	102	10.3	25
107-06-2	1,2-Dichloroethane	u	60.0	107	60-140	58.4	104	3.1	25
71-43-2	Benzene	u	54.5	97.5	66-142	53.7	95.8	1.8	25
79-01-6	Trichloroethene	u	59.9	107	62-137	59.9	107	0.4	25
78-87-5	1,2-Dichloropropane	u	59.6	107	60-140	56.4	101	5.9	25
75-27-4	Bromodichloromethane	u	60.1	108	60-140	59.8	107	0.9	25
74-95-3	Dibromomethane	u	58.0	104	60-140	54.7	97.6	6.2	25
108-10-1	4-Methyl-2-pentanone	u	89.7	161 *	50-150	91.3	163 *	1.4	25
10061-01-5	cis-1,3-Dichloropropene	u	58.8	105	60-120	58.7	105	0.5	25
108-88-3	Toluene	8.2	64.1	100	59-139	62.5	96.8	3.3	25
10061-02-6	trans-1,3-Dichloropropene	u	57.7	103	50-150	58.7	105	1.4	25
591-78-6	2-Hexanone	u	102	183 *	60-140	103	184 *	0.6	25
79-00-5	1,1,2-Trichloroethane	u	55.6	99.5	60-140	53.4	95.2	4.4	25
142-28-9	1,3-Dichloropropane	u	56.3	101	60-140	54.2	96.7	4.2	25
127-18-4	Tetrachloroethene	u	53.4	95.6	60-140	55.4	98.8	3.3	25
124-48-1	Dibromochloromethane	u	58.6	105	60-140	60.3	108	2.5	25
106-93-4	1,2-Dibromoethane	u	57.9	104	60-140	58.3	104	0.3	25
108-90-7	Chlorobenzene	u	55.1	98.6	60-133	54.2	96.7	2.0	25
100-41-4	Ethylbenzene	u	60.0	107	60-140	57.2	102	5.1	25
630-20-6	1,1,1,2-Tetrachloroethane	u	60.7	109	60-140	56.9	101	6.8	25
1330-20-7B	meta-/para-Xylenes	u	111	99.3	60-140	109	97.2	2.2	25
95-47-6	ortho-Xylene	u	55.8	99.9	60-140	56.3	100	0.5	25
100-42-5	Styrene	u	55.0	98.4	60-140	55.2	98.4	0.	25
98-92-8	Isopropylbenzene	u	56.0	100	60-140	55.6	99.2	1.1	25
75-25-2	Bromoform	u	60.4	108	60-140	60.3	108	0.5	25
79-34-5	1,1,2,2-Tetrachloroethane	u	67.8	121	60-140	65.1	116	4.4	25
96-18-4	1,2,3-Trichloropropane	u	76.7	137	60-140	71.2	127	7.8	25
103-65-1	n-Propylbenzene	u	54.7	97.9	60-140	56.0	99.9	2.0	25
108-86-1	Bromobenzene	u	50.1	89.7	60-140	53.0	94.5	5.3	25

*: Indicates the value is outside control limits.
u: Below Sample Detection Limit (SDL >= MDL x Dilution)
Batch Specific: The sample used for batch QC was from another project within this work group.
%Rec: Percent of the spike recovered from the matrix
J: Estimated Concentration below laboratory reporting limit.

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VOA (Matrix Spike, Matrix Spike Duplicate) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007 Date Analyzed: 09/22/00 Matrix: Soil
Sample ID: M000975-004 Batch Specific Date Reported: 09/25/00 Units: ug/kg
MS Sample ID: WG6548-4 % Solids: 79.3
Method: EPA 8260
Analyst: Robert Williams

CAS Number	Compound	Sample Result	MS Conc	MS %Rec	QC Limits	MSD Conc	MSD %Rec	RPD (%)	QC Limits
108-67-8	1,3,5-Trimethylbenzene	u	51.6	92.4	60-140	54.4	97.0	4.9	25
95-49-8	2-Chlorotoluene	u	47.7	85.4	60-140	52.9	94.3	10.	25
106-43-4	4-Chlorotoluene	u	59.3	106	60-140	59.7	106	0.3	25
98-06-6	tert-Butylbenzene	u	55.2	98.8	60-140	56.7	101	2.3	25
95-63-6	1,2,4-Trimethylbenzene	u	53.1	95.0	60-140	53.1	94.7	0.4	25
135-98-8	sec-Butylbenzene	u	50.1	89.7	60-140	51.6	92.0	2.6	25
99-87-6	p-Isopropyltoluene	u	54.2	97.0	60-140	55.1	98.3	1.3	25
541-73-1	1,3-Dichlorobenzene	u	52.0	93.1	60-140	55.2	98.4	5.6	25
106-46-7	1,4-Dichlorobenzene	u	53.6	95.9	60-140	54.9	97.9	2.0	25
104-51-8	n-Butylbenzene	u	53.7	96.1	60-140	55.9	99.7	3.7	25
95-50-1	1,2-Dichlorobenzene	u	52.5	94.0	60-140	54.5	97.2	3.4	25
96-12-8	1,2-Dibromo-3-chloropropane	u	90.9	163 *	60-140	100	178 *	9.2	25
120-82-1	1,2,4-Trichlorobenzene	u	50.5	90.4	60-140	55.6	99.2	9.3	25
87-68-3	Hexachlorobutadiene	u	42.7	76.4	60-140	44.8	79.9	4.4	25
91-20-3	Naphthalene	u	69.3	124	60-140	92.4	165 *	28.2 *	25
87-61-6	1,2,3-Trichlorobenzene	u	52.5	94.0	60-140	60.8	108	14.3	25

%Rec: Percent of the spike recovered from the matrix
u: Below Sample Detection Limit (SDL >= MDL x Dilution)
Batch Specific: The sample used for batch QC was from another project within this work group.
*: Indicates the value is outside control limits.

Method Quality Control (Surrogate recoveries unadjusted for percent solids)

Surrogate Standard Name	Added (ug/kg)	MS (ug/kg)	MS Rec (%)	MSD (ug/kg)	MSD Rec (%)	CQAB Lab %Rec Limits	Method 8260 Acceptance Range	RPD (%)	CQAB Lab RPD Limits
Dibromofluoromethane	50.0	51.8	104.	53.5	107.	80-120	80-120	3.2	25
1,2-Dichloroethane-d4	50.0	50.5	101.	50.4	101.	70-121	70-121	0.20	25
Toluene-d8	50.0	48.5	97.0	49.2	98.4	81-117	81-117	1.4	25
4-Bromofluorobenzene	50.0	48.5	97.0	47.8	95.6	74-121	74-121	1.5	25

(CQAB Laboratory performance ranges are based on in-house testing.)

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DEPARTMENT OF THE ARMY
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VOA (Laboratory Control Sample) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007 Date Analyzed: 09/22/00 Matrix: Soil
LCS ID: WG6548-2 Date Reported: 09/25/00 Units: ug/kg
Method: EPA 8260
Analyst: Robert Williams

CAS Number	Compound	LCS Result	Spike Added	LCS %Rec	Acceptance Range
75-71-8	Dichlorodifluoromethane	78.7	50.0	157 *	50-150
74-87-3	Chloromethane	63.9	50.0	128	50-150
75-01-4	Vinyl Chloride	55.2	50.0	110	50-150
74-83-9	Bromomethane	39.7	50.0	79.3	50-150
75-00-3	Chloroethane	43.3	50.0	86.5	50-150
75-69-4	Trichlorofluoromethane	53.6	50.0	107	50-150
67-64-1	Acetone	82.2	50.0	164 *	50-150
75-35-4	1,1-Dichloroethene	46.6	50.0	93.2	59-172
75-09-2	Methylene Chloride	44.1	50.0	88.1	60-140
75-15-0	Carbon Disulfide	45.3	50.0	90.5	60-140
156-60-5	trans-1,2-Dichloroethene	49.2	50.0	98.5	60-140
108-05-4	Vinyl Acetate	45.2 J	50.0	90.3	50-150
75-34-3	1,1-Dichloroethane	46.9	50.0	93.7	60-140
78-93-3	2-Butanone	74.9	50.0	150 *	50-140
594-20-7	2,2-Dichloropropane	51.5	50.0	103	60-140
156-59-2	cis-1,2-Dichloroethene	45.6	50.0	91.3	60-140
67-66-3	Chloroform	48.5	50.0	97.0	60-140
74-97-5	Bromochloromethane	50.2	50.0	100	60-140
71-55-6	1,1,1-Trichloroethane	49.6	50.0	99.2	60-140
563-58-6	1,1-Dichloropropene	52.3	50.0	105	60-140
56-23-5	Carbon Tetrachloride	51.9	50.0	104	60-140
107-06-2	1,2-Dichloroethane	48.2	50.0	96.4	60-140
71-43-2	Benzene	45.8	50.0	91.6	66-142
79-01-6	Trichloroethene	51.9	50.0	104	62-137
78-87-5	1,2-Dichloropropane	48.3	50.0	96.6	60-140
75-27-4	Bromodichloromethane	51.5	50.0	103	60-140
74-95-3	Dibromomethane	46.0	50.0	91.9	60-140
108-10-1	4-Methyl-2-pentanone	68.2	50.0	136	50-150
10061-01-5	cis-1,3-Dichloropropene	50.6	50.0	101	60-120
108-88-3	Toluene	48.3	50.0	96.5	59-139
10061-02-6	trans-1,3-Dichloropropene	48.4	50.0	96.9	50-150
591-78-6	2-Hexanone	74.3	50.0	149 *	60-140
79-00-5	1,1,2-Trichloroethane	43.0	50.0	86.0	60-140
142-28-9	1,3-Dichloropropane	44.2	50.0	88.3	60-140
127-18-4	Tetrachloroethene	48.4	50.0	96.8	60-140
124-48-1	Dibromochloromethane	50.9	50.0	102	60-140
106-93-4	1,2-Dibromoethane	47.2	50.0	94.3	60-140
108-90-7	Chlorobenzene	44.0	50.0	88.1	60-133
100-41-4	Ethylbenzene	45.3	50.0	90.5	60-140
630-20-6	1,1,1,2-Tetrachloroethane	45.3	50.0	90.5	60-140
1330-20-7B	meta-/para-Xylenes	88.0	100	88.0	60-140
95-47-6	ortho-Xylene	46.9	50.0	93.7	60-140
100-42-5	Styrene	47.6	50.0	95.2	60-140
98-92-8	Isopropylbenzene	47.5	50.0	95.1	60-140
75-25-2	Bromoform	52.3	50.0	105	60-140
79-34-5	1,1,2,2-Tetrachloroethane	43.8	50.0	87.7	60-140
96-18-4	1,2,3-Trichloropropane	46.4	50.0	92.8	60-140
103-65-1	n-Propylbenzene	42.5	50.0	84.9	60-140
108-86-1	Bromobenzene	41.1	50.0	82.2	60-140

*: Indicates the value is outside control limits.
J: Estimated Concentration below laboratory reporting limit.

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DEPARTMENT OF THE ARMY
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VOA (Laboratory Control Sample) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007 Date Analyzed: 09/22/00 Matrix: Soil
LCS ID: WG6548-2 Date Reported: 09/25/00 Units: ug/kg
Method: EPA 8260
Analyst: Robert Williams

CAS Number	Compound	LCS Result	Spike Added	LCS %Rec	Acceptance Range
108-67-8	1,3,5-Trimethylbenzene	42.0	50.0	83.9	60-140
95-49-8	2-Chlorotoluene	41.9	50.0	83.8	60-140
106-43-4	4-Chlorotoluene	44.1	50.0	88.2	60-140
98-06-6	tert-Butylbenzene	44.2	50.0	88.4	60-140
95-63-6	1,2,4-Trimethylbenzene	42.3	50.0	84.5	60-140
135-98-8	sec-Butylbenzene	43.1	50.0	86.2	60-140
99-87-6	p-Isopropyltoluene	45.4	50.0	90.8	60-140
541-73-1	1,3-Dichlorobenzene	44.4	50.0	88.9	60-140
106-46-7	1,4-Dichlorobenzene	43.4	50.0	86.9	60-140
104-51-8	n-Butylbenzene	47.6	50.0	95.2	60-140
95-50-1	1,2-Dichlorobenzene	44.1	50.0	88.1	60-140
96-12-8	1,2-Dibromo-3-chloropropane	58.4	50.0	117	60-140
120-82-1	1,2,4-Trichlorobenzene	50.5	50.0	101	60-140
87-68-3	Hexachlorobutadiene	51.3	50.0	103	60-140
91-20-3	Naphthalene	62.6	50.0	125	60-140
87-61-6	1,2,3-Trichlorobenzene	52.7	50.0	105	60-140

Method Quality Control (Surrogate recoveries unadjusted for percent solids)

Surrogate Standard	Recovery (%)	CQAB Lab Perfomance Range	Method 8260 Acceptance Range	Spike (ug/kg)
Dibromofluoromethane	96.2	80-120	80-120	50.0
1,2-Dichloroethane-d4	96.9	70-121	70-121	50.0
Toluene-d8	91.2	81-117	81-117	50.0
4-Bromofluorobenzene	81.8	74-121	74-121	50.0

(CQAB Laboratory performance ranges are based on in-house testing.)

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VOA Sample Report

Project Name:	Former Plumbrook Ordnance Works - TNT Area A				
Project Number:	6007	Date Sampled:	09/22/00	Matrix:	Soil
Client Sample ID:	AA0439	Date Received:	09/23/00	Units:	ug/kg
Sample ID:	M000982-001	Date Analyzed:	09/25/00	% Solids:	87.7
Batch ID:	WG6553	Date Reported:	09/26/00	Dilution:	1.1
Method:	EPA 8260				
Analyst:	Robert Williams				

CAS Number	Compound	Result	Sample Quant Limit	Sample Det Limit
75-71-8	Dichlorodifluoromethane	u	12	1
74-87-3	Chloromethane	u	6.2	1
75-01-4	Vinyl Chloride	u	6.2	1
74-83-9	Bromomethane	u	6.2	1
75-00-3	Chloroethane	u	12	1
75-69-4	Trichlorofluoromethane	u	6.2	1
67-64-1	Acetone	u	62	20
75-35-4	1,1-Dichloroethene	u	6.2	1
75-09-2	Methylene Chloride	u	6.2	1
75-15-0	Carbon Disulfide	u	6.2	1
156-60-5	trans-1,2-Dichloroethene	u	6.2	1
108-05-4	Vinyl Acetate	u	62	10
75-34-3	1,1-Dichloroethane	u	6.2	1
78-93-3	2-Butanone	u	62	20
594-20-7	2,2-Dichloropropane	u	6.2	1
156-59-2	cis-1,2-Dichloroethene	u	6.2	1
67-66-3	Chloroform	u	6.2	1
74-97-5	Bromochloromethane	u	6.2	1
71-55-6	1,1,1-Trichloroethane	u	6.2	1
563-58-6	1,1-Dichloropropene	u	6.2	1
56-23-5	Carbon Tetrachloride	u	6.2	1
107-06-2	1,2-Dichloroethane	u	6.2	1
71-43-2	Benzene	u	6.2	1
79-01-6	Trichloroethene	u	6.2	1
78-87-5	1,2-Dichloropropane	u	6.2	1
75-27-4	Bromodichloromethane	u	6.2	1
74-95-3	Dibromomethane	u	6.2	1
108-10-1	4-Methyl-2-pentanone	u	62	20
10061-01-5	cis-1,3-Dichloropropene	u	6.2	1
108-88-3	Toluene	u	6.2	1
10061-02-6	trans-1,3-Dichloropropene	u	6.2	1
591-78-6	2-Hexanone	u	62	20
79-00-5	1,1,2-Trichloroethane	u	6.2	1
142-28-9	1,3-Dichloropropane	u	6.2	1
127-18-4	Tetrachloroethene	u	6.2	1
124-48-1	Dibromochloromethane	u	6.2	1
106-93-4	1,2-Dibromoethane	u	6.2	1
108-90-7	Chlorobenzene	u	6.2	1
100-41-4	Ethylbenzene	u	6.2	1
630-20-6	1,1,1,2-Tetrachloroethane	u	6.2	1
1330-20-7B	meta-/para-Xylenes	u	6.2	1
95-47-6	ortho-Xylene	u	6.2	1
100-42-5	Styrene	u	6.2	1
98-92-8	Isopropylbenzene	u	6.2	1
75-25-2	Bromoform	u	6.2	1
79-34-5	1,1,2,2-Tetrachloroethane	u	6.2	1
96-18-4	1,2,3-Trichloropropane	u	6.2	1
103-65-1	n-Propylbenzene	u	6.2	1
108-86-1	Bromobenzene	u	6.2	1
108-67-8	1,3,5-Trimethylbenzene	u	6.2	1

u: Below Sample Detection Limit (SDL >= MDL x Dilution)

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VOA Sample Report

Project Name:	Former Plumbrook Ordnance Works - TNT Area A				
Project Number:	6007	Date Sampled:	09/22/00	Matrix:	Soil
Client Sample ID:	AA0439	Date Received:	09/23/00	Units:	ug/kg
Sample ID:	M000982-001	Date Analyzed:	09/25/00	% Solids:	87.7
Batch ID:	WG6553	Date Reported:	09/26/00	Dilution:	1.1
Method:	EPA 8260				
Analyst:	Robert Williams				

CAS Number	Compound	Result	Sample Quant Limit	Sample Det Limit
95-49-8	2-Chlorotoluene	u	6.2	1
106-43-4	4-Chlorotoluene	u	6.2	1
98-06-6	tert-Butylbenzene	u	6.2	1
95-63-6	1,2,4-Trimethylbenzene	u	6.2	1
135-98-8	sec-Butylbenzene	u	6.2	1
99-87-6	p-Isopropyltoluene	u	6.2	1
541-73-1	1,3-Dichlorobenzene	u	6.2	1
106-46-7	1,4-Dichlorobenzene	u	6.2	1
104-51-8	n-Butylbenzene	u	6.2	1
95-50-1	1,2-Dichlorobenzene	u	6.2	1
96-12-8	1,2-Dibromo-3-chloropropane	u	31	6
120-82-1	1,2,4-Trichlorobenzene	u	31	10
87-68-3	Hexachlorobutadiene	u	31	10
91-20-3	Naphthalene	u	31	10
87-61-6	1,2,3-Trichlorobenzene	u	31	10

u: Below Sample Detection Limit (SDL >= MDL x Dilution)

Method Quality Control (Surrogate recoveries unadjusted for percent solids)

Surrogate Standard	Recovery (%)	CQAB Lab Perfomance Range	Method 8260 Acceptance Range	Spike (ug/kg)
Dibromofluoromethane	106.	80-120	80-120	50.0
1,2-Dichloroethane-d4	104.	70-121	70-121	50.0
Toluene-d8	96.8	81-117	81-117	50.0
4-Bromofluorobenzene	99.0	74-121	74-121	50.0

(CQAB Laboratory performance ranges are based on in-house testing.)

Quality Assurance / Quality Control

Method Blank:	WG6553-1	Laboratory Control Sample:	WG6553-2
Laboratory Matrix Duplicate:	WG6553-3	Dilution:	NA
Matrix Spike:	WG6553-4	Dilution:	NA
Matrix Spike Duplicate:	WG6553-5		

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VOA Sample Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: AA0444
Sample ID: M000982-002
Batch ID: WG6553
Method: EPA 8260
Analyst: Robert Williams

Date Sampled: 09/22/00
Date Received: 09/23/00
Date Analyzed: 09/25/00
Date Reported: 09/26/00

Matrix: Soil
Units: ug/kg
% Solids: 94.0
Dilution: 1.3

CAS Number	Compound	Result	Sample Quant Limit	Sample Det Limit
75-71-8	Dichlorodifluoromethane	u	14	1
74-87-3	Chloromethane	u	7.1	1
75-01-4	Vinyl Chloride	u	7.1	1
74-83-9	Bromomethane	u	7.1	1
75-00-3	Chloroethane	u	14	1
75-69-4	Trichlorofluoromethane	u	7.1	1
67-64-1	Acetone	97.1 B	71	30
75-35-4	1,1-Dichloroethene	u	7.1	1
75-09-2	Methylene Chloride	u	7.1	1
75-15-0	Carbon Disulfide	u	7.1	1
156-60-5	trans-1,2-Dichloroethene	u	7.1	1
108-05-4	Vinyl Acetate	u	71	10
75-34-3	1,1-Dichloroethane	u	7.1	1
78-93-3	2-Butanone	u	71	30
594-20-7	2,2-Dichloropropane	u	7.1	1
156-59-2	cis-1,2-Dichloroethene	u	7.1	1
67-66-3	Chloroform	u	7.1	1
74-97-5	Bromochloromethane	u	7.1	1
71-55-6	1,1,1-Trichloroethane	u	7.1	1
563-58-6	1,1-Dichloropropene	u	7.1	1
56-23-5	Carbon Tetrachloride	u	7.1	1
107-06-2	1,2-Dichloroethane	u	7.1	1
71-43-2	Benzene	u	7.1	1
79-01-6	Trichloroethene	u	7.1	1
78-87-5	1,2-Dichloropropane	u	7.1	1
75-27-4	Bromodichloromethane	u	7.1	1
74-95-3	Dibromomethane	u	7.1	1
108-10-1	4-Methyl-2-pentanone	u	71	30
10061-01-5	cis-1,3-Dichloropropene	u	7.1	1
108-88-3	Toluene	u	7.1	1
10061-02-6	trans-1,3-Dichloropropene	u	7.1	1
591-78-6	2-Hexanone	u	71	30
79-00-5	1,1,2-Trichloroethane	u	7.1	1
142-28-9	1,3-Dichloropropane	u	7.1	1
127-18-4	Tetrachloroethene	u	7.1	1
124-48-1	Dibromochloromethane	u	7.1	1
106-93-4	1,2-Dibromoethane	u	7.1	1
108-90-7	Chlorobenzene	u	7.1	1
100-41-4	Ethylbenzene	u	7.1	1
630-20-6	1,1,1,2-Tetrachloroethane	u	7.1	1
1330-20-7B	meta-/para-Xylenes	u	7.1	1
95-47-6	ortho-Xylene	u	7.1	1
100-42-5	Styrene	u	7.1	1
98-92-8	Isopropylbenzene	u	7.1	1
75-25-2	Bromoform	u	7.1	1
79-34-5	1,1,2,2-Tetrachloroethane	u	7.1	1
96-18-4	1,2,3-Trichloropropane	u	7.1	1
103-65-1	n-Propylbenzene	u	7.1	1
108-86-1	Bromobenzene	u	7.1	1

u: Below Sample Detection Limit (SDL >= MDL x Dilution)
B: Compound also present in the method blank.

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VOA Sample Report

Project Name:	Former Plumbrook Ordnance Works - TNT Area A				
Project Number:	6007	Date Sampled:	09/22/00	Matrix:	Soil
Client Sample ID:	AA0444	Date Received:	09/23/00	Units:	ug/kg
Sample ID:	M000982-002	Date Analyzed:	09/25/00	% Solids:	94.0
Batch ID:	WG6553	Date Reported:	09/26/00	Dilution:	1.3
Method:	EPA 8260				
Analyst:	Robert Williams				

CAS Number	Compound	Result	Sample Quant Limit	Sample Det Limit
108-67-8	1,3,5-Trimethylbenzene	u	7.1	1
95-49-8	2-Chlorotoluene	u	7.1	1
106-43-4	4-Chlorotoluene	u	7.1	1
98-06-6	tert-Butylbenzene	u	7.1	1
95-63-6	1,2,4-Trimethylbenzene	u	7.1	1
135-98-8	sec-Butylbenzene	u	7.1	1
99-87-6	p-Isopropyltoluene	u	7.1	1
541-73-1	1,3-Dichlorobenzene	u	7.1	1
106-46-7	1,4-Dichlorobenzene	u	7.1	1
104-51-8	n-Butylbenzene	u	7.1	1
95-50-1	1,2-Dichlorobenzene	u	7.1	1
96-12-8	1,2-Dibromo-3-chloropropane	u	36	7
120-82-1	1,2,4-Trichlorobenzene	u	36	10
87-68-3	Hexachlorobutadiene	u	36	10
91-20-3	Naphthalene	u	36	10
87-61-6	1,2,3-Trichlorobenzene	u	36	10

u: Below Sample Detection Limit (SDL >= MDL x Dilution)

Method Quality Control (Surrogate recoveries unadjusted for percent solids)

Surrogate Standard	Recovery (%)	CQAB Lab Perfomance Range	Method 8260 Acceptance Range	Spike (ug/kg)
Dibromofluoromethane	109.	80-120	80-120	50.0
1,2-Dichloroethane-d4	109.	70-121	70-121	50.0
Toluene-d8	99.8	81-117	81-117	50.0
4-Bromofluorobenzene	105.	74-121	74-121	50.0

(CQAB Laboratory performance ranges are based on in-house testing.)

Quality Assurance / Quality Control

Method Blank:	WG6553-1	Laboratory Control Sample:	WG6553-2
Laboratory Matrix Duplicate:	WG6553-3	Dilution:	NA
Matrix Spike:	WG6553-4	Dilution:	NA
Matrix Spike Duplicate:	WG6553-5		

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VOA (Method Blank) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007 Date Analyzed: 09/25/00 Matrix: Soil
Method Blank ID: WG6553-1 Date Reported: 09/26/00 Units: ug/kg
Method: EPA 8260
Analyst: Robert Williams

CAS Number	Compound	Result	Sample Quant Limit	Sample Det Limit
75-71-8	Dichlorodifluoromethane	u	9.9	1
74-87-3	Chloromethane	u	4.9	1
75-01-4	Vinyl Chloride	u	4.9	1
74-83-9	Bromomethane	u	4.9	1
75-00-3	Chloroethane	u	9.9	1
75-69-4	Trichlorofluoromethane	u	4.9	1
67-64-1	Acetone	26.2 J	49.	20
75-35-4	1,1-Dichloroethene	u	4.9	1
75-09-2	Methylene Chloride	u	4.9	1
75-15-0	Carbon Disulfide	u	4.9	1
156-60-5	trans-1,2-Dichloroethene	u	4.9	1
108-05-4	Vinyl Acetate	u	49.	10
75-34-3	1,1-Dichloroethane	u	4.9	1
78-93-3	2-Butanone	u	49.	20
594-20-7	2,2-Dichloropropane	u	4.9	1
156-59-2	cis-1,2-Dichloroethene	u	4.9	1
67-66-3	Chloroform	u	4.9	1
74-97-5	Bromochloromethane	u	4.9	1
71-55-6	1,1,1-Trichloroethane	u	4.9	1
563-58-6	1,1-Dichloropropene	u	4.9	1
56-23-5	Carbon Tetrachloride	u	4.9	1
107-06-2	1,2-Dichloroethane	u	4.9	1
71-43-2	Benzene	u	4.9	1
79-01-6	Trichloroethene	u	4.9	1
78-87-5	1,2-Dichloropropane	u	4.9	1
75-27-4	Bromodichloromethane	u	4.9	1
74-95-3	Dibromomethane	u	4.9	1
108-10-1	4-Methyl-2-pentanone	u	49.	20
10061-01-5	cis-1,3-Dichloropropene	u	4.9	1
108-88-3	Toluene	u	4.9	1
10061-02-6	trans-1,3-Dichloropropene	u	4.9	1
591-78-6	2-Hexanone	u	49.	20
79-00-5	1,1,2-Trichloroethane	u	4.9	1
142-28-9	1,3-Dichloropropane	u	4.9	1
127-18-4	Tetrachloroethene	u	4.9	1
124-48-1	Dibromochloromethane	u	4.9	1
106-93-4	1,2-Dibromoethane	u	4.9	1
108-90-7	Chlorobenzene	u	4.9	1
100-41-4	Ethylbenzene	u	4.9	1
630-20-6	1,1,1,2-Tetrachloroethane	u	4.9	1
1330-20-7B	meta-/para-Xylenes	u	4.9	1
95-47-6	ortho-Xylene	u	4.9	1
100-42-5	Styrene	u	4.9	1
98-92-8	Isopropylbenzene	u	4.9	1
75-25-2	Bromoform	u	4.9	1
79-34-5	1,1,2,2-Tetrachloroethane	u	4.9	1
96-18-4	1,2,3-Trichloropropane	u	4.9	1
103-65-1	n-Propylbenzene	u	4.9	1
108-86-1	Bromobenzene	u	4.9	1
108-67-8	1,3,5-Trimethylbenzene	u	4.9	1

u: Below Sample Detection Limit (SDL >= MDL x Dilution)
J: Estimated Concentration below laboratory reporting limit.

MDL determined according to procedures in 40CFR Appendix B to part 136

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DEPARTMENT OF THE ARMY
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VOA (Method Blank) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007 Date Analyzed: 09/25/00 Matrix: Soil
Method Blank ID: WG6553-1 Date Reported: 09/26/00 Units: ug/kg
Method: EPA 8260
Analyst: Robert Williams

CAS Number	Compound	Result	Sample Quant Limit	Sample Det Limit
95-49-8	2-Chlorotoluene	u	4.9	1
106-43-4	4-Chlorotoluene	u	4.9	1
98-06-6	tert-Butylbenzene	u	4.9	1
95-63-6	1,2,4-Trimethylbenzene	u	4.9	1
135-98-8	sec-Butylbenzene	u	4.9	1
99-87-6	p-Isopropyltoluene	u	4.9	1
541-73-1	1,3-Dichlorobenzene	u	4.9	1
106-46-7	1,4-Dichlorobenzene	u	4.9	1
104-51-8	n-Butylbenzene	u	4.9	1
95-50-1	1,2-Dichlorobenzene	u	4.9	1
96-12-8	1,2-Dibromo-3-chloropropane	u	25.	5
120-82-1	1,2,4-Trichlorobenzene	u	25.	10
87-68-3	Hexachlorobutadiene	u	25.	10
91-20-3	Naphthalene	u	25.	10
87-61-6	1,2,3-Trichlorobenzene	u	25.	10

u: Below Sample Detection Limit (SDL >= MDL x Dilution)

MDL determined according to procedures in 40CFR Appendix B to part 136

Method Quality Control (Surrogate recoveries unadjusted for percent solids)

Surrogate Standard	Recovery (%)	CQAB Lab Perfomance Range	Method 8260 Acceptance Range	Spike (ug/kg)
Dibromofluoromethane	102.	80-120	80-120	50.0
1,2-Dichloroethane-d4	99.7	70-121	70-121	50.0
Toluene-d8	90.1	81-117	81-117	50.0
4-Bromofluorobenzene	88.2	74-121	74-121	50.0

(CQAB Laboratory performance ranges are based on in-house testing.)

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VOA (Laboratory Matrix Duplicate) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: Batch Specific
Sample ID: M000975-001
Lab Duplicate ID: WG6553-3
Method: EPA 8260

Date Sampled: 09/18/00
Date Received: 09/20/00
Date Analyzed: 09/25/00
Date Reported: 09/26/00

Matrix: Soil
Units: ug/kg
% Solids: 68.1
Analyst: Robert Williams

CAS Number	Compound	Sample Result	Dup Result	RPD (%)	QC Limits	Sample Quant Limit
75-71-8	Dichlorodifluoromethane	u	u	NC	25	14
74-87-3	Chloromethane	u	u	NC	25	7.1
75-01-4	Vinyl Chloride	u	u	NC	25	7.1
74-83-9	Bromomethane	u	u	NC	25	7.1
75-00-3	Chloroethane	u	u	NC	25	14
75-69-4	Trichlorofluoromethane	u	u	NC	25	7.1
67-64-1	Acetone	50 JB	62 JB	22	25	71
75-35-4	1,1-Dichloroethene	u	u	NC	25	7.1
75-09-2	Methylene Chloride	1.4 J	u	NC	25	7.1
75-15-0	Carbon Disulfide	u	u	NC	25	7.1
156-60-5	trans-1,2-Dichloroethene	u	u	NC	25	7.1
108-05-4	Vinyl Acetate	u	u	NC	25	71
75-34-3	1,1-Dichloroethane	u	u	NC	25	7.1
78-93-3	2-Butanone	u	u	NC	25	71
594-20-7	2,2-Dichloropropane	u	u	NC	25	7.1
156-59-2	cis-1,2-Dichloroethene	u	u	NC	25	7.1
67-66-3	Chloroform	u	u	NC	25	7.1
74-97-5	Bromochloromethane	u	u	NC	25	7.1
71-55-6	1,1,1-Trichloroethane	u	u	NC	25	7.1
563-58-6	1,1-Dichloropropene	u	u	NC	25	7.1
56-23-5	Carbon Tetrachloride	u	u	NC	25	7.1
107-06-2	1,2-Dichloroethane	u	u	NC	25	7.1
71-43-2	Benzene	u	u	NC	25	7.1
79-01-6	Trichloroethene	u	u	NC	25	7.1
78-87-5	1,2-Dichloropropane	u	u	NC	25	7.1
75-27-4	Bromodichloromethane	u	u	NC	25	7.1
74-95-3	Dibromomethane	u	u	NC	25	7.1
108-10-1	4-Methyl-2-pentanone	u	u	NC	25	71
10061-01-5	cis-1,3-Dichloropropene	u	u	NC	25	7.1
108-88-3	Toluene	u	u	NC	25	7.1
10061-02-6	trans-1,3-Dichloropropene	u	u	NC	25	7.1
591-78-6	2-Hexanone	u	u	NC	25	71
79-00-5	1,1,2-Trichloroethane	u	u	NC	25	7.1
142-28-9	1,3-Dichloropropane	u	u	NC	25	7.1
127-18-4	Tetrachloroethene	u	u	NC	25	7.1
124-48-1	Dibromochloromethane	u	u	NC	25	7.1
106-93-4	1,2-Dibromoethane	u	u	NC	25	7.1
108-90-7	Chlorobenzene	u	u	NC	25	7.1
100-41-4	Ethylbenzene	u	u	NC	25	7.1
630-20-6	1,1,1,2-Tetrachloroethane	u	u	NC	25	7.1
1330-20-7B	meta-/para-Xylenes	u	u	NC	25	7.1
95-47-6	ortho-Xylene	u	u	NC	25	7.1
100-42-5	Styrene	u	u	NC	25	7.1
98-92-8	Isopropylbenzene	u	u	NC	25	7.1
75-25-2	Bromoform	u	u	NC	25	7.1
79-34-5	1,1,2,2-Tetrachloroethane	u	u	NC	25	7.1
96-18-4	1,2,3-Trichloropropane	u	u	NC	25	7.1
103-65-1	n-Propylbenzene	u	u	NC	25	7.1

NC: Parameter is Not Calculable
u: Below Sample Detection Limit (SDL >= MDL x Dilution)
Batch Specific: The sample used for batch QC was from another project within this work group.
J: Estimated Concentration below laboratory reporting limit.
B: Compound also present in the method blank.

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VOA (Laboratory Matrix Duplicate) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: Batch Specific
Sample ID: M000975-001
Lab Duplicate ID: WG6553-3
Method: EPA 8260

Date Sampled: 09/18/00
Date Received: 09/20/00
Date Analyzed: 09/25/00
Date Reported: 09/26/00

Matrix: Soil
Units: ug/kg
% Solids: 68.1
Analyst: Robert Williams

CAS Number	Compound	Sample Result	Dup Result	RPD (%)	QC Limits	Sample Quant Limit
108-86-1	Bromobenzene	u	u	NC	25	7.1
108-67-8	1,3,5-Trimethylbenzene	u	u	NC	25	7.1
95-49-8	2-Chlorotoluene	u	u	NC	25	7.1
106-43-4	4-Chlorotoluene	u	u	NC	25	7.1
98-06-6	tert-Butylbenzene	u	u	NC	25	7.1
95-63-6	1,2,4-Trimethylbenzene	u	u	NC	25	7.1
135-98-8	sec-Butylbenzene	u	u	NC	25	7.1
99-87-6	p-Isopropyltoluene	u	u	NC	25	7.1
541-73-1	1,3-Dichlorobenzene	u	u	NC	25	7.1
106-46-7	1,4-Dichlorobenzene	u	u	NC	25	7.1
104-51-8	n-Butylbenzene	u	u	NC	25	7.1
95-50-1	1,2-Dichlorobenzene	u	u	NC	25	7.1
96-12-8	1,2-Dibromo-3-chloropropane	u	u	NC	25	35
120-82-1	1,2,4-Trichlorobenzene	u	u	NC	25	35
87-68-3	Hexachlorobutadiene	u	u	NC	25	35
91-20-3	Naphthalene	u	u	NC	25	35
87-61-6	1,2,3-Trichlorobenzene	u	u	NC	25	35

NC: Parameter is Not Calculable
u: Below Sample Detection Limit (SDL >= MDL x Dilution)
Batch Specific: The sample used for batch QC was from another project within this work group.

Method Quality Control (Surrogate recoveries unadjusted for percent solids)

Surrogate Standard Name	Added (ug/kg)	Sample (ug/kg)	Sample Rec (%)	Dup (ug/kg)	Dup Rec (%)	CQAB Lab Performanc Range	Method 8260 Acceptance Range	RPD (%)	CQAB Lab Performance Range
Dibromofluoromethane	50.0	55.8	112.	54.2	108.	80-120	80-120	2.9	25
1,2-Dichloroethane-d4	50.0	53.7	107.	49.6	99.3	70-121	70-121	7.8	25
Toluene-d8	50.0	51.9	104.	49.9	99.7	81-117	81-117	4.1	25
4-Bromofluorobenzene	50.0	58.2	116.	51.3	103.	74-121	74-121	12.7	25

(CQAB Laboratory performance ranges are based on in-house testing.)

