

APPENDIX E
USACHPPM REPORTS



DEPARTMENT OF THE ARMY
 U.S. ARMY CENTER FOR HEALTH PROMOTION AND PREVENTIVE MEDICINE
 5158 BLACKHAWK ROAD
 ABERDEEN PROVING GROUND, MARYLAND 21010-5403

REPLY TO
 ATTENTION OF

MCHB-TS-EAQ (40)


8 JAN 2003

MEMORANDUM FOR Commander, U.S. Army Presidio of Monterey, Environmental and Natural Resources (Mr. David Eisen), P.O. Box 5004, Presidio of Monterey, CA 93944-5004

SUBJECT: Summary of Results for Energetics and Related Compounds Sampled for During the Baseline Sampling Event of the Intended Prescribed Burn at the Former Fort Ord, California, U.S. Army Presidio of Monterey, Monterey, California, 18 November 2002

1. Baseline air sampling was conducted by the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM), Air Quality Surveillance Program (AQSP), at five predetermined sampling sites on 18 November 2002. This baseline sample event was conducted in preparation for the prescribed burn that was scheduled to occur on 19 November 2002. Although the prescribed burn did not occur, the baseline samples were analyzed at the installation's request.
2. Enclosed are the results obtained from the analysis of the six background samples. None of the six air samples contained target compounds above the reporting limit.
3. Questions regarding the data may be referred to Mr. David J. Gilbride or Mr. Joseph B. Sutphin, Air Quality Surveillance Program, this Center, DSN: 584-8430/8327 or commercial (410) 436-8430/8327.

FOR THE COMMANDER:


 JAMES D. WOOD, P.E.
 Program Manager
 Air Quality Surveillance

CF:
 CDR, USACHPPM-W

Readiness thru Health

Checked _____



U.S. Army Center for Health Promotion
and Preventive Medicine

2007 DEC 17 PM 1:47

DIRECTORATE OF LABORATORY SCIENCES (DLS)
FINAL ANALYTICAL REPORT

SUBJONO: 7168
REPORT SERIAL NO. 02E1213-1
DLS PROFILE #: 27576 -7168 WORK ORDER#: 6886
FORMER FT. ORD

13 DECEMBER 02

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Readiness Thru Health

TRANSFER OF RESULTS RECEIPT

US Army Center for Health Promotion and Preventive Medicine
Directorate of Laboratory Sciences
ATTN: MCHB-TS-LSM (Sample Management Laboratory), Bldg E2100
Aberdeen Proving Ground, MD 21010-5403

Project Officer: Dave Gilbride
USACHPPM
BLDG E-1675
Gunpowder, MD 21010

Installation: (43) Former Fort Ord
DLS Workorder: 6886

Profile Number: 27576
Lab Reporting: EXP
6886003 6886004

DLS Samples Reported:	6886001	6886002
	6886005	6886006

Number of Samples: 6
Analysis Reported: Explosives

Lab Remarks: _____

Signature of Receipt **Date** **Title**

Customer Remarks: _____

***** Please sign and return to the Sample Management Laboratory at the above address *****



DEPARTMENT OF THE ARMY
 U.S. ARMY CENTER FOR HEALTH PROMOTION AND PREVENTIVE MEDICINE
 5158 BLACKHAWK ROAD
 ABERDEEN PROVING GROUND, MARYLAND 21010-5403

REPLY TO
 ATTENTION OF

MCHB-TS-LCD (40-5F)

DIRECTORATE OF LABORATORY SCIENCES (DLS)
 CHROMATOGRAPHIC ANALYSIS DIVISION
 FINAL ANALYTICAL REPORT

13 December 02

Client: Dave Gilbride

PROJECT SITE: Former FT. ORD

SUBJONO: 7168

DLS PROFILE#: 27576-7168 DLS WORK ORDER#: 6886

REPORT SERIAL NO. 02E1213-1

This report shall not be reproduced except in full without the written approval of DLS. The results relate only to the specific samples identified within the report. This report must not be used by the client to claim product endorsement by any agency of the US Government.

REPORT RELEASE AUTHORIZATION:

Signature:

J. Howard Vinopal
 J. HOWARD VINOPAL

Date: *16 Dec 2002*



Certificate# 28.02

DLS holds accreditations from AIHA, A2LA, NLLAP and COLA.