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VOA (Matrix Spike, Matrix Spike Duplicate) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007 Date Analyzed: 09/25/00 Matrix: Soil
Sample ID: M000975-001 Batch Specific Date Reported: 09/26/00 Units: ug/kg
MS Sample ID: WG6553-4 % Solids: 68.1
Method: EPA 8260
Analyst: Robert Williams

CAS Number	Compound	Sample Result	MS Conc	MS %Rec	QC Limits	MSD Conc	MSD %Rec	RPD (%)	QC Limits
75-71-8	Dichlorodifluoromethane	u	113	159 *	50-150	105	147	7.3	25
74-87-3	Chloromethane	u	83.0	116	50-150	84.1	118	1.4	25
75-01-4	Vinyl Chloride	u	82.7	116	50-150	70.3	98.6	16.2	25
74-83-9	Bromomethane	u	69.0	96.8	50-150	59.8	83.9	14.2	25
75-00-3	Chloroethane	u	77.3	108	50-150	69.9	98.1	10.	25
75-69-4	Trichlorofluoromethane	u	79.3	111	50-150	74.8	105	5.8	25
67-64-1	Acetone	50 JB	170	169 *	50-150	178	180 *	6.5	25
75-35-4	1,1-Dichloroethene	u	68.5	96.1	59-172	69.4	97.4	1.3	25
75-09-2	Methylene Chloride	1.4 J	73.2	101	60-140	74.4	102	1.7	25
75-15-0	Carbon Disulfide	u	56.2	78.8	60-140	47.3	66.4	17.2	25
156-60-5	trans-1,2-Dichloroethene	u	67.0	94.0	60-140	64.1	89.9	4.4	25
108-05-4	Vinyl Acetate	u	u	NC *	50-150	u	NC *	NC *	25
75-34-3	1,1-Dichloroethane	u	78.8	111	60-140	79.8	112	1.3	25
78-93-3	2-Butanone	u	136	191 *	50-140	156	219 *	13.7	25
594-20-7	2,2-Dichloropropane	u	79.3	111	60-140	78.2	110	1.4	25
156-59-2	cis-1,2-Dichloroethene	u	74.0	104	60-140	74.4	104	0.6	25
67-66-3	Chloroform	u	82.0	115	60-140	84.0	118	2.4	25
74-97-5	Bromochloromethane	u	81.5	114	60-140	84.4	118	3.5	25
71-55-6	1,1,1-Trichloroethane	u	78.8	111	60-140	75.3	106	4.5	25
563-58-6	1,1-Dichloropropene	u	73.9	104	60-140	69.6	97.7	6.0	25
56-23-5	Carbon Tetrachloride	u	67.2	94.3	60-140	52.5	73.7	24.5	25
107-06-2	1,2-Dichloroethane	u	80.0	112	60-140	81.8	115	2.3	25
71-43-2	Benzene	u	69.7	97.8	66-142	69.7	97.8	0.	25
79-01-6	Trichloroethene	u	73.3	103	62-137	69.4	97.4	5.4	25
78-87-5	1,2-Dichloropropane	u	71.7	101	60-140	72.9	102	1.7	25
75-27-4	Bromodichloromethane	u	74.3	104	60-140	68.3	95.8	8.4	25
74-95-3	Dibromomethane	u	74.2	104	60-140	78.7	110	5.9	25
108-10-1	4-Methyl-2-pentanone	u	107	150 *	50-150	125	175 *	15.6	25
10061-01-5	cis-1,3-Dichloropropene	u	66.1	92.7	60-120	60.4	84.8	9.0	25
108-88-3	Toluene	u	72.4	102	59-139	72.5	102	0.2	25
10061-02-6	trans-1,3-Dichloropropene	u	68.9	96.6	50-150	63.5	89.1	8.1	25
591-78-6	2-Hexanone	u	117	164 *	60-140	148	208 *	23.4	25
79-00-5	1,1,2-Trichloroethane	u	72.9	102	60-140	74.4	104	2.1	25
142-28-9	1,3-Dichloropropane	u	74.0	104	60-140	75.1	105	1.5	25
127-18-4	Tetrachloroethene	u	65.0	91.2	60-140	61.7	86.6	5.2	25
124-48-1	Dibromochloromethane	u	74.4	104	60-140	67.0	94.0	10.4	25
106-93-4	1,2-Dibromoethane	u	73.8	104	60-140	74.5	105	1.0	25
108-90-7	Chlorobenzene	u	68.0	95.4	60-133	65.4	91.8	3.9	25
100-41-4	Ethylbenzene	u	72.7	102	60-140	72.9	102	0.3	25
630-20-6	1,1,1,2-Tetrachloroethane	u	74.8	105	60-140	77.6	109	3.7	25
1330-20-7B	meta-/para-Xylenes	u	132	92.6	60-140	127	89.1	3.8	25
95-47-6	ortho-Xylene	u	66.6	93.4	60-140	62.3	87.4	6.6	25
100-42-5	Styrene	u	62.1	87.1	60-140	56.3	79.0	9.8	25
98-92-8	Isopropylbenzene	u	64.3	90.2	60-140	60.6	85.0	5.9	25
75-25-2	Bromoform	u	73.7	103	60-140	60.1	84.3	20.3	25
79-34-5	1,1,2,2-Tetrachloroethane	u	94.1	132	60-140	101	142 *	7.1	25
96-18-4	1,2,3-Trichloropropane	u	110	154 *	60-140	122	171 *	10.4	25
103-65-1	n-Propylbenzene	u	68.2	95.7	60-140	66.4	93.2	2.6	25

*: Indicates the value is outside control limits.
u: Below Sample Detection Limit (SDL >= MDL x Dilution)
Batch Specific: The sample used for batch QC was from another project within this work group.
%Rec: Percent of the spike recovered from the matrix
J: Estimated Concentration below laboratory reporting limit.
NC: Parameter is Not Calculable

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VOA (Matrix Spike, Matrix Spike Duplicate) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007 Date Analyzed: 09/25/00 Matrix: Soil
Sample ID: M000975-001 Batch Specific Date Reported: 09/26/00 Units: ug/kg
MS Sample ID: WG6553-4 % Solids: 68.1
Method: EPA 8260
Analyst: Robert Williams

CAS Number	Compound	Sample Result	MS Conc	MS %Rec	QC Limits	MSD Conc	MSD %Rec	RPD (%)	QC Limits
108-86-1	Bromobenzene	u	65.1	91.3	60-140	65.2	91.5	0.2	25
108-67-8	1,3,5-Trimethylbenzene	u	65.6	92.0	60-140	63.6	89.2	3.1	25
95-49-8	2-Chlorotoluene	u	71.3	100	60-140	70.1	98.4	1.7	25
106-43-4	4-Chlorotoluene	u	72.3	101	60-140	66.6	93.5	8.2	25
98-06-6	tert-Butylbenzene	u	67.0	94.0	60-140	67.1	94.2	0.2	25
95-63-6	1,2,4-Trimethylbenzene	u	64.1	89.9	60-140	63.5	89.1	0.9	25
135-98-8	sec-Butylbenzene	u	57.1	80.1	60-140	55.9	78.4	2.1	25
99-87-6	p-Isopropyltoluene	u	60.7	85.1	60-140	58.4	82.0	3.8	25
541-73-1	1,3-Dichlorobenzene	u	62.4	87.5	60-140	57.5	80.7	8.1	25
106-46-7	1,4-Dichlorobenzene	u	63.7	89.4	60-140	60.5	84.9	5.1	25
104-51-8	n-Butylbenzene	u	55.3	77.6	60-140	54.0	75.8	2.3	25
95-50-1	1,2-Dichlorobenzene	u	61.8	86.7	60-140	58.3	81.8	5.8	25
96-12-8	1,2-Dibromo-3-chloropropane	u	107	150 *	60-140	128	180 *	17.9	25
120-82-1	1,2,4-Trichlorobenzene	u	46.0	64.5	60-140	46.0	64.6	0.	25
87-68-3	Hexachlorobutadiene	u	32.8	46.0 *	60-140	38.9	54.6 *	17.1	25
91-20-3	Naphthalene	u	70.9	99.5	60-140	96.6	136	30.7 *	25
87-61-6	1,2,3-Trichlorobenzene	u	46.3	64.9	60-140	50.8	71.3	9.3	25

%Rec: Percent of the spike recovered from the matrix
u: Below Sample Detection Limit (SDL >= MDL x Dilution)
Batch Specific: The sample used for batch QC was from another project within this work group.
*: Indicates the value is outside control limits.

Method Quality Control (Surrogate recoveries unadjusted for percent solids)

Surrogate Standard Name	Added (ug/kg)	MS (ug/kg)	MS Rec (%)	MSD (ug/kg)	MSD Rec (%)	CQAB Lab %Rec Limits	Method 8260 Acceptance Range	RPD (%)	CQAB Lab RPD Limits
Dibromofluoromethane	50.0	56.4	113.	54.7	109.	80-120	80-120	3.	25
1,2-Dichloroethane-d4	50.0	51.1	102.	48.0	96.0	70-121	70-121	6.2	25
Toluene-d8	50.0	47.5	95.0	47.5	95.0	81-117	81-117	0.	25
4-Bromofluorobenzene	50.0	49.6	99.3	50.0	100.	74-121	74-121	0.70	25

(CQAB Laboratory performance ranges are based on in-house testing.)

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VOA (Laboratory Control Sample) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007 Date Analyzed: 09/25/00 Matrix: Soil
LCS ID: WG6553-2 Date Reported: 09/26/00 Units: ug/kg
Method: EPA 8260
Analyst: Robert Williams

CAS Number	Compound	LCS Result	Spike Added	LCS %Rec	Acceptance Range
75-71-8	Dichlorodifluoromethane	74.9	50.0	150	50-150
74-87-3	Chloromethane	58.9	50.0	118	50-150
75-01-4	Vinyl Chloride	58.3	50.0	117	50-150
74-83-9	Bromomethane	42.6	50.0	85.1	50-150
75-00-3	Chloroethane	50.6	50.0	101	50-150
75-69-4	Trichlorofluoromethane	52.9	50.0	106	50-150
67-64-1	Acetone	77.9 B	50.0	156 *	50-150
75-35-4	1,1-Dichloroethene	47.6	50.0	95.1	59-172
75-09-2	Methylene Chloride	46.8	50.0	93.5	60-140
75-15-0	Carbon Disulfide	46.5	50.0	93.0	60-140
156-60-5	trans-1,2-Dichloroethene	46.0	50.0	92.1	60-140
108-05-4	Vinyl Acetate	32.4 J	50.0	64.9	50-150
75-34-3	1,1-Dichloroethane	51.3	50.0	103	60-140
78-93-3	2-Butanone	76.8	50.0	154 *	50-140
594-20-7	2,2-Dichloropropane	53.7	50.0	107	60-140
156-59-2	cis-1,2-Dichloroethene	51.4	50.0	103	60-140
67-66-3	Chloroform	54.6	50.0	109	60-140
74-97-5	Bromochloromethane	51.9	50.0	104	60-140
71-55-6	1,1,1-Trichloroethane	55.5	50.0	111	60-140
563-58-6	1,1-Dichloropropene	54.0	50.0	108	60-140
56-23-5	Carbon Tetrachloride	52.6	50.0	105	60-140
107-06-2	1,2-Dichloroethane	53.1	50.0	106	60-140
71-43-2	Benzene	47.3	50.0	94.6	66-142
79-01-6	Trichloroethene	53.7	50.0	107	62-137
78-87-5	1,2-Dichloropropane	50.7	50.0	101	60-140
75-27-4	Bromodichloromethane	55.0	50.0	110	60-140
74-95-3	Dibromomethane	50.6	50.0	101	60-140
108-10-1	4-Methyl-2-pentanone	67.0	50.0	134	50-150
10061-01-5	cis-1,3-Dichloropropene	52.4	50.0	105	60-120
108-88-3	Toluene	50.6	50.0	101	59-139
10061-02-6	trans-1,3-Dichloropropene	51.4	50.0	103	50-150
591-78-6	2-Hexanone	76.2	50.0	152 *	60-140
79-00-5	1,1,2-Trichloroethane	46.6	50.0	93.1	60-140
142-28-9	1,3-Dichloropropane	48.0	50.0	96.1	60-140
127-18-4	Tetrachloroethene	48.1	50.0	96.1	60-140
124-48-1	Dibromochloromethane	53.5	50.0	107	60-140
106-93-4	1,2-Dibromoethane	50.1	50.0	100	60-140
108-90-7	Chlorobenzene	46.8	50.0	93.6	60-133
100-41-4	Ethylbenzene	56.7	50.0	113	60-140
630-20-6	1,1,1,2-Tetrachloroethane	49.4	50.0	98.7	60-140
1330-20-7B	meta-/para-Xylenes	93.6	100	93.6	60-140
95-47-6	ortho-Xylene	49.0	50.0	97.9	60-140
100-42-5	Styrene	47.7	50.0	95.4	60-140
98-92-8	Isopropylbenzene	49.9	50.0	99.8	60-140
75-25-2	Bromoform	53.1	50.0	106	60-140
79-34-5	1,1,2,2-Tetrachloroethane	52.4	50.0	105	60-140
96-18-4	1,2,3-Trichloropropane	55.6	50.0	111	60-140
103-65-1	n-Propylbenzene	45.8	50.0	91.7	60-140

*: Indicates the value is outside control limits.
B: Compound also present in the method blank.
J: Estimated Concentration below laboratory reporting limit.

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VOA (Laboratory Control Sample) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007 Date Analyzed: 09/25/00 Matrix: Soil
LCS ID: WG6553-2 Date Reported: 09/26/00 Units: ug/kg
Method: EPA 8260
Analyst: Robert Williams

CAS Number	Compound	LCS Result	Spike Added	LCS %Rec	Acceptance Range
108-86-1	Bromobenzene	42.5	50.0	85.1	60-140
108-67-8	1,3,5-Trimethylbenzene	42.9	50.0	85.9	60-140
95-49-8	2-Chlorotoluene	51.7	50.0	103	60-140
106-43-4	4-Chlorotoluene	40.8	50.0	81.7	60-140
98-06-6	tert-Butylbenzene	45.6	50.0	91.2	60-140
95-63-6	1,2,4-Trimethylbenzene	42.0	50.0	84.0	60-140
135-98-8	sec-Butylbenzene	43.8	50.0	87.5	60-140
99-87-6	p-Isopropyltoluene	44.8	50.0	89.6	60-140
541-73-1	1,3-Dichlorobenzene	44.0	50.0	88.0	60-140
106-46-7	1,4-Dichlorobenzene	41.5	50.0	83.0	60-140
104-51-8	n-Butylbenzene	45.3	50.0	90.5	60-140
95-50-1	1,2-Dichlorobenzene	43.7	50.0	87.5	60-140
96-12-8	1,2-Dibromo-3-chloropropane	83.3	50.0	167 *	60-140
120-82-1	1,2,4-Trichlorobenzene	46.1	50.0	92.2	60-140
87-68-3	Hexachlorobutadiene	36.4	50.0	72.7	60-140
91-20-3	Naphthalene	75.3	50.0	151 *	60-140
87-61-6	1,2,3-Trichlorobenzene	52.1	50.0	104	60-140

*: Indicates the value is outside control limits.

Method Quality Control (Surrogate recoveries unadjusted for percent solids)

Surrogate Standard	Recovery (%)	CQAB Lab Perfomance Range	Method 8260 Acceptance Range	Spike (ug/kg)
Dibromofluoromethane	104.	80-120	80-120	50.0
1,2-Dichloroethane-d4	96.2	70-121	70-121	50.0
Toluene-d8	93.7	81-117	81-117	50.0
4-Bromofluorobenzene	84.9	74-121	74-121	50.0

(CQAB Laboratory performance ranges are based on in-house testing.)

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VOA Sample Report

Project Name:	Former Plumbrook Ordnance Works - TNT Area A				
Project Number:	6007	Date Sampled:	09/25/00	Matrix:	Soil
Client Sample ID:	AA0430	Date Received:	09/26/00	Units:	ug/kg
Sample ID:	M000987-001	Date Analyzed:	09/27/00	% Solids:	86.1
Batch ID:	WG6573	Date Reported:	09/29/00	Dilution:	1
Method:	EPA 8260				
Analyst:	Robert Williams				

CAS Number	Compound	Result	Sample Quant Limit	Sample Det Limit
75-71-8	Dichlorodifluoromethane	u	11	1
74-87-3	Chloromethane	u	5.7	1
75-01-4	Vinyl Chloride	u	5.7	1
74-83-9	Bromomethane	u	5.7	1
75-00-3	Chloroethane	u	11	1
75-69-4	Trichlorofluoromethane	u	5.7	1
67-64-1	Acetone	u	57	20
75-35-4	1,1-Dichloroethene	u	5.7	1
75-09-2	Methylene Chloride	u	5.7	1
75-15-0	Carbon Disulfide	u	5.7	1
156-60-5	trans-1,2-Dichloroethene	u	5.7	1
108-05-4	Vinyl Acetate	u	57	10
75-34-3	1,1-Dichloroethane	u	5.7	1
78-93-3	2-Butanone	u	57	20
594-20-7	2,2-Dichloropropane	u	5.7	1
156-59-2	cis-1,2-Dichloroethene	u	5.7	1
67-66-3	Chloroform	u	5.7	1
74-97-5	Bromochloromethane	u	5.7	1
71-55-6	1,1,1-Trichloroethane	u	5.7	1
563-58-6	1,1-Dichloropropene	u	5.7	1
56-23-5	Carbon Tetrachloride	u	5.7	1
107-06-2	1,2-Dichloroethane	u	5.7	1
71-43-2	Benzene	u	5.7	1
79-01-6	Trichloroethene	u	5.7	1
78-87-5	1,2-Dichloropropane	u	5.7	1
75-27-4	Bromodichloromethane	u	5.7	1
74-95-3	Dibromomethane	u	5.7	1
108-10-1	4-Methyl-2-pentanone	u	57	20
10061-01-5	cis-1,3-Dichloropropene	u	5.7	1
108-88-3	Toluene	u	5.7	1
10061-02-6	trans-1,3-Dichloropropene	u	5.7	1
591-78-6	2-Hexanone	u	57	20
79-00-5	1,1,2-Trichloroethane	u	5.7	1
142-28-9	1,3-Dichloropropane	u	5.7	1
127-18-4	Tetrachloroethene	u	5.7	1
124-48-1	Dibromochloromethane	u	5.7	1
106-93-4	1,2-Dibromoethane	u	5.7	1
108-90-7	Chlorobenzene	u	5.7	1
100-41-4	Ethylbenzene	u	5.7	1
630-20-6	1,1,1,2-Tetrachloroethane	u	5.7	1
1330-20-7B	meta-/para-Xylenes	u	5.7	1
95-47-6	ortho-Xylene	u	5.7	1
100-42-5	Styrene	u	5.7	1
98-92-8	Isopropylbenzene	u	5.7	1
75-25-2	Bromoform	u	5.7	1
79-34-5	1,1,2,2-Tetrachloroethane	u	5.7	1
96-18-4	1,2,3-Trichloropropane	u	5.7	1
103-65-1	n-Propylbenzene	u	5.7	1
108-86-1	Bromobenzene	u	5.7	1
108-67-8	1,3,5-Trimethylbenzene	u	5.7	1

u: Below Sample Detection Limit (SDL >= MDL x Dilution)

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VOA Sample Report

Project Name:	Former Plumbrook Ordnance Works - TNT Area A				
Project Number:	6007	Date Sampled:	09/25/00	Matrix:	Soil
Client Sample ID:	AA0430	Date Received:	09/26/00	Units:	ug/kg
Sample ID:	M000987-001	Date Analyzed:	09/27/00	% Solids:	86.1
Batch ID:	WG6573	Date Reported:	09/29/00	Dilution:	1
Method:	EPA 8260				
Analyst:	Robert Williams				

CAS Number	Compound	Result	Sample Quant Limit	Sample Det Limit
95-49-8	2-Chlorotoluene	u	5.7	1
106-43-4	4-Chlorotoluene	u	5.7	1
98-06-6	tert-Butylbenzene	u	5.7	1
95-63-6	1,2,4-Trimethylbenzene	u	5.7	1
135-98-8	sec-Butylbenzene	u	5.7	1
99-87-6	p-Isopropyltoluene	u	5.7	1
541-73-1	1,3-Dichlorobenzene	u	5.7	1
106-46-7	1,4-Dichlorobenzene	u	5.7	1
104-51-8	n-Butylbenzene	u	5.7	1
95-50-1	1,2-Dichlorobenzene	u	5.7	1
96-12-8	1,2-Dibromo-3-chloropropane	u	28	5
120-82-1	1,2,4-Trichlorobenzene	u	28	10
87-68-3	Hexachlorobutadiene	u	28	10
91-20-3	Naphthalene	u	28	10
87-61-6	1,2,3-Trichlorobenzene	u	28	10

u: Below Sample Detection Limit (SDL >= MDL x Dilution)

Method Quality Control (Surrogate recoveries unadjusted for percent solids)

Surrogate Standard	Recovery (%)	CQAB Lab Perfomance Range	Method 8260 Acceptance Range	Spike (ug/kg)
Dibromofluoromethane	107.	80-120	80-120	50.0
1,2-Dichloroethane-d4	100.	70-121	70-121	50.0
Toluene-d8	90.0	81-117	81-117	50.0
4-Bromofluorobenzene	79.5	74-121	74-121	50.0

(CQAB Laboratory performance ranges are based on in-house testing.)

Quality Assurance / Quality Control

Method Blank:	WG6573-1	Laboratory Control Sample:	WG6573-2
Laboratory Matrix Duplicate:	WG6573-3	Dilution:	NA
Matrix Spike:	WG6573-4	Dilution:	NA
Matrix Spike Duplicate:	WG6573-5		

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VOA Sample Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: AA0436
Sample ID: M000987-002
Batch ID: WG6573
Method: EPA 8260
Analyst: Robert Williams

Date Sampled: 09/25/00
Date Received: 09/26/00
Date Analyzed: 09/27/00
Date Reported: 09/29/00

Matrix: Soil
Units: ug/kg
% Solids: 72.3
Dilution: 0.9

CAS Number	Compound	Result	Sample Quant Limit	Sample Det Limit
75-71-8	Dichlorodifluoromethane	u	12	0.9
74-87-3	Chloromethane	u	6.0	0.9
75-01-4	Vinyl Chloride	u	6.0	0.9
74-83-9	Bromomethane	u	6.0	0.9
75-00-3	Chloroethane	u	12	0.9
75-69-4	Trichlorofluoromethane	u	6.0	0.9
67-64-1	Acetone	63ppb u	60	20
75-35-4	1,1-Dichloroethene	u	6.0	0.9
75-09-2	Methylene Chloride	37ppb u	6.0	0.9
75-15-0	Carbon Disulfide	u	6.0	0.9
156-60-5	trans-1,2-Dichloroethene	u	6.0	0.9
108-05-4	Vinyl Acetate	u	60	9
75-34-3	1,1-Dichloroethane	u	6.0	0.9
78-93-3	2-Butanone	u	60	20
594-20-7	2,2-Dichloropropane	u	6.0	0.9
156-59-2	cis-1,2-Dichloroethene	u	6.0	0.9
67-66-3	Chloroform	u	6.0	0.9
74-97-5	Bromochloromethane	u	6.0	0.9
71-55-6	1,1,1-Trichloroethane	u	6.0	0.9
563-58-6	1,1-Dichloropropene	u	6.0	0.9
56-23-5	Carbon Tetrachloride	u	6.0	0.9
107-06-2	1,2-Dichloroethane	u	6.0	0.9
71-43-2	Benzene	u	6.0	0.9
79-01-6	Trichloroethene	u	6.0	0.9
78-87-5	1,2-Dichloropropane	u	6.0	0.9
75-27-4	Bromodichloromethane	u	6.0	0.9
74-95-3	Dibromomethane	u	6.0	0.9
108-10-1	4-Methyl-2-pentanone	u	60	20
10061-01-5	cis-1,3-Dichloropropene	u	6.0	0.9
108-88-3	Toluene	u	6.0	0.9
10061-02-6	trans-1,3-Dichloropropene	u	6.0	0.9
591-78-6	2-Hexanone	u	60	20
79-00-5	1,1,2-Trichloroethane	u	6.0	0.9
142-28-9	1,3-Dichloropropane	u	6.0	0.9
127-18-4	Tetrachloroethene	u	6.0	0.9
124-48-1	Dibromochloromethane	u	6.0	0.9
106-93-4	1,2-Dibromoethane	u	6.0	0.9
108-90-7	Chlorobenzene	u	6.0	0.9
100-41-4	Ethylbenzene	u	6.0	0.9
630-20-6	1,1,1,2-Tetrachloroethane	u	6.0	0.9
1330-20-7B	meta-/para-Xylenes	u	6.0	0.9
95-47-6	ortho-Xylene	u	6.0	0.9
100-42-5	Styrene	u	6.0	0.9
98-92-8	Isopropylbenzene	u	6.0	0.9
75-25-2	Bromoform	u	6.0	0.9
79-34-5	1,1,2,2-Tetrachloroethane	u	6.0	0.9
96-18-4	1,2,3-Trichloropropane	u	6.0	0.9
103-65-1	n-Propylbenzene	u	6.0	0.9
108-86-1	Bromobenzene	u	6.0	0.9
108-67-8	1,3,5-Trimethylbenzene	u	6.0	0.9

u: Below Sample Detection Limit (SDL >= MDL x Dilution)

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DEPARTMENT OF THE ARMY
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VOA Sample Report

Project Name:	Former Plumbrook Ordnance Works - TNT Area A				
Project Number:	6007	Date Sampled:	09/25/00	Matrix:	Soil
Client Sample ID:	AA0436	Date Received:	09/26/00	Units:	ug/kg
Sample ID:	M000987-002	Date Analyzed:	09/27/00	% Solids:	72.3
Batch ID:	WG6573	Date Reported:	09/29/00	Dilution:	0.9
Method:	EPA 8260				
Analyst:	Robert Williams				

CAS Number	Compound	Result	Sample Quant Limit	Sample Det Limit
95-49-8	2-Chlorotoluene	u	6.0	0.9
106-43-4	4-Chlorotoluene	u	6.0	0.9
98-06-6	tert-Butylbenzene	u	6.0	0.9
95-63-6	1,2,4-Trimethylbenzene	u	6.0	0.9
135-98-8	sec-Butylbenzene	u	6.0	0.9
99-87-6	p-Isopropyltoluene	u	6.0	0.9
541-73-1	1,3-Dichlorobenzene	u	6.0	0.9
106-46-7	1,4-Dichlorobenzene	u	6.0	0.9
104-51-8	n-Butylbenzene	u	6.0	0.9
95-50-1	1,2-Dichlorobenzene	u	6.0	0.9
96-12-8	1,2-Dibromo-3-chloropropane	u	30	5
120-82-1	1,2,4-Trichlorobenzene	u	30	9
87-68-3	Hexachlorobutadiene	u	30	9
91-20-3	Naphthalene	u	30	9
87-61-6	1,2,3-Trichlorobenzene	u	30	9

u: Below Sample Detection Limit (SDL >= MDL x Dilution)

Method Quality Control (Surrogate recoveries unadjusted for percent solids)

Surrogate Standard	Recovery (%)	CQAB Lab Perfomance Range	Method 8260 Acceptance Range	Spike (ug/kg)
Dibromofluoromethane	110.	80-120	80-120	50.0
1,2-Dichloroethane-d4	105.	70-121	70-121	50.0
Toluene-d8	96.9	81-117	81-117	50.0
4-Bromofluorobenzene	88.6	74-121	74-121	50.0

(CQAB Laboratory performance ranges are based on in-house testing.)

Quality Assurance / Quality Control

Method Blank:	WG6573-1	Laboratory Control Sample:	WG6573-2
Laboratory Matrix Duplicate:	WG6573-3	Dilution:	NA
Matrix Spike:	WG6573-4	Dilution:	NA
Matrix Spike Duplicate:	WG6573-5		

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DEPARTMENT OF THE ARMY
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VOA (Method Blank) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007 Date Analyzed: 09/27/00 Matrix: Soil
Method Blank ID: WG6573-1 Date Reported: 09/29/00 Units: ug/kg
Method: EPA 8260
Analyst: Robert Williams

CAS Number	Compound	Result	Sample Quant Limit	Sample Det Limit
75-71-8	Dichlorodifluoromethane	u	9.8	1
74-87-3	Chloromethane	u	4.9	1
75-01-4	Vinyl Chloride	u	4.9	1
74-83-9	Bromomethane	u	4.9	1
75-00-3	Chloroethane	u	9.8	1
75-69-4	Trichlorofluoromethane	u	4.9	1
67-64-1	Acetone	u	49.	20
75-35-4	1,1-Dichloroethene	u	4.9	1
75-09-2	Methylene Chloride	u	4.9	1
75-15-0	Carbon Disulfide	u	4.9	1
156-60-5	trans-1,2-Dichloroethene	u	4.9	1
108-05-4	Vinyl Acetate	u	49.	10
75-34-3	1,1-Dichloroethane	u	4.9	1
78-93-3	2-Butanone	u	49.	20
594-20-7	2,2-Dichloropropane	u	4.9	1
156-59-2	cis-1,2-Dichloroethene	u	4.9	1
67-66-3	Chloroform	u	4.9	1
74-97-5	Bromochloromethane	u	4.9	1
71-55-6	1,1,1-Trichloroethane	u	4.9	1
563-58-6	1,1-Dichloropropene	u	4.9	1
56-23-5	Carbon Tetrachloride	u	4.9	1
107-06-2	1,2-Dichloroethane	u	4.9	1
71-43-2	Benzene	u	4.9	1
79-01-6	Trichloroethene	u	4.9	1
78-87-5	1,2-Dichloropropane	u	4.9	1
75-27-4	Bromodichloromethane	u	4.9	1
74-95-3	Dibromomethane	u	4.9	1
108-10-1	4-Methyl-2-pentanone	u	49.	20
10061-01-5	cis-1,3-Dichloropropene	u	4.9	1
108-88-3	Toluene	u	4.9	1
10061-02-6	trans-1,3-Dichloropropene	u	4.9	1
591-78-6	2-Hexanone	u	49.	20
79-00-5	1,1,2-Trichloroethane	u	4.9	1
142-28-9	1,3-Dichloropropane	u	4.9	1
127-18-4	Tetrachloroethene	u	4.9	1
124-48-1	Dibromochloromethane	u	4.9	1
106-93-4	1,2-Dibromoethane	u	4.9	1
108-90-7	Chlorobenzene	u	4.9	1
100-41-4	Ethylbenzene	u	4.9	1
630-20-6	1,1,1,2-Tetrachloroethane	u	4.9	1
1330-20-7B	meta-/para-Xylenes	u	4.9	1
95-47-6	ortho-Xylene	u	4.9	1
100-42-5	Styrene	u	4.9	1
98-92-8	Isopropylbenzene	u	4.9	1
75-25-2	Bromoform	u	4.9	1
79-34-5	1,1,2,2-Tetrachloroethane	u	4.9	1
96-18-4	1,2,3-Trichloropropane	u	4.9	1
103-65-1	n-Propylbenzene	u	4.9	1
108-86-1	Bromobenzene	u	4.9	1
108-67-8	1,3,5-Trimethylbenzene	u	4.9	1
95-49-8	2-Chlorotoluene	u	4.9	1

u: Below Sample Detection Limit (SDL >= MDL x Dilution)

MDL determined according to procedures in 40CFR Appendix B to part 136

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C4D

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VOA (Method Blank) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007 Date Analyzed: 09/27/00 Matrix: Soil
Method Blank ID: WG6573-1 Date Reported: 09/29/00 Units: ug/kg
Method: EPA 8260
Analyst: Robert Williams

CAS Number	Compound	Result	Sample Quant Limit	Sample Det Limit
106-43-4	4-Chlorotoluene	u	4.9	1
98-06-6	tert-Butylbenzene	u	4.9	1
95-63-6	1,2,4-Trimethylbenzene	u	4.9	1
135-98-8	sec-Butylbenzene	u	4.9	1
99-87-6	p-Isopropyltoluene	u	4.9	1
541-73-1	1,3-Dichlorobenzene	u	4.9	1
106-46-7	1,4-Dichlorobenzene	u	4.9	1
104-51-8	n-Butylbenzene	u	4.9	1
95-50-1	1,2-Dichlorobenzene	u	4.9	1
96-12-8	1,2-Dibromo-3-chloropropane	u	25.	5
120-82-1	1,2,4-Trichlorobenzene	u	25.	10
87-68-3	Hexachlorobutadiene	u	25.	10
91-20-3	Naphthalene	u	25.	10
87-61-6	1,2,3-Trichlorobenzene	u	25.	10

u: Below Sample Detection Limit (SDL >= MDL x Dilution)

MDL determined according to procedures in 40CFR Appendix B to part 136

Method Quality Control (Surrogate recoveries unadjusted for percent solids)

Surrogate Standard	Recovery (%)	CQAB Lab Perfomance Range	Method 8260 Acceptance Range	Spike (ug/kg)
Dibromofluoromethane	103.	80-120	80-120	50.0
1,2-Dichloroethane-d4	98.9	70-121	70-121	50.0
Toluene-d8	90.9	81-117	81-117	50.0
4-Bromofluorobenzene	80.0	74-121	74-121	50.0

(CQAB Laboratory performance ranges are based on in-house testing.)

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DEPARTMENT OF THE ARMY
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VOA (Laboratory Matrix Duplicate) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: AA0430
Sample ID: M000987-001
Lab Duplicate ID: WG6573-3
Method: EPA 8260

Date Sampled: 09/25/00
Date Received: 09/26/00
Date Analyzed: 09/27/00
Date Reported: 09/29/00

Matrix: Soil
Units: ug/kg
% Solids: 86.1
Analyst: Robert Williams

CAS Number	Compound	Sample Result	Dup Result	RPD (%)	QC Limits	Sample Quant Limit
75-71-8	Dichlorodifluoromethane	u	u	NC	25	11
74-87-3	Chloromethane	u	u	NC	25	5.6
75-01-4	Vinyl Chloride	u	u	NC	25	5.6
74-83-9	Bromomethane	u	u	NC	25	5.6
75-00-3	Chloroethane	u	u	NC	25	11
75-69-4	Trichlorofluoromethane	u	u	NC	25	5.6
67-64-1	Acetone	u	21 J	NC	25	56
75-35-4	1,1-Dichloroethene	u	u	NC	25	5.6
75-09-2	Methylene Chloride	u	u	NC	25	5.6
75-15-0	Carbon Disulfide	u	u	NC	25	5.6
156-60-5	trans-1,2-Dichloroethene	u	u	NC	25	5.6
108-05-4	Vinyl Acetate	u	u	NC	25	56
75-34-3	1,1-Dichloroethane	u	u	NC	25	5.6
78-93-3	2-Butanone	u	u	NC	25	56
594-20-7	2,2-Dichloropropane	u	u	NC	25	5.6
156-59-2	cis-1,2-Dichloroethene	u	u	NC	25	5.6
67-66-3	Chloroform	u	u	NC	25	5.6
74-97-5	Bromochloromethane	u	u	NC	25	5.6
71-55-6	1,1,1-Trichloroethane	u	u	NC	25	5.6
563-58-6	1,1-Dichloropropene	u	u	NC	25	5.6
56-23-5	Carbon Tetrachloride	u	u	NC	25	5.6
107-06-2	1,2-Dichloroethane	u	u	NC	25	5.6
71-43-2	Benzene	u	u	NC	25	5.6
79-01-6	Trichloroethene	u	u	NC	25	5.6
78-87-5	1,2-Dichloropropane	u	u	NC	25	5.6
75-27-4	Bromodichloromethane	u	u	NC	25	5.6
74-95-3	Dibromomethane	u	u	NC	25	5.6
108-10-1	4-Methyl-2-pentanone	u	u	NC	25	56
10061-01-5	cis-1,3-Dichloropropene	u	u	NC	25	5.6
108-88-3	Toluene	u	u	NC	25	5.6
10061-02-6	trans-1,3-Dichloropropene	u	u	NC	25	5.6
591-78-6	2-Hexanone	u	u	NC	25	56
79-00-5	1,1,2-Trichloroethane	u	u	NC	25	5.6
142-28-9	1,3-Dichloropropane	u	u	NC	25	5.6
127-18-4	Tetrachloroethene	u	u	NC	25	5.6
124-48-1	Dibromochloromethane	u	u	NC	25	5.6
106-93-4	1,2-Dibromoethane	u	u	NC	25	5.6
108-90-7	Chlorobenzene	u	u	NC	25	5.6
100-41-4	Ethylbenzene	u	u	NC	25	5.6
630-20-6	1,1,1,2-Tetrachloroethane	u	u	NC	25	5.6
1330-20-7B	meta-/para-Xylenes	u	u	NC	25	5.6
95-47-6	ortho-Xylene	u	u	NC	25	5.6
100-42-5	Styrene	u	u	NC	25	5.6
98-92-8	Isopropylbenzene	u	u	NC	25	5.6
75-25-2	Bromoform	u	u	NC	25	5.6
79-34-5	1,1,2,2-Tetrachloroethane	u	u	NC	25	5.6
96-18-4	1,2,3-Trichloropropane	u	u	NC	25	5.6
103-65-1	n-Propylbenzene	u	u	NC	25	5.6
108-86-1	Bromobenzene	u	u	NC	25	5.6
108-67-8	1,3,5-Trimethylbenzene	u	u	NC	25	5.6

NC: Parameter is Not Calculable
u: Below Sample Detection Limit (SDL >= MDL x Dilution)
J: Estimated Concentration below laboratory reporting limit.