DLS Final Analytical Report, Former FT. ORD
SUBJONO 7168, DLS WO# 6886, Report Serial No. 02E1213-1, 12/13/02

SUBJECT: Analysis of XAD-2 and Filter Air Samples from the former Ft. Ord for Energetics and Related Compounds

DATE: 13 December 2002

1. SUMMARY OF RESULTS:

a. Provided are the results obtained from the analysis of 6 combined XAD-2 and filter air samples submitted from the former Fort Ord. The air samples were extracted on 20 Nov 2002.

b. The sample extracts were analyzed on 27 November and 02 December 02. The specific analysis dates can be found on the included chromatograms.

c. None of the six air samples contained target compounds above the reporting limit. See the data summary sheets for specific information.

d. The reporting limits (RL) are listed below in units of ug/sample. (assumes a 125 mL desorption volume)

<u>ANALYTES</u>	<u>Combined XAD-2+ filter RL</u>
Nitrobenzene (NB)	2.5
2-Nitrotoluene (2-NT)	2.5
3-Nitrotoluene (3-NT)	2.5
4-Nitrotoluene (4-NT)	2.5
Nitroglycerin (NG)	2.5
1,3-Dinitrobenzene (1,3-DNB)	2.5
2,6-Dinitrotoluene (2,6-DNT)	2.5
2,4-Dinitrotoluene (2,4-DNT)	2.5
1,3,5-Trinitrobenzene (TNB)	2.5
2,4,6-Trinitrotoluene (TNT)	2.5
RDX	2.5
4-Amino-2,6-dinitrotoluene (4Am26DNT)	2.5
2-Amino-4,6-dinitrotoluene (2Am46DNT)	2.5
Tetryl	2.5
HMX	2.5
	5.0

e. The sample results are summarized in the data summary sheets.

2. DISCUSSION OF RESULTS:

a. Procedure

(1) All XAD-2 air samples were extracted within fourteen days of their collection dates. The filter samples were extracted with the xad-2 cartridges. The volume of isoamyl acetate used for the XAD-2 extractions was 125mL for all samples except for sample 6886001 which was desorbed with 130mL.

DLS Final Analytical Report, Former FT. ORD
SUBJONO 7168, DLS WO# 6886, Report Serial No. 02E1213-1, 12/13/02

b. Quality Control

(1) Standards containing all of the energetics and related compounds were prepared and analyzed to establish calibration curves and response factors. During sample analysis one of these standards was analyzed after every fifth sample to monitor for shifts in the calibration (check standard).

(2) A blind control was independently submitted by the Quality Control Coordinator or his designee to be analyzed with the actual samples.

c. Results.

(1) The reporting limits for the nitrotoluenes (3-NT and 4-NT) were raised in some cases due to interfering peaks and / or high sample backgrounds.

(2) The results for the blind control sample were acceptable for all analytes except HMX. HMX had a recovery of 68% with control limits of 70-130%. See the individual quality control sheet for recoveries.

(3) The XAD-2 resin sections were spiked with 75ug of 3,4-DNT as a surrogate compound. The surrogate recoveries were acceptable for all samples and can be found on the surrogate recovery sheet.

(4) Chromatograms and other raw data for all analytical runs are included with the data packet.

The point-of-contact for this report is Mike Hable (x8330) or Curtis Oliver (x8325).

DLS Final Analytical Report, Former FT. ORD
SUBJONO 7168, DLS WO# 6886, Report Serial No. 02E1213-1, 12/13/02

Analyst: *Michael A. Halle*

Reviewed: *Curtis Oliver* Reviewed: *Robert J. Vais*

Section	Number of Pages	Section	Number of Pages
Cover Sheet	1	Analytical Data Report	3
Cover Letter	1	Quality Control Data Report	2
Case Narrative	3	Terminology/Abbreviations	1
Sample Summary	1		

Total Pages: 12

Final Analytical Report, Former FT. Ord

SUBJONO 7168, DLS WO# 6886, Report Serial No. 02E1213-1, 12/13/2002

SAMPLE SUMMARY

Field ID	DLS ID	Date Collected	Matrix
BA2-0498-BG	6886001	18 NOV 02	XAD-2, FILTER
BA1-0448-BG	6886002	18 NOV 02	XAD-2, FILTER
BA1-0449-BG	6886003	18 NOV 02	XAD-2, FILTER
OB2-0450-BG	6886004	18 NOV 02	XAD-2, FILTER
OB1-3671-BG	6886005	18 NOV 02	XAD-2, FILTER
OB3-2889-BG	6886006	18 NOV 02	XAD-2, FILTER

FORMER FT. ORD SUMMARY SHEET
(All results reported as ug/sample)

Samples: 6886001-6886006

SAMPLE NUMBER	FIELD ID	NB	2-NT	3-NT	4-NT	NG	1,3-DNB
6886001	BA2-0498-BG	< 2.6	< 2.6	< 2.6	< 14^	< 2.6	< 2.6
6886002	BA1-0448-BG	< 2.5	< 2.5	< 2.5	< 12^	< 2.5	< 2.5
6886003	BA1-0449-BG	< 2.5	< 2.5	< 2.5	< 12^	< 2.5	< 2.5
6886004	OB2-0450-BG	< 2.5	< 5.0^	< 2.5	< 2.5	< 2.5	< 2.5
6886005	OB1-3671-BG	< 2.5	< 2.5	< 2.5	< 12^	< 2.5	< 2.5
6886006	OB3-2889-BG	< 2.5	< 2.5	< 2.5	< 12^	< 2.5	< 2.5

^ The reporting limit has been raised due to sample interference.