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DEPARTMENT OF THE ARMY
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VOA (Laboratory Matrix Duplicate) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: AA0430
Sample ID: M000987-001
Lab Duplicate ID: WG6573-3
Method: EPA 8260

Date Sampled: 09/25/00
Date Received: 09/26/00
Date Analyzed: 09/27/00
Date Reported: 09/29/00

Matrix: Soil
Units: ug/kg
% Solids: 86.1
Analyst: Robert Williams

CAS Number	Compound	Sample Result	Dup Result	RPD (%)	QC Limits	Sample Quant Limit
95-49-8	2-Chlorotoluene	u	u	NC	25	5.6
106-43-4	4-Chlorotoluene	u	u	NC	25	5.6
98-06-6	tert-Butylbenzene	u	u	NC	25	5.6
95-63-6	1,2,4-Trimethylbenzene	u	u	NC	25	5.6
135-98-8	sec-Butylbenzene	u	u	NC	25	5.6
99-87-6	p-Isopropyltoluene	u	u	NC	25	5.6
541-73-1	1,3-Dichlorobenzene	u	u	NC	25	5.6
106-46-7	1,4-Dichlorobenzene	u	u	NC	25	5.6
104-51-8	n-Butylbenzene	u	u	NC	25	5.6
95-50-1	1,2-Dichlorobenzene	u	u	NC	25	5.6
96-12-8	1,2-Dibromo-3-chloropropane	u	u	NC	25	28
120-82-1	1,2,4-Trichlorobenzene	u	u	NC	25	28
87-68-3	Hexachlorobutadiene	u	u	NC	25	28
91-20-3	Naphthalene	u	u	NC	25	28
87-61-6	1,2,3-Trichlorobenzene	u	u	NC	25	28

NC: Parameter is Not Calculable
u: Below Sample Detection Limit (SDL >= MDL x Dilution)

Method Quality Control (Surrogate recoveries unadjusted for percent solids)

Surrogate Standard Name	Added (ug/kg)	Sample (ug/kg)	Sample Rec (%)	Dup (ug/kg)	Dup Rec (%)	CQAB Lab Performanc Range	Method 8260 Acceptance Range	RPD (%)	CQAB Lab Performance Range
Dibromofluoromethane	50.0	53.4	107.	56.0	112.	80-120	80-120	4.7	25
1,2-Dichloroethane-d4	50.0	50.2	100.	53.3	107.	70-121	70-121	6.	25
Toluene-d8	50.0	45.0	90.0	45.4	90.7	81-117	81-117	0.80	25
4-Bromofluorobenzene	50.0	39.8	79.5	39.9	79.8	74-121	74-121	0.40	25

(CQAB Laboratory performance ranges are based on in-house testing.)

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DEPARTMENT OF THE ARMY
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VOA Sample QC Exception Report

Sample ID:	WG6573-4, WG6573-5			Matrix:	Soil
Batch ID:	WG6573	Date Analyzed:	NA	Units:	ug/kg
Method:	EPA 8260B	Date Reported:	09/29/00	% Solids:	NA

Exception Noted: Matrix Spike (MS) and Matrix Spike Duplicate (MSD) samples were NOT reported in work group WG6573

Report: Work group, WG6573, was run with the following quality control samples - Method Blank (MB), Laboratory Matrix Duplicate (LD) and a Laboratory Control Sample (LCS). The MS and MSD were not run as there was insufficient sample provided by the EnCore samplers to provide sample to spike. The LD and its original sample can provide method reproducibility information.

Approved: 10/03/00, R. Meyer, QA Officer

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DEPARTMENT OF THE ARMY
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Chemistry Quality Assurance Branch

VOA (Laboratory Control Sample) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007 Date Analyzed: 09/27/00 Matrix: Soil
LCS ID: WG6573-2 Date Reported: 09/29/00 Units: ug/kg
Method: EPA 8260
Analyst: Robert Williams

CAS Number	Compound	LCS Result	Spike Added	LCS %Rec	Acceptance Range
75-71-8	Dichlorodifluoromethane	71.8	50.0	144	50-150
74-87-3	Chloromethane	58.8	50.0	118	50-150
75-01-4	Vinyl Chloride	53.7	50.0	107	50-150
74-83-9	Bromomethane	45.7	50.0	91.4	50-150
75-00-3	Chloroethane	46.4	50.0	92.8	50-150
75-69-4	Trichlorofluoromethane	50.5	50.0	101	50-150
67-64-1	Acetone	49.1 J	50.0	98.3	50-150
75-35-4	1,1-Dichloroethene	46.9	50.0	93.7	59-172
75-09-2	Methylene Chloride	45.6	50.0	91.2	60-140
75-15-0	Carbon Disulfide	44.1	50.0	88.1	60-140
156-60-5	trans-1,2-Dichloroethene	45.7	50.0	91.3	60-140
108-05-4	Vinyl Acetate	50.6	50.0	101	50-150
75-34-3	1,1-Dichloroethane	49.7	50.0	99.4	60-140
78-93-3	2-Butanone	47.7 J	50.0	95.4	50-140
594-20-7	2,2-Dichloropropane	53.1	50.0	106	60-140
156-59-2	cis-1,2-Dichloroethene	48.5	50.0	97.0	60-140
67-66-3	Chloroform	52.1	50.0	104	60-140
74-97-5	Bromochloromethane	51.1	50.0	102	60-140
71-55-6	1,1,1-Trichloroethane	52.9	50.0	106	60-140
563-58-6	1,1-Dichloropropene	54.4	50.0	109	60-140
56-23-5	Carbon Tetrachloride	53.3	50.0	107	60-140
107-06-2	1,2-Dichloroethane	52.2	50.0	104	60-140
71-43-2	Benzene	47.3	50.0	94.5	66-142
79-01-6	Trichloroethene	54.0	50.0	108	62-137
78-87-5	1,2-Dichloropropane	48.9	50.0	97.8	60-140
75-27-4	Bromodichloromethane	53.7	50.0	107	60-140
74-95-3	Dibromomethane	47.7	50.0	95.4	60-140
108-10-1	4-Methyl-2-pentanone	55.0	50.0	110	50-150
10061-01-5	cis-1,3-Dichloropropene	53.6	50.0	107	60-120
108-88-3	Toluene	48.6	50.0	97.3	59-139
10061-02-6	trans-1,3-Dichloropropene	50.4	50.0	101	50-150
591-78-6	2-Hexanone	50.2	50.0	100	60-140
79-00-5	1,1,2-Trichloroethane	44.6	50.0	89.1	60-140
142-28-9	1,3-Dichloropropane	46.8	50.0	93.5	60-140
127-18-4	Tetrachloroethene	48.8	50.0	97.5	60-140
124-48-1	Dibromochloromethane	52.5	50.0	105	60-140
106-93-4	1,2-Dibromoethane	49.4	50.0	98.7	60-140
108-90-7	Chlorobenzene	46.7	50.0	93.4	60-133
100-41-4	Ethylbenzene	50.7	50.0	101	60-140
630-20-6	1,1,1,2-Tetrachloroethane	48.4	50.0	96.8	60-140
1330-20-7B	meta-/para-Xylenes	92.0	100	92.0	60-140
95-47-6	ortho-Xylene	47.1	50.0	94.2	60-140
100-42-5	Styrene	47.5	50.0	95.1	60-140
98-92-8	Isopropylbenzene	47.8	50.0	95.5	60-140
75-25-2	Bromoform	52.7	50.0	105	60-140
79-34-5	1,1,2,2-Tetrachloroethane	49.3	50.0	98.6	60-140
96-18-4	1,2,3-Trichloropropane	56.2	50.0	112	60-140
103-65-1	n-Propylbenzene	44.3	50.0	88.5	60-140
108-86-1	Bromobenzene	41.0	50.0	82.0	60-140
108-67-8	1,3,5-Trimethylbenzene	42.2	50.0	84.4	60-140

J: Estimated Concentration below laboratory reporting limit.

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VOA (Laboratory Control Sample) Report

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007 Date Analyzed: 09/27/00 Matrix: Soil
LCS ID: WG6573-2 Date Reported: 09/29/00 Units: ug/kg
Method: EPA 8260
Analyst: Robert Williams

CAS Number	Compound	LCS Result	Spike Added	LCS %Rec	Acceptance Range
95-49-8	2-Chlorotoluene	43.7	50.0	87.4	60-140
106-43-4	4-Chlorotoluene	45.0	50.0	90.1	60-140
98-06-6	tert-Butylbenzene	44.3	50.0	88.5	60-140
95-63-6	1,2,4-Trimethylbenzene	41.9	50.0	83.9	60-140
135-98-8	sec-Butylbenzene	42.3	50.0	84.5	60-140
99-87-6	p-Isopropyltoluene	46.0	50.0	91.9	60-140
541-73-1	1,3-Dichlorobenzene	44.2	50.0	88.4	60-140
106-46-7	1,4-Dichlorobenzene	44.7	50.0	89.3	60-140
104-51-8	n-Butylbenzene	47.7	50.0	95.4	60-140
95-50-1	1,2-Dichlorobenzene	45.6	50.0	91.2	60-140
96-12-8	1,2-Dibromo-3-chloropropane	79.1	50.0	158 *	60-140
120-82-1	1,2,4-Trichlorobenzene	53.6	50.0	107	60-140
87-68-3	Hexachlorobutadiene	50.7	50.0	101	60-140
91-20-3	Naphthalene	78.6	50.0	157 *	60-140
87-61-6	1,2,3-Trichlorobenzene	57.8	50.0	116	60-140

*: Indicates the value is outside control limits.

Method Quality Control (Surrogate recoveries unadjusted for percent solids)

Surrogate Standard	Recovery (%)	CQAB Lab Perfomance Range	Method 8260 Acceptance Range	Spike (ug/kg)
Dibromofluoromethane	106.	80-120	80-120	50.0
1,2-Dichloroethane-d4	108.	70-121	70-121	50.0
Toluene-d8	95.2	81-117	81-117	50.0
4-Bromofluorobenzene	82.0	74-121	74-121	50.0

(CQAB Laboratory performance ranges are based on in-house testing.)

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BNA Sample Report

Project Name:	Former Plumbrook Ordnance Works - TNT Area A				
Project Number:	6007	Date Sampled:	09/20/00	Matrix:	Soil
Client Sample ID:	AA1012	Date Received:	09/21/00	Units:	ug/kg
CQAB Sample ID:	M000976-001	Date Logged:	09/21/00	Amount (kg):	0.0252
Prep Method:	SW-846 3540 C	Date Extracted:	10/04/00	Vial Vol. (mL):	1
Analysis Method:	SW-846 8270 C	Date Analyzed:	10/30/00	Final Vol.(mL):	1
Work Group:	WG6690	Date Reported:	11/20/00	Dilution:	1
Analytical Batch:	001030es1	Instrument ID:	gcmsb	% Solids:	76.2
Analyst:	Greg O. Shearer	Data File ID:	bna0501006		

CAS Number	Compound	Result	LRL	MDL	CAS Number	Compound	Result	LRL	MDL
108-95-2	Phenol	u	260	20	99-09-2	3-Nitroaniline	u	2600	200
111-44-4	Bis(2-chloroethyl) ether	u	260	20	83-32-9	Acenaphthene	u	260	20
95-57-8	2-Chlorophenol	u	260	20	51-28-5	2,4-Dinitrophenol	u	2600	200
541-73-1	1,3-Dichlorobenzene	u	260	20	132-64-9	Dibenzofuran	u	260	20
106-46-7	1,4-Dichlorobenzene	u	260	20	100-02-7	4-Nitrophenol	u	2600	200
95-50-1	1,2-Dichlorobenzene	u	260	20	121-14-2	2,4-Dinitrotoluene	u	260	20
100-51-6	Benzyl alcohol	u	2600	200	86-73-7	Fluorene	u	260	20
95-48-7	2-Methylphenol	u	260	20	84-66-2	Diethyl phthalate	u	260	20
108-60-1	2,2'-Oxybis(1-chloropropane)	u	260	20	7005-72-3	4-Chlorophenyl phenyl ether	u	260	20
621-64-7	N-Nitroso-di-n-propylamine	u	260	20	100-01-6	4-Nitroaniline	u	2600	200
67-72-1	Hexachloroethane	u	260	20	534-52-1	4,6-Dinitro-2-methylphenol	u	2600	200
106-44-5	4-Methylphenol	u	260	20	86-30-6	N-Nitrosodiphenylamine (1)	u	260	20
98-95-3	Nitrobenzene	u	260	20	118-74-1	Hexachlorobenzene	u	260	20
78-59-1	Isophorone	u	260	20	101-55-3	4-Bromophenyl phenyl ether	u	260	20
88-75-5	2-Nitrophenol	u	520	40	87-86-5	Pentachlorophenol	u	2600	200
105-67-9	2,4-Dimethylphenol	u	520	40	85-01-8	Phenanthrene	u	260	20
111-91-1	Bis(2-chloroethoxy)methane	u	260	20	120-12-7	Anthracene	u	260	20
120-83-2	2,4-Dichlorophenol	u	260	20	84-74-2	Di-n-butyl phthalate	50 JB	260	20
65-85-0	Benzoic acid	u	2600	200	206-44-0	Fluoranthene	u	260	20
120-82-1	1,2,4-Trichlorobenzene	u	260	20	129-00-0	Pyrene	u	260	20
91-20-3	Naphthalene	u	260	20	85-68-7	Butyl benzyl phthalate	50 J	260	20
106-47-8	4-Chloroaniline	u	520	40	56-55-3	Benzo(a)anthracene	u	260	20
87-68-3	Hexachlorobutadiene	u	260	20	91-94-1	3,3'-Dichlorobenzidine	u	1000	80
59-50-7	4-Chloro-3-methylphenol	u	520	40	218-01-9	Chrysene	u	260	20
91-57-6	2-Methylnaphthalene	u	260	20	117-81-7	Bis(2-ethylhexyl) phthalate	230 JB	260	20
77-47-4	Hexachlorocyclopentadiene	u	1000	80	117-84-0	Di-n-octyl phthalate	40 J	260	20
88-06-2	2,4,6-Trichlorophenol	u	260	20	205-99-2	Benzo(b)fluoranthene	u	260	20
95-95-4	2,4,5-Trichlorophenol	u	260	20	207-08-9	Benzo(k)fluoranthene	u	260	20
91-58-7	2-Chloronaphthalene	u	260	20	50-32-8	Benzo(a)pyrene	u	260	20
88-74-4	2-Nitroaniline	u	2600	200	193-39-5	Indeno(1,2,3-cd)pyrene	u	260	20
208-96-8	Acenaphthylene	u	260	20	53-70-3	Dibenzo(a,h)anthracene	u	260	20
131-11-3	Dimethyl phthalate	u	260	20	191-24-2	Benzo(g,h,i)perylene	u	260	20
606-20-2	2,6-Dinitrotoluene	u	260	20					

MDL determined according to procedures in 40CFR Appendix B to part 136
u: Below Method Detection Limit
(1): Cannot be distinguished from Diphenylamine by this method.
J: Estimated Concentration above MDL but below LRL.
B: Compound also present in the method blank.

Method Quality Control

CAS Number	Surrogate Standard	Recovery (%)	Method Range	CQAB Lab Range	Spike (ug/kg)
367-12-4	2-Fluorophenol	66	25-121	59-104	7800
4165-62-2	Phenol-d5	65	24-113	61-101	7800
4165-60-0	Nitrobenzene-d5	67	23-120	61-102	5200
321-60-8	2-Fluorobiphenyl	67	30-115	60-110	5200
118-79-6	2,4,6-Tribromophenol	65	19-122	61-117	7800
98904-43-9	Terphenyl-d14	68	18-137	55-108	5200

Quality Assurance / Quality Control

Method Blank:	WG6690-1	Matrix Spike:	WG6690-4	Dilution:	NA
Lab Control Sample:	WG6690-2	Matrix Spike Duplicate:	WG6690-5	Re-analysis:	NA
Lab Matrix Duplicate:	WG6690-3	Dilution:	NA	Re-extraction:	NA

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BNA Sample Report

Project Name:	Former Plumbrook Ordnance Works - TNT Area A				
Project Number:	6007	Date Sampled:	09/22/00	Matrix:	Soil
Client Sample ID:	AA0439	Date Received:	09/23/00	Units:	ug/kg
CQAB Sample ID:	M000982-001	Date Logged:	09/25/00	Amount (kg):	0.0250
Prep Method:	SW-846 3540 C	Date Extracted:	10/04/00	Vial Vol. (mL):	1
Analysis Method:	SW-846 8270 C	Date Analyzed:	10/30/00	Final Vol.(mL):	1
Work Group:	WG6690	Date Reported:	11/20/00	Dilution:	1
Analytical Batch:	001030esl	Instrument ID:	gcmsb	% Solids:	88.9
Analyst:	Greg O. Shearer	Data File ID:	bna0601007		

CAS Number	Compound	Result	LRL	MDL	CAS Number	Compound	Result	LRL	MDL
108-95-2	Phenol	u	220	20	99-09-2	3-Nitroaniline	u	2200	200
111-44-4	Bis(2-chloroethyl) ether	u	220	20	83-32-9	Acenaphthene	u	220	20
95-57-8	2-Chlorophenol	u	220	20	51-28-5	2,4-Dinitrophenol	u	2200	200
541-73-1	1,3-Dichlorobenzene	u	220	20	132-64-9	Dibenzofuran	u	220	20
106-46-7	1,4-Dichlorobenzene	u	220	20	100-02-7	4-Nitrophenol	u	2200	200
95-50-1	1,2-Dichlorobenzene	u	220	20	121-14-2	2,4-Dinitrotoluene	8800 D	220	20
100-51-6	Benzyl alcohol	u	2200	200	86-73-7	Fluorene	u	220	20
95-48-7	2-Methylphenol	u	220	20	84-66-2	Diethyl phthalate	u	220	20
108-60-1	2,2'-Oxybis(1-chloropropane)	u	220	20	7005-72-3	4-Chlorophenyl phenyl ether	u	220	20
621-64-7	N-Nitroso-di-n-propylamine	u	220	20	100-01-6	4-Nitroaniline	u	2200	200
67-72-1	Hexachloroethane	u	220	20	534-52-1	4,6-Dinitro-2-methylphenol	u	2200	200
106-44-5	4-Methylphenol	u	220	20	86-30-6	N-Nitrosodiphenylamine (1)	u	220	20
98-95-3	Nitrobenzene	u	220	20	118-74-1	Hexachlorobenzene	u	220	20
78-59-1	Isophorone	u	220	20	101-55-3	4-Bromophenyl phenyl ether	u	220	20
88-75-5	2-Nitrophenol	u	450	40	87-86-5	Pentachlorophenol	u	2200	200
105-67-9	2,4-Dimethylphenol	u	450	40	85-01-8	Phenanthrene	70 J	220	20
111-91-1	Bis(2-chloroethoxy)methane	u	220	20	120-12-7	Anthracene	u	220	20
120-83-2	2,4-Dichlorophenol	u	220	20	84-74-2	Di-n-butyl phthalate	550 B	220	20
65-85-0	Benzoic acid	u	2200	200	206-44-0	Fluoranthene	u	220	20
120-82-1	1,2,4-Trichlorobenzene	u	220	20	129-00-0	Pyrene	u	220	20
91-20-3	Naphthalene	110 J	220	20	85-68-7	Butyl benzyl phthalate	u	220	20
106-47-8	4-Chloroaniline	u	450	40	56-55-3	Benzo(a)anthracene	u	220	20
87-68-3	Hexachlorobutadiene	u	220	20	91-94-1	3,3'-Dichlorobenzidine	u	900	80
59-50-7	4-Chloro-3-methylphenol	u	450	40	218-01-9	Chrysene	30 J	220	20
91-57-6	2-Methylnaphthalene	220 J	220	20	117-81-7	Bis(2-ethylhexyl) phthalate	120 JB	220	20
77-47-4	Hexachlorocyclopentadiene	u	900	80	117-84-0	Di-n-octyl phthalate	u	220	20
88-06-2	2,4,6-Trichlorophenol	u	220	20	205-99-2	Benzo(b)fluoranthene	u	220	20
95-95-4	2,4,5-Trichlorophenol	u	220	20	207-08-9	Benzo(k)fluoranthene	u	220	20
91-58-7	2-Chloronaphthalene	u	220	20	50-32-8	Benzo(a)pyrene	u	220	20
88-74-4	2-Nitroaniline	u	2200	200	193-39-5	Indeno(1,2,3-cd)pyrene	u	220	20
208-96-8	Acenaphthylene	u	220	20	53-70-3	Dibenzo(a,h)anthracene	u	220	20
131-11-3	Dimethyl phthalate	u	220	20	191-24-2	Benzo(g,h,i)perylene	u	220	20
606-20-2	2,6-Dinitrotoluene	480	220	20					

MDL determined according to procedures in 40CFR Appendix B to part 136
u: Below Method Detection Limit
J: Estimated Concentration above MDL but below LRL.
(1): Cannot be distinguished from Diphenylamine by this method.
B: Compound also present in the method blank.
D: Result derived from 1:2 dilution of extract (see 001116esl.b/bna0401005).

Method Quality Control

CAS Number	Surrogate Standard	Recovery (%)	Method Range	CQAB Lab Range	Spike (ug/kg)
367-12-4	2-Fluorophenol	67	25-121	59-104	6700
4165-62-2	Phenol-d5	64	24-113	61-101	6700
4165-60-0	Nitrobenzene-d5	67	23-120	61-102	4500
321-60-8	2-Fluorobiphenyl	68	30-115	60-110	4500
118-79-6	2,4,6-Tribromophenol	72	19-122	61-117	6700
98904-43-9	Terphenyl-d14	68	18-137	55-108	4500

Quality Assurance / Quality Control

Method Blank:	WG6690-1	Matrix Spike:	WG6690-4	Dilution:	NA
Lab Control Sample:	WG6690-2	Matrix Spike Duplicate:	WG6690-5	Re-analysis:	NA
Lab Matrix Duplicate:	WG6690-3	Dilution:	NA	Re-extraction:	NA

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DEPARTMENT OF THE ARMY
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BNA Sample Report

Project Name:	Former Plumbrook Ordnance Works - TNT Area A				
Project Number:	6007	Date Sampled:	09/22/00	Matrix:	Soil
Client Sample ID:	AA0444	Date Received:	09/23/00	Units:	ug/kg
CQAB Sample ID:	M000982-002	Date Logged:	09/25/00	Amount (kg):	0.0250
Prep Method:	SW-846 3540 C	Date Extracted:	10/04/00	Vial Vol. (mL):	1
Analysis Method:	SW-846 8270 C	Date Analyzed:	10/30/00	Final Vol.(mL):	1
Work Group:	WG6690	Date Reported:	11/20/00	Dilution:	1
Analytical Batch:	001030es1	Instrument ID:	gcmsb	% Solids:	94.9
Analyst:	Greg O. Shearer	Data File ID:	bna0701008		

CAS Number	Compound	Result	LRL	MDL	CAS Number	Compound	Result	LRL	MDL
108-95-2	Phenol	u	210	20	99-09-2	3-Nitroaniline	u	2100	200
111-44-4	Bis(2-chloroethyl) ether	u	210	20	83-32-9	Acenaphthene	u	210	20
95-57-8	2-Chlorophenol	u	210	20	51-28-5	2,4-Dinitrophenol	u	2100	200
541-73-1	1,3-Dichlorobenzene	u	210	20	132-64-9	Dibenzofuran	u	210	20
106-46-7	1,4-Dichlorobenzene	u	210	20	100-02-7	4-Nitrophenol	u	2100	200
95-50-1	1,2-Dichlorobenzene	u	210	20	121-14-2	2,4-Dinitrotoluene	60 J	210	20
100-51-6	Benzyl alcohol	u	2100	200	86-73-7	Fluorene	u	210	20
95-48-7	2-Methylphenol	u	210	20	84-66-2	Diethyl phthalate	u	210	20
108-60-1	2,2'-Oxybis(1-chloropropane)	u	210	20	7005-72-3	4-Chlorophenyl phenyl ether	u	210	20
621-64-7	N-Nitroso-di-n-propylamine	u	210	20	100-01-6	4-Nitroaniline	u	2100	200
67-72-1	Hexachloroethane	u	210	20	534-52-1	4,6-Dinitro-2-methylphenol	u	2100	200
106-44-5	4-Methylphenol	u	210	20	86-30-6	N-Nitrosodiphenylamine (1)	u	420	20
98-95-3	Nitrobenzene	u	210	20	118-74-1	Hexachlorobenzene	u	210	20
78-59-1	Isophorone	u	210	20	101-55-3	4-Bromophenyl phenyl ether	u	210	20
88-75-5	2-Nitrophenol	u	420	40	87-86-5	Pentachlorophenol	u	2100	200
105-67-9	2,4-Dimethylphenol	u	420	40	85-01-8	Phenanthrene	u	210	20
111-91-1	Bis(2-chloroethoxy)methane	u	210	20	120-12-7	Anthracene	u	210	20
120-83-2	2,4-Dichlorophenol	u	210	20	84-74-2	Di-n-butyl phthalate	210 B	210	20
65-85-0	Benzoic acid	u	2100	200	206-44-0	Fluoranthene	u	210	20
120-82-1	1,2,4-Trichlorobenzene	u	210	20	129-00-0	Pyrene	u	210	20
91-20-3	Naphthalene	u	210	20	85-68-7	Butyl benzyl phthalate	40 J	210	20
106-47-8	4-Chloroaniline	u	420	40	56-55-3	Benzo(a)anthracene	u	210	20
87-68-3	Hexachlorobutadiene	u	210	20	91-94-1	3,3'-Dichlorobenzidine	u	840	80
59-50-7	4-Chloro-3-methylphenol	u	420	40	218-01-9	Chrysene	u	210	20
91-57-6	2-Methylnaphthalene	u	210	20	117-81-7	Bis(2-ethylhexyl) phthalate	170 JB	210	20
77-47-4	Hexachlorocyclopentadiene	u	840	80	117-84-0	Di-n-octyl phthalate	40 J	210	20
88-06-2	2,4,6-Trichlorophenol	u	210	20	205-99-2	Benzo(b)fluoranthene	30 JI	210	20
95-95-4	2,4,5-Trichlorophenol	u	210	20	207-08-9	Benzo(k)fluoranthene	I	210	20
91-58-7	2-Chloronaphthalene	u	210	20	50-32-8	Benzo(a)pyrene	u	210	20
88-74-4	2-Nitroaniline	u 2%	2100	200	193-39-5	Indeno(1,2,3-cd)pyrene	u	210	20
208-96-8	Acenaphthylene	u	210	20	53-70-3	Dibenzo(a,h)anthracene	u	210	20
131-11-3	Dimethyl phthalate	u	210	20	191-24-2	Benzo(g,h,i)perylene	u	210	20
606-20-2	2,6-Dinitrotoluene	u	210	20					

MDL determined according to procedures in 40CFR Appendix B to part 136
u: Below Method Detection Limit
J: Estimated Concentration above MDL but below LRL.
(1): Cannot be distinguished from Diphenylamine by this method.
B: Compound also present in the method blank.
I: Analytes reported as an isomeric pair due to insufficient baseline resolution.

Method Quality Control

CAS Number	Surrogate Standard	Recovery (%)	Method Range	CQAB Lab Range	Spike (ug/kg)
367-12-4	2-Fluorophenol	66	25-121	59-104	6300
4165-62-2	Phenol-d5	61	24-113	61-101	6300
4165-60-0	Nitrobenzene-d5	66	23-120	61-102	4200
321-60-8	2-Fluorobiphenyl	66	30-115	60-110	4200
118-79-6	2,4,6-Tribromophenol	69	19-122	61-117	6300
98904-43-9	Terphenyl-d14	64	18-137	55-108	4200

Quality Assurance / Quality Control

Method Blank:	WG6690-1	Matrix Spike:	WG6690-4	Dilution:	NA
Lab Control Sample:	WG6690-2	Matrix Spike Duplicate:	WG6690-5	Re-analysis:	NA
Lab Matrix Duplicate:	WG6690-3	Dilution:	NA	Re-extraction:	NA

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DEPARTMENT OF THE ARMY
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BNA Sample Report

Project Name:	Former Plumbrook Ordnance Works - TNT Area A				
Project Number:	6007	Date Sampled:	09/25/00	Matrix:	Soil
Client Sample ID:	AA0430	Date Received:	09/26/00	Units:	ug/kg
CQAB Sample ID:	M000987-001	Date Logged:	09/26/00	Amount (kg):	0.0251
Prep Method:	SW-846 3540 C	Date Extracted:	10/04/00	Vial Vol. (mL):	1
Analysis Method:	SW-846 8270 C	Date Analyzed:	10/30/00	Final Vol.(mL):	1
Work Group:	WG6690	Date Reported:	11/20/00	Dilution:	1
Analytical Batch:	001030es1	Instrument ID:	gcmsb	% Solids:	87.0
Analyst:	Greg O. Shearer	Data File ID:	bna0801009		

CAS Number	Compound	Result	LRL	MDL	CAS Number	Compound	Result	LRL	MDL
108-95-2	Phenol	u	230	20	99-09-2	3-Nitroaniline	u	2300	200
111-44-4	Bis(2-chloroethyl) ether	u	230	20	83-32-9	Acenaphthene	u	230	20
95-57-8	2-Chlorophenol	u	230	20	51-28-5	2,4-Dinitrophenol	u	2300	200
541-73-1	1,3-Dichlorobenzene	u	230	20	132-64-9	Dibenzofuran	u	230	20
106-46-7	1,4-Dichlorobenzene	u	230	20	100-02-7	4-Nitrophenol	u	2300	200
95-50-1	1,2-Dichlorobenzene	u	230	20	121-14-2	2,4-Dinitrotoluene	590	230	20
100-51-6	Benzyl alcohol	u	2300	200	86-73-7	Fluorene	u	230	20
95-48-7	2-Methylphenol	u	230	20	84-66-2	Diethyl phthalate	u	230	20
108-60-1	2,2'-Oxybis(1-chloropropane)	u	230	20	7005-72-3	4-Chlorophenyl phenyl ether	u	230	20
621-64-7	N-Nitroso-di-n-propylamine	u	230	20	100-01-6	4-Nitroaniline	u	2300	200
67-72-1	Hexachloroethane	u	230	20	534-52-1	4,6-Dinitro-2-methylphenol	u	2300	200
106-44-5	4-Methylphenol	u	230	20	86-30-6	N-Nitrosodiphenylamine (1)	u	230	20
98-95-3	Nitrobenzene	u	230	20	118-74-1	Hexachlorobenzene	u	230	20
78-59-1	Isophorone	u	230	20	101-55-3	4-Bromophenyl phenyl ether	u	230	20
88-75-5	2-Nitrophenol	u	460	40	87-86-5	Pentachlorophenol	u	2300	200
105-67-9	2,4-Dimethylphenol	u	460	40	85-01-8	Phenanthrene	u	230	20
111-91-1	Bis(2-chloroethoxy)methane	u	230	20	120-12-7	Anthracene	u	230	20
120-83-2	2,4-Dichlorophenol	u	230	20	84-74-2	Di-n-butyl phthalate	u	230	20
65-85-0	Benzoic acid	u	2300	200	206-44-0	Fluoranthene	u	230	20
120-82-1	1,2,4-Trichlorobenzene	u	230	20	129-00-0	Pyrene	u	230	20
91-20-3	Naphthalene	u	230	20	85-68-7	Butyl benzyl phthalate	u	230	20
106-47-8	4-Chloroaniline	u	460	40	56-55-3	Benzo(a)anthracene	u	230	20
87-68-3	Hexachlorobutadiene	u	230	20	91-94-1	3,3'-Dichlorobenzidine	u	910	80
59-50-7	4-Chloro-3-methylphenol	u	460	40	218-01-9	Chrysene	u	230	20
91-57-6	2-Methylnaphthalene	u	230	20	117-81-7	Bis(2-ethylhexyl) phthalate	500 B	230	20
77-47-4	Hexachlorocyclopentadiene	u	910	80	117-84-0	Di-n-octyl phthalate	30 J	230	20
88-06-2	2,4,6-Trichlorophenol	u	230	20	205-99-2	Benzo(b)fluoranthene	u	230	20
95-95-4	2,4,5-Trichlorophenol	u	230	20	207-08-9	Benzo(k)fluoranthene	u	230	20
91-58-7	2-Chloronaphthalene	u	230	20	50-32-8	Benzo(a)pyrene	u	230	20
88-74-4	2-Nitroaniline	u	2300	200	193-39-5	Indeno(1,2,3-cd)pyrene	u	230	20
208-96-8	Acenaphthylene	u	230	20	53-70-3	Dibenzo(a,h)anthracene	u	230	20
131-11-3	Dimethyl phthalate	u	230	20	191-24-2	Benzo(g,h,i)perylene	u	230	20
606-20-2	2,6-Dinitrotoluene	200 J	230	20					

MDL determined according to procedures in 40CFR Appendix B to part 136
u: Below Method Detection Limit
J: Estimated Concentration above MDL but below LRL.
(1): Cannot be distinguished from Diphenylamine by this method.
B: Compound also present in the method blank.

Method Quality Control

CAS Number	Surrogate Standard	Recovery (%)	Method Range	CQAB Lab Range	Spike (ug/kg)
367-12-4	2-Fluorophenol	66	25-121	59-104	6900
4165-62-2	Phenol-d5	63	24-113	61-101	6900
4165-60-0	Nitrobenzene-d5	66	23-120	61-102	4600
321-60-8	2-Fluorobiphenyl	67	30-115	60-110	4600
118-79-6	2,4,6-Tribromophenol	71	19-122	61-117	6900
98904-43-9	Terphenyl-d14	70	18-137	55-108	4600

Quality Assurance / Quality Control

Method Blank:	WG6690-1	Matrix Spike:	WG6690-4	Dilution:	NA
Lab Control Sample:	WG6690-2	Matrix Spike Duplicate:	WG6690-5	Re-analysis:	NA
Lab Matrix Duplicate:	WG6690-3	Dilution:	NA	Re-extraction:	NA

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BNA Sample Report

Project Name:	Former Plumbrook Ordnance Works - TNT Area A				
Project Number:	6007	Date Sampled:	09/25/00	Matrix:	Soil
Client Sample ID:	AA0436	Date Received:	09/26/00	Units:	ug/kg
CQAB Sample ID:	M000987-002	Date Logged:	09/26/00	Amount (kg):	0.0151
Prep Method:	SW-846 3540 C	Date Extracted:	10/04/00	Vial Vol. (mL):	1
Analysis Method:	SW-846 8270 C	Date Analyzed:	10/30/00	Final Vol.(mL):	1
Work Group:	WG6690	Date Reported:	11/20/00	Dilution:	1
Analytical Batch:	001030es1	Instrument ID:	gcmsb	% Solids:	78.8
Analyst:	Greg O. Shearer	Data File ID:	bna1001011		

CAS Number	Compound	Result	LRL	MDL	CAS Number	Compound	Result	LRL	MDL
108-95-2	Phenol	50 JB	420	20	99-09-2	3-Nitroaniline	u	4200	200
111-44-4	Bis(2-chloroethyl) ether	u	420	20	83-32-9	Acenaphthene	u	420	20
95-57-8	2-Chlorophenol	u	420	20	51-28-5	2,4-Dinitrophenol	u	4200	200
541-73-1	1,3-Dichlorobenzene	u	420	20	132-64-9	Dibenzofuran	u	420	20
106-46-7	1,4-Dichlorobenzene	u	420	20	100-02-7	4-Nitrophenol	u	4200	200
95-50-1	1,2-Dichlorobenzene	u	420	20	121-14-2	2,4-Dinitrotoluene	390 J	420	20
100-51-6	Benzyl alcohol	u	4200	200	86-73-7	Fluorene	u	420	20
95-48-7	2-Methylphenol	u	420	20	84-66-2	Diethyl phthalate	u	420	20
108-60-1	2,2'-Oxybis(1-chloropropane)	u	420	20	7005-72-3	4-Chlorophenyl phenyl ether	u	420	20
621-64-7	N-Nitroso-di-n-propylamine	u	420	20	100-01-6	4-Nitroaniline	u	4200	200
67-72-1	Hexachloroethane	u	420	20	534-52-1	4,6-Dinitro-2-methylphenol	u	4200	200
106-44-5	4-Methylphenol	u	420	20	86-30-6	N-Nitrosodiphenylamine (1)	u	420	20
98-95-3	Nitrobenzene	u	420	20	118-74-1	Hexachlorobenzene	u	420	20
78-59-1	Isophorone	u	420	20	101-55-3	4-Bromophenyl phenyl ether	u	420	20
88-75-5	2-Nitrophenol	u	840	40	87-86-5	Pentachlorophenol	u	4200	200
105-67-9	2,4-Dimethylphenol	u	840	40	85-01-8	Phenanthrene	u	420	20
111-91-1	Bis(2-chloroethoxy)methane	u	420	20	120-12-7	Anthracene	u	420	20
120-83-2	2,4-Dichlorophenol	u	420	20	84-74-2	Di-n-butyl phthalate	u	420	20
65-85-0	Benzoic acid	u	4200	200	206-44-0	Fluoranthene	u	420	20
120-82-1	1,2,4-Trichlorobenzene	u	420	20	129-00-0	Pyrene	u	420	20
91-20-3	Naphthalene	u	420	20	85-68-7	Butyl benzyl phthalate	u	420	20
106-47-8	4-Chloroaniline	u	840	40	56-55-3	Benzo(a)anthracene	u	420	20
87-68-3	Hexachlorobutadiene	u	420	20	91-94-1	3,3'-Dichlorobenzidine	u	1700	80
59-50-7	4-Chloro-3-methylphenol	u	840	40	218-01-9	Chrysene	u	420	20
91-57-6	2-Methylnaphthalene	u	420	20	117-81-7	Bis(2-ethylhexyl) phthalate	100 JB	420	20
77-47-4	Hexachlorocyclopentadiene	u	1700	80	117-84-0	Di-n-octyl phthalate	u	420	20
88-06-2	2,4,6-Trichlorophenol	u	420	20	205-99-2	Benzo(b)fluoranthene	60 JI	420	20
95-95-4	2,4,5-Trichlorophenol	u	420	20	207-08-9	Benzo(k)fluoranthene	I	420	20
91-58-7	2-Chloronaphthalene	u	420	20	50-32-8	Benzo(a)pyrene	u	420	20
88-74-4	2-Nitroaniline	u	4200	200	193-39-5	Indeno(1,2,3-cd)pyrene	u	420	20
208-96-8	Acenaphthylene	u	420	20	53-70-3	Dibenzo(a,h)anthracene	u	420	20
131-11-3	Dimethyl phthalate	u	420	20	191-24-2	Benzo(g,h,i)perylene	u	420	20
606-20-2	2,6-Dinitrotoluene	110 J	420	20					

MDL determined according to procedures in 40CFR Appendix B to part 136
J: Estimated Concentration above MDL but below LRL.
B: Compound also present in the method blank.
u: Below Method Detection Limit
(1): Cannot be distinguished from Diphenylamine by this method.
I: Analytes reported as an isomeric pair due to insufficient baseline resolution.

Method Quality Control

CAS Number	Surrogate Standard	Recovery (%)	Method Range	CQAB Lab Range	Spike (ug/kg)
367-12-4	2-Fluorophenol	67	25-121	59-104	13000
4165-62-2	Phenol-d5	62	24-113	61-101	13000
4165-60-0	Nitrobenzene-d5	66	23-120	61-102	8400
321-60-8	2-Fluorobiphenyl	67	30-115	60-110	8400
118-79-6	2,4,6-Tribromophenol	73	19-122	61-117	13000
98904-43-9	Terphenyl-d14	69	18-137	55-108	8400

Quality Assurance / Quality Control

Method Blank:	WG6690-1	Matrix Spike:	WG6690-4	Dilution:	NA
Lab Control Sample:	WG6690-2	Matrix Spike Duplicate:	WG6690-5	Re-analysis:	NA
Lab Matrix Duplicate:	WG6690-3	Dilution:	NA	Re-extraction:	NA

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Chemistry Quality Assurance Branch

BNA (Method Blank) Report

Project Name:	Former Plumbrook Ordnance Works - TNT Area A				
Project Number:	6007	Date Extracted:	10/04/00	Matrix:	Soil
CQAB Sample ID:	WG6690-1	Date Analyzed:	10/30/00	Units:	ug/kg
Prep Method:	SW-846 3540 C	Date Reported:	11/20/00	Amount (kg):	0.025
Analysis Method:	SW-846 8270 C	Instrument ID:	gcmsb	Vial Vol.(mL):	1
Analytical Batch:	001030es1	Data File ID:	bna0101002	Final Vol.(mL):	1
Analyst:	Greg O. Shearer			Dilution Factor:	1

CAS Number	Compound	Result	LRL	MDL	CAS Number	Compound	Result	LRL	MDL
108-95-2	Phenol	20 J	200	20	99-09-2	3-Nitroaniline	u	2000	200
111-44-4	Bis(2-chloroethyl) ether	u	200	20	83-32-9	Acenaphthene	u	200	20
95-57-8	2-Chlorophenol	u	200	20	51-28-5	2,4-Dinitrophenol	u	2000	200
541-73-1	1,3-Dichlorobenzene	u	200	20	132-64-9	Dibenzofuran	u	200	20
106-46-7	1,4-Dichlorobenzene	u	200	20	100-02-7	4-Nitrophenol	u	2000	200
95-50-1	1,2-Dichlorobenzene	u	200	20	121-14-2	2,4-Dinitrotoluene	u	200	20
100-51-6	Benzyl alcohol	u	2000	200	86-73-7	Fluorene	u	200	20
95-48-7	2-Methylphenol	u	200	20	84-66-2	Diethyl phthalate	u	200	20
108-60-1	2,2'-Oxybis(1-chloropropane)	u	200	20	7005-72-3	4-Chlorophenyl phenyl ether	u	200	20
621-64-7	N-Nitroso-di-n-propylamine	u	200	20	100-01-6	4-Nitroaniline	u	2000	200
67-72-1	Hexachloroethane	u	200	20	534-52-1	4,6-Dinitro-2-methylphenol	u	2000	200
106-44-5	4-Methylphenol	u	200	20	86-30-6	N-Nitrosodiphenylamine (1)	u	200	20
98-95-3	Nitrobenzene	u	200	20	118-74-1	Hexachlorobenzene	u	200	20
78-59-1	Isophorone	u	200	20	101-55-3	4-Bromophenyl phenyl ether	u	200	20
88-75-5	2-Nitrophenol	u	400	40	87-86-5	Pentachlorophenol	u	2000	200
105-67-9	2,4-Dimethylphenol	u	400	40	85-01-8	Phenanthrene	u	200	20
111-91-1	Bis(2-chloroethoxy)methane	u	200	20	120-12-7	Anthracene	u	200	20
120-83-2	2,4-Dichlorophenol	u	200	20	84-74-2	Di-n-butyl phthalate	20 J	200	20
65-85-0	Benzoic acid	u	2000	200	206-44-0	Fluoranthene	u	200	20
120-82-1	1,2,4-Trichlorobenzene	u	200	20	129-00-0	Pyrene	u	200	20
91-20-3	Naphthalene	u	200	20	85-68-7	Butyl benzyl phthalate	u	200	20
106-47-8	4-Chloroaniline	u	400	40	56-55-3	Benzo(a)anthracene	u	200	20
87-68-3	Hexachlorobutadiene	u	200	20	91-94-1	3,3'-Dichlorobenzidine	u	800	80
59-50-7	4-Chloro-3-methylphenol	u	400	40	218-01-9	Chrysene	u	200	20
91-57-6	2-Methylnaphthalene	u	200	20	117-81-7	Bis(2-ethylhexyl) phthalate	70 J	200	20
77-47-4	Hexachlorocyclopentadiene	u	800	80	117-84-0	Di-n-octyl phthalate	u	200	20
88-06-2	2,4,6-Trichlorophenol	u	200	20	205-99-2	Benzo(b)fluoranthene	u	200	20
95-95-4	2,4,5-Trichlorophenol	u	200	20	207-08-9	Benzo(k)fluoranthene	u	200	20
91-58-7	2-Chloronaphthalene	u	200	20	50-32-8	Benzo(a)pyrene	u	200	20
88-74-4	2-Nitroaniline	u	2000	200	193-39-5	Indeno(1,2,3-cd)pyrene	u	200	20
208-96-8	Acenaphthylene	u	200	20	53-70-3	Dibenzo(a,h)anthracene	u	200	20
131-11-3	Dimethyl phthalate	u	200	20	191-24-2	Benzo(g,h,i)perylene	u	200	20
606-20-2	2,6-Dinitrotoluene	u	200	20					

J: Estimated Concentration above MDL but below LRL.
u: Below Method Detection Limit
(1): Cannot be distinguished from Diphenylamine by this method.

MDL determined according to procedures in 40CFR Appendix B to part 136

Method Quality Control

CAS Number	Surrogate Standard	Recovery (%)	Method Range	CQAB Lab Range	Spike (ug/kg)
367-12-4	2-Fluorophenol	53 @	25-121	59-104	6000
4165-62-2	Phenol-d5	63	24-113	61-101	6000
4165-60-0	Nitrobenzene-d5	69	23-120	61-102	4000
321-60-8	2-Fluorobiphenyl	71	30-115	60-110	4000
118-79-6	2,4,6-Tribromophenol	43 @	19-122	61-117	6000
98904-43-9	Terphenyl-d14	74	18-137	55-108	4000

@: The result is within method limits but outside CQAB laboratory limits which are based on historical in-house LCS data.

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DEPARTMENT OF THE ARMY
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BNA (Laboratory Matrix Duplicate) Report

Project Name:	Former Plumbrook Ordnance Works - TNT Area A					
Project Number:	6007	Date Extracted:	10/04/00	Sample ID:	Sample	LD
Client Sample ID:	AA0430	Date Analyzed:	10/30/00	CQAB No.:	M000987-001	WG6690-3
Prep Method:	SW-846 3540 C	Date Reported:	11/20/00	Data File ID:	bna0801009	bna0901010
Analysis Method:	SW-846 8270 C	Matrix:	Soil	Amount(kg):	0.0251	0.0252
Instrument ID:	gcmsb	Units:	ug/kg	Vial Vol.(mL):	1	1
Analytical Batch:	001030es1	% Solids:	87.0	Final Vol.(mL):	1	1
Analyst:	Greg O. Shearer			Dilution Factor:	1	1

CAS Number	Compound	Sample Result	LD Result	LRL	MDL	RPD (%)	CQAB Lab RPD Limit
108-95-2	Phenol	u	u	230	20	NC	40
111-44-4	Bis(2-chloroethyl) ether	u	u	230	20	NC	40
95-57-8	2-Chlorophenol	u	u	230	20	NC	40
541-73-1	1,3-Dichlorobenzene	u	u	230	20	NC	40
106-46-7	1,4-Dichlorobenzene	u	u	230	20	NC	40
95-50-1	1,2-Dichlorobenzene	u	u	230	20	NC	40
100-51-6	Benzyl alcohol	u	u	2300	200	NC	60
95-48-7	2-Methylphenol	u	u	230	20	NC	40
108-60-1	2,2'-Oxybis(1-chloropropane)	u	u	230	20	NC	40
621-64-7	N-Nitroso-di-n-propylamine	u	u	230	20	NC	40
67-72-1	Hexachloroethane	u	u	230	20	NC	40
106-44-5	4-Methylphenol	u	u	230	20	NC	40
98-95-3	Nitrobenzene	u	u	230	20	NC	40
78-59-1	Isophorone	u	u	230	20	NC	40
88-75-5	2-Nitrophenol	u	u	460	40	NC	60
105-67-9	2,4-Dimethylphenol	u	u	460	40	NC	60
111-91-1	Bis(2-chloroethoxy)methane	u	u	230	20	NC	40
120-83-2	2,4-Dichlorophenol	u	u	230	20	NC	40
65-85-0	Benzoic acid	u	u	2300	200	NC	60
120-82-1	1,2,4-Trichlorobenzene	u	u	230	20	NC	40
91-20-3	Naphthalene	u	u	230	20	NC	40
106-47-8	4-Chloroaniline	u	u	460	40	NC	60
87-68-3	Hexachlorobutadiene	u	u	230	20	NC	40
59-50-7	4-Chloro-3-methylphenol	u	u	460	40	NC	40
91-57-6	2-Methylnaphthalene	u	80 J	230	20	NC	40
77-47-4	Hexachlorocyclopentadiene	u	u	910	80	NC	60
88-06-2	2,4,6-Trichlorophenol	u	u	230	20	NC	40
95-95-4	2,4,5-Trichlorophenol	u	u	230	20	NC	40
91-58-7	2-Chloronaphthalene	u	u	230	20	NC	40
88-74-4	2-Nitroaniline	u	u	2300	200	NC	60
208-96-8	Acenaphthylene	u	u	230	20	NC	40
131-11-3	Dimethyl phthalate	u	u	230	20	NC	40
606-20-2	2,6-Dinitrotoluene	200 J	3750	230	20	X	40
99-09-2	3-Nitroaniline	u	u	2300	200	NC	60
83-32-9	Acenaphthene	u	u	230	20	NC	40
51-28-5	2,4-Dinitrophenol	u	u	2300	200	NC	60
132-64-9	Dibenzofuran	u	u	230	20	NC	40
100-02-7	4-Nitrophenol	u	u	2300	200	NC	60
121-14-2	2,4-Dinitrotoluene	590	21600	230	20	189 #	40
86-73-7	Fluorene	u	u	230	20	NC	40
84-66-2	Diethyl phthalate	u	u	230	20	NC	40
7005-72-3	4-Chlorophenyl phenyl ether	u	u	230	20	NC	40
100-01-6	4-Nitroaniline	u	u	2300	200	NC	60
534-52-1	4,6-Dinitro-2-methylphenol	u	u	2300	200	NC	60
86-30-6	N-Nitrosodiphenylamine (1)	u	u	230	20	NC	40
118-74-1	Hexachlorobenzene	u	u	230	20	NC	40

NC: Parameter is Not Calculable.
u: Below Method Detection Limit
J: Estimated Concentration above MDL but below LRL.
X: RPD not calculated due to the uncertainty associated with estimated concentrations.
(1): Cannot be distinguished from Diphenylamine by this method.
D: Result derived from 1:10 dilution of extract (see 001116es1.b/bna0501006).
#: The result is above the laboratory RPD limit.

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Phone: (402) 444-4300

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BNA (Laboratory Matrix Duplicate) Report

Project Name:	Former Plumbrook Ordnance Works - TNT Area A					
Project Number:	6007	Date Extracted:	10/04/00	Sample ID:	Sample	LD
Client Sample ID:	AA0430	Date Analyzed:	10/30/00	CQAB No.:	M000987-001	WG6690-3
Prep Method:	SW-846 3540 C	Date Reported:	11/20/00	Data File ID:	bna0801009	bna0901010
Analysis Method:	SW-846 8270 C	Matrix:	Soil	Amount(kg):	0.0251	0.0252
Instrument ID:	gcmsb	Units:	ug/kg	Vial Vol.(mL):	1	1
Analytical Batch:	001030es1	% Solids:	87.0	Final Vol.(mL):	1	1
Analyst:	Greg O. Shearer			Dilution Factor:	1	1

CAS Number	Compound	Sample Result	LD Result	LRL	MDL	RPD (%)	CQAB Lab RPD Limit
101-55-3	4-Bromophenyl phenyl ether	u	u	230	20	NC	40
87-86-5	Pentachlorophenol	u	u	2300	200	NC	60
85-01-8	Phenanthrene	u	40 J	230	20	NC	40
120-12-7	Anthracene	u	u	230	20	NC	40
84-74-2	Di-n-butyl phthalate	u	150 JB	230	20	NC	40
206-44-0	Fluoranthene	u	u	230	20	NC	40
129-00-0	Pyrene	u	u	230	20	NC	40
85-68-7	Butyl benzyl phthalate	u	u	230	20	NC	40
56-55-3	Benzo(a)anthracene	u	u	230	20	NC	40
91-94-1	3,3'-Dichlorobenzidine	u	u	910	80	NC	60
218-01-9	Chrysene	u	u	230	20	NC	40
117-81-7	Bis(2-ethylhexyl) phthalate	500 B	100 JB	230	20	X	40
117-84-0	Di-n-octyl phthalate	30 J	u	230	20	NC	40
205-99-2	Benzo(b)fluoranthene	u	u	230	20	NC	40
207-08-9	Benzo(k)fluoranthene	u	u	230	20	NC	40
50-32-8	Benzo(a)pyrene	u	u	230	20	NC	40
193-39-5	Indeno(1,2,3-cd)pyrene	u	u	230	20	NC	40
53-70-3	Dibenzo(a,h)anthracene	u	u	230	20	NC	40
191-24-2	Benzo(g,h,i)perylene	u	u	230	20	NC	40

NC: Parameter is Not Calculable.
u: Below Method Detection Limit
J: Estimated Concentration above MDL but below LRL.
B: Compound also present in the method blank.
X: RPD not calculated due to the uncertainty associated with estimated concentrations.

Method Quality Control

CAS Number	Surrogate Standard Name	Added (ug/kg)	Sample (ug/kg)	Sample Rec (%)	Added Dup (ug/kg)	Dup (ug/kg)	Dup Rec (%)	Method % Rec Limits	CQAB % Rec Limits	RPD (%)	CQAB Lab RPD Limit
367-12-4	2-Fluorophenol	6860	4520	66	6830	4600	67	25-121	59-104	2	40
4165-62-2	Phenol-d5	6860	4330	63	6830	4430	65	24-113	61-101	3	40
4165-60-0	Nitrobenzene-d5	4570	3030	66	4560	3020	66	23-120	61-102	0	40
321-60-8	2-Fluorobiphenyl	4570	3070	67	4560	3100	68	30-115	60-110	1	40
118-79-6	2,4,6-Tribromophenol	6860	4850	71	6830	5150	75	19-122	61-117	5	40
98904-43-9	Terphenyl-d14	4570	3210	70	4560	3130	69	18-137	55-108	1	40

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BNA (Matrix Spike, Matrix Spike Duplicate) Report

Project Name:	Former Plumbrook Ordnance Works - TNT Area A					
Project Number:	6007	Date Extracted:	10/04/00	Sample ID:	MS	MSD
Client Sample ID:	AA0430	Date Analyzed:	11/02/00	CQAB No.:	WG6690-4	WG6690-5
CQAB Sample ID:	M000987-001	Date Reported:	11/20/00	Data File ID:	bna0901010	bna1001011
Prep Method:	SW-846 3540 C	Matrix:	Soil	Amount(kg):	0.0250	0.0254
Analysis Method:	SW-846 8270 C	Units:	ug/kg	Vial Vol.(mL):	1	1
Analytical Batch:	001102es1	% Solids:	87.0	Final Vol.(mL):	1	1
Analyst:	Greg O. Shearer	Instrument ID:	gcmsb	Dilution Factor:	1	1

CAS Number	Compound	## Sample Result	MS Spike	MS Conc	MS %Rec	MSD Spike	MSD Conc	MSD %Rec	RPD (%)	Method Limits RPD	Method Limits %Rec	Lab Limits RPD	Lab Limits %Rec
108-95-2	Phenol	u	3670	3240	88	3630	3180	88	0	35	26-90	40	57-109
111-44-4	Bis(2-chloroethyl) ether	u	2300	1960	85	2270	1860	82	4			40	53-108
95-57-8	2-Chlorophenol	u	3670	3300	90	3630	3110	86	5	50	25-102	40	64-106
541-73-1	1,3-Dichlorobenzene	u	2300	1620	70	2270	1670	74	6			40	58-107
106-46-7	1,4-Dichlorobenzene	u	2300	1760	77	2270	1800	79	3	27	28-104	40	52-112
95-50-1	1,2-Dichlorobenzene	u	2300	1820	79	2270	1830	80	1			40	53-115
100-51-6	Benzyl alcohol	u	2300	1450	63 ^	2270	1020	45 ^	33			60	71-107
95-48-7	2-Methylphenol	u	3670	3120	85	3630	2900	80	6			40	63-109
108-60-1	2,2'-Oxybis(1-chloropropane)	u	2300	2020	88	2270	2000	88	0			40	64-107
621-64-7	N-Nitroso-di-n-propylamine	u	2300	2120	92	2270	2010	89	3	38	41-126	40	64-108
67-72-1	Hexachloroethane	u	2300	1600	70	2270	1680	74	6			40	60-106
106-44-5	4-Methylphenol	u	3670	3150	86	3630	2980	82	5			40	53-115
98-95-3	Nitrobenzene	u	2300	1990	87	2270	1940	85	2			40	65-110
78-59-1	Isophorone	u	2300	1990	87	2270	1830	81	7			40	62-106
88-75-5	2-Nitrophenol	u	3670	3380	92	3630	3180	88	4			60	60-123
105-67-9	2,4-Dimethylphenol	u	3670	3160	86	3630	3300	91	6			60	33-118
111-91-1	Bis(2-chloroethoxy)methane	u	2300	1760	76	2270	2040	90	17			40	65-109
120-83-2	2,4-Dichlorophenol	u	3670	3430	93	3630	3280	90	3			40	64-112
65-85-0	Benzoic acid	u	7340	5140	70	7250	3890	54	26			60	10-150
120-82-1	1,2,4-Trichlorobenzene	u	2300	2020	88	2270	1960	86	2	23	38-107	40	59-113
91-20-3	Naphthalene	u	2300	2080	91	2270	1990	88	3			40	63-112
106-47-8	4-Chloroaniline	u	2300	340	15	2270	170	8 ^	61 ^			60	10-48
87-68-3	Hexachlorobutadiene	u	2300	2020	88	2270	1990	88	0			40	61-111
59-50-7	4-Chloro-3-methylphenol	u	3670	3510	96	3630	3410	94	2	33	26-103	40	64-109
91-57-6	2-Methylnaphthalene	u	2300	1870	81	2270	1810	80	1			40	65-111
77-47-4	Hexachlorocyclopentadiene	u	2300	380	16	2270	480	21	27			60	10-84
88-06-2	2,4,6-Trichlorophenol	u	3670	3460	94	3630	3200	88	7			40	67-114
95-95-4	2,4,5-Trichlorophenol	u	3670	3540	96	3630	3320	91	5			40	69-117
91-58-7	2-Chloronaphthalene	u	2300	2110	92	2270	1960	86	7			40	64-115
88-74-4	2-Nitroaniline	u	2300	1990	86	2270	1920	84	2			60	63-126
208-96-8	Acenaphthylene	u	2300	2120	92	2270	1990	88	4			40	66-111
131-11-3	Dimethyl phthalate	u	2300	2130	93	2270	2020	89	4			40	64-112
606-20-2	2,6-Dinitrotoluene	200 J	2300	2010	78	2270	2090	83	6			40	55-139
99-09-2	3-Nitroaniline	u	2300	1800	78	2270	1060	47	50			60	10-150
83-32-9	Acenaphthene	u	2300	2070	90	2270	1970	87	3	19	31-137	40	65-111
51-28-5	2,4-Dinitrophenol	u	3670	3370	92	3630	2870	79	15			60	33-150
132-64-9	Dibenzofuran	u	2300	2100	91	2270	1990	88	3			40	65-114
100-02-7	4-Nitrophenol	u	3670	3090	84	3630	2740	76	10	50	11-114	60	65-124
121-14-2	2,4-Dinitrotoluene	590	2300	2820	97 *	2270	2830	99 *	2	47	28-89	40	56-138
86-73-7	Fluorene	u	2300	2100	91	2270	2030	89	2			40	63-115
84-66-2	Diethyl phthalate	u	2300	2080	91	2270	2020	89	2			40	63-111
7005-72-3	4-Chlorophenyl phenyl ether	u	2300	2260	98	2270	2120	93	5			40	62-116
100-01-6	4-Nitroaniline	u	2300	2180	95	2270	1300	57	50			60	39-150
534-52-1	4,6-Dinitro-2-methylphenol	u	3670	3770	103	3630	3230	89	15			60	50-143
86-30-6	N-Nitrosodiphenylamine (1)	u	2300	2260	98	2270	2050	90	9			40	23-150
118-74-1	Hexachlorobenzene	u	2300	2150	93	2270	1990	88	6			40	60-116
101-55-3	4-Bromophenyl phenyl ether	u	2300	2130	93	2270	2000	88	6			40	58-121

u: Below Method Detection Limit
##: Sample result used for spike recovery calculation is adjusted for the amount of sample used for the MS/MSD.
%Rec: Percent of the spike recovered from the matrix
^: Indicates the result is outside CQAB laboratory limits which are based on historical in-house LCS data.
J: Estimated Concentration above MDL but below LRL.
*: Indicates the value is outside method limits but within CQAB laboratory limits which are based on historical in-house LCS data
(1): Cannot be distinguished from Diphenylamine by this method.

420 South 18th Street Omaha, NE 68102
Fax: (402) 341-5448
Phone: (402) 444-4300

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DEPARTMENT OF THE ARMY
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BNA (Matrix Spike, Matrix Spike Duplicate) Report

Project Name:	Former Plumbrook Ordnance Works - TNT Area A					
Project Number:	6007	Date Extracted:	10/04/00	Sample ID:	MS	MSD
Client Sample ID:	AA0430	Date Analyzed:	11/02/00	CQAB No.:	WG6690-4	WG6690-5
CQAB Sample ID:	M000987-001	Date Reported:	11/20/00	Data File ID:	bna0901010	bna1001011
Prep Method:	SW-846 3540 C	Matrix:	Soil	Amount(kg):	0.0250	0.0254
Analysis Method:	SW-846 8270 C	Units:	ug/kg	Vial Vol.(mL):	1	1
Analytical Batch:	001102es1	% Solids:	87.0	Final Vol.(mL):	1	1
Analyst:	Greg O. Shearer	Instrument ID:	gcmsb	Dilution Factor:	1	1

CAS Number	Compound	## Sample Result	MS Spike	MS Conc	MS %Rec	MSD Spike	MSD Conc	MSD %Rec	RPD (%)	Method Limits RPD	Method Limits %Rec	Lab Limits RPD	Lab Limits %Rec
87-86-5	Pentachlorophenol	u	3670	3370	92	3630	3210	88	4	47	17-109	60	61-125
85-01-8	Phenanthrene	u	2300	2240	97	2270	2100	93	4			40	64-113
120-12-7	Anthracene	u	2300	2040	89	2270	1980	87	2			40	62-113
84-74-2	Di-n-butyl phthalate	u	2300	2020	88	2270	2290	101	14			40	59-122
206-44-0	Fluoranthene	u	2300	2030	88	2270	1980	87	1			40	66-117
129-00-0	Pyrene	u	2300	2020	88	2270	2040	90	2	36	35-142	40	59-115
85-68-7	Butyl benzyl phthalate	u	2300	1990	87	2270	2030	89	2			40	61-117
56-55-3	Benzo(a)anthracene	u	2300	2090	91	2270	2050	90	1			40	63-115
91-94-1	3,3'-Dichlorobenzidine	u	2300	460	20 ^	2270	u ^	NC ^	NC ^			60	25-150
218-01-9	Chrysene	u	2300	2100	91	2270	1990	87	4			40	64-112
117-81-7	Bis(2-ethylhexyl) phthalate	500 B	2300	1940	63	2270	2080	70	11			40	61-127
117-84-0	Di-n-octyl phthalate	30 J	2300	1960	84	2270	2040	89	6			40	60-121
205-99-2	Benzo(b)fluoranthene	u	2300	1970	86	2270	2130	94	9			40	60-113
207-08-9	Benzo(k)fluoranthene	u	2300	1980	86	2270	1710	75	14			40	62-107
50-32-8	Benzo(a)pyrene	u	2300	1960	85	2270	1870	82	4			40	62-109
193-39-5	Indeno(1,2,3-cd)pyrene	u	2300	2100	91	2270	2080	91	0			40	60-122
53-70-3	Dibenzo(a,h)anthracene	u	2300	2110	92	2270	2090	92	0			40	57-128
191-24-2	Benzo(g,h,i)perylene	u	2300	2120	92	2270	2040	90	2			40	59-118

##: Sample result used for spike recovery calculation is adjusted for the amount of sample used for the MS/MSD.
%Rec: Percent of the spike recovered from the matrix
u: Below Method Detection Limit
^: Indicates the result is outside CQAB laboratory limits which are based on historical in-house LCS data.
B: Compound also present in the method blank.
J: Estimated Concentration above MDL but below LRL.

Method Quality Control

CAS Number	Surrogate Standard Name	Added (ug/kg)	MS (ug/kg)	MS Rec (%)	Added MSD (ug/kg)	MSD (ug/kg)	MSD Rec (%)	Method %Rec Limits	CQAB %Rec Limits	RPD (%)	CQAB Lab RPD Limit
367-12-4	2-Fluorophenol	6890	5420	79	6800	5260	77	25-121	59-104	3	40
4165-62-2	Phenol-d5	6890	5460	79	6800	4990	73	24-113	61-101	8	40
4165-60-0	Nitrobenzene-d5	4590	3700	81	4530	3600	79	23-120	61-102	2	40
321-60-8	2-Fluorobiphenyl	4590	3660	80	4530	3560	79	30-115	60-110	1	40
118-79-6	2,4,6-Tribromophenol	6890	5830	85	6800	5670	83	19-122	61-117	2	40
98904-43-9	Terphenyl-d14	4590	3710	81	4530	3770	83	18-137	55-108	2	40

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BNA (Laboratory Control Sample) Report

Project Name:	Former Plumbrook Ordnance Works - TNT Area A				
Project Number:	6007	Date Extracted:	10/04/00	Matrix:	Soil
CQAB Sample ID:	WG6690-2	Date Analyzed:	10/30/00	Units:	ug/kg
Prep Method:	SW-846 3540 C	Date Reported:	11/20/00	Amount(kg):	0.025
Analysis Method:	SW-846 8270 C	Instrument ID:	gcmsb	Vial Vol.(mL):	1
Analytical Batch:	001030es1	Data File ID:	bna0201003	Final Vol.(mL):	1
Analyst:	Greg O. Shearer			Dilution Factor:	1

CAS Number	Compound	LCS Result	Spike Added	LCS %Rec	Method Range	CQAB Range
108-95-2	Phenol	2640 B	3200	82	5-112	57-109
111-44-4	Bis(2-chloroethyl) ether	1500	2000	75	12-158	53-108
95-57-8	2-Chlorophenol	2630	3200	82	23-134	64-106
541-73-1	1,3-Dichlorobenzene	1480	2000	74	D-172	58-107
106-46-7	1,4-Dichlorobenzene	1540	2000	77	20-124	52-112
95-50-1	1,2-Dichlorobenzene	1580	2000	79	32-129	53-115
100-51-6	Benzyl alcohol	1700 J	2000	85		71-107
95-48-7	2-Methylphenol	2560	3200	80		63-109
108-60-1	2,2'-Oxybis(1-chloropropane)	1700	2000	85		64-107
621-64-7	N-Nitroso-di-n-propylamine	1700	2000	85	D-230	64-108
67-72-1	Hexachloroethane	1530	2000	77	40-113	60-106
106-44-5	4-Methylphenol	2580	3200	81		53-115
98-95-3	Nitrobenzene	1590	2000	79	35-180	65-110
78-59-1	Isophorone	1580	2000	79	21-196	62-106
88-75-5	2-Nitrophenol	2650	3200	83	29-182	60-123
105-67-9	2,4-Dimethylphenol	2450	3200	77	32-119	33-118
111-91-1	Bis(2-chloroethoxy)methane	1660	2000	83	33-184	65-109
120-83-2	2,4-Dichlorophenol	2660	3200	83		64-112
65-85-0	Benzoic acid	5000	6400	78		10-150
120-82-1	1,2,4-Trichlorobenzene	1650	2000	82	44-142	59-113
91-20-3	Naphthalene	1660	2000	83	21-133	63-112
106-47-8	4-Chloroaniline	460	2000	23		10-48
87-68-3	Hexachlorobutadiene	1740	2000	87	24-116	61-111
59-50-7	4-Chloro-3-methylphenol	2700	3200	85	22-147	64-109
91-57-6	2-Methylnaphthalene	1600	2000	80		65-111
77-47-4	Hexachlorocyclopentadiene	760 J	2000	38		10-84
88-06-2	2,4,6-Trichlorophenol	2760	3200	86	37-144	67-114
95-95-4	2,4,5-Trichlorophenol	2800	3200	87		69-117
91-58-7	2-Chloronaphthalene	1650	2000	82		64-115
88-74-4	2-Nitroaniline	1560 J	2000	78		63-126
208-96-8	Acenaphthylene	1700	2000	85	33-145	66-111
131-11-3	Dimethyl phthalate	1650	2000	83	D-112	64-112
606-20-2	2,6-Dinitrotoluene	1560	2000	78	50-158	55-139
99-09-2	3-Nitroaniline	1570 J	2000	79		10-150
83-32-9	Acenaphthene	1660	2000	83	47-145	65-111
51-28-5	2,4-Dinitrophenol	2800	3200	88	D-191	33-150
132-64-9	Dibenzofuran	1630	2000	81		65-114
100-02-7	4-Nitrophenol	2460	3200	77	D-132	65-124
121-14-2	2,4-Dinitrotoluene	1680	2000	84	39-139	56-138
86-73-7	Fluorene	1660	2000	83	59-121	63-115
84-66-2	Diethyl phthalate	1670	2000	83	D-114	63-111
7005-72-3	4-Chlorophenyl phenyl ether	1770	2000	88	25-158	62-116
100-01-6	4-Nitroaniline	1610 J	2000	81		39-150
534-52-1	4,6-Dinitro-2-methylphenol	2770	3200	87		50-143
86-30-6	N-Nitrosodiphenylamine (1)	1640	2000	82		23-150
118-74-1	Hexachlorobenzene	1670	2000	84	D-152	60-116
101-55-3	4-Bromophenyl phenyl ether	1710	2000	85	53-127	58-121

B: Compound also present in the method blank.
D: SW-846 term to indicate that the analyte is expected to be detectable.
J: Estimated Concentration above MDL but below LRL.
(1): Cannot be distinguished from Diphenylamine by this method.

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BNA (Laboratory Control Sample) Report

Project Name:	Former Plumbrook Ordnance Works - TNT Area A				
Project Number:	6007	Date Extracted:	10/04/00	Matrix:	Soil
CQAB Sample ID:	WG6690-2	Date Analyzed:	10/30/00	Units:	ug/kg
Prep Method:	SW-846 3540 C	Date Reported:	11/20/00	Amount(kg):	0.025
Analysis Method:	SW-846 8270 C	Instrument ID:	gcmsb	Vial Vol.(mL):	1
Analytical Batch:	001030es1	Data File ID:	bna0201003	Final Vol.(mL):	1
Analyst:	Greg O. Shearer			Dilution Factor:	1

CAS Number	Compound	LCS Result	Spike Added	LCS %Rec	Method Range	CQAB Range
87-86-5	Pentachlorophenol	2860	3200	89	14-176	61-125
85-01-8	Phenanthrene	1630	2000	81	54-120	64-113
120-12-7	Anthracene	1620	2000	81	27-133	62-113
84-74-2	Di-n-butyl phthalate	1600 B	2000	80		59-122
206-44-0	Fluoranthene	1690	2000	85	26-137	66-117
129-00-0	Pyrene	1530	2000	76	52-115	59-115
85-68-7	Butyl benzyl phthalate	1510	2000	75	D-152	61-117
56-55-3	Benzo(a)anthracene	1580	2000	79	33-143	63-115
91-94-1	3,3'-Dichlorobenzidine	1630	2000	81	D-262	25-150
218-01-9	Chrysene	1590	2000	79	17-168	64-112
117-81-7	Bis(2-ethylhexyl) phthalate	1510 B	2000	76	8-158	61-127
117-84-0	Di-n-octyl phthalate	1580	2000	79	4-146	60-121
205-99-2	Benzo(b)fluoranthene	1590	2000	80	24-159	60-113
207-08-9	Benzo(k)fluoranthene	1470	2000	74	11-162	62-107
50-32-8	Benzo(a)pyrene	1570	2000	79	17-163	62-109
193-39-5	Indeno(1,2,3-cd)pyrene	1540	2000	77	D-171	60-122
53-70-3	Dibenzo(a,h)anthracene	1510	2000	75	D-227	57-128
191-24-2	Benzo(g,h,i)perylene	1530	2000	76	D-219	59-118

B: Compound also present in the method blank.
D: SW-846 term to indicate that the analyte is expected to be detectable.

Method Quality Control

CAS Number	Surrogate Standard	Recovery (%)	Method Range	CQAB Lab Range	Spike (ug/kg)
367-12-4	2-Fluorophenol	73	25-121	59-104	6000
4165-62-2	Phenol-d5	75	24-113	61-101	6000
4165-60-0	Nitrobenzene-d5	73	23-120	61-102	4000
321-60-8	2-Fluorobiphenyl	72	30-115	60-110	4000
118-79-6	2,4,6-Tribromophenol	82	19-122	61-117	6000
98904-43-9	Terphenyl-d14	71	18-137	55-108	4000

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BNA Sample Report

Project Name:	Former Plumbrook Ordnance Works - TNT Area A				
Project Number:	6007	Date Sampled:	09/20/00	Matrix:	Water
Client Sample ID:	AA2012	Date Received:	09/21/00	Units:	ug/L
CQAB Sample ID:	M000976-003	Date Logged:	09/21/00	Amount (L):	1.00
Prep Method:	SW-846 3520 C	Date Extracted:	09/21/00	Vial Vol. (mL):	1
Analysis Method:	SW-846 8270 C	Date Analyzed:	10/18/00	Final Vol.(mL):	1
Work Group:	WG6578	Date Reported:	10/27/00	Dilution:	1
Analytical Batch:	001018ew1	Instrument ID:	gcmsb		
Analyst:	Greg O. Shearer	Data File ID:	bna0301004		

CAS Number	Compound	Result	LRL	MDL	CAS Number	Compound	Result	LRL	MDL
108-95-2	Phenol	u	5.0	0.5	99-09-2	3-Nitroaniline	u	50	5
111-44-4	Bis(2-chloroethyl) ether	u	5.0	0.5	83-32-9	Acenaphthene	u	5.0	0.5
95-57-8	2-Chlorophenol	u	5.0	0.5	51-28-5	2,4-Dinitrophenol	u	50	5
541-73-1	1,3-Dichlorobenzene	u	5.0	0.5	132-64-9	Dibenzofuran	u	5.0	0.5
106-46-7	1,4-Dichlorobenzene	u	5.0	0.5	100-02-7	4-Nitrophenol	u	50	5
95-50-1	1,2-Dichlorobenzene	u	5.0	0.5	121-14-2	2,4-Dinitrotoluene	u	5.0	0.5
100-51-6	Benzyl alcohol	u	50	5	86-73-7	Fluorene	u	5.0	0.5
95-48-7	2-Methylphenol	u	5.0	0.5	84-66-2	Diethyl phthalate	u	5.0	0.5
108-60-1	2,2'-Oxybis(1-chloropropane)	u	5.0	0.5	7005-72-3	4-Chlorophenyl phenyl ether	u	5.0	0.5
621-64-7	N-Nitroso-di-n-propylamine	u	5.0	0.5	100-01-6	4-Nitroaniline	u	50	5
67-72-1	Hexachloroethane	u	5.0	0.5	534-52-1	4,6-Dinitro-2-methylphenol	u	50	5
106-44-5	4-Methylphenol	u	5.0	0.5	86-30-6	N-Nitrosodiphenylamine (1)	u	5.0	0.5
98-95-3	Nitrobenzene	u	5.0	0.5	118-74-1	Hexachlorobenzene	u	5.0	0.5
78-59-1	Isophorone	u	5.0	0.5	101-55-3	4-Bromophenyl phenyl ether	u	5.0	0.5
88-75-5	2-Nitrophenol	u	10	1	87-86-5	Pentachlorophenol	u	50	5
105-67-9	2,4-Dimethylphenol	u	10	1	85-01-8	Phenanthrene	u	5.0	0.5
111-91-1	Bis(2-chloroethoxy)methane	u	5.0	0.5	120-12-7	Anthracene	u	5.0	0.5
120-83-2	2,4-Dichlorophenol	u	5.0	0.5	84-74-2	Di-n-butyl phthalate	1 JB	5.0	0.5
65-85-0	Benzoic acid	u	50	5	206-44-0	Fluoranthene	u	5.0	0.5
120-82-1	1,2,4-Trichlorobenzene	u	5.0	0.5	129-00-0	Pyrene	u	5.0	0.5
91-20-3	Naphthalene	u	5.0	0.5	85-68-7	Butyl benzyl phthalate	u	5.0	0.5
106-47-8	4-Chloroaniline	u	10	1	56-55-3	Benzo(a)anthracene	u	5.0	0.5
87-68-3	Hexachlorobutadiene	u	5.0	0.5	91-94-1	3,3'-Dichlorobenzidine	u	20	2
59-50-7	4-Chloro-3-methylphenol	u	10	1	218-01-9	Chrysene	u	5.0	0.5
91-57-6	2-Methylnaphthalene	u	5.0	0.5	117-81-7	Bis(2-ethylhexyl) phthalate	37 B	5.0	0.5
77-47-4	Hexachlorocyclopentadiene	u	20	2	117-84-0	Di-n-octyl phthalate	1 JB	5.0	0.5
88-06-2	2,4,6-Trichlorophenol	u	5.0	0.5	205-99-2	Benzo(b)fluoranthene	u	5.0	0.5
95-95-4	2,4,5-Trichlorophenol	u	5.0	0.5	207-08-9	Benzo(k)fluoranthene	u	5.0	0.5
91-58-7	2-Chloronaphthalene	u	5.0	0.5	50-32-8	Benzo(a)pyrene	u	5.0	0.5
88-74-4	2-Nitroaniline 58%	u	50	5	193-39-5	Indeno(1,2,3-cd)pyrene	u	5.0	0.5
208-96-8	Acenaphthylene	u	5.0	0.5	53-70-3	Dibenzo(a,h)anthracene	u	5.0	0.5
131-11-3	Dimethyl phthalate	u	5.0	0.5	191-24-2	Benzo(g,h,i)perylene	u	5.0	0.5
606-20-2	2,6-Dinitrotoluene	u	5.0	0.5					

MDL determined according to procedures in 40CFR Appendix B to part 136
u: Below Method Detection Limit
(1): Cannot be distinguished from Diphenylamine by this method.
J: Estimated Concentration above MDL but below LRL.
B: Compound also present in the method blank.
NOTE: Please see the attached Batch Narrative.

Method Quality Control

CAS Number	Surrogate Standard	Recovery (%)	Method Range	CQAB Lab Range	Spike (ug/L)
4165-60-0	Nitrobenzene-d5	86	35-114	43-120	50.0
321-60-8	2-Fluorobiphenyl	82	43-116	50-104	50.0
98904-43-9	Terphenyl-d14	88	33-141	44-113	50.0
4165-62-2	Phenol-d5	73	10-110	52-103	75.0
367-12-4	2-Fluorophenol	76	21-110	45-100	75.0
118-79-6	2,4,6-Tribromophenol	78	10-123	53-120	75.0

Quality Assurance / Quality Control

Method Blank:	WG6578-1	Matrix Spike:	WG6578-4	Dilution:	NA
Lab Control Sample:	WG6578-2	Matrix Spike Duplicate:	NA	Re-analysis:	NA
Lab Matrix Duplicate:	WG6578-3	Dilution:	NA	Re-extraction:	NA

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Phone: (402) 444-4300

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Omaha, NE 68102
(402) 444-4300

Batch Narrative

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Workgroup Number: WG6578
Determinative Method: 8270C

1. The method blank for WG6578, which includes samples from the Former Plumbrook Ordnance Works - TNT Area A project, gave detections at concentrations near the method detection limit for several target analytes due to laboratory contamination. All analyte concentrations were below the laboratory reporting limits (LRL) for the target analytes with the exception of bis (2-ethylhexyl) phthalate, which was observed at a concentration slightly above the LRL.

2. Field sample AA2012 (CQAB No. M000976-003) was originally extracted with workgroup WG6578 on 09/21/00. Bis (2-ethylhexyl) phthalate was observed above the laboratory reporting limit in the method blank (5 ug/L) and in sample AA2012 (37 ug/L). To determine whether the bis (2-ethylhexyl) phthalate observed in the sample was the result of laboratory contamination, the sample was re-extracted on 10/24/00 and re-analyzed on 11/1/00. The re-extraction occurred after holding time had expired. Bis (2-ethylhexyl) phthalate was observed in the re-extracted sample at an estimated concentration of 3 ug/L. No other target analytes were observed. Surrogate recoveries for the re-extracted sample were similar to the results from the original extraction and analysis. Bis (2-ethylhexyl) phthalate was observed at an estimated concentration of 4 ug/L in the method blank associated with the re-extracted sample.

3. Due to an error during the extraction of WG6578, most of the laboratory control sample (LCS) extract was lost. As a result, all target analyte and surrogate recoveries in the LCS were below 15%. The typical corrective action for this error would be re-extraction of the entire workgroup. As most of the samples did not have sufficient remaining sample volume for re-extraction, this corrective action was not possible. The extraction error was not observed for any other sample in the workgroup, however. Note the generally acceptable target analyte recoveries in the Matrix Spike sample and the acceptable surrogate recoveries for the field samples. The error that occurred during the extraction for the LCS does not appear to have occurred in or impacted the other samples in the workgroup.

Denise MacMillan
CQAB QA Officer

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BNA (Method Blank) Report

Project Name:	Former Plumbrook Ordnance Works - TNT Area A				
Project Number:	6007	Date Extracted:	09/21/00	Matrix:	Water
CQAB Sample ID:	WG6578-1	Date Analyzed:	10/18/00	Units:	ug/L
Prep Method:	SW-846 3520 C	Date Reported:	10/27/00	Amount (L):	1.0
Analysis Method:	SW-846 8270 C	Instrument ID:	gcmsb	Vial Vol.(mL):	1
Analytical Batch:	001018ew1	Data File ID:	bna0101002	Final Vol.(mL):	1
Analyst:	Greg O. Shearer			Dilution Factor:	1

CAS Number	Compound	Result	LRL	MDL	CAS Number	Compound	Result	LRL	MDL
108-95-2	Phenol	1 J	5.0	0.5	99-09-2	3-Nitroaniline	u	50	5
111-44-4	Bis(2-chloroethyl) ether	u	5.0	0.5	83-32-9	Acenaphthene	1 J	5.0	0.5
95-57-8	2-Chlorophenol	u	5.0	0.5	51-28-5	2,4-Dinitrophenol	u	50	5
541-73-1	1,3-Dichlorobenzene	u	5.0	0.5	132-64-9	Dibenzofuran	1 J	5.0	0.5
106-46-7	1,4-Dichlorobenzene	u	5.0	0.5	100-02-7	4-Nitrophenol	u	50	5
95-50-1	1,2-Dichlorobenzene	u	5.0	0.5	121-14-2	2,4-Dinitrotoluene	u	5.0	0.5
100-51-6	Benzyl alcohol	u	50	5	86-73-7	Fluorene	1 J	5.0	0.5
95-48-7	2-Methylphenol	1 J	5.0	0.5	84-66-2	Diethyl phthalate	1 J	5.0	0.5
108-60-1	2,2'-Oxybis(1-chloropropane)	u	5.0	0.5	7005-72-3	4-Chlorophenyl phenyl ether	1 J	5.0	0.5
621-64-7	N-Nitroso-di-n-propylamine	u	5.0	0.5	100-01-6	4-Nitroaniline	u	50	5
67-72-1	Hexachloroethane	u	5.0	0.5	534-52-1	4,6-Dinitro-2-methylphenol	u	50	5
106-44-5	4-Methylphenol	u	5.0	0.5	86-30-6	N-Nitrosodiphenylamine (1)	1 J	5.0	0.5
98-95-3	Nitrobenzene	u	5.0	0.5	118-74-1	Hexachlorobenzene	1 J	5.0	0.5
78-59-1	Isophorone	1 J	5.0	0.5	101-55-3	4-Bromophenyl phenyl ether	1 J	5.0	0.5
88-75-5	2-Nitrophenol	u	10	1	87-86-5	Pentachlorophenol	u	50	5
105-67-9	2,4-Dimethylphenol	u	10	1	85-01-8	Phenanthrene	1 J	5.0	0.5
111-91-1	Bis(2-chloroethoxy)methane	u	5.0	0.5	120-12-7	Anthracene	1 J	5.0	0.5
120-83-2	2,4-Dichlorophenol	u	5.0	0.5	84-74-2	Di-n-butyl phthalate	2 J	5.0	0.5
65-85-0	Benzoic acid	u	50	5	206-44-0	Fluoranthene	1 J	5.0	0.5
120-82-1	1,2,4-Trichlorobenzene	u	5.0	0.5	129-00-0	Pyrene	1 J	5.0	0.5
91-20-3	Naphthalene	u	5.0	0.5	85-68-7	Butyl benzyl phthalate	2 J	5.0	0.5
106-47-8	4-Chloroaniline	u	10	1	56-55-3	Benzo(a)anthracene	1 J	5.0	0.5
87-68-3	Hexachlorobutadiene	u	5.0	0.5	91-94-1	3,3'-Dichlorobenzidine	u	20	2
59-50-7	4-Chloro-3-methylphenol	u	10	1	218-01-9	Chrysene	1 J	5.0	0.5
91-57-6	2-Methylnaphthalene	u	5.0	0.5	117-81-7	Bis(2-ethylhexyl) phthalate	5	5.0	0.5
77-47-4	Hexachlorocyclopentadiene	u	20	2	117-84-0	Di-n-octyl phthalate	2 J	5.0	0.5
88-06-2	2,4,6-Trichlorophenol	u	5.0	0.5	205-99-2	Benzo(b)fluoranthene	1 J	5.0	0.5
95-95-4	2,4,5-Trichlorophenol	u	5.0	0.5	207-08-9	Benzo(k)fluoranthene	1 J	5.0	0.5
91-58-7	2-Chloronaphthalene	u	5.0	0.5	50-32-8	Benzo(a)pyrene	1 J	5.0	0.5
88-74-4	2-Nitroaniline	u	50	5	193-39-5	Indeno(1,2,3-cd)pyrene	1 J	5.0	0.5
208-96-8	Acenaphthylene	1 J	5.0	0.5	53-70-3	Dibenzo(a,h)anthracene	1 J	5.0	0.5
131-11-3	Dimethyl phthalate	1 J	5.0	0.5	191-24-2	Benzo(g,h,i)perylene	1 J	5.0	0.5
606-20-2	2,6-Dinitrotoluene	u	5.0	0.5					

J: Estimated Concentration above MDL but below LRL.
u: Below Method Detection Limit
(1): Cannot be distinguished from Diphenylamine by this method.
NOTE: Please see the attached Batch Narrative.
MDL determined according to procedures in 40CFR Appendix B to part 136

Method Quality Control

CAS Number	Surrogate Standard	Recovery (%)	Method Range	CQAB Lab Range	Spike (ug/L)
4165-60-0	Nitrobenzene-d5	76	35-114	43-120	50.0
321-60-8	2-Fluorobiphenyl	76	43-116	50-104	50.0
98904-43-9	Terphenyl-d14	83	33-141	44-113	50.0
4165-62-2	Phenol-d5	72	10-110	52-103	75.0
367-12-4	2-Fluorophenol	72	21-110	45-100	75.0
118-79-6	2,4,6-Tribromophenol	75	10-123	53-120	75.0

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BNA (Laboratory Matrix Duplicate) Report

Project Name:	Former Plumbrook Ordnance Works - TNT Area A					
Project Number:	6007	Date Extracted:	09/21/00	Sample ID:	Sample	LD
Client Sample ID:	Batch Specific	Date Analyzed:	10/18/00	CQAB No.:	M000975-003	WG6578-3
Prep Method:	SW-846 3520 C	Date Reported:	10/27/00	Data File ID:	bna0501006	bna0601007
Analysis Method:	SW-846 8270 C	Matrix:	Water	Amount(L):	1.02	0.950
Instrument ID:	gcmsb	Units:	ug/L	Vial Vol.(mL):	1	1
Analytical Batch:	001018ew1			Final Vol.(mL):	1	1
Analyst:	Greg O. Shearer			Dilution Factor:	1	1

CAS Number	Compound	Sample Result	LD Result	LRL	MDL	RPD (%)	CQAB Lab RPD Limit
108-95-2	Phenol	u	u	4.9	0.5	NC	30
111-44-4	Bis(2-chloroethyl) ether	u	u	4.9	0.5	NC	30
95-57-8	2-Chlorophenol	u	u	4.9	0.5	NC	30
541-73-1	1,3-Dichlorobenzene	u	u	4.9	0.5	NC	30
106-46-7	1,4-Dichlorobenzene	u	u	4.9	0.5	NC	30
95-50-1	1,2-Dichlorobenzene	u	u	4.9	0.5	NC	30
100-51-6	Benzyl alcohol	u	u	49	5	NC	30
95-48-7	2-Methylphenol	u	u	4.9	0.5	NC	30
108-60-1	2,2'-Oxybis(1-chloropropane)	u	u	4.9	0.5	NC	30
621-64-7	N-Nitroso-di-n-propylamine	u	u	4.9	0.5	NC	30
67-72-1	Hexachloroethane	u	u	4.9	0.5	NC	30
106-44-5	4-Methylphenol	u	u	4.9	0.5	NC	30
98-95-3	Nitrobenzene	u	u	4.9	0.5	NC	30
78-59-1	Isophorone	u	u	4.9	0.5	NC	30
88-75-5	2-Nitrophenol	u	u	9.8	1	NC	60
105-67-9	2,4-Dimethylphenol	u	u	9.8	1	NC	60
111-91-1	Bis(2-chloroethoxy)methane	u	u	4.9	0.5	NC	30
120-83-2	2,4-Dichlorophenol	u	u	4.9	0.5	NC	30
65-85-0	Benzoic acid	u	u	49	5	NC	60
120-82-1	1,2,4-Trichlorobenzene	u	u	4.9	0.5	NC	30
91-20-3	Naphthalene	u	u	4.9	0.5	NC	30
106-47-8	4-Chloroaniline	u	u	9.8	1	NC	60
87-68-3	Hexachlorobutadiene	u	u	4.9	0.5	NC	30
59-50-7	4-Chloro-3-methylphenol	u	u	9.8	1	NC	30
91-57-6	2-Methylnaphthalene	u	u	4.9	0.5	NC	30
77-47-4	Hexachlorocyclopentadiene	u	u	20	2	NC	60
88-06-2	2,4,6-Trichlorophenol	u	u	4.9	0.5	NC	30
95-95-4	2,4,5-Trichlorophenol	u	u	4.9	0.5	NC	30
91-58-7	2-Chloronaphthalene	u	u	4.9	0.5	NC	30
88-74-4	2-Nitroaniline	u	u	49	5	NC	60
208-96-8	Acenaphthylene	u	u	4.9	0.5	NC	30
131-11-3	Dimethyl phthalate	u	u	4.9	0.5	NC	30
606-20-2	2,6-Dinitrotoluene	u	u	4.9	0.5	NC	30
99-09-2	3-Nitroaniline	u	u	49	5	NC	60
83-32-9	Acenaphthene	u	u	4.9	0.5	NC	30
51-28-5	2,4-Dinitrophenol	u	u	49	5	NC	60
132-64-9	Dibenzofuran	u	u	4.9	0.5	NC	30
100-02-7	4-Nitrophenol	u	u	49	5	NC	60
121-14-2	2,4-Dinitrotoluene	u	u	4.9	0.5	NC	60
86-73-7	Fluorene	u	u	4.9	0.5	NC	30
84-66-2	Diethyl phthalate	u	u	4.9	0.5	NC	30
7005-72-3	4-Chlorophenyl phenyl ether	u	u	4.9	0.5	NC	30
100-01-6	4-Nitroaniline	u	u	49	5	NC	30
534-52-1	4,6-Dinitro-2-methylphenol	u	u	49	5	NC	60
86-30-6	N-Nitrosodiphenylamine (1)	u	u	4.9	0.5	NC	30
118-74-1	Hexachlorobenzene	u	u	4.9	0.5	NC	30
101-55-3	4-Bromophenyl phenyl ether	u	u	4.9	0.5	NC	30
87-86-5	Pentachlorophenol	u	u	49	5	NC	60

NC: Parameter is Not Calculable.
u: Below Method Detection Limit
(1): Cannot be distinguished from Diphenylamine by this method.

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DEPARTMENT OF THE ARMY
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BNA (Laboratory Matrix Duplicate) Report

Project Name:	Former Plumbrook Ordnance Works - TNT Area A					
Project Number:	6007	Date Extracted:	09/21/00	Sample ID:	Sample	LD
Client Sample ID:	Batch Specific	Date Analyzed:	10/18/00	CQAB No.:	M000975-003	WG6578-3
Prep Method:	SW-846 3520 C	Date Reported:	10/27/00	Data File ID:	bna0501006	bna0601007
Analysis Method:	SW-846 8270 C	Matrix:	Water	Amount(L):	1.02	0.950
Instrument ID:	gcmsb	Units:	ug/L	Vial Vol.(mL):	1	1
Analytical Batch:	001018ew1			Final Vol.(mL):	1	1
Analyst:	Greg O. Shearer			Dilution Factor:	1	1

CAS Number	Compound	Sample Result	LD Result	LRL	MDL	RPD (%)	CQAB Lab RPD Limit
85-01-8	Phenanthrene	u	u	4.9	0.5	NC	30
120-12-7	Anthracene	u	u	4.9	0.5	NC	30
84-74-2	Di-n-butyl phthalate	u	u	4.9	0.5	NC	30
206-44-0	Fluoranthene	u	u	4.9	0.5	NC	30
129-00-0	Pyrene	u	u	4.9	0.5	NC	30
85-68-7	Butyl benzyl phthalate	u	u	4.9	0.5	NC	30
56-55-3	Benzo(a)anthracene	u	u	4.9	0.5	NC	30
91-94-1	3,3'-Dichlorobenzidine	u	u	20	2	NC	60
218-01-9	Chrysene	u	u	4.9	0.5	NC	30
117-81-7	Bis(2-ethylhexyl) phthalate	1 JB	2 JB	4.9	0.5	X	30
117-84-0	Di-n-octyl phthalate	u	u	4.9	0.5	NC	30
205-99-2	Benzo(b)fluoranthene	u	u	4.9	0.5	NC	30
207-08-9	Benzo(k)fluoranthene	u	u	4.9	0.5	NC	30
50-32-8	Benzo(a)pyrene	u	u	4.9	0.5	NC	30
193-39-5	Indeno(1,2,3-cd)pyrene	u	u	4.9	0.5	NC	30
53-70-3	Dibenzo(a,h)anthracene	u	u	4.9	0.5	NC	30
191-24-2	Benzo(g,h,i)perylene	u	u	4.9	0.5	NC	30

NC: Parameter is Not Calculable.
u: Below Method Detection Limit
J: Estimated Concentration above MDL but below LRL.
B: Compound also present in the method blank.
X: RPD not calculated due to the uncertainty associated with estimated concentrations.

Method Quality Control

CAS Number	Surrogate Standard Name	Added (ug/L)	Sample (ug/L)	Sample Rec (%)	Added Dup (ug/L)	Dup (ug/L)	Dup Rec (%)	Method % Rec Limits	CQAB % Rec Limits	RPD (%)	CQAB Lab RPD Limit
4165-60-0	Nitrobenzene-d5	49.0	37.9	77	52.6	43.8	83	35-114	43-120	7	30
321-60-8	2-Fluorobiphenyl	49.0	37.5	76	52.6	42.0	80	43-116	50-104	4	30
98904-43-9	Terphenyl-d14	49.0	39.7	81	52.6	43.6	83	33-141	44-113	2	30
4165-62-2	Phenol-d5	73.5	50.0	68	78.9	59.9	76	10-110	52-103	11	30
367-12-4	2-Fluorophenol	73.5	49.3	67	78.9	65.5	83	21-110	45-100	21	30
118-79-6	2,4,6-Tribromophenol	73.5	53.0	72	78.9	60.9	77	10-123	53-120	7	30

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BNA (Matrix Spike, Matrix Spike Duplicate) Report

Project Name:	Former Plumbrook Ordnance Works - TNT Area A					
Project Number:	6007	Date Extracted:	09/21/00	Sample ID:	MS	MSD
Client Sample ID:	Batch Specific	Date Analyzed:	10/18/00	CQAB No.:	WG6578-4	-
CQAB Sample ID:	M000975-006	Date Reported:	10/27/00	Data File ID:	bna0801009	-
Prep Method:	SW-846 3520 C	Matrix:	Water	Amount(L):	0.920	-
Analysis Method:	SW-846 8270 C	Units:	ug/L	Vial Vol.(mL):	1	-
Analytical Batch:	001018ew1			Final Vol.(mL):	1	-
Analyst:	Greg O. Shearer	Instrument ID:	gcmsb	Dilution Factor:	1	-

CAS Number	Compound	## Sample Result	MS Spike	MS Conc	MS %Rec	MSD Spike	MSD Conc	MSD %Rec	RPD (%)	Method Limits RPD	Method Limits %Rec	Lab Limits RPD	Lab Limits %Rec
108-95-2	Phenol	u	87	70	81	-	-	-	-	42	12-110	30	50-105
95-57-8	2-Chlorophenol	u	87	72	82	-	-	-	-	40	27-123	30	47-102
106-46-7	1,4-Dichlorobenzene	u	54	40	75	-	-	-	-	28	36-97	30	33-87
621-64-7	N-Nitroso-di-n-propylamine	u	54	47	88	-	-	-	-	38	41-116	30	52-111
120-82-1	1,2,4-Trichlorobenzene	u	54	42	77	-	-	-	-	28	39-98	30	38-94
59-50-7	4-Chloro-3-methylphenol	u	87	75	86	-	-	-	-	42	23-97	30	53-110
83-32-9	Acenaphthene	u	54	47	87	-	-	-	-	31	46-118	30	55-105
100-02-7	4-Nitrophenol	u	87	62	71	-	-	-	-	50	10-80	60	49-115
121-14-2	2,4-Dinitrotoluene	u	54	46	85	-	-	-	-	38	24-96	60	52-123
87-86-5	Pentachlorophenol	u	87	74	85	-	-	-	-	50	9-103	60	58-111
129-00-0	Pyrene	u	54	44	82	-	-	-	-	31	26-127	30	49-108

u: Below Method Detection Limit
##: Sample result used for spike recovery calculation is adjusted for the amount of sample used for the MS/MSD.
%Rec: Percent of the spike recovered from the matrix

Method Quality Control

CAS Number	Surrogate Standard Name	Added (ug/L)	MS (ug/L)	MS Rec (%)	Added MSD (ug/L)	MSD (ug/L)	MSD Rec (%)	Method %Rec Limits	CQAB %Rec Limits	RPD (%)	CQAB Lab RPD Limit
4165-60-0	Nitrobenzene-d5	54.3	41.2	76	-	-	-	35-114	43-120	-	30
321-60-8	2-Fluorobiphenyl	54.3	43.8	81	-	-	-	43-116	50-104	-	30
98904-43-9	Terphenyl-d14	54.3	40.9	75	-	-	-	33-141	44-113	-	30
4165-62-2	Phenol-d5	81.5	61.6	76	-	-	-	10-110	52-103	-	30
367-12-4	2-Fluorophenol	81.5	59.2	73	-	-	-	21-110	45-100	-	30
118-79-6	2,4,6-Tribromophenol	81.5	62.7	77	-	-	-	10-123	53-120	-	30

Note: Due to insufficient sample volume, a matrix spike duplicate could not be extracted with this workgroup.

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BNA (Laboratory Control Sample) Report

Project Name:	Former Plumbrook Ordnance Works - TNT Area A				
Project Number:	6007	Date Extracted:	09/21/00	Matrix:	Water
CQAB Sample ID:	WG6578-2	Date Analyzed:	10/18/00	Units:	ug/L
Prep Method:	SW-846 3520 C	Date Reported:	10/27/00	Amount(L):	1.0
Analysis Method:	SW-846 8270 C	Instrument ID:	gcmsb	Vial Vol.(mL):	1
Analytical Batch:	001018ew1	Data File ID:	bna0201003	Final Vol.(mL):	1
Analyst:	Greg O. Shearer			Dilution Factor:	1

CAS Number	Compound	LCS Result	Spike Added	LCS %Rec	Method Range	CQAB Range
108-95-2	Phenol	8 B	80.0	10 ^	5-112	50-105
111-44-4	Bis(2-chloroethyl) ether	5 J	50.0	9 ^^	12-158	44-110
95-57-8	2-Chlorophenol	8	80.0	10 ^^	23-134	47-102
541-73-1	1,3-Dichlorobenzene	5 J	50.0	10 ^	D-172	32-86
106-46-7	1,4-Dichlorobenzene	5 J	50.0	10 ^^	20-124	33-87
95-50-1	1,2-Dichlorobenzene	5 J	50.0	10 ^^	32-129	34-91
100-51-6	Benzyl alcohol	u	50.0	NC		55-100
95-48-7	2-Methylphenol	8 B	80.0	10 ^		55-101
108-60-1	2,2'-Oxybis(1-chloropropane)	6	50.0	11 ^		51-102
621-64-7	N-Nitroso-di-n-propylamine	5	50.0	11 ^	D-230	52-111
67-72-1	Hexachloroethane	5 J	50.0	9 ^^	40-113	29-83
106-44-5	4-Methylphenol	8	80.0	10 ^		34-91
98-95-3	Nitrobenzene	5	50.0	10 ^^	35-180	46-121
78-59-1	Isophorone	5 B	50.0	11 ^^	21-196	42-123
88-75-5	2-Nitrophenol	8 J	80.0	10 ^^	29-182	43-117
105-67-9	2,4-Dimethylphenol	8 J	80.0	11 ^^	32-119	51-100
111-91-1	Bis(2-chloroethoxy)methane	6	50.0	11 ^^	33-184	45-117
120-83-2	2,4-Dichlorophenol	8	80.0	10 ^		51-108
65-85-0	Benzoic acid	10 J	160.	6 ^		10-150
120-82-1	1,2,4-Trichlorobenzene	5 J	50.0	10 ^^	44-142	38-94
91-20-3	Naphthalene	6	50.0	11 ^^	21-133	47-99
106-47-8	4-Chloroaniline	6 J	50.0	12		10-101
87-68-3	Hexachlorobutadiene	5 J	50.0	10 ^^	24-116	30-94
59-50-7	4-Chloro-3-methylphenol	9 J	80.0	12 ^^	22-147	53-110
91-57-6	2-Methylnaphthalene	6	50.0	12 ^		49-100
77-47-4	Hexachlorocyclopentadiene	u	50.0	NC		10-53
88-06-2	2,4,6-Trichlorophenol	8	80.0	10 ^^	37-144	55-110
95-95-4	2,4,5-Trichlorophenol	9	80.0	11 ^		57-111
91-58-7	2-Chloronaphthalene	6	50.0	12 ^		50-104
88-74-4	2-Nitroaniline	5 J	50.0	10 ^		42-147
208-96-8	Acenaphthylene	6 B	50.0	12 ^^	33-145	54-101
131-11-3	Dimethyl phthalate	6 B	50.0	12 ^	D-112	57-106
606-20-2	2,6-Dinitrotoluene	5	50.0	10 ^^	50-158	50-126
99-09-2	3-Nitroaniline	u	50.0	NC		10-94
83-32-9	Acenaphthene	6 B	50.0	12 ^^	47-145	55-105
51-28-5	2,4-Dinitrophenol	u	80.0	NC	D-191	10-140
132-64-9	Dibenzofuran	6 B	50.0	12 ^		54-107
100-02-7	4-Nitrophenol	u	80.0	NC	D-132	49-115
121-14-2	2,4-Dinitrotoluene	5 J	50.0	10 ^^	39-139	52-123
86-73-7	Fluorene	6 B	50.0	12 ^^	59-121	54-110
84-66-2	Diethyl phthalate	6 B	50.0	12 ^	D-114	54-107
7005-72-3	4-Chlorophenyl phenyl ether	6 B	50.0	12 ^^	25-158	53-110
100-01-6	4-Nitroaniline	5 J	50.0	11		10-149
534-52-1	4,6-Dinitro-2-methylphenol	6 J	80.0	8 ^		27-136

NOTE: Please see the attached Batch Narrative.
^: Indicates the result is outside CQAB laboratory limits which are based on historical in-house LCS data.
B: Compound also present in the method blank.
^^: The result is outside method limits and outside CQAB laboratory limits which are based on historical in-house LCS data.
J: Estimated Concentration above MDL but below LRL.
D: SW-846 term to indicate that the analyte is expected to be detectable.
u: Below Method Detection Limit
(1): Cannot be distinguished from Diphenylamine by this method.

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BNA (Laboratory Control Sample) Report

Project Name:	Former Plumbrook Ordnance Works - TNT Area A				
Project Number:	6007	Date Extracted:	09/21/00	Matrix:	Water
CQAB Sample ID:	WG6578-2	Date Analyzed:	10/18/00	Units:	ug/L
Prep Method:	SW-846 3520 C	Date Reported:	10/27/00	Amount(L):	1.0
Analysis Method:	SW-846 8270 C	Instrument ID:	gcmsb	Vial Vol.(mL):	1
Analytical Batch:	001018ew1	Data File ID:	bna0201003	Final Vol.(mL):	1
Analyst:	Greg O. Shearer			Dilution Factor:	1

CAS Number	Compound	LCS Result	Spike Added	LCS %Rec	Method Range	CQAB Range
86-30-6	N-Nitrosodiphenylamine (1)	6 B	50.0	12 ^		52-111
118-74-1	Hexachlorobenzene	6 B	50.0	12 ^	D-152	55-115
101-55-3	4-Bromophenyl phenyl ether	6 B	50.0	12 ^^	53-127	54-115
87-86-5	Pentachlorophenol	u	80.0	NC	14-176	58-111
85-01-8	Phenanthrene	6 B	50.0	12 ^^	54-120	52-108
120-12-7	Anthracene	6 B	50.0	12 ^^	27-133	52-105
84-74-2	Di-n-butyl phthalate	6 B	50.0	13 ^		50-109
206-44-0	Fluoranthene	6 B	50.0	12 ^^	26-137	58-110
129-00-0	Pyrene	6 B	50.0	12 ^^	52-115	49-108
85-68-7	Butyl benzyl phthalate	6 B	50.0	12 ^	D-157	42-114
56-55-3	Benzo(a)anthracene	6 B	50.0	11 ^^	33-143	51-110
91-94-1	3,3'-Dichlorobenzidine	4 J	50.0	8 ^	D-262	10-78
218-01-9	Chrysene	6 B	50.0	11 ^^	17-168	52-107
117-81-7	Bis(2-ethylhexyl) phthalate	6 B	50.0	13 ^	8-158	16-153
117-84-0	Di-n-octyl phthalate	7 B	50.0	14 ^	4-146	36-125
205-99-2	Benzo(b)fluoranthene	5 B	50.0	10 ^^	24-159	55-109
207-08-9	Benzo(k)fluoranthene	6 B	50.0	12 ^	11-162	54-106
50-32-8	Benzo(a)pyrene	5 JB	50.0	10 ^^	17-163	53-101
193-39-5	Indeno(1,2,3-cd)pyrene	4 JB	50.0	8 ^	D-171	51-106
53-70-3	Dibenzo(a,h)anthracene	4 JB	50.0	8 ^	D-227	52-109
191-24-2	Benzo(g,h,i)perylene	4 JB	50.0	8 ^	D-219	49-108

NOTE: Please see the attached Batch Narrative.
D: SW-846 term to indicate that the analyte is expected to be detectable.
^: Indicates the result is outside CQAB laboratory limits which are based on historical in-house LCS data.
B: Compound also present in the method blank.
^^: The result is outside method limits and outside CQAB laboratory limits which are based on historical in-house LCS data.
u: Below Method Detection Limit
J: Estimated Concentration above MDL but below LRL.

Method Quality Control

CAS Number	Surrogate Standard	Recovery (%)	Method Range	CQAB Lab Range	Spike (ug/L)
4165-60-0	Nitrobenzene-d5	10 ^^	35-114	43-120	50.0
321-60-8	2-Fluorobiphenyl	11 ^^	43-116	50-104	50.0
98904-43-9	Terphenyl-d14	11 ^^	33-141	44-113	50.0
4165-62-2	Phenol-d5	9.9 ^^	10-110	52-103	75.0
367-12-4	2-Fluorophenol	8.9 ^^	21-110	45-100	75.0
118-79-6	2,4,6-Tribromophenol	9.2 ^^	10-123	53-120	75.0

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PCBs Sample Report

Project Name:	Former Plumbrook Ordnance Work	Date Sampled:	09/20/00	Matrix:	Water
Project Number:	6007	Date Received:	09/21/00	Units:	ug/L
Client Sample ID:	AA2012	Date Reported:	10/12/00	Sample Amount:	970 mL
CQAB Sample ID :	M000976-003				

Analyst:	Asuncion	Date Extracted:	09/21/00	Dilution Factor:	1
Method:	SW-846 3510C/8082	Date Analyzed :	10/04/00	Batch ID:	WG6547

CAS Number	Target Analyte	Result	Laboratory Reporting Limit	Method Detection Limit
12674-11-2	Aroclor-1016	u	0.52	0.1
1104-28-2	Aroclor-1221	u	0.52	0.1
11141-16-5	Aroclor-1232	u	0.52	0.1
53469-21-9	Aroclor-1242	u	0.52	0.1
12672-29-6	Aroclor-1248	u	0.52	0.1
11097-69-1	Aroclor-1254	u	0.52	0.1
11096-82-5	Aroclor-1260	u	0.52	0.1

u: Below Method Detection Limit

Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (ug/L)
Decachlorobiphenyl	96	60-150	0.5
Tetrachloro-meta-xylene	81	44-126	0.5

Method Blank : WG6547-1
PCB Matrix Spike : WG6547-3
PCB LCS : WG6547-2
Laboratory Duplicate : WG6547-4
PCB Matrix Spike Duplicate :

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PCBs Method Blank Report

Method Blank Sample ID: WG6547-1 | Date Reported: 10/12/00 | Matrix: Water | Units: ug/L

Analyst: Asuncion | Date Extracted: 09/21/00 | Dilution Factor: 1
Method: SW-846 3510C/8082 | Date Analyzed: 10/04/00 | Batch ID: WG6547

CAS Number	Target Analyte	Result	Laboratory Reporting Limit	Method Detection Limit
12674-11-2	Aroclor-1016	u	0.50	0.1
1104-28-2	Aroclor-1221	u	0.50	0.1
11141-16-5	Aroclor-1232	u	0.50	0.1
53469-21-9	Aroclor-1242	u	0.50	0.1
12672-29-6	Aroclor-1248	u	0.50	0.1
11097-69-1	Aroclor-1254	u	0.50	0.1
11096-82-5	Aroclor-1260	u	0.50	0.1

u: Below Method Detection Limit

Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (ug/L)
Decachlorobiphenyl	98	60-150	0.5
Tetrachloro-meta-xylene	70	44-126	0.5

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PCBs (Laboratory Matrix Duplicate) Report

LD Sample ID: WG6547-4
Sample ID: M000975-006

Date Reported: 10/12/00

Matrix: Water
Units: ug/L
Sample Amount: 870 mL

Analyst: Asuncion
Method: SW-846 3510C/8082

Date Extracted: 09/21/00
Date Analyzed: 10/04/00

Batch ID: WG6547

CAS Number	Target Analyte	Sample Result	LD Result	Laboratory Reporting Limit	Method Detection Limit	RPD	QC Limits
12674-11-2	Aroclor-1016	u	u	0.57	0.1	NC	35
1104-28-2	Aroclor-1221	u	u	0.57	0.1	NC	35
11141-16-5	Aroclor-1232	u	u	0.57	0.1	NC	35
53469-21-9	Aroclor-1242	u	u	0.57	0.1	NC	35
12672-29-6	Aroclor-1248	u	u	0.57	0.1	NC	35
11097-69-1	Aroclor-1254	u	u	0.57	0.1	NC	35
11096-82-5	Aroclor-1260	u	u	0.57	0.1	NC	65

u: Below Detection Limit
NC: Not Calculable

Laboratory Comments:

RPD = (|Sample Result - LD Result| x 100)/((Sample Result + LD Result)/2)

Quality Control

Surrogate Standard	Recovery (%) Sample	LD	Acceptable	Spike (ug/L)	RPD	QC Limits
Decachlorobiphenyl	98	97	60-150	0.5	0.4	37
Tetrachloro-meta-xylene	99	82	44-126	0.5	19	37

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PCBs(Matrix Spike/Matrix Spike Duplicate)

MS Pest Sample ID: N/A
MSD Pest Sample ID: N/A
Sample ID: M000976-003

MS PCB Sample ID: WG6547-3
MSD PCB Sample ID: N/A
Date Reported: 10/12/00

Matrix: Water
Units: ug/L

Analyst: Asuncion
Method: SW-846 3510C/8082

Date Extracted: 09/21/00
Date Analyzed: 10/04/00

Batch ID: WG6547

CAS Number	Target Analyte	Sample Result	Spike Added	Conc MS	%Rec MS	QC Limits	Conc MSD	%Rec MSD	RPD	RPD Limits
12674-11-2	Aroclor-1016	u	5.2	4.0	77	60-141	-	-	-	35
1104-28-2	Aroclor-1221	u	NS	u	NC	60-141	-	-	-	35
11141-16-5	Aroclor-1232	u	NS	u	NC	60-141	-	-	-	35
53469-21-9	Aroclor-1242	u	NS	u	NC	60-141	-	-	-	35
12672-29-6	Aroclor-1248	u	NS	u	NC	60-141	-	-	-	35
11097-69-1	Aroclor-1254	u	NS	u	NC	60-141	-	-	-	35
11096-82-5	Aroclor-1260	u	5.2	5.0	96	60-125	-	-	-	65

u: Below Method Detection Limit
NC: Not Calculable

*: Indicates the value is outside acceptance limits.
NS: Compound not spiked.

Laboratory Comments:

RPD = (|MS Result - MSD Result| x 100)/((MS Result + MSD Result)/2)
Normal sample amount is 1000 mL.

Quality Control

Surrogate Standard	Recovery (%) MS	MSD	Acceptable	Spike (ug/L)	RPD	QC Limits
Decachlorobiphenyl	98	-	60-150	0.50	NC	37
Tetrachloro-meta-xylene	83	-	44-126	0.50	NC	37

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PCBs (Laboratory Control Sample)

LCS ID: WG6547-2 | Date Reported: 10/12/00 | Matrix: Water
Units: ug/L

Analyst: Asuncion
Method: SW-846 3510C/8082

Date Extracted: 09/21/00
Date Analyzed: 10/04/00
Batch ID: WG6547

CQAB PCB Code: PCBL-006

CAS Number	Compound	Result	True Value	Method Detection Limit	Lab Reporting Limit	% Rec	Acceptance Limits (%)
12674-11-2	Aroclor-1016	3.3	5.0	0.1	0.50	67	60-141
1104-28-2	Aroclor-1221	u	NS	0.1	0.50	NC	60-141
11141-16-5	Aroclor-1232	u	NS	0.1	0.50	NC	60-141
53469-21-9	Aroclor-1242	u	NS	0.1	0.50	NC	60-141
12672-29-6	Aroclor-1248	u	NS	0.1	0.50	NC	60-141
11097-69-1	Aroclor-1254	u	NS	0.1	0.50	NC	60-141
11096-82-5	Aroclor-1260	4.1	5.0	0.1	0.50	83	60-125

u: Below Method Detection Limit
NC: Not Calculable

NS: Compound not spiked.
Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (ug/L)
Decachlorobiphenyl	88	60-150	0.50
Tetrachloro-meta-xylene	55	44-126	0.50

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PCBs Sample Report

Project Name:	Former Plumbrook Ordnance Work	Date Sampled:	09/20/00	Matrix:	Soil
Project Number:	6007	Date Received:	09/21/00	Units:	ug/kg
Client Sample ID:	AA1012	Date Reported:	11/30/00	Sample Amount:	10.1 g
CQAB Sample ID :	M000976-001			% Solids:	76.2

Analyst:	Asuncion	Date Extracted:	09/21/00	Dilution Factor:	1
Method:	SW-846 3540B/8082	Date Analyzed :	10/25/00	Batch ID:	WG6544

CAS Number	Target Analyte	Result	Laboratory Reporting Limit	Method Detection Limit
12674-11-2	Aroclor-1016	u	65	4
1104-28-2	Aroclor-1221	u	65	4
11141-16-5	Aroclor-1232	u	65	4
53469-21-9	Aroclor-1242	u	65	4
12672-29-6	Aroclor-1248	u	65	4
11097-69-1	Aroclor-1254	u	65	4
11096-82-5	Aroclor-1260	u	65	4

u: Below Method Detection Limit

Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (ug/kg)
Decachlorobiphenyl	141	60-150	20
Tetrachloro-meta-xylene	134	52-143	20

Method Blank : WG6544-1
PCB Matrix Spike : WG6544-3
PCB LCS : WG6544-2
Laboratory Duplicate : WG6544-5
PCB Matrix Spike Duplicate : WG6544-4

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PCBs Method Blank Report

Method Blank Sample ID: WG6544-1 | Date Reported: 11/30/00 | Matrix: Soil | Units: ug/kg

Analyst: Asuncion | Date Extracted: 09/21/00 | Dilution Factor: 1
Method: SW-846 3540B/8082 | Date Analyzed: 10/05/00 | Batch ID: WG6544

CAS Number	Target Analyte	Result	Laboratory Reporting Limit	Method Detection Limit
12674-11-2	Aroclor-1016	u	20	4
1104-28-2	Aroclor-1221	u	20	4
11141-16-5	Aroclor-1232	u	20	4
53469-21-9	Aroclor-1242	u	20	4
12672-29-6	Aroclor-1248	u	20	4
11097-69-1	Aroclor-1254	u	20	4
11096-82-5	Aroclor-1260	u	20	4

u: Below Method Detection Limit

Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (ug/kg)
Decachlorobiphenyl	101	60-150	20
Tetrachloro-meta-xylene	79	52-143	20

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PCBs (Laboratory Matrix Duplicate) Report

LD Sample ID: WG6544-5
Sample ID: M000956-001

Date Reported: 11/30/00

Matrix: Soil
Units: ug/kg
Sample Amount: 25.1 g
% Solids: 84.9

Analyst: Asuncion
Method: SW-846 3540B/8082

Date Extracted: 09/21/00
Date Analyzed: 10/25/00

Batch ID: WG6544

CAS Number	Target Analyte	Sample Result	LD Result	Laboratory Reporting Limit	Method Detection Limit	RPD	QC Limits
12674-11-2	Aroclor-1016	u	u	23	4	NC	35
1104-28-2	Aroclor-1221	u	u	23	4	NC	35
11141-16-5	Aroclor-1232	u	u	23	4	NC	35
53469-21-9	Aroclor-1242	u	u	23	4	NC	35
12672-29-6	Aroclor-1248	103	99	23	4	4	35
11097-69-1	Aroclor-1254	u	u	23	4	NC	35
11096-82-5	Aroclor-1260	u	u	23	4	NC	51

u: Below Detection Limit
NC: Not Calculable

*: Indicates the value is outside acceptance limits.
Laboratory Comments:

RPD = (|Sample Result - LD Result| x 100)/((Sample Result + LD Result)/2)

Quality Control

Surrogate Standard	Recovery (%) Sample	LD	Acceptable	Spike (ug/kg)	RPD	QC Limits
Decachlorobiphenyl	97	116	60-150	20	18	54
Tetrachloro-meta-xylene	37 *	61	52-143	20	49	54

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PCBs(Matrix Spike/Matrix Spike Duplicate)

MS Pest Sample ID: N/A
MSD Pest Sample ID: N/A
Sample ID: M000956-001

MS PCB Sample ID: WG6544-3
MSD PCB Sample ID: WG6544-4
Date Reported: 11/30/00

Matrix: Soil
Units: ug/kg
% Solids: 84.9

Analyst: Asuncion
Method: SW-846 3540B/8082

Date Extracted: 09/21/00
Date Analyzed: 10/25/00

Batch ID: WG6544

CAS Number	Target Analyte	Sample Result	Spike Added	Conc MS	%Rec MS	QC Limits	Conc MSD	%Rec MSD	RPD	RPD Limits
12674-11-2	Aroclor-1016	u	235	250	106	60-141	290	123	15	35
1104-28-2	Aroclor-1221	u	NS	u	NC	60-141	u	NC	NC	35
11141-16-5	Aroclor-1232	u	NS	u	NC	60-141	u	NC	NC	35
53469-21-9	Aroclor-1242	u	NS	u	NC	60-141	u	NC	NC	35
12672-29-6	Aroclor-1248	103	NS	u	NC	60-141	u	NC	NC	35
11097-69-1	Aroclor-1254	u	NS	u	NC	60-141	u	NC	NC	35
11096-82-5	Aroclor-1260	u	235	260	111	41-149	300	128	14	51

u: Below Method Detection Limit
NC: Not Calculable

*: Indicates the value is outside acceptance limits.
NS: Compound not spiked.

Laboratory Comments:

RPD = (|MS Result - MSD Result| x 100)/((MS Result + MSD Result)/2)
Normal sample amount is 25 g.

Quality Control

Surrogate Standard	Recovery (%) MS	MSD	Acceptable	Spike (ug/kg)	RPD	QC Limits
Decachlorobiphenyl	107	121	60-150	20	12	54
Tetrachloro-meta-xylene	49 *	70	52-143	20	35	54

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PCBs (Laboratory Control Sample)

LCS ID: WG6544-2 | Date Reported: 11/30/00 | Matrix: Soil
Units: ug/kg

Analyst: Asuncion
Method: SW-846 3510C/8082

Date Extracted: 09/21/00
Date Analyzed: 10/05/00
Batch ID: WG6544

CQAB PCB Code: PCBS-006

CAS Number	Compound	Result	True Value	Method Detection Limit	Lab Reporting Limit	% Rec	Acceptance Limits (%)
12674-11-2	Aroclor-1016	238	200	4	20	119	60-141
1104-28-2	Aroclor-1221	u	NS	4	20	NC	60-141
11141-16-5	Aroclor-1232	u	NS	4	20	NC	60-141
53469-21-9	Aroclor-1242	u	NS	4	20	NC	60-141
12672-29-6	Aroclor-1248	u	NS	4	20	NC	60-141
11097-69-1	Aroclor-1254	u	NS	4	20	NC	60-141
11096-82-5	Aroclor-1260	254	200	4	20	127	41-149

u: Below Method Detection Limit
NC: Not Calculable

NS: Compound not spiked.
Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (ug/kg)
Decachlorobiphenyl	113	60-150	20.
Tetrachloro-meta-xylene	102	52-143	20.

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PCBs Sample Report

Project Name:	Former Plumbrook Ordnance Work	Date Sampled:	09/22/00	Matrix:	Soil
Project Number:	6007	Date Received:	09/23/00	Units:	ug/kg
Client Sample ID:	AA0439	Date Reported:	11/14/00	Sample Amount:	25.0 g
CQAB Sample ID :	M000982-001			% Solids:	88.9

Analyst:	Asuncion	Date Extracted:	10/05/00	Dilution Factor:	1
Method:	SW-846 3540B/8082	Date Analyzed :	10/31/00	Batch ID:	WG6631

CAS Number	Target Analyte	Result	Laboratory Reporting Limit	Method Detection Limit
12674-11-2	Aroclor-1016	u	23	4
1104-28-2	Aroclor-1221	u	23	4
11141-16-5	Aroclor-1232	u	23	4
53469-21-9	Aroclor-1242	u	23	4
12672-29-6	Aroclor-1248	u	23	4
11097-69-1	Aroclor-1254	u	23	4
11096-82-5	Aroclor-1260	37ppm 84	23	4

u: Below Method Detection Limit

Laboratory Comments: Result from second column: Aroclor-1260 @ 87 ug/kg.

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (ug/kg)
Decachlorobiphenyl	85	60-150	20
Tetrachloro-meta-xylene	70	52-143	20

Method Blank : WG6631-1
PCB Matrix Spike : WG6631-3
PCB LCS : WG6631-2
Laboratory Duplicate : WG6631-5
PCB Matrix Spike Duplicate : WG6631-4

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PCBs Sample Report

Project Name:	Former Plumbrook Ordnance Work	Date Sampled:	09/22/00	Matrix:	Soil
Project Number:	6007	Date Received:	09/23/00	Units:	ug/kg
Client Sample ID:	AA0444	Date Reported:	11/14/00	Sample Amount:	25.0 g
CQAB Sample ID :	M000982-002			% Solids:	94.9

Analyst: Asuncion	Date Extracted: 10/05/00	Dilution Factor: 1	
Method: SW-846 3540B/8082	Date Analyzed : 10/31/00	Batch ID:	WG6631

CAS Number	Target Analyte	Result	Laboratory Reporting Limit	Method Detection Limit
12674-11-2	Aroclor-1016	u	21	4
1104-28-2	Aroclor-1221	u	21	4
11141-16-5	Aroclor-1232	u	21	4
53469-21-9	Aroclor-1242	u	21	4
12672-29-6	Aroclor-1248	u	21	4
11097-69-1	Aroclor-1254	u	21	4
11096-82-5	Aroclor-1260	589	21	4

u: Below Method Detection Limit

Laboratory Comments: Result from second column: Aroclor-1260 @ 719 ug/kg.

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (ug/kg)
Decachlorobiphenyl	89	60-150	20
Tetrachloro-meta-xylene	75	52-143	20

Method Blank : WG6631-1
PCB Matrix Spike : WG6631-3
PCB LCS : WG6631-2
Laboratory Duplicate : WG6631-5
PCB Matrix Spike Duplicate : WG6631-4

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PCBs Sample Report

Project Name:	Former Plumbrook Ordnance Work	Date Sampled:	09/25/00	Matrix:	Soil
Project Number:	6007	Date Received:	09/26/00	Units:	ug/kg
Client Sample ID:	AA0430	Date Reported:	11/14/00	Sample Amount:	25.0 g
CQAB Sample ID :	M000987-001			% Solids:	87.0

Analyst:	Asuncion	Date Extracted:	10/05/00	Dilution Factor:	1
Method:	SW-846 3540B/8082	Date Analyzed :	11/01/00	Batch ID:	WG6631

CAS Number	Target Analyte	Result	Laboratory Reporting Limit	Method Detection Limit
12674-11-2	Aroclor-1016	u	23	4
1104-28-2	Aroclor-1221	u	23	4
11141-16-5	Aroclor-1232	u	23	4
53469-21-9	Aroclor-1242	u	23	4
12672-29-6	Aroclor-1248	u	23	4
11097-69-1	Aroclor-1254	u	23	4
11096-82-5	Aroclor-1260	66	23	4

u: Below Method Detection Limit

Laboratory Comments: Result from second column: Aroclor-1260 @ 64 ug/kg.

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (ug/kg)
Decachlorobiphenyl	93	60-150	20
Tetrachloro-meta-xylene	74	52-143	20

Method Blank : WG6631-1
PCB Matrix Spike : WG6631-3
PCB LCS : WG6631-2
Laboratory Duplicate : WG6631-5
PCB Matrix Spike Duplicate : WG6631-4

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PCBs Sample Report

Project Name:	Former Plumbrook Ordnance Work	Date Sampled:	09/25/00	Matrix:	Soil
Project Number:	6007	Date Received:	09/26/00	Units:	ug/kg
Client Sample ID:	AA0436	Date Reported:	11/14/00	Sample Amount:	21.0 g
CQAB Sample ID :	M000987-002			% Solids:	78.8

Analyst:	Asuncion	Date Extracted:	10/05/00	Dilution Factor:	1
Method:	SW-846 3540B/8082	Date Analyzed :	11/01/00	Batch ID:	WG6631

CAS Number	Target Analyte	Result	Laboratory Reporting Limit	Method Detection Limit
12674-11-2	Aroclor-1016	u	30	4
1104-28-2	Aroclor-1221	u	30	4
11141-16-5	Aroclor-1232	u	30	4
53469-21-9	Aroclor-1242	u	30	4
12672-29-6	Aroclor-1248	u	30	4
11097-69-1	Aroclor-1254	u	30	4
11096-82-5	Aroclor-1260	414	30	4

u: Below Method Detection Limit

Laboratory Comments: Result from second column: Aroclor-1260 @ 471 ug/kg.

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (ug/kg)
Decachlorobiphenyl	98	60-150	20
Tetrachloro-meta-xylene	125	52-143	20

Method Blank : WG6631-1
PCB Matrix Spike : WG6631-3
PCB LCS : WG6631-2
Laboratory Duplicate : WG6631-5
PCB Matrix Spike Duplicate : WG6631-4

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PCBs Method Blank Report

Method Blank Sample ID: WG6631-1 | Date Reported: 11/14/00 | Matrix: Soil | Units: ug/kg

Analyst: Asuncion | Date Extracted: 10/05/00 | Dilution Factor: 1
Method: SW-846 3540B/8082 | Date Analyzed: 10/31/00 | Batch ID: WG6631

CAS Number	Target Analyte	Result	Laboratory Reporting Limit	Method Detection Limit
12674-11-2	Aroclor-1016	u	20	4
1104-28-2	Aroclor-1221	u	20	4
11141-16-5	Aroclor-1232	u	20	4
53469-21-9	Aroclor-1242	u	20	4
12672-29-6	Aroclor-1248	u	20	4
11097-69-1	Aroclor-1254	u	20	4
11096-82-5	Aroclor-1260	u	20	4

u: Below Method Detection Limit

Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (ug/kg)
Decachlorobiphenyl	85	60-150	20
Tetrachloro-meta-xylene	68	52-143	20

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PCBs (Laboratory Matrix Duplicate) Report

LD Sample ID: WG6631-5
Sample ID: M000982-002

Date Reported: 11/14/00

Matrix: Soil
Units: ug/kg
Sample Amount: 25.0 g
% Solids: 94.9

Analyst: Asuncion
Method: SW-846 3540B/8082

Date Extracted: 10/05/00
Date Analyzed: 10/31/00

Batch ID: WG6631

CAS Number	Target Analyte	Sample Result	LD Result	Laboratory Reporting Limit	Method Detection Limit	RPD	QC Limits
12674-11-2	Aroclor-1016	u	u	21	4	NC	35
1104-28-2	Aroclor-1221	u	u	21	4	NC	35
11141-16-5	Aroclor-1232	u	u	21	4	NC	35
53469-21-9	Aroclor-1242	u	u	21	4	NC	35
12672-29-6	Aroclor-1248	u	u	21	4	NC	35
11097-69-1	Aroclor-1254	u	u	21	4	NC	35
11096-82-5	Aroclor-1260	589	521	21	4	12	51

u: Below Detection Limit
NC: Not Calculable

Laboratory Comments:

RPD = (|Sample Result - LD Result| x 100)/((Sample Result + LD Result)/2)

Quality Control

Surrogate Standard	Recovery (%) Sample	LD	Acceptable	Spike (ug/kg)	RPD	QC Limits
Decachlorobiphenyl	89	88	60-150	20	1	54
Tetrachloro-meta-xylene	75	75	52-143	20	0	54

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PCBs(Matrix Spike/Matrix Spike Duplicate)

MS Pest Sample ID: N/A
MSD Pest Sample ID: N/A
Sample ID: M000982-002

MS PCB Sample ID: WG6631-3
MSD PCB Sample ID: WG6631-4
Date Reported: 11/14/00

Matrix: Soil
Units: ug/kg
% Solids: 94.9

Analyst: Asuncion
Method: SW-846 3540B/8082

Date Extracted: 10/05/00
Date Analyzed: 10/31/00

Batch ID: WG6631

CAS Number	Target Analyte	Sample Result	Spike Added	Conc MS	%Rec MS	QC Limits	Conc MSD	%Rec MSD	RPD	RPD Limits
12674-11-2	Aroclor-1016	u	210	176	84	60-141	193	92	9	35
1104-28-2	Aroclor-1221	u	NS	u	NC	60-141	u	NC	NC	35
11141-16-5	Aroclor-1232	u	NS	u	NC	60-141	u	NC	NC	35
53469-21-9	Aroclor-1242	u	NS	u	NC	60-141	u	NC	NC	35
12672-29-6	Aroclor-1248	u	NS	u	NC	60-141	u	NC	NC	35
11097-69-1	Aroclor-1254	u	NS	u	NC	60-141	u	NC	NC	35
11096-82-5	Aroclor-1260	589	210	731	68	41-149	717	61	11	51

u: Below Method Detection Limit
NC: Not Calculable

NS: Compound not spiked.

Laboratory Comments:

RPD = (|MS Result - MSD Result| x 100)/((MS Result + MSD Result)/2)
Normal sample amount is 25 g.

Quality Control

Surrogate Standard	Recovery (%) MS	MSD	Acceptable	Spike (ug/kg)	RPD	QC Limits
Decachlorobiphenyl	88	93	60-150	20	5	54
Tetrachloro-meta-xylene	70	75	52-143	20	7	54

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PCBs (Laboratory Control Sample)

LCS ID: WG6631-2 | Date Reported: 11/14/00 | Matrix: Soil
Units: ug/kg

Analyst: Asuncion
Method: SW-846 3510C/8082

Date Extracted: 10/05/00
Date Analyzed: 10/31/00
Batch ID: WG6631

CQAB PCB Code: PCBS-006

CAS Number	Compound	Result	True Value	Method Detection Limit	Lab Reporting Limit	% Rec	Acceptance Limits (%)
12674-11-2	Aroclor-1016	177	200	4	20	89	60-141
1104-28-2	Aroclor-1221	u	NS	4	20	NC	60-141
11141-16-5	Aroclor-1232	u	NS	4	20	NC	60-141
53469-21-9	Aroclor-1242	u	NS	4	20	NC	60-141
12672-29-6	Aroclor-1248	u	NS	4	20	NC	60-141
11097-69-1	Aroclor-1254	u	NS	4	20	NC	60-141
11096-82-5	Aroclor-1260	187	200	4	20	94	41-149

u: Below Method Detection Limit
NC: Not Calculable

NS: Compound not spiked.
Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (ug/kg)
Decachlorobiphenyl	89	60-150	20.
Tetrachloro-meta-xylene	77	52-143	20.

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Explosives Sample Report

Project Name:	Former Plumbrook Ordnance Work				
Project Number:	6007	Date Sampled:	09/20/00	Matrix:	Water
Client Sample ID:	AA2012	Date Received:	09/21/00	Units:	ug/L
Sample ID:	M000976-003	Date Extracted:	09/22/00	Dilution Factor:	1
Method:	SW-846 Method 8330				
Batch ID:	WG6556	Date Analyzed:	10/25/00		
Analyst:	Schnitker	Date Reported:	12/12/00		

CAS Number	Target Analyte	Result	Laboratory Reporting Limit	Method Detection Limit
2691-41-0	HMX	u	1.6	0.2
121-82-4	RDX	u	1.3	0.3
99-35-4	1,3,5-Trinitrobenzene	u	0.35	0.06
99-65-0	1,3-Dinitrobenzene	u	0.46	0.08
479-45-8	Tetryl	u	0.82	0.2
618-87-1	3,5-Dinitroaniline	u	0.44	0.2
98-95-3	Nitrobenzene	u	0.56	0.07
118-96-7	2,4,6-Trinitrotoluene	0.3 JC	0.34	0.07
1946-51-0	4-Amino-2,6-Dinitrotoluene	u	0.19	0.06
355-72-78-2	2-Amino-4,6-Dinitrotoluene	u	0.21	0.03
606-20-2	2,6-Dinitrotoluene	u	0.15	0.08
121-14-2	2,4-Dinitrotoluene	u	0.24	0.02
88-72-2	2-Nitrotoluene	u	0.18	0.08
99-99-0	4-Nitrotoluene	u	0.27	0.08
99-08-1	3-Nitrotoluene	u	0.26	0.04

u: Below Method Detection Limit
J: Estimated concentration above Method Detection Limit but below Lab Reporting Limit.
C: Result not confirmed due to matrix interference.

Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (ug/L)
Benzaldehyde	69	44-98	0.65

Matrix Spike : WG6556-4
Laboratory Duplicate : WG6556-3
Laboratory Control Sample : WG6556-2
Matrix Spike Duplicate : N/A
Method Blank : WG6556-1

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Explosives (Method Blank) Report

Project Name:	Former Plumbrook Ordnance Work				
Project Number:	6007	Date Extracted:	09/22/00	Matrix:	Water
MB Sample ID:	WG6556-1	Date Analyzed:	10/25/00	Units:	ug/L
Method:	SW-846 Method 8330			Dilution Factor:	1
Batch ID:	WG6556	Date Reported:	12/12/00		
Analyst:	Schnitker				

CAS Number	Target Analyte	Result	Laboratory Reporting Limit	Method Detection Limit
2691-41-0	HMX	u	1.6	0.2
121-82-4	RDX	u	1.3	0.3
99-35-4	1,3,5-Trinitrobenzene	u	0.35	0.06
99-65-0	1,3-Dinitrobenzene	u	0.46	0.08
479-45-8	Tetryl	u	0.82	0.2
618-87-1	3,5-Dinitroaniline	u	0.44	0.2
98-95-3	Nitrobenzene	u	0.56	0.07
118-96-7	2,4,6-Trinitrotoluene	u	0.34	0.07
1946-51-0	4-Amino-2,6-Dinitrotoluene	u	0.19	0.06
355-72-78-2	2-Amino-4,6-Dinitrotoluene	u	0.21	0.03
606-20-2	2,6-Dinitrotoluene	u	0.15	0.08
121-14-2	2,4-Dinitrotoluene	u	0.24	0.02
88-72-2	2-Nitrotoluene	u	0.18	0.08
99-99-0	4-Nitrotoluene	u	0.27	0.08
99-08-1	3-Nitrotoluene	u	0.26	0.04

u: Below Method Detection Limit

Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (ug/L)
Benzaldehyde	62	44-98	0.65

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Explosives (Laboratory Matrix Duplicate) Report

Project Name:	Former Plumbrook Ordnance Work					
Project Number:	6007	Date Extracted:	09/22/00	Sample ID:	Sample	LD
Client Sample ID:	Batch Specific	Date Analyzed:	10/25/00	MRL No.:	M000975-003	WG6556-3
Method:	SW-846 Method 8330					
Analyst:	Schnitker	Date Reported:	12/12/00	Matrix:	Water	
Batch ID:	WG6556			Units:	ug/L	

CAS Number	Target Analyte	Sample Result	LD Result	Laboratory Reporting Limit	Method Detection Limit	RPD	QC Limits
2691-41-0	HMX	u	u	1.6	0.2	NC	25
121-82-4	RDX	u	u	1.3	0.3	NC	25
99-35-4	1,3,5-Trinitrobenzene	u	u	0.35	0.06	NC	25
99-65-0	1,3-Dinitrobenzene	u	u	0.46	0.08	NC	25
479-45-8	Tetryl	u	u	0.82	0.2	NC	25
618-87-1	3,5-Dinitroaniline	u	u	0.44	0.2	NC	25
98-95-3	Nitrobenzene	u	u	0.56	0.07	NC	25
118-96-7	2,4,6-Trinitrotoluene	u	u	0.34	0.07	NC	25
1946-51-0	4-Amino-2,6-Dinitrotoluene	u	u	0.19	0.06	NC	25
355-72-78-2	2-Amino-4,6-Dinitrotoluene	u	u	0.21	0.03	NC	25
606-20-2	2,6-Dinitrotoluene	u	u	0.15	0.08	NC	25
121-14-2	2,4-Dinitrotoluene	u	u	0.24	0.02	NC	25
88-72-2	2-Nitrotoluene	u	u	0.18	0.08	NC	25
99-99-0	4-Nitrotoluene	u	u	0.27	0.08	NC	25
99-08-1	3-Nitrotoluene	u	0.45 C	0.26	0.04	NC	25

u: Below Detection Limit

C: Result not confirmed due to matrix interference.
NC: Not Calculable
Laboratory Comments:
RPD = (|Sample Result - LD Result| x 100)/((Sample Result + LD Result)/2)

Quality Control

Surrogate Standard	Recovery (%) Sample	LD	Acceptable	Spike (ug/L)	RPD	QC Limits
Benzaldehyde	70	71	44-98	0.65	2	25

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Explosives (Matrix Spike, Matrix Spike Duplicate) Report

Project Name:	Former Plumbrook Ordnance Work					
Project Number:	6007	Date Extracted:	09/22/00	Sample ID:	MS	MSD
Client Sample ID:	Batch Specific	Date Analyzed:	10/25/00	MRL No.:	WG6556-4	N/A
MRL Sample ID:	M000975-006					
Method:	SW-846 Method 8330	Date Reported:	12/12/00			
Batch ID:	WG6556	Matrix:	Water			
Analyst:	Schnitker	Units:	ug/L			

CAS Number	Target Analyte	Sample Result	Spike Added	Conc MS	% Rec MS	QC Limits	Conc MSD	%Rec MSD	RPD	QC Limits
2691-41-0	HMX	u	1.30	1.44 J	110	39-126	-	-	-	25
121-82-4	RDX	u	1.30	1.14 J	88	35-119	-	-	-	25
99-35-4	1,3,5-Trinitrobenzene	u	0.65	0.59	91	49-128	-	-	-	25
99-65-0	1,3-Dinitrobenzene	u	0.65	0.56	86	46-115	-	-	-	25
479-45-8	Tetryl	u	1.30	1.03	79	14-120	-	-	-	25
98-95-3	Nitrobenzene	u	0.65	0.61	95	44-112	-	-	-	25
118-96-7	2,4,6-Trinitrotoluene	u	0.65	0.55	85	55-112	-	-	-	25
1946-51-0	4-Amino-2,6-Dinitrotoluene	u	0.65	0.65	99	49-151	-	-	-	25
355-72-78-2	2-Amino-4,6-Dinitrotoluene	u	0.65	0.56	86	55-113	-	-	-	25
606-20-2	2,6-Dinitrotoluene	u	0.65	0.59	91	60-111	-	-	-	25
121-14-2	2,4-Dinitrotoluene	u	0.65	0.57	88	61-113	-	-	-	25
88-72-2	2-Nitrotoluene	u	0.65	0.54	83	60-113	-	-	-	25
99-99-0	4-Nitrotoluene	u	0.65	0.57	88	62-117	-	-	-	25
99-08-1	3-Nitrotoluene	u	0.65	0.60	93	41-124	-	-	-	25

u: Below Method Detection Limit
J: Estimated concentration above Method Detection Limit but below Laboratory Reporting Limit.

Laboratory Comments: Due to insufficient sample volume, a matrix spike duplicate could not be extracted with this batch.

Quality Control

Surrogate Standard	Recovery (%) MS	MSD	Acceptable	Spike (ug/L)	RPD	QC Limits
Benzaldehyde	70	-	44-98	0.65	-	25

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Explosives (Laboratory Control Sample) Report

Project Name:	Former Plumbrook Ordnance Work				
Project Number:	6007	Date Extracted:	09/22/00	Matrix:	Water
LCS Sample ID:	WG6556-2	Date Analyzed:	10/25/00	Units:	ug/L
Method:	SW-846 Method 8330			Dilution Factor:	1
Batch ID:	WG6556	Date Reported:	12/12/00		
Analyst:	Schnitker				

CAS Number	Target Analyte	Spike Added	Conc LCS	% Rec LCS	QC Limits
2691-41-0	HMX	1.30	1 J	95	39-126
121-82-4	RDX	1.30	1 J	87	35-119
99-35-4	1,3,5-Trinitrobenzene	0.65	0.56	85	49-128
99-65-0	1,3-Dinitrobenzene	0.65	0.56	86	46-115
479-45-8	Tetryl	1.30	0.86	67	14-120
98-95-3	Nitrobenzene	0.65	0.62	96	44-112
118-96-7	2,4,6-Trinitrotoluene	0.65	0.59	91	55-112
1946-51-0	4-Amino-2,6-Dinitrotoluene	0.65	0.68	104	49-151
355-72-78-2	2-Amino-4,6-Dinitrotoluene	0.65	0.60	93	55-113
606-20-2	2,6-Dinitrotoluene	0.65	0.61	94	60-111
121-14-2	2,4-Dinitrotoluene	0.65	0.60	92	61-113
88-72-2	2-Nitrotoluene	0.65	0.53	82	60-113
99-99-0	4-Nitrotoluene	0.65	0.53	82	62-117
99-08-1	3-Nitrotoluene	0.65	0.59	91	41-124

J: Estimated concentration above Method Detection Limit but below Laboratory Reporting Limit.

Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (ug/L)
Benzaldehyde	73	44-98	0.65

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Explosives Sample Report

Project Name:	Former Plumbrook Ordnance Work				
Project Number:	6007	Date Sampled:	09/20/00	Matrix:	Soil
Client Sample ID:	AA1012	Date Received:	09/21/00	Units:	mg/kg
Sample ID:	M000976-001	Date Extracted:	09/26/00	Dilution Factor:	1
Method:	SW-846 Method 8330	Date Dried:	09/21/00		
Batch ID:	WG6575	Date Analyzed:	10/03/00		
Analyst:	Schnitker	Date Reported:	12/08/00		

CAS Number	Target Analyte	Result	Laboratory Reporting Limit	Method Detection Limit
2691-41-0	HMX	u	2.2	0.2
121-82-4	RDX	u	1.0	0.6
99-35-4	1,3,5-Trinitrobenzene	u	0.25	0.02
99-65-0	1,3-Dinitrobenzene	u	0.25	0.1
479-45-8	Tetryl	u	0.65	0.2
618-87-1	3,5-Dinitroaniline	u	0.65	0.08
98-95-3	Nitrobenzene	u	0.26	0.03
118-96-7	2,4,6-Trinitrotoluene	u	0.25	0.1
1946-51-0	4-Amino-2,6-Dinitrotoluene	u	0.26	0.09
355-72-78-2	2-Amino-4,6-Dinitrotoluene	u	0.25	0.1
606-20-2	2,6-Dinitrotoluene	u	0.26	0.02
121-14-2	2,4-Dinitrotoluene	u	0.25	0.04
88-72-2	2-Nitrotoluene	u	0.25	0.02
99-99-0	4-Nitrotoluene	u	0.25	0.04
99-08-1	3-Nitrotoluene	u	0.25	0.03

u: Below Method Detection Limit

Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (mg/kg)
3,4-Dinitrotoluene	81	71-122	1.25

Matrix Spike : WG6575-4
Laboratory Duplicate : WG6575-3
Laboratory Control Sample : WG6575-2
Matrix Spike Duplicate : WG6575-5
Method Blank : WG6575-1

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C9D

Narrative for WG6575 - Explosives Analysis
Project name: Former Plumbrook Ordnance Work
Project number: 6007

1. The first continuing calibration standard (CCV5) contained three analytes slightly outside, and one significantly outside, the acceptance criteria of 15% difference from the initial calibration curve. Percent difference values for the four analytes are summarized below:

RDX	at -17.6%
Tetryl	at -16.0%
3,5-Dinitroaniline	at +35.8%
4-nitrotoluene	at -15.4%

The average percent difference for the 16 calibrated analytes is 12.8%, which is within the 15% criteria.

2. The end continuing calibration standard (CCV6) contained three analytes slightly outside, and one significantly outside, the acceptance criteria of 15% difference from the initial calibration curve. Percent difference values for the four analytes are summarized below:

Tetryl	at -18.9%
3,5-Dinitroaniline	at +37.2%
2-nitrotoluene	at -16.2%
3-nitrotoluene	at -15.4%

The average percent recovery for the 16 calibrated analytes is 13.1%, which is within the 15% criteria.

3. The impact on data quality/data useability from the failed CCV's is insignificant. Recoveries for the above mentioned analytes in the matrix spike, matrix spike duplicate and laboratory control samples are within acceptable limits.

David E. Splichal

David E. Splichal,
Organic Section Team Leader

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Explosives (Method Blank) Report

Project Name:	Former Plumbrook Ordnance Work				
Project Number:	6007	Date Extracted:	09/26/00	Matrix:	Soil
MB Sample ID:	WG6575-1	Date Analyzed:	10/03/00	Units:	mg/kg
Method:	SW-846 Method 8330			Dilution Factor:	1
Batch ID:	WG6575	Date Reported:	12/08/00		
Analyst:	Schnitker				

CAS Number	Target Analyte	Result	Laboratory Reporting Limit	Method Detection Limit
2691-41-0	HMX	u	2.2	0.2
121-82-4	RDX	u	1.0	0.6
99-35-4	1,3,5-Trinitrobenzene	u	0.25	0.02
99-65-0	1,3-Dinitrobenzene	u	0.25	0.1
479-45-8	Tetryl	u	0.65	0.2
618-87-1	3,5-Dinitroaniline	u	0.65	0.08
98-95-3	Nitrobenzene	u	0.26	0.03
118-96-7	2,4,6-Trinitrotoluene	u	0.25	0.1
1946-51-0	4-Amino-2,6-Dinitrotoluene	u	0.26	0.09
355-72-78-2	2-Amino-4,6-Dinitrotoluene	u	0.25	0.1
606-20-2	2,6-Dinitrotoluene	u	0.26	0.02
121-14-2	2,4-Dinitrotoluene	u	0.25	0.04
88-72-2	2-Nitrotoluene	u	0.25	0.02
99-99-0	4-Nitrotoluene	u	0.25	0.04
99-08-1	3-Nitrotoluene	u	0.25	0.03

u: Below Method Detection Limit

Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (mg/kg)
3,4-Dinitrotoluene	79	71-122	1.25

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Explosives (Laboratory Matrix Duplicate) Report

Project Name:	Former Plumbrook Ordnance Work					
Project Number:	6007	Date Extracted:	09/26/00	Sample ID:	Sample	LD
Client Sample ID:	Batch Specific	Date Analyzed:	10/03/00	MRL No.:	M000949-002	WG6575-3
Method:	SW-846 Method 8330	Date Dried:	09/14/00			
Analyst:	Schnitker	Date Reported:	12/08/00	Matrix:	Soil	
Batch ID:	WG6575			Units:	mg/kg	

CAS Number	Target Analyte	Sample Result	LD Result	Laboratory Reporting Limit	Method Detection Limit	RPD	QC Limits
2691-41-0	HMX	u	u	2.2	0.2	NC	25
121-82-4	RDX	u	u	1.0	0.6	NC	25
99-35-4	1,3,5-Trinitrobenzene	u	u	0.25	0.02	NC	25
99-65-0	1,3-Dinitrobenzene	u	u	0.25	0.1	NC	25
479-45-8	Tetryl	u	u	0.65	0.2	NC	25
618-87-1	3,5-Dinitroaniline	u	u	0.65	0.08	NC	25
98-95-3	Nitrobenzene	u	u	0.26	0.03	NC	25
118-96-7	2,4,6-Trinitrotoluene	u	u	0.25	0.1	NC	25
1946-51-0	4-Amino-2,6-Dinitrotoluene	u	u	0.26	0.09	NC	25
355-72-78-2	2-Amino-4,6-Dinitrotoluene	u	u	0.25	0.1	NC	25
606-20-2	2,6-Dinitrotoluene	u	u	0.26	0.02	NC	25
121-14-2	2,4-Dinitrotoluene	u	u	0.25	0.04	NC	25
88-72-2	2-Nitrotoluene	u	u	0.25	0.02	NC	25
99-99-0	4-Nitrotoluene	u	u	0.25	0.04	NC	25
99-08-1	3-Nitrotoluene	u	u	0.25	0.03	NC	25

u: Below Detection Limit

NC: Not Calculable
Laboratory Comments:
RPD = (|Sample Result - LD Result| x 100)/((Sample Result + LD Result)/2)

Quality Control

Surrogate Standard	Recovery (%) Sample	LD	Acceptable	Spike (mg/kg)	RPD	QC Limits
3,4-Dinitrotoluene	87	83	71-122	1.25	5	25

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DEPARTMENT OF THE ARMY
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Chemistry Quality Assurance Branch

Explosives (Matrix Spike, Matrix Spike Duplicate) Report

Project Name:	Former Plumbrook Ordnance Work					
Project Number:	6007	Date Extracted:	09/26/00	Sample ID:	MS	MSD
Client Sample ID:	Batch Specific	Date Analyzed:	10/03/00	MRL No.:	WG6575-4	WG6575-5
MRL Sample ID:	M000949-002	Date Dried:	09/14/00			
Method:	SW-846 Method 8330	Date Reported:	12/08/00			
Batch ID:	WG6575	Matrix:	Soil			
Analyst:	Schnitker	Units:	mg/kg			

CAS Number	Target Analyte	Sample Result	Spike Added	Conc MS	% Rec MS	QC Limits	Conc MSD	%Rec MSD	RPD	QC Limits
2691-41-0	HMX	u	2.50	2.29	92	69-116	2.26	91	1	25
121-82-4	RDX	u	2.50	2.17	87	64-107	2.16	86	0	25
99-35-4	1,3,5-Trinitrobenzene	u	1.25	0.97	78	78-116	0.95	76 *	2	25
99-65-0	1,3-Dinitrobenzene	u	1.25	1.04	83	73-113	1.04	83	0	25
479-45-8	Tetryl	u	2.50	1.39	56	46-151	1.36	54	2	25
98-95-3	Nitrobenzene	u	1.25	1.16	93	75-111	1.16	92	1	25
118-96-7	2,4,6-Trinitrotoluene	u	1.25	0.98	78	61-106	0.97	77	1	25
1946-51-0	4-Amino-2,6-Dinitrotoluene	u	1.25	1.23	99	63-106	1.23	98	0	25
355-72-78-2	2-Amino-4,6-Dinitrotoluene	u	1.25	1.04	83	70-109	1.03	83	1	25
606-20-2	2,6-Dinitrotoluene	u	1.25	1.02	81	70-113	1.0	80	2	25
121-14-2	2,4-Dinitrotoluene	u	1.25	1.04	83	73-113	1.03	82	1	25
88-72-2	2-Nitrotoluene	u	1.25	1.00	80	74-113	1.02	82	2	25
99-99-0	4-Nitrotoluene	u	1.25	0.99	80	75-112	0.98	78	2	25
99-08-1	3-Nitrotoluene	u	1.25	0.99	79	67-114	1.02	81	3	25

u: Below Method Detection Limit

*: Indicates the value is outside acceptance limits.

Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%) MS	MSD	Acceptable	Spike (mg/kg)	RPD	QC Limits
3,4-Dinitrotoluene	80	80	71-122	1.25	0	25

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DEPARTMENT OF THE ARMY
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Explosives (Laboratory Control Sample) Report

Project Name:	Former Plumbrook Ordnance Work				
Project Number:	6007	Date Extracted:	09/26/00	Matrix:	Soil
LCS Sample ID:	WG6575-2	Date Analyzed:	10/03/00	Units:	mg/kg
Method:	SW-846 Method 8330			Dilution Factor:	1
Batch ID:	WG6575	Date Reported:	12/08/00		
Analyst:	Schnitker				

CAS Number	Target Analyte	Spike Added	Conc LCS	% Rec LCS	QC Limits
2691-41-0	HMX	2.50	2.21	88	69-116
121-82-4	RDX	2.50	1.93	77	64-107
99-35-4	1,3,5-Trinitrobenzene	1.25	1.03	83	78-116
99-65-0	1,3-Dinitrobenzene	1.25	1.04	83	73-113
479-45-8	Tetryl	2.50	1.92	77	46-151
98-95-3	Nitrobenzene	1.25	1.16	93	75-111
118-96-7	2,4,6-Trinitrotoluene	1.25	0.96	77	61-106
1946-51-0	4-Amino-2,6-Dinitrotoluene	1.25	1.10	88	63-106
355-72-78-2	2-Amino-4,6-Dinitrotoluene	1.25	1.02	82	70-109
606-20-2	2,6-Dinitrotoluene	1.25	1.02	81	70-113
121-14-2	2,4-Dinitrotoluene	1.25	1.03	83	73-113
88-72-2	2-Nitrotoluene	1.25	1.0	80	74-113
99-99-0	4-Nitrotoluene	1.25	1.01	81	75-112
99-08-1	3-Nitrotoluene	1.25	1.00	80	67-114

Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (mg/kg)
3,4-Dinitrotoluene	79	71-122	1.25

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Explosives Sample Report

Project Name:	Former Plumbrook Ordnance Work				
Project Number:	6007	Date Sampled:	09/22/00	Matrix:	Soil
Client Sample ID:	AA0439	Date Received:	09/23/00	Units:	mg/kg
Sample ID:	M000982-001	Date Extracted:	10/05/00	Dilution Factor:	1
Method:	SW-846 Method 8330	Date Dried:	09/26/00		
Batch ID:	WG6634	Date Analyzed:	10/25/00		
Analyst:	Schnitker	Date Reported:	12/26/00		

CAS Number	Target Analyte	Result	Laboratory Reporting Limit	Method Detection Limit
2691-41-0	HMX	u	2.2	0.2
121-82-4	RDX	u	1.0	0.6
99-35-4	1,3,5-Trinitrobenzene	u	0.25	0.02
99-65-0	1,3-Dinitrobenzene	u	0.25	0.1
479-45-8	Tetryl	u	0.65	0.2
618-87-1	3,5-Dinitroaniline	u	0.65	0.08
98-95-3	Nitrobenzene	u	0.26	0.03
118-96-7	2,4,6-Trinitrotoluene	0.1 J	0.25	0.1
1946-51-0	4-Amino-2,6-Dinitrotoluene	u	0.26	0.09
355-72-78-2	2-Amino-4,6-Dinitrotoluene	u	0.25	0.1
606-20-2	2,6-Dinitrotoluene	0.11 ppm u	0.26	0.02
121-14-2	2,4-Dinitrotoluene	0.56	0.25	0.04
88-72-2	2-Nitrotoluene	u	0.25	0.02
99-99-0	4-Nitrotoluene	u	0.25	0.04
99-08-1	3-Nitrotoluene	u	0.25	0.03

u: Below Method Detection Limit
J: Estimated concentration above Method Detection Limit but below Lab Reporting Limit.

Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (mg/kg)
3,4-Dinitrotoluene	97	71-122	1.25

Matrix Spike : WG6634-4
Laboratory Duplicate : WG6634-3
Laboratory Control Sample : WG6634-2
Matrix Spike Duplicate : WG6634-5
Method Blank : WG6634-1

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Explosives Sample Report

Project Name:	Former Plumbrook Ordnance Work				
Project Number:	6007	Date Sampled:	09/22/00	Matrix:	Soil
Client Sample ID:	AA0444	Date Received:	09/23/00	Units:	mg/kg
Sample ID:	M000982-002	Date Extracted:	10/05/00	Dilution Factor:	1
Method:	SW-846 Method 8330	Date Dried:	09/26/00		
Batch ID:	WG6634	Date Analyzed:	10/25/00		
Analyst:	Schnitker	Date Reported:	12/26/00		

CAS Number	Target Analyte	Result	Laboratory Reporting Limit	Method Detection Limit
2691-41-0	HMX	u	2.2	0.2
121-82-4	RDX	u	1.0	0.6
99-35-4	1,3,5-Trinitrobenzene	u	0.25	0.02
99-65-0	1,3-Dinitrobenzene	u	0.25	0.1
479-45-8	Tetryl	u	0.65	0.2
618-87-1	3,5-Dinitroaniline	u	0.65	0.08
98-95-3	Nitrobenzene	u	0.26	0.03
118-96-7	2,4,6-Trinitrotoluene	0.2 J	0.25	0.1
1946-51-0	4-Amino-2,6-Dinitrotoluene	0.30 C	0.26	0.09
355-72-78-2	2-Amino-4,6-Dinitrotoluene	0.1 JC	0.25	0.1
606-20-2	2,6-Dinitrotoluene	u	0.26	0.02
121-14-2	2,4-Dinitrotoluene	u	0.25	0.04
88-72-2	2-Nitrotoluene	u	0.25	0.02
99-99-0	4-Nitrotoluene	u	0.25	0.04
99-08-1	3-Nitrotoluene	u	0.25	0.03

u: Below Method Detection Limit
J: Estimated concentration above Method Detection Limit but below Lab Reporting Limit.
C: Result not confirmed due to matrix interference.

Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (mg/kg)
3,4-Dinitrotoluene	92	71-122	1.25

Matrix Spike : WG6634-4
Laboratory Duplicate : WG6634-3
Laboratory Control Sample : WG6634-2
Matrix Spike Duplicate : WG6634-5
Method Blank : WG6634-1

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Explosives Sample Report

Project Name:	Former Plumbrook Ordnance Work				
Project Number:	6007	Date Sampled:	09/25/00	Matrix:	Soil
Client Sample ID:	AA0430	Date Received:	09/26/00	Units:	mg/kg
Sample ID:	M000987-001	Date Extracted:	10/05/00	Dilution Factor:	1
Method:	SW-846 Method 8330	Date Dried:	09/26/00		
Batch ID:	WG6634	Date Analyzed:	10/25/00		
Analyst:	Schnitker	Date Reported:	12/26/00		

CAS Number	Target Analyte	Result	Laboratory Reporting Limit	Method Detection Limit
2691-41-0	HMX	u	2.2	0.2
121-82-4	RDX	u	1.0	0.6
99-35-4	1,3,5-Trinitrobenzene PPM 0.06	0.2 J	0.25	0.02
99-65-0	1,3-Dinitrobenzene	u	0.25	0.1
479-45-8	Tetryl	u	0.65	0.2
618-87-1	3,5-Dinitroaniline	u	0.65	0.08
98-95-3	Nitrobenzene	u	0.26	0.03
118-96-7	2,4,6-Trinitrotoluene	3.3	0.25	0.1
1946-51-0	4-Amino-2,6-Dinitrotoluene	1.8 C	0.26	0.09
355-72-78-2	2-Amino-4,6-Dinitrotoluene	2.7 C	0.25	0.1
606-20-2	2,6-Dinitrotoluene	0.1 J	0.26	0.02
121-14-2	2,4-Dinitrotoluene	0.62	0.25	0.04
88-72-2	2-Nitrotoluene	u	0.25	0.02
99-99-0	4-Nitrotoluene	u	0.25	0.04
99-08-1	3-Nitrotoluene	u	0.25	0.03

u: Below Method Detection Limit
J: Estimated concentration above Method Detection Limit but below Lab Reporting Limit.
C: Result not confirmed due to matrix interference.

Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (mg/kg)
3,4-Dinitrotoluene	98	71-122	1.25

Matrix Spike : WG6634-4
Laboratory Duplicate : WG6634-3
Laboratory Control Sample : WG6634-2
Matrix Spike Duplicate : WG6634-5
Method Blank : WG6634-1

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Explosives Sample Report

Project Name:	Former Plumbrook Ordnance Work				
Project Number:	6007	Date Sampled:	09/25/00	Matrix:	Soil
Client Sample ID:	AA0436	Date Received:	09/26/00	Units:	mg/kg
Sample ID:	M000987-002	Date Extracted:	10/05/00	Dilution Factor:	1
Method:	SW-846 Method 8330	Date Dried:	09/26/00		
Batch ID:	WG6634	Date Analyzed:	10/25/00		
Analyst:	Schnitker	Date Reported:	12/26/00		

CAS Number	Target Analyte	Result	Laboratory Reporting Limit	Method Detection Limit
2691-41-0	HMX	u	2.2	0.2
121-82-4	RDX	2.1 C	1.0	0.6
99-35-4	1,3,5-Trinitrobenzene	11 C	0.25	0.02
99-65-0	1,3-Dinitrobenzene	u	0.25	0.1
479-45-8	Tetryl	0.4 JC	0.65	0.2
618-87-1	3,5-Dinitroaniline	u	0.65	0.08
98-95-3	Nitrobenzene	u	0.26	0.03
118-96-7	2,4,6-Trinitrotoluene	1180 D	100	0.1
1946-51-0	4-Amino-2,6-Dinitrotoluene	u	100	0.09
355-72-78-2	2-Amino-4,6-Dinitrotoluene	8.2 C	0.25	0.1
606-20-2	2,6-Dinitrotoluene	u	0.26	0.02
121-14-2	2,4-Dinitrotoluene	0.89 C	0.25	0.04
88-72-2	2-Nitrotoluene	u	0.25	0.02
99-99-0	4-Nitrotoluene	u	0.25	0.04
99-08-1	3-Nitrotoluene	u	0.25	0.03

D: Result from a 1:400 dilution.
u: Below Method Detection Limit.
J: Estimated concentration above Method Detection Limit but below Lab Reporting Limit.
C: Result not confirmed due to matrix interference.

Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (mg/kg)
3,4-Dinitrotoluene	92	71-122	1.25

Matrix Spike : WG6634-4
Laboratory Duplicate : WG6634-3
Laboratory Control Sample : WG6634-2
Matrix Spike Duplicate : WG6634-5
Method Blank : WG6634-1

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Narrative for WG6634 - Explosives Analysis
Project name: Former Plumbrook Ordnance Work
Project number: 6007

1. The first continuing calibration standard (CCV3) contained three analytes slightly outside, and one significantly outside, the acceptance criteria of -15% difference from the initial calibration curve. Percent difference values for the four analytes are summarized below:

Tetryl	at -35.0%
2-nitrotoluene	at -15.6%
4-nitrotoluene	at -15.8%
3-nitrotoluene	at -16.4%

The average of the 16 calibrated analytes is 11.7%, which is within the 15% criteria.

The end of sequence continuing calibration standard (CCV5) contained all analytes within the 15% criteria.

2. The impact on data quality/data useability from the failed CCV is insignificant. Tetryl results for the matrix spike, matrix spike duplicate and laboratory control samples are within acceptable limits.

David E. Splichal

David E. Splichal,
Organic Section Team Leader

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Chemistry Quality Assurance Branch

Explosives (Method Blank) Report

Project Name:	Former Plumbrook Ordnance Work				
Project Number:	6007	Date Extracted:	10/05/00	Matrix:	Soil
MB Sample ID:	WG6634-1	Date Analyzed:	10/25/00	Units:	mg/kg
Method:	SW-846 Method 8330			Dilution Factor:	1
Batch ID:	WG6634	Date Reported:	12/26/00		
Analyst:	Schnitker				

CAS Number	Target Analyte	Result	Laboratory Reporting Limit	Method Detection Limit
2691-41-0	HMX	u	2.2	0.2
121-82-4	RDX	u	1.0	0.6
99-35-4	1,3,5-Trinitrobenzene	u	0.25	0.02
99-65-0	1,3-Dinitrobenzene	u	0.25	0.1
479-45-8	Tetryl	u	0.65	0.2
618-87-1	3,5-Dinitroaniline	u	0.65	0.08
98-95-3	Nitrobenzene	u	0.26	0.03
118-96-7	2,4,6-Trinitrotoluene	u	0.25	0.1
1946-51-0	4-Amino-2,6-Dinitrotoluene	u	0.26	0.09
355-72-78-2	2-Amino-4,6-Dinitrotoluene	u	0.25	0.1
606-20-2	2,6-Dinitrotoluene	u	0.26	0.02
121-14-2	2,4-Dinitrotoluene	u	0.25	0.04
88-72-2	2-Nitrotoluene	u	0.25	0.02
99-99-0	4-Nitrotoluene	u	0.25	0.04
99-08-1	3-Nitrotoluene	u	0.25	0.03

u: Below Method Detection Limit

Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (mg/kg)
3,4-Dinitrotoluene	87	71-122	1.25

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Explosives (Laboratory Matrix Duplicate) Report

Project Name:	Former Plumbrook Ordnance Work					
Project Number:	6007	Date Extracted:	10/05/00	Sample ID:	Sample	LD
Client Sample ID:	AA0430	Date Analyzed:	10/25/00	MRL No.:	M000987-001	WG6634-3
Method:	SW-846 Method 8330	Date Dried:	9/26/00			
Analyst:	Schnitker	Date Reported:	12/26/00	Matrix:	Soil	
Batch ID:	WG6634			Units:	mg/kg	

CAS Number	Target Analyte	Sample Result	LD Result	Laboratory Reporting Limit	Method Detection Limit	RPD	QC Limits
2691-41-0	HMX	u	u	2.2	0.2	NC	25
121-82-4	RDX	u	u	1.0	0.6	NC	25
99-35-4	1,3,5-Trinitrobenzene	0.2 J	0.2 J	0.25	0.02	8	25
99-65-0	1,3-Dinitrobenzene	u	u	0.25	0.1	NC	25
479-45-8	Tetryl	u	u	0.65	0.2	NC	25
618-87-1	3,5-Dinitroaniline	u	u	0.65	0.08	NC	25
98-95-3	Nitrobenzene	u	u	0.26	0.03	NC	25
118-96-7	2,4,6-Trinitrotoluene	3.3	3.0	0.25	0.1	8	25
1946-51-0	4-Amino-2,6-Dinitrotoluene	1.8 C	1.7 C	0.26	0.09	4	25
355-72-78-2	2-Amino-4,6-Dinitrotoluene	2.7 C	2.7 C	0.25	0.1	1	25
606-20-2	2,6-Dinitrotoluene	0.1 J	0.1 J	0.26	0.02	13	25
121-14-2	2,4-Dinitrotoluene	0.62	0.61	0.25	0.04	2	25
88-72-2	2-Nitrotoluene	u	u	0.25	0.02	NC	25
99-99-0	4-Nitrotoluene	u	u	0.25	0.04	NC	25
99-08-1	3-Nitrotoluene	u	u	0.25	0.03	NC	25

u: Below Detection Limit
J: Estimated concentration above Method Detection Limit but below Laboratory Reporting Limit.

C: Result not confirmed due to matrix interference.
NC: Not Calculable
Laboratory Comments:
RPD = (|Sample Result - LD Result| x 100)/((Sample Result + LD Result)/2)

Quality Control

Surrogate Standard	Recovery (%) Sample	LD	Acceptable	Spike (mg/kg)	RPD	QC Limits
3,4-Dinitrotoluene	98	102	71-122	1.25	4	25

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Explosives (Matrix Spike, Matrix Spike Duplicate) Report

Project Name:	Former Plumbrook Ordnance Work					
Project Number:	6007	Date Extracted:	10/05/00	Sample ID:	MS	MSD
Client Sample ID:	AA0430	Date Analyzed:	10/25/00	MRL No.:	WG6634-4	WG6634-5
MRL Sample ID:	M000987-001	Date Dried:	9/26/00			
Method:	SW-846 Method 8330	Date Reported:	12/26/00			
Batch ID:	WG6634	Matrix:	Soil			
Analyst:	Schnitker	Units:	mg/kg			

CAS Number	Target Analyte	Sample Result	Spike Added	Conc MS	% Rec MS	QC Limits	Conc MSD	%Rec MSD	RPD	QC Limits
2691-41-0	HMX	u	2.50	2.54	101	69-116	2.71	108	6	25
121-82-4	RDX	u	2.50	2.51	101	64-107	2.62	105	4	25
99-35-4	1,3,5-Trinitrobenzene	0.17	1.25	1.39	97	78-116	1.45	102	4	25
99-65-0	1,3-Dinitrobenzene	u	1.25	1.25	100	73-113	1.30	104	4	25
479-45-8	Tetryl	u	2.50	2.22	89	46-151	2.18	87	1	25
98-95-3	Nitrobenzene	u	1.25	1.40	112 *	75-111	1.43	114 *	2	25
118-96-7	2,4,6-Trinitrotoluene	3.3	1.25	3.84	45 *	61-106	4.36	87	13	25
1946-51-0	4-Amino-2,6-Dinitrotoluene	1.8 C	1.25	2.85	84	63-106	3.01	96	5	25
355-72-78-2	2-Amino-4,6-Dinitrotoluene	2.7 C	1.25	3.86	94	70-109	4.01	106	4	25
606-20-2	2,6-Dinitrotoluene	0.11	1.25	1.38	102	70-113	1.42	104	2	25
121-14-2	2,4-Dinitrotoluene	0.62	1.25	1.79	94	73-113	2.01	111	11	25
88-72-2	2-Nitrotoluene	u	1.25	1.20	96	74-113	1.21	97	1	25
99-99-0	4-Nitrotoluene	u	1.25	1.17	93	75-112	1.21	97	4	25
99-08-1	3-Nitrotoluene	u	1.25	1.19	95	67-114	1.20	96	2	25

u: Below Method Detection Limit
*: Indicates the value is outside acceptance limits.

C: Result not confirmed due to matrix interference.
Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%) MS	MSD	Acceptable	Spike (mg/kg)	RPD	QC Limits
3,4-Dinitrotoluene	102	103	71-122	1.25	1	25

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DEPARTMENT OF THE ARMY
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Chemistry Quality Assurance Branch

Explosives (Laboratory Control Sample) Report

Project Name:	Former Plumbrook Ordnance Work				
Project Number:	6007	Date Extracted:	10/05/00	Matrix:	Soil
LCS Sample ID:	WG6634-2	Date Analyzed:	10/25/00	Units:	mg/kg
Method:	SW-846 Method 8330			Dilution Factor:	1
Batch ID:	WG6634	Date Reported:	12/26/00		
Analyst:	Schnitker				

CAS Number	Target Analyte	Spike Added	Conc LCS	% Rec LCS	QC Limits
2691-41-0	HMX	2.50	2.45	98	69-116
121-82-4	RDX	2.50	2.30	92	64-107
99-35-4	1,3,5-Trinitrobenzene	1.25	1.21	97	78-116
99-65-0	1,3-Dinitrobenzene	1.25	1.27	102	73-113
479-45-8	Tetryl	2.50	1.87	75	46-151
98-95-3	Nitrobenzene	1.25	1.42	114 *	75-111
118-96-7	2,4,6-Trinitrotoluene	1.25	1.14	91	61-106
1946-51-0	4-Amino-2,6-Dinitrotoluene	1.25	1.18	95	63-106
355-72-78-2	2-Amino-4,6-Dinitrotoluene	1.25	1.24	99	70-109
606-20-2	2,6-Dinitrotoluene	1.25	1.25	100	70-113
121-14-2	2,4-Dinitrotoluene	1.25	1.23	98	73-113
88-72-2	2-Nitrotoluene	1.25	1.18	95	74-113
99-99-0	4-Nitrotoluene	1.25	1.16	93	75-112
99-08-1	3-Nitrotoluene	1.25	1.19	95	67-114

*: Indicates the value is outside acceptance limits.

Laboratory Comments:

Quality Control

Surrogate Standard	Recovery (%)	Acceptable	Spike (mg/kg)
3,4-Dinitrotoluene	91	71-122	1.25

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DEPARTMENT OF THE ARMY
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Chemistry Quality Assurance Branch

Total Metals

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: AA1012
Sample ID: M000976-001

Date Sampled: 09/20/00
Date Received: 09/21/00
Date Reported: 11/02/00

Matrix: Soil
Units: mg/kg
% Solids: 76.2

CAS Number	Analyte	Dilution	Result	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7440-38-2	Arsenic	1	2.2 J	3.0	0.6	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-22-4	Silver	1	u	1.0	0.2	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7429-90-5	Aluminum	1	6520	18.	6.	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-39-3	Barium	1	17.5	0.50	0.1	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-41-7	Beryllium	1	0.46	0.40	0.1	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-70-2	Calcium	1	4230	60.	20	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-43-9	Cadmium	1	u	0.50	0.1	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-48-4	Cobalt	1	4.8	3.0	0.6	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-47-3	Chromium	1	11.0	2.0	0.4	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-50-8	Copper	1	4.7	2.0	0.4	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7439-89-6	Iron	1	12200	24.	8.	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-09-7	Potassium	1	901.	60.	20	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7439-95-4	Magnesium	1	1720	24.	8.	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7439-96-5	Manganese	1	97.5 167	0.80	0.2	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-23-5	Sodium	1	98.	80.	40	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-02-0	Nickel	1	12.2	2.0	0.6	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7439-92-1	Lead	1	4.9	2.0	0.4	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7782-49-2	Selenium	1	u	4.0	0.8	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-36-0	Antimony	1	u	4.0	1.	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-28-0	Thallium	1	u	6.0	1.	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-62-2	Vanadium	1	15.6	4.0	0.8	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-66-6	Zinc	1	24.6	2.0	0.6	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon

u: Below Sample Detection Limit (MDL x Dilution)

J: Estimated concentration below laboratory reporting limit.

Quality Assurance / Quality Control

ICP LCS ID: WG6582-2
GFAA LCS ID: NA
CVAA LCS ID: NA

ICP MS ID: WG6582-4
GFAA MS ID: NA
CVAA MS ID: NA

ICP Method Blank ID: WG6582-1
GFAA Method Blank ID: NA
CVAA Method Blank ID: NA

ICP LD ID: WG6582-3
GFAA LD ID: NA
CVAA LD ID: NA

ICP MSD ID: WG6582-5
GFAA MSD ID: NA
CVAA MSD ID: NA

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C 105

DEPARTMENT OF THE ARMY
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Chemistry Quality Assurance Branch

Total Metals

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: AA1012
Sample ID: M000976-001

Date Sampled: 09/20/00
Date Received: 09/21/00
Date Reported: 10/11/00

Matrix: Soil
Units: mg/kg
% Solids: 76.2

CAS Number	Analyte	Dilution	Result	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7439-97-6	Mercury	1	0.0170	0.0030	0.0005	EPA 7471	WG6639	10-05-00	10-06-00	Duffy

Quality Assurance / Quality Control

ICP Method Blank ID: NA
GFAA Method Blank ID: NA
CVAA Method Blank ID: WG6639-1

ICP LCS ID: NA
GFAA LCS ID: NA
CVAA LCS ID: WG6639-2

ICP LD ID: NA
GFAA LD ID: NA
CVAA LD ID: WG6639-3

ICP MS ID: NA
GFAA MS ID: NA
CVAA MS ID: WG6639-4

ICP MSD ID: NA
GFAA MSD ID: NA
CVAA MSD ID: WG6639-5

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DEPARTMENT OF THE ARMY
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Chemistry Quality Assurance Branch

Total Metals

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: AA0439
Sample ID: M000982-001

Date Sampled: 09/22/00
Date Received: 09/23/00
Date Reported: 11/02/00

Matrix: Soil
Units: mg/kg
% Solids: 88.9

CAS Number	Analyte	Dilution	Result	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7440-38-2	Arsenic	1	9.09	3.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-22-4	Silver	1	u	1.0	0.2	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7429-90-5	Aluminum	1	5830	18.	6.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-39-3	Barium	1	18.6	0.50	0.1	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-41-7	Beryllium	1	0.46	0.40	0.1	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-70-2	Calcium	1	1370	60.	20	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-43-9	Cadmium	1	0.35 J	0.50	0.1	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-48-4	Cobalt	1	7.0	3.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-47-3	Chromium	1	8.29	2.0	0.4	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-50-8	Copper	1	22.5	2.0	0.4	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-89-6	Iron	1	18300	24.	8.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-09-7	Potassium	1	686.	60.	20	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-95-4	Magnesium	1	1010	24.	8.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-96-5	Manganese	1	304.	0.80	0.2	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-23-5	Sodium	1	158 ~~51.~~ J	80.	40	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-02-0	Nickel	1	19.0	2.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-92-1	Lead	1	22.4	2.0	0.4	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7782-49-2	Selenium	1	u	4.0	0.8	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-36-0	Antimony	1	u	4.0	1.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-28-0	Thallium	1	u	6.0	1.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-62-2	Vanadium	1	18.0	4.0	0.8	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-66-6	Zinc	1	77.9	2.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon

u: Below Sample Detection Limit (MDL x Dilution)

J: Estimated concentration below laboratory reporting limit.

Quality Assurance / Quality Control

ICP LCS ID: WG6585-2
GFAA LCS ID: NA
CVAA LCS ID: NA

ICP MS ID: WG6585-4
GFAA MS ID: NA
CVAA MS ID: NA

ICP Method Blank ID: WG6585-1
GFAA Method Blank ID: NA
CVAA Method Blank ID: NA

ICP LD ID: WG6585-3
GFAA LD ID: NA
CVAA LD ID: NA

ICP MSD ID: WG6585-5
GFAA MSD ID: NA
CVAA MSD ID: NA

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DEPARTMENT OF THE ARMY
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Chemistry Quality Assurance Branch

Total Metals

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: AA0439
Sample ID: M000982-001

Date Sampled: 09/22/00
Date Received: 09/23/00
Date Reported: 10/11/00

Matrix: Soil
Units: mg/kg
% Solids: 88.9

CAS Number	Analyte	Dilution	Result	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7439-97-6	Mercury	1	0.0229	0.0030	0.0005	EPA 7471	WG6639	10-05-00	10-06-00	Duffy

Quality Assurance / Quality Control

ICP Method Blank ID: NA
GFAA Method Blank ID: NA
CVAA Method Blank ID: WG6639-1

ICP LCS ID: NA
GFAA LCS ID: NA
CVAA LCS ID: WG6639-2

ICP LD ID: NA
GFAA LD ID: NA
CVAA LD ID: WG6639-3

ICP MS ID: NA
GFAA MS ID: NA
CVAA MS ID: WG6639-4

ICP MSD ID: NA
GFAA MSD ID: NA
CVAA MSD ID: WG6639-5

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DEPARTMENT OF THE ARMY
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Total Metals

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: AA0444
Sample ID: M000982-002

Date Sampled: 09/22/00
Date Received: 09/23/00
Date Reported: 11/02/00

Matrix: Soil
Units: mg/kg
% Solids: 94.9

CAS Number	Analyte	Dilution	Result	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7440-38-2	Arsenic	1	2.8 J	3.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-22-4	Silver	1	u	1.0	0.2	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7429-90-5	Aluminum	1	3630	18.	6.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-39-3	Barium	1	21.5	0.50	0.1	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-41-7	Beryllium	1	0.22 J	0.40	0.1	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-70-2	Calcium	1	15100	60.	20	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-43-9	Cadmium	1	0.95	0.50	0.1	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-48-4	Cobalt	1	3.4	3.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-47-3	Chromium	1	6.34	2.0	0.4	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-50-8	Copper	1	6.07	2.0	0.4	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-89-6	Iron	1	8290	24.	8.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-09-7	Potassium	1	444.	60.	20	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-95-4	Magnesium	1	3850	24.	8.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-96-5	Manganese	1	202.	0.80	0.2	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-23-5	Sodium	1	249 ppm 88.	80.	40	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-02-0	Nickel	1	8.1	2.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-92-1	Lead	1	71.8	2.0	0.4	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7782-49-2	Selenium	1	u	4.0	0.8	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-36-0	Antimony	1	1.0 J	4.0	1.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-28-0	Thallium	1	u	6.0	1.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-62-2	Vanadium	1	13.5	4.0	0.8	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-66-6	Zinc	1	195.	2.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon

u: Below Sample Detection Limit (MDL x Dilution)

J: Estimated concentration below laboratory reporting limit.

Quality Assurance / Quality Control

ICP LCS ID: WG6585-2
GFAA LCS ID: NA
CVAA LCS ID: NA

ICP MS ID: WG6585-4
GFAA MS ID: NA
CVAA MS ID: NA

ICP Method Blank ID: WG6585-1
GFAA Method Blank ID: NA
CVAA Method Blank ID: NA

ICP LD ID: WG6585-3
GFAA LD ID: NA
CVAA LD ID: NA

ICP MSD ID: WG6585-5
GFAA MSD ID: NA
CVAA MSD ID: NA

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DEPARTMENT OF THE ARMY
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Chemistry Quality Assurance Branch

Total Metals

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: AA0444
Sample ID: M000982-002

Date Sampled: 09/22/00
Date Received: 09/23/00
Date Reported: 10/11/00

Matrix: Soil
Units: mg/kg
% Solids: 94.9

CAS Number	Analyte	Dilution	Result	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7439-97-6	Mercury	1	0.0388	0.0030	0.0005	EPA 7471	WG6639	10-05-00	10-06-00	Duffy

Quality Assurance / Quality Control

ICP LCS ID: NA
GFAA LCS ID: NA
CVAA LCS ID: WG6639-2

ICP MS ID: NA
GFAA MS ID: NA
CVAA MS ID: WG6639-4

ICP Method Blank ID: NA
GFAA Method Blank ID: NA
CVAA Method Blank ID: WG6639-1

ICP LD ID: NA
GFAA LD ID: NA
CVAA LD ID: WG6639-3

ICP MSD ID: NA
GFAA MSD ID: NA
CVAA MSD ID: WG6639-5

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DEPARTMENT OF THE ARMY
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Chemistry Quality Assurance Branch

Total Metals

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: AA0430
Sample ID: M000987-001

Date Sampled: 09/25/00
Date Received: 09/26/00
Date Reported: 11/02/00

Matrix: Soil
Units: mg/kg
% Solids: 87.0

CAS Number	Analyte	Dilution	Result	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7440-38-2	Arsenic	1	3.3	3.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-22-4	Silver	1	u	1.0	0.2	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7429-90-5	Aluminum	1	4610	18.	6.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-39-3	Barium	1	24.2	0.50	0.1	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-41-7	Beryllium	1	0.30 J	0.40	0.1	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-70-2	Calcium	1	14800	60.	20	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-43-9	Cadmium	1	0.23 J	0.50	0.1	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-48-4	Cobalt	1	4.2	3.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-47-3	Chromium	1	9.81	2.0	0.4	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-50-8	Copper	1	11.6	2.0	0.4	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-89-6	Iron	1	12700	24.	8.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-09-7	Potassium	1	642.	60.	20	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-95-4	Magnesium	1	2020	24.	8.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-96-5	Manganese	1	437.	0.80	0.2	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-23-5	Sodium	1	77. J	80.	40	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-02-0	Nickel	1	11.0	2.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-92-1	Lead	1	236.	2.0	0.4	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7782-49-2	Selenium	1	u	4.0	0.8	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-36-0	Antimony	1	u	4.0	1.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-28-0	Thallium	1	u	6.0	1.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-62-2	Vanadium	1	17.4	4.0	0.8	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-66-6	Zinc	1	28.0	2.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon

u: Below Sample Detection Limit (MDL x Dilution)

J: Estimated concentration below laboratory reporting limit.

Quality Assurance / Quality Control

ICP Method Blank ID: WG6585-1
GFAA Method Blank ID: NA
CVAA Method Blank ID: NA

ICP LCS ID: WG6585-2
GFAA LCS ID: NA
CVAA LCS ID: NA

ICP LD ID: WG6585-3
GFAA LD ID: NA
CVAA LD ID: NA

ICP MS ID: WG6585-4
GFAA MS ID: NA
CVAA MS ID: NA

ICP MSD ID: WG6585-5
GFAA MSD ID: NA
CVAA MSD ID: NA

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FAX: (402) 341-5448
PHONE: (402) 444-4300

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Chemistry Quality Assurance Branch

Total Metals

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: AA0430
Sample ID: M000987-001

Date Sampled: 09/25/00
Date Received: 09/26/00
Date Reported: 10/11/00

Matrix: Soil
Units: mg/kg
% Solids: 87.0

CAS Number	Analyte	Dilution	Result	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7439-97-6	Mercury	1	0.0101	0.0030	0.0005	EPA 7471	WG6640	10-05-00	10-06-00	Duffy

Quality Assurance / Quality Control

ICP Method Blank ID: NA
GFAA Method Blank ID: NA
CVAA Method Blank ID: WG6640-1

ICP LCS ID: NA
GFAA LCS ID: NA
CVAA LCS ID: WG6640-2

ICP LD ID: NA
GFAA LD ID: NA
CVAA LD ID: WG6640-3

ICP MS ID: NA
GFAA MS ID: NA
CVAA MS ID: WG6640-4

ICP MSD ID: NA
GFAA MSD ID: NA
CVAA MSD ID: WG6640-5

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C112

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Total Metals

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: AA0436
Sample ID: M000987-002

Date Sampled: 09/25/00
Date Received: 09/26/00
Date Reported: 11/02/00

Matrix: Soil
Units: mg/kg
% Solids: 78.8

CAS Number	Analyte	Dilution	Result	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7440-38-2	Arsenic	1	3.6	3.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-22-4	Silver	1	u	1.0	0.2	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7429-90-5	Aluminum	1	7370	18.	6.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-39-3	Barium	1	33.1	0.50	0.1	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-41-7	Beryllium	1	0.42	0.40	0.1	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-70-2	Calcium	1	23200	60.	20	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-43-9	Cadmium	1	0.37 J	0.50	0.1	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-48-4	Cobalt	1	6.4	3.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-47-3	Chromium	1	14.0	2.0	0.4	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-50-8	Copper	1	16.7	2.0	0.4	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-89-6	Iron	1	14600	24.	8.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-09-7	Potassium	1 R 632	1260	60.	20	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-95-4	Magnesium	1 R 2190	4030	24.	8.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-96-5	Manganese	1	356.	0.80	0.2	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-23-5	Sodium	1 R 147	74. J	80.	40	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-02-0	Nickel	1 R 9.38	16.1	2.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-92-1	Lead	1	41.8	2.0	0.4	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7782-49-2	Selenium	1	u	4.0	0.8	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-36-0	Antimony	1	u	4.0	1.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-28-0	Thallium	1	u	6.0	1.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-62-2	Vanadium	1	19.4	4.0	0.8	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-66-6	Zinc	1	64.8	2.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon

u: Below Sample Detection Limit (MDL x Dilution)

J: Estimated concentration below laboratory reporting limit.

R - Reg. Sample

Quality Assurance / Quality Control

ICP Method Blank ID: WG6585-1
GFAA Method Blank ID: NA
CVAA Method Blank ID: NA

ICP LCS ID: WG6585-2
GFAA LCS ID: NA
CVAA LCS ID: NA

ICP LD ID: WG6585-3
GFAA LD ID: NA
CVAA LD ID: NA

ICP MS ID: WG6585-4
GFAA MS ID: NA
CVAA MS ID: NA

ICP MSD ID: WG6585-5
GFAA MSD ID: NA
CVAA MSD ID: NA

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C113

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Total Metals

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: AA0436
Sample ID: M000987-002

Date Sampled: 09/25/00
Date Received: 09/26/00
Date Reported: 10/11/00

Matrix: Soil
Units: mg/kg
% Solids: 78.8

CAS Number	Analyte	Dilution	Result	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7439-97-6	Mercury	1	0.0601	0.0030	0.0005	EPA 7471	WG6639	10-05-00	10-06-00	Duffy

Quality Assurance / Quality Control

ICP Method Blank ID: NA
GFAA Method Blank ID: NA
CVAA Method Blank ID: WG6639-1

ICP LCS ID: NA
GFAA LCS ID: NA
CVAA LCS ID: WG6639-2

ICP LD ID: NA
GFAA LD ID: NA
CVAA LD ID: WG6639-3

ICP MS ID: NA
GFAA MS ID: NA
CVAA MS ID: WG6639-4

ICP MSD ID: NA
GFAA MSD ID: NA
CVAA MSD ID: WG6639-5

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Method Blank

Method Blank ICP Sample ID: WG6582-1
Method Blank GFAA Sample ID:
Method Blank CVAA Sample ID:

Matrix: Soil
Units: mg/kg

CAS Number	Analyte	Result	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7440-38-2	Arsenic	u	3.0	0.6	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-22-4	Silver	u	1.0	0.2	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7429-90-5	Aluminum	u	18.	6.	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-39-3	Barium	u	0.50	0.1	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-41-7	Beryllium	u	0.40	0.1	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-70-2	Calcium	u	60.	20	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-43-9	Cadmium	u	0.50	0.1	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-48-4	Cobalt	u	3.0	0.6	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-47-3	Chromium	u	2.0	0.4	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-50-8	Copper	u	2.0	0.4	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7439-89-6	Iron	u	24.	8.	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-09-7	Potassium	u	60.	20	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7439-95-4	Magnesium	u	24.	8.	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7439-96-5	Manganese	u	0.80	0.2	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-23-5	Sodium	u	80.	40	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-02-0	Nickel	u	2.0	0.6	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7439-92-1	Lead	u	2.0	0.4	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7782-49-2	Selenium	u	4.0	0.8	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-36-0	Antimony	u	4.0	1.	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-28-0	Thallium	u	6.0	1.	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-62-2	Vanadium	u	4.0	0.8	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-66-6	Zinc	u	2.0	0.6	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon

u: Below Sample Detection Limit (MDL x Dilution)

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Laboratory Matrix Duplicate

Matrix Duplicate ICP Sample ID: WG6582-3
Matrix Duplicate GFAA Sample ID:
Matrix Duplicate CVAA Sample ID:

Matrix: Soil
Units: mg/kg

CAS Number	Analyte	Sample Result	Dup Result	RPD	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7440-38-2	Arsenic	5.7	6.9	19.0	3.0	0.6	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-22-4	Silver	u	u	NC	1.0	0.2	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7429-90-5	Aluminum	5410	5570	2.9	18.	6.	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-39-3	Barium	43.4	43.2	0.5	0.50	0.1	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-41-7	Beryllium	0.35 J	0.38 J	8.2	0.40	0.1	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-70-2	Calcium	5170	5030	2.8	60.	20	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-43-9	Cadmium	u	u	NC	0.50	0.1	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-48-4	Cobalt	7.3	7.4	1.4	3.0	0.5	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-47-3	Chromium	9.1	9.4	3.2	2.0	0.4	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-50-8	Copper	12.1	12.4	2.5	2.0	0.4	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7439-89-6	Iron	16100	17200	6.6	24.	8.	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-09-7	Potassium	935.	955.	2.1	60.	20	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7439-95-4	Magnesium	2160	2200	1.8	24.	8.	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7439-96-5	Manganese	296.	290.	2.1	0.80	0.2	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-23-5	Sodium	71. J	73.9 J	4.0	80.	40	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-02-0	Nickel	16.9	17.2	1.8	2.0	0.6	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7439-92-1	Lead	16.8	18.3	8.6	2.0	0.4	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7782-49-2	Selenium	u	u	NC	4.0	0.8	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-36-0	Antimony	u	u	NC	4.0	1.	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-28-0	Thallium	u	u	NC	6.0	1.	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-62-2	Vanadium	14.5	16.1	10.5	4.0	0.8	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-66-6	Zinc	44.3	46.3	4.4	2.0	0.6	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon

u: Below Sample Detection Limit (MDL x Dilution)
NC: Not Calculable
J: Estimated concentration below laboratory reporting limit

QC Sample: M000975-004

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C116

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Matrix Spike, Matrix Spike Duplicate

MS ICP Sample ID: WG6582-4 MSD ICP Sample ID: WG6582-5 Matrix: Soil
MS GFAA Sample ID: MSD GFAA Sample ID: Units: mg/kg
MS CVAA Sample ID: MSD CVAA Sample ID:

CAS Number	Analyte	Sample Result	MS Conc	Spike Added	%Rec MS	MSD Conc	%Rec MSD	RPD	Method	Date Digested	Date Analyzed	Analyst
7440-38-2	Arsenic	5.7	100.	100.	94.8	99.0	93.3	1.5	EPA 6010B	09-28-00	10-25-00	Shannon
7440-22-4	Silver	u	19.5	20.0	97.7	19.5	97.3	0.4	EPA 6010B	09-28-00	10-25-00	Shannon
7429-90-5	Aluminum	5410	7760	600.	NC *&	7320	NC *&	NC	EPA 6010B	09-28-00	10-25-00	Shannon
7440-39-3	Barium	43.4	146.	100.	103.	142.	98.1	3.1	EPA 6010B	09-28-00	10-25-00	Shannon
7440-41-7	Beryllium	0.35 J	38.8	40.0	96.2	38.7	95.9	0.3	EPA 6010B	09-28-00	10-25-00	Shannon
7440-70-2	Calcium	5170	7790	1500	175. *	6470	86.5	18.6	EPA 6010B	09-28-00	10-25-00	Shannon
7440-43-9	Cadmium	u	47.6	50.0	95.1	47.6	95.1	0.0	EPA 6010B	09-28-00	10-25-00	Shannon
7440-48-4	Cobalt	7.3	106.	100.	98.4	104.	96.7	1.6	EPA 6010B	09-28-00	10-25-00	Shannon
7440-47-3	Chromium	9.1	107.	100.	97.4	106.	96.5	0.9	EPA 6010B	09-28-00	10-25-00	Shannon
7440-50-8	Copper	12.1	112.	100.	100.	110.	97.7	2.1	EPA 6010B	09-28-00	10-25-00	Shannon
7439-89-6	Iron	16100	18000	600.	NC *&	15700	NC *&	NC	EPA 6010B	09-28-00	10-25-00	Shannon
7440-09-7	Potassium	935.	2160	1000	122. *	2110	117.	2.4	EPA 6010B	09-28-00	10-25-00	Shannon
7439-95-4	Magnesium	2160	3760	1500	106.	3570	93.7	5.1	EPA 6010B	09-28-00	10-25-00	Shannon
7439-96-5	Manganese	296.	425.	100.	129. *	359.	62.9 *	16.9	EPA 6010B	09-28-00	10-25-00	Shannon
7440-23-5	Sodium	71. J	1430	1500	90.2	1420	89.9	0.4	EPA 6010B	09-28-00	10-25-00	Shannon
7440-02-0	Nickel	16.9	115.	100.	98.3	112.	95.0	2.9	EPA 6010B	09-28-00	10-25-00	Shannon
7439-92-1	Lead	16.8	114.	100.	96.8	113.	96.5	0.2	EPA 6010B	09-28-00	10-25-00	Shannon
7782-49-2	Selenium	u	88.0	100.	88.0	87.1	87.1	1.0	EPA 6010B	09-28-00	10-25-00	Shannon
7440-36-0	Antimony	u	23.8	100.	23.8 *	26.8	26.8 *	11.8	EPA 6010B	09-28-00	10-25-00	Shannon
7440-28-0	Thallium	u	96.0	100.	96.0	96.0	96.0	0.1	EPA 6010B	09-28-00	10-25-00	Shannon
7440-62-2	Vanadium	14.5	116.	100.	101.	114.	99.9	1.1	EPA 6010B	09-28-00	10-25-00	Shannon
7440-66-6	Zinc	44.3	143.	100.	99.1	139.	95.1	2.8	EPA 6010B	09-28-00	10-25-00	Shannon

%Rec: Percent of the spike recovered from the matrix

u: Below Method Detection Limit

NC: Not Calculable

* Indicates the value is outside control limits (80-120) for %Rec.

*& = High analyte concentration prevented accurate determination of the matrix spike recovery.

J: Estimated concentration below laboratory reporting limit
QC Sample: M000975-004

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Laboratory Control Sample

LCS ICP Sample ID: WG6582-2
LCS GFAA Sample ID:
LCS CVAA Sample ID:

Matrix: Soil
Units: mg/kg

CAS Number	Analyte	LCS Result	True Value	%Rec	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7440-38-2	Arsenic	102.	100.	102.	3.0	0.6	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-22-4	Silver	20.4	20.0	102.	1.0	0.2	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7429-90-5	Aluminum	582.	600.	97.0	18.	6.	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-39-3	Barium	100.	100.	100.	0.50	0.1	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-41-7	Beryllium	39.7	40.0	99.1	0.40	0.1	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-70-2	Calcium	1500	1500	100.	60.	20	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-43-9	Cadmium	50.4	50.0	101.	0.50	0.1	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-48-4	Cobalt	102.	100.	102.	3.0	0.6	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-47-3	Chromium	99.8	100.	99.8	2.0	0.4	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-50-8	Copper	101.	100.	101.	2.0	0.4	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7439-89-6	Iron	597.	600.	99.6	24.	8.	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-09-7	Potassium	986.	1000	98.6	60.	20	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7439-95-4	Magnesium	1470	1500	97.7	24.	8.	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7439-96-5	Manganese	103.	100.	103.	0.80	0.2	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-23-5	Sodium	1390	1500	92.5	80.	40	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-02-0	Nickel	101.	100.	101.	2.0	0.6	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7439-92-1	Lead	102.	100.	102.	2.0	0.4	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7782-49-2	Selenium	97.2	100.	97.2	4.0	0.8	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-36-0	Antimony	93.1	100.	93.1	4.0	1.	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-28-0	Thallium	101.	100.	101.	6.0	1.	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-62-2	Vanadium	101.	100.	101.	4.0	0.8	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon
7440-66-6	Zinc	102.	100.	102.	2.0	0.6	EPA 6010B	WG6582	09-28-00	10-25-00	Shannon

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Method Blank

Method Blank ICP Sample ID: WG6585-1
Method Blank GFAA Sample ID:
Method Blank CVAA Sample ID:

Matrix: Soil
Units: mg/kg

CAS Number	Analyte	Result	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7440-38-2	Arsenic	u	3.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-22-4	Silver	u	1.0	0.2	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7429-90-5	Aluminum	u	18.	6.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-39-3	Barium	u	0.50	0.1	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-41-7	Beryllium	u	0.40	0.1	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-70-2	Calcium	u	60.	20	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-43-9	Cadmium	u	0.50	0.1	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-48-4	Cobalt	u	3.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-47-3	Chromium	u	2.0	0.4	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-50-8	Copper	u	2.0	0.4	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-89-6	Iron	u	24.	8.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-09-7	Potassium	u	60.	20	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-95-4	Magnesium	u	24.	8.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-96-5	Manganese	u	0.80	0.2	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-23-5	Sodium	u	80.	40	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-02-0	Nickel	u	2.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-92-1	Lead	u	2.0	0.4	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7782-49-2	Selenium	u	4.0	0.8	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-36-0	Antimony	u	4.0	1.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-28-0	Thallium	u	6.0	1.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-62-2	Vanadium	u	4.0	0.8	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-66-6	Zinc	u	2.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon

u: Below Sample Detection Limit (MDL x Dilution)

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C119

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Laboratory Matrix Duplicate

Matrix Duplicate ICP Sample ID: WG6585-3
Matrix Duplicate GFAA Sample ID:
Matrix Duplicate CVAA Sample ID:

Matrix: Soil
Units: mg/kg

CAS Number	Analyte	Sample Result	Dup Result	RPD	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7440-38-2	Arsenic	4.8	4.7	2.1	3.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-22-4	Silver	u	u	NC	1.0	0.2	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7429-90-5	Aluminum	13800	13100	5.2	18.	6.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-39-3	Barium	389.	385.	1.0	0.50	0.1	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-41-7	Beryllium	1.1	1.1	0.0	0.40	0.1	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-70-2	Calcium	19200	18500	3.7	60.	20	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-43-9	Cadmium	0.76	0.73	4.0	0.50	0.1	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-48-4	Cobalt	7.6	7.4	2.7	3.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-47-3	Chromium	10.	9.5	5.1	2.0	0.4	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-50-8	Copper	20.3	20.2	0.5	2.0	0.4	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-89-6	Iron	13300	12800	3.8	24.	8.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-09-7	Potassium	2910	2810	3.5	60.	20	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-95-4	Magnesium	3100	3000	3.3	24.	8.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-96-5	Manganese	1940	1880	3.1	0.80	0.2	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-23-5	Sodium	182.	175.	3.9	80.	40	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-02-0	Nickel	12.5	12.2	2.4	2.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-92-1	Lead	45.7	45.7	0.0	2.0	0.4	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7782-49-2	Selenium	u	u	NC	4.0	0.8	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-36-0	Antimony	u	u	NC	4.0	1.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-28-0	Thallium	u	u	NC	6.0	1.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-62-2	Vanadium	19.3	18.6	3.7	4.0	0.8	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-66-6	Zinc	71.8	70.5	1.8	2.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon

u: Below Sample Detection Limit (MDL x Dilution)
NC: Not Calculable

QC Sample: M000988-001

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C120

DEPARTMENT OF THE ARMY
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Matrix Spike, Matrix Spike Duplicate

MS ICP Sample ID: WG6585-4 MSD ICP Sample ID: WG6585-5 Matrix: Soil
MS GFAA Sample ID: MSD GFAA Sample ID: Units: mg/kg
MS CVAA Sample ID: MSD CVAA Sample ID:

CAS Number	Analyte	Sample Result	MS Conc	Spike Added	%Rec MS	MSD Conc	%Rec MSD	RPD	Method	Date Digested	Date Analyzed	Analyst
7440-38-2	Arsenic	4.8	91.9	100.	87.1	92.9	88.1	1.1	EPA 6010B	09-28-00	10-25-00	Shannon
7440-22-4	Silver	u	18.3	20.0	91.7	18.5	92.7	1.1	EPA 6010B	09-28-00	10-25-00	Shannon
7429-90-5	Aluminum	13800	16100	600.	NC *&	16800	NC *&	NC	EPA 6010B	09-28-00	10-25-00	Shannon
7440-39-3	Barium	389.	483.	100.	94.9	489.	101.	1.2	EPA 6010B	09-28-00	10-25-00	Shannon
7440-41-7	Beryllium	1.1	37.4	40.0	90.7	37.5	90.9	0.3	EPA 6010B	09-28-00	10-25-00	Shannon
7440-70-2	Calcium	19200	20100	1500	NC *&	20300	NC *&	NC	EPA 6010B	09-28-00	10-25-00	Shannon
7440-43-9	Cadmium	0.76	45.3	50.0	89.1	45.5	89.5	0.5	EPA 6010B	09-28-00	10-25-00	Shannon
7440-48-4	Cobalt	7.6	96.7	100.	89.1	97.8	90.2	1.1	EPA 6010B	09-28-00	10-25-00	Shannon
7440-47-3	Chromium	10.	98.8	100.	88.8	99.9	89.9	1.2	EPA 6010B	09-28-00	10-25-00	Shannon
7440-50-8	Copper	20.3	114.	100.	94.1	116.	95.5	1.2	EPA 6010B	09-28-00	10-25-00	Shannon
7439-89-6	Iron	13300	13800	600.	81.8	14200	NC *&	NC	EPA 6010B	09-28-00	10-25-00	Shannon
7440-09-7	Potassium	2910	3780	1000	86.8	3890	97.9	2.9	EPA 6010B	09-28-00	10-25-00	Shannon
7439-95-4	Magnesium	3100	4460	1500	90.7	4560	97.7	2.3	EPA 6010B	09-28-00	10-25-00	Shannon
7439-96-5	Manganese	1940	2010	100.	NC *&	2000	NC *&	NC	EPA 6010B	09-28-00	10-25-00	Shannon
7440-23-5	Sodium	182.	1500	1500	88.1	1530	89.5	1.5	EPA 6010B	09-28-00	10-25-00	Shannon
7440-02-0	Nickel	12.5	102.	100.	89.7	103.	90.6	0.8	EPA 6010B	09-28-00	10-25-00	Shannon
7439-92-1	Lead	45.7	134.	100.	87.8	136.	90.0	1.6	EPA 6010B	09-28-00	10-25-00	Shannon
7782-49-2	Selenium	u	83.5	100.	83.5	84.4	84.4	1.1	EPA 6010B	09-28-00	10-25-00	Shannon
7440-36-0	Antimony	u	24.9	100.	24.9 *	24.5	24.5 *	1.6	EPA 6010B	09-28-00	10-25-00	Shannon
7440-28-0	Thallium	u	87.4	100.	87.4	88.5	88.5	1.3	EPA 6010B	09-28-00	10-25-00	Shannon
7440-62-2	Vanadium	19.3	110.	100.	90.7	111.	92.1	1.2	EPA 6010B	09-28-00	10-25-00	Shannon
7440-66-6	Zinc	71.8	158.	100.	86.4	161.	89.3	1.8	EPA 6010B	09-28-00	10-25-00	Shannon

%Rec: Percent of the spike recovered from the matrix

u: Below Method Detection Limit

NC: Not Calculable

* Indicates the value is outside control limits (80-120) for %Rec.

*& = High analyte concentration prevented accurate determination of the matrix spike recovery.

QC Sample: M000988-001

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C121

DEPARTMENT OF THE ARMY
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Laboratory Control Sample

LCS ICP Sample ID: WG6585-2
LCS GFAA Sample ID:
LCS CVAA Sample ID:

Matrix: Soil
Units: mg/kg

CAS Number	Analyte	LCS Result	True Value	%Rec	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7440-38-2	Arsenic	99.8	100.	99.8	3.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-22-4	Silver	20.4	20.0	102.	1.0	0.2	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7429-90-5	Aluminum	595.	600.	99.1	18.	6.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-39-3	Barium	103.	100.	103.	0.50	0.1	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-41-7	Beryllium	40.0	40.0	100.	0.40	0.1	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-70-2	Calcium	1500	1500	99.7	60.	20	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-43-9	Cadmium	50.8	50.0	102.	0.50	0.1	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-48-4	Cobalt	101.	100.	101.	3.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-47-3	Chromium	99.8	100.	99.8	2.0	0.4	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-50-8	Copper	103.	100.	103.	2.0	0.4	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-89-6	Iron	592.	600.	98.7	24.	8.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-09-7	Potassium	987.	1000	98.7	60.	20	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-95-4	Magnesium	1450	1500	96.9	24.	8.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-96-5	Manganese	103.	100.	103.	0.80	0.2	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-23-5	Sodium	1430	1500	95.6	80.	40	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-02-0	Nickel	101.	100.	101.	2.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7439-92-1	Lead	102.	100.	102.	2.0	0.4	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7782-49-2	Selenium	97.0	100.	97.0	4.0	0.8	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-36-0	Antimony	98.2	100.	98.2	4.0	1.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-28-0	Thallium	101.	100.	101.	6.0	1.	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-62-2	Vanadium	102.	100.	102.	4.0	0.8	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon
7440-66-6	Zinc	102.	100.	102.	2.0	0.6	EPA 6010B	WG6585	09-28-00	10-25-00	Shannon

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C122

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Method Blank

Method Blank ICP Sample ID:
Method Blank GFAA Sample ID:
Method Blank CVAA Sample ID: WG6640-1

Matrix: Soil
Units: mg/kg

CAS Number	Analyte	Result	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7439-97-6	Mercury	u	0.0030	0.0005	EPA 7471	WG6640	10-05-00	10-06-00	Duffy

u: Below Sample Detection Limit (MDL x Dilution)

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C123

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Laboratory Matrix Duplicate

Matrix Duplicate ICP Sample ID:
Matrix Duplicate GFAA Sample ID:
Matrix Duplicate CVAA Sample ID: WG6640-3

Matrix: Soil
Units: mg/kg

CAS Number	Analyte	Sample Result	Dup Result	RPD	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7439-97-6	Mercury	0.010	0.0095	5.1	0.0030	0.0005	EPA 7471	WG6640	10-05-00	10-06-00	Duffy

QC Sample: M000987-001

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C124

DEPARTMENT OF THE ARMY
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Chemistry Quality Assurance Branch

Matrix Spike, Matrix Spike Duplicate

MS ICP Sample ID:
MS GFAA Sample ID:
MS CVAA Sample ID: WG6640-4

MSD ICP Sample ID:
MSD GFAA Sample ID:
MSD CVAA Sample ID: WG6640-5

Matrix: Soil
Units: mg/kg

CAS Number	Analyte	Sample Result	MS Conc	Spike Added	%Rec MS	MSD Conc	%Rec MSD	RPD	Method	Date Digested	Date Analyzed	Analyst
7439-97-6	Mercury	0.010	0.209	0.200	99.5	0.208	99.0	0.5	EPA 7471	10-05-00	10-06-00	Duffy

%Rec: Percent of the spike recovered from the matrix

QC Sample: M000987-001

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C125

DEPARTMENT OF THE ARMY
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Chemistry Quality Assurance Branch

Laboratory Control Sample

LCS ICP Sample ID:
LCS GFAA Sample ID:
LCS CVAA Sample ID: WG6640-2

Matrix: Soil
Units: mg/kg

CAS Number	Analyte	LCS Result	True Value	%Rec	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7439-97-6	Mercury	0.205	0.200	103.	0.0030	0.0005	EPA 7471	WG6640	10-05-00	10-06-00	Duffy

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C126

DEPARTMENT OF THE ARMY
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Method Blank

Method Blank ICP Sample ID:
Method Blank GFAA Sample ID:
Method Blank CVAA Sample ID: WG6639-1

Matrix: Soil
Units: mg/kg

CAS Number	Analyte	Result	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7439-97-6	Mercury	u	0.0030	0.0005	EPA 7471	WG6639	10-05-00	10-06-00	Duffy

u: Below Sample Detection Limit (MDL x Dilution)

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C127

DEPARTMENT OF THE ARMY
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Laboratory Matrix Duplicate

Matrix Duplicate ICP Sample ID:
Matrix Duplicate GFAA Sample ID:
Matrix Duplicate CVAA Sample ID: WG6639-3

Matrix: Soil
Units: mg/kg

CAS Number	Analyte	Sample Result	Dup Result	RPD	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7439-97-6	Mercury	0.016	0.015	6.5	0.0030	0.0005	EPA 7471	WG6639	10-05-00	10-06-00	Duffy

QC Sample: M000973-002

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C128

DEPARTMENT OF THE ARMY
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Chemistry Quality Assurance Branch

Matrix Spike, Matrix Spike Duplicate

MS ICP Sample ID:
MS GFAA Sample ID:
MS CVAA Sample ID: WG6639-4

MSD ICP Sample ID:
MSD GFAA Sample ID:
MSD CVAA Sample ID: WG6639-5

Matrix: Soil
Units: mg/kg

CAS Number	Analyte	Sample Result	MS Conc	Spike Added	%Rec MS	MSD Conc	%Rec MSD	RPD	Method	Date Digested	Date Analyzed	Analyst
7439-97-6	Mercury	0.016	0.211	0.200	97.7	0.212	98.2	0.5	EPA 7471	10-05-00	10-06-00	Duffy

%Rec: Percent of the spike recovered from the matrix

QC Sample: M000973-002

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C129

DEPARTMENT OF THE ARMY
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Chemistry Quality Assurance Branch

Laboratory Control Sample

LCS ICP Sample ID:
LCS GFAA Sample ID:
LCS CVAA Sample ID: WG6639-2

Matrix: Soil
Units: mg/kg

CAS Number	Analyte	LCS Result	True Value	%Rec	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7439-97-6	Mercury	0.205	0.200	103.	0.0030	0.0005	EPA 7471	WG6639	10-05-00	10-06-00	Duffy

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C130

DEPARTMENT OF THE ARMY
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Chemistry Quality Assurance Branch

Total Metals

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: AA2012
Sample ID: M000976-003

Date Sampled: 09/20/00
Date Received: 09/21/00
Date Reported: 10/12/00

Matrix: Water
Units: ug/L

CAS Number	Analyte	Dilution	Result	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7429-90-5	Aluminum	1	66. J	90.	30	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-36-0	Antimony	1	u	20.	6.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-38-2	Arsenic	1	u	15.	3.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-39-3	Barium	1	24.1	2.5	0.5	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-41-7	Beryllium	1	u	2.0	0.5	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-43-9	Cadmium	1	u	2.5	0.5	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-70-2	Calcium	1	37800	300	100	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-47-3	Chromium	1	u	10.	2.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-48-4	Cobalt	1	u	15.	3.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-50-8	Copper	1	u	10.	2.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7439-89-6	Iron	1 ppb 687	150	120	40	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7439-92-1	Lead	1	u	10.	2.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7439-95-4	Magnesium	1	9230	120	40	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7439-96-5	Manganese	1	46.6	4.0	1.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-02-0	Nickel	1	u B	10.	3.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-09-7	Potassium	1	1970	300	100	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7782-49-2	Selenium	1	u	20.	4.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-22-4	Silver	1	u	5.0	1.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-23-5	Sodium	1	9870	400	200	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-28-0	Thallium	1	u	30.	6.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-62-2	Vanadium	1	u	20.	4.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-66-6	Zinc	1	u	10.	3.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon

u: Below Sample Detection Limit (MDL x Dilution)

J: Estimated concentration below laboratory reporting limit.

B: Analyte also present in the method blank.

Quality Assurance / Quality Control

ICP Method Blank ID: WG6580-1
GFAA Method Blank ID: NA
CVAA Method Blank ID: NA

ICP LCS ID: WG6580-2
GFAA LCS ID: NA
CVAA LCS ID: NA

ICP LD ID: WG6580-3
GFAA LD ID: NA
CVAA LD ID: NA

ICP MS ID: WG6580-4
GFAA MS ID: NA
CVAA MS ID: NA

ICP MSD ID: WG6580-5
GFAA MSD ID: NA
CVAA MSD ID: NA

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C131

DEPARTMENT OF THE ARMY
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Total Metals

Project Name: Former Plumbrook Ordnance Works - TNT Area A
Project Number: 6007
Client Sample ID: AA2012
Sample ID: M000976-003

Date Sampled: 09/20/00
Date Received: 09/21/00
Date Reported: 10/11/00

Matrix: Water
Units: ug/L

CAS Number	Analyte	Dilution	Result	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7439-97-6	Mercury	1	u	0.050	0.01	EPA 7470	WG6637	10-05-00	10-06-00	Duffy

u: Below Sample Detection Limit (MDL x Dilution)

Quality Assurance / Quality Control

ICP Method Blank ID: NA
GFAA Method Blank ID: NA
CVAA Method Blank ID: WG6637-1

ICP LCS ID: NA
GFAA LCS ID: NA
CVAA LCS ID: WG6637-2

ICP LD ID: NA
GFAA LD ID: NA
CVAA LD ID: WG6637-3

ICP MS ID: NA
GFAA MS ID: NA
CVAA MS ID: WG6637-4

ICP MSD ID: NA
GFAA MSD ID: NA
CVAA MSD ID: WG6637-5

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C132

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Method Blank

Method Blank ICP Sample ID: WG6580-1
Method Blank GFAA Sample ID:
Method Blank CVAA Sample ID:

Matrix: Water
Units: ug/L

CAS Number	Analyte	Result	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7429-90-5	Aluminum	u	90.	30	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-36-0	Antimony	u	20.	6.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-38-2	Arsenic	u	15.	3.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-39-3	Barium	u	2.5	0.5	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-41-7	Beryllium	u	2.0	0.5	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-43-9	Cadmium	u	2.5	0.5	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-70-2	Calcium	u	300	100	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-47-3	Chromium	u	10.	2.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-48-4	Cobalt	u	15.	3.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-50-8	Copper	u	10.	2.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7439-89-6	Iron	u	120	40	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7439-92-1	Lead	u	10.	2.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7439-95-4	Magnesium	u	120	40	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7439-96-5	Manganese	u	4.0	1.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-02-0	Nickel	3.3 J	10.	3.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-09-7	Potassium	u	300	100	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7782-49-2	Selenium	u	20.	4.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-22-4	Silver	u	5.0	1.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-23-5	Sodium	u	400	200	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-28-0	Thallium	u	30.	6.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-62-2	Vanadium	u	20.	4.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-66-6	Zinc	u	10.	3.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon

u: Below Sample Detection Limit (MDL x Dilution)

J: Estimated concentration below laboratory reporting limit

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C133

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Laboratory Matrix Duplicate

Matrix Duplicate ICP Sample ID: WG6580-3
Matrix Duplicate GFAA Sample ID:
Matrix Duplicate CVAA Sample ID:

Matrix: Water
Units: ug/L

CAS Number	Analyte	Sample Result	Dup Result	RPD	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7429-90-5	Aluminum	66. J	55.5 J	17.3	90.	30	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-36-0	Antimony	u	u	NC	20.	6.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-38-2	Arsenic	u	u	NC	15.	3.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-39-3	Barium	24.1	24.1	0.0	2.5	0.5	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-41-7	Beryllium	u	u	NC	2.0	0.5	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-43-9	Cadmium	u	u	NC	2.5	0.5	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-70-2	Calcium	37800	37900	0.3	300	100	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-47-3	Chromium	u	u	NC	10.	2.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-48-4	Cobalt	u	u	NC	15.	3.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-50-8	Copper	u	u	NC	10.	2.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7439-89-6	Iron	153.	169.	9.9	120	40	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7439-92-1	Lead	u	u	NC	10.	2.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7439-95-4	Magnesium	9230	9240	0.1	120	40	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7439-96-5	Manganese	46.6	46.9	0.6	4.0	1.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-02-0	Nickel	u	u	NC	10.	3.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-09-7	Potassium	1970	1990	1.0	300	100	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7782-49-2	Selenium	u	u	NC	20.	4.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-22-4	Silver	u	u	NC	5.0	1.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-23-5	Sodium	9870	9850	0.2	400	200	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-28-0	Thallium	u	u	NC	30.	6.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-62-2	Vanadium	u	u	NC	20.	4.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-66-6	Zinc	u	4.3 J	NC	10.	3.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon

u: Below Sample Detection Limit (MDL x Dilution)
NC: Not Calculable
J: Estimated concentration below laboratory reporting limit
B: Analyte also present in the method blank.

QC Sample: M000976-003

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C134

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Matrix Spike, Matrix Spike Duplicate

MS ICP Sample ID: WG6580-4 MSD ICP Sample ID: WG6580-5 Matrix: Water
MS GFAA Sample ID: MSD GFAA Sample ID: Units: ug/L
MS CVAA Sample ID: MSD CVAA Sample ID:

CAS Number	Analyte	Sample Result	MS Conc	Spike Added	%Rec MS	MSD Conc	%Rec MSD	RPD	Method	Date Digested	Date Analyzed	Analyst
7429-90-5	Aluminum	66. J	6100	6000	101.	6090	100.	0.1	EPA 6010B	09-27-00	10-11-00	Shannon
7440-36-0	Antimony	u	1010	1000	101.	1010	101.	0.3	EPA 6010B	09-27-00	10-11-00	Shannon
7440-38-2	Arsenic	u	1050	1000	105.	1050	105.	0.2	EPA 6010B	09-27-00	10-11-00	Shannon
7440-39-3	Barium	24.1	1060	1000	104.	1060	104.	0.1	EPA 6010B	09-27-00	10-11-00	Shannon
7440-41-7	Beryllium	u	412.	400.	103.	410.	102.	0.4	EPA 6010B	09-27-00	10-11-00	Shannon
7440-43-9	Cadmium	u	512.	500.	102.	511.	102.	0.1	EPA 6010B	09-27-00	10-11-00	Shannon
7440-70-2	Calcium	37800	53500	15000	104.	53200	103.	0.5	EPA 6010B	09-27-00	10-11-00	Shannon
7440-47-3	Chromium	u	1010	1000	101.	1010	101.	0.1	EPA 6010B	09-27-00	10-11-00	Shannon
7440-48-4	Cobalt	u	1030	1000	103.	1030	103.	0.1	EPA 6010B	09-27-00	10-11-00	Shannon
7440-50-8	Copper	u	1040	1000	104.	1040	104.	0.2	EPA 6010B	09-27-00	10-11-00	Shannon
7439-89-6	Iron	153.	6240	6000	101.	6240	102.	0.0	EPA 6010B	09-27-00	10-11-00	Shannon
7439-92-1	Lead	u	1030	1000	103.	1030	103.	0.0	EPA 6010B	09-27-00	10-11-00	Shannon
7439-95-4	Magnesium	9230	24600	15000	103.	24500	102.	0.4	EPA 6010B	09-27-00	10-11-00	Shannon
7439-96-5	Manganese	46.6	1100	1000	105.	1090	105.	0.1	EPA 6010B	09-27-00	10-11-00	Shannon
7440-02-0	Nickel	u	1030	1000	103.	1030	103.	0.0	EPA 6010B	09-27-00	10-11-00	Shannon
7440-09-7	Potassium	1970	12000	10000	100.	12100	101.	0.5	EPA 6010B	09-27-00	10-11-00	Shannon
7782-49-2	Selenium	u	1030	1000	103.	1030	103.	0.3	EPA 6010B	09-27-00	10-11-00	Shannon
7440-22-4	Silver	u	210.	200.	105.	209.	105.	0.2	EPA 6010B	09-27-00	10-11-00	Shannon
7440-23-5	Sodium	9870	25400	15000	104.	25300	103.	0.3	EPA 6010B	09-27-00	10-11-00	Shannon
7440-28-0	Thallium	u	1040	1000	104.	1040	104.	0.2	EPA 6010B	09-27-00	10-11-00	Shannon
7440-62-2	Vanadium	u	1030	1000	103.	1030	103.	0.1	EPA 6010B	09-27-00	10-11-00	Shannon
7440-66-6	Zinc	u	1030	1000	103.	1030	103.	0.2	EPA 6010B	09-27-00	10-11-00	Shannon

%Rec: Percent of the spike recovered from the matrix

u: Below Method Detection Limit

B: Analyte also present in method blank

J: Estimated concentration below laboratory reporting limit
QC Sample: M000976-003

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C135

DEPARTMENT OF THE ARMY
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Laboratory Control Sample

LCS ICP Sample ID: WG6580-2
LCS GFAA Sample ID:
LCS CVAA Sample ID:

Matrix: Water
Units: ug/L

CAS Number	Analyte	LCS Result	True Value	%Rec	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7429-90-5	Aluminum	5920	6000	98.7	90.	30	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-36-0	Antimony	994.	1000	99.4	20.	6.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-38-2	Arsenic	1040	1000	104.	15.	3.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-39-3	Barium	1030	1000	103.	2.5	0.5	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-41-7	Beryllium	405.	400.	101.	2.0	0.5	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-43-9	Cadmium	511.	500.	102.	2.5	0.5	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-70-2	Calcium	14700	15000	98.0	300	100	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-47-3	Chromium	1000	1000	100.	10.	2.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-48-4	Cobalt	1030	1000	103.	15.	3.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-50-8	Copper	1020	1000	102.	10.	2.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7439-89-6	Iron	6020	6000	100.	120	40	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7439-92-1	Lead	1030	1000	103.	10.	2.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7439-95-4	Magnesium	15200	15000	101.	120	40	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7439-96-5	Manganese	1040	1000	104.	4.0	1.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-02-0	Nickel	1020	1000	102.	10.	3.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-09-7	Potassium	9960	10000	99.6	300	100	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7782-49-2	Selenium	1030	1000	103.	20.	4.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-22-4	Silver	208.	200.	104.	5.0	1.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-23-5	Sodium	14000	15000	93.1	400	200	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-28-0	Thallium	1040	1000	104.	30.	6.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-62-2	Vanadium	1030	1000	103.	20.	4.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon
7440-66-6	Zinc	1030	1000	103.	10.	3.	EPA 6010B	WG6580	09-27-00	10-11-00	Shannon

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C136

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Method Blank

Method Blank ICP Sample ID:
Method Blank GFAA Sample ID:
Method Blank CVAA Sample ID: WG6637-1

Matrix: Water
Units: ug/L

CAS Number	Analyte	Result	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7439-97-6	Mercury	u	0.050	0.01	EPA 7470	WG6637	10-05-00	10-06-00	Duffy

u: Below Sample Detection Limit (MDL x Dilution)

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C137

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Laboratory Matrix Duplicate

Matrix Duplicate ICP Sample ID:
Matrix Duplicate GFAA Sample ID:
Matrix Duplicate CVAA Sample ID: WG6637-3

Matrix: Water
Units: ug/L

CAS Number	Analyte	Sample Result	Dup Result	RPD	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7439-97-6	Mercury	u	u	NC	0.050	0.01	EPA 7470	WG6637	10-05-00	10-06-00	Duffy

u: Below Sample Detection Limit (MDL x Dilution)
NC: Not Calculable

QC Sample: M000997-002

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C138

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Matrix Spike, Matrix Spike Duplicate

MS ICP Sample ID:
MS GFAA Sample ID:
MS CVAA Sample ID: WG6637-4

MSD ICP Sample ID:
MSD GFAA Sample ID:
MSD CVAA Sample ID: WG6637-5

Matrix: Water
Units: ug/L

CAS Number	Analyte	Sample Result	MS Conc	Spike Added	%Rec MS	MSD Conc	%Rec MSD	RPD	Method	Date Digested	Date Analyzed	Analyst
7439-97-6	Mercury	u	1.89	2.00	94.5	1.88	94.0	0.5	EPA 7470	10-05-00	10-06-00	Duffy

%Rec: Percent of the spike recovered from the matrix

u: Below Method Detection Limit

QC Sample: M000997-002

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C139

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Laboratory Control Sample

LCS ICP Sample ID:
LCS GFAA Sample ID:
LCS CVAA Sample ID: WG6637-2

Matrix: Water
Units: ug/L

CAS Number	Analyte	LCS Result	True Value	%Rec	Sample Quant Limit	Det Limit	Method	Batch ID	Date Digested	Date Analyzed	Analyst
7439-97-6	Mercury	2.03	2.00	102.	0.050	0.01	EPA 7470	WG6637	10-05-00	10-06-00	Duffy

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