ANALYSTS: *mH*

REVIEWED: *CGO*

REVIEWED: *RTV*

FORMER FT. ORD SUMMARY SHEET
(All results reported as ug/sample)

Samples: 6886001-6886006

SAMPLE NUMBER	FIELD ID	2,6-DNT	2,4-DNT	1,3,5-TNB	2,4,6-TNT	RDX	4AM26DNT
6886001	BA2-0498-BG	< 2.6	< 2.6	< 2.6	< 2.6	< 2.6	< 2.6
6886002	BA1-0448-BG	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
6886003	BA1-0449-BG	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
6886004	OB2-0450-BG	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
6886005	OB1-3671-BG	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
6886006	OB3-2889-BG	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5

ANALYSTS: *mh*

REVIEWED: *GO*

REVIEWED: *RTV*

FORMER FT. ORD SUMMARY SHEET
(All results reported as ug/sample)

Samples: 6886001-6886006

SAMPLE NUMBER	FIELD ID	2AM46DNT	Tetryl	HMX
6886001	BA2-0498-BG	< 2.6	< 2.6	< 5.2
6886002	BA1-0448-BG	< 2.5	< 2.5	< 5.0
6886003	BA1-0449-BG	< 2.5	< 2.5	< 5.0
6886004	OB2-0450-BG	< 2.5	< 2.5	< 5.0
6886005	OB1-3671-BG	< 2.5	< 2.5	< 5.0
6886006	OB3-2889-BG	< 2.5	< 2.5	< 5.0

ANALYSTS: *MH*

REVIEWED: *CGO*

REVIEWED: *RJH*

SAMPLE INFORMATION:

CAD QC NUMBER: 03CAD1-40
 FIELD ID: INTERNAL QC CHECK
 COLLECTION DATE: N/A

Analyzed by CAD SOP 26.3

(All results reported as ug/mL)

ANALYSIS INFORMATION:

EXTRACTION DATE: 27 NOV 02
 ANALYSIS DATE: 02 DEC 02

Analyte	Sample Results:	Theoretical Amt. Added:	Percent Recovery:	Acceptable Range %
NITROBENZENE	0.53	0.50	106	70-130
2-NT	0.65	0.50	130	70-130 *
3-NT	0.47	0.50	94	70-130
4-NT	0.48	0.50	96	70-130
NITROGLYCERIN	0.45	0.50	90	70-130
1,3-DNB	0.48	0.50	96	70-130
2,6-DNT	0.52	0.50	104	70-130
1,4-DNT	0.48	0.50	96	70-130
3,4-DNT	0.47	0.50	94	70-130
1,3,5-TNB	0.44	0.50	88	70-130
2,4,6-TNT	0.45	0.50	90	70-130
RDX	0.38	0.50	76	70-130
4AM26DNT	0.46	0.50	92	70-130
2AM46DNT	0.46	0.50	92	70-130
TETRYL	0.44	0.50	88	70-130
HMX	0.34	0.50	68	70-130 ***

* Results from confirmation column
 *** Result outside of control limits

ANALYSTS: mH

REVIEWED: LGO

REVIEWED: RVV

TERMINOLOGY/ABBREVIATIONS

Client: Dave Gilbride

PROJECT SITE: Former FT. ORD

SUBJONO: 7168

DLS PROFILE#: 27576-7168 DLS WORK ORDER#: 6886

REPORT SERIAL NO. 02E1213-1

A2LA - American Association for Laboratory Accreditation

AIHA - American Industrial Hygiene Association

CAD - Chromatographic Analysis Division

COLA - Commission on Office Laboratory Accreditation

EPA - U. S. Environmental Protection Agency

N/A - Not applicable

NLLAP - National Lead Laboratory Accreditation Program



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
US ARMY CENTER FOR HEALTH PROMOTION AND PREVENTIVE MEDICINE
5158 BLACKHAWK ROAD
ABERDEEN PROVING GROUND MD 21010-5403

MCHB-TS-EAQ

11 DEC 2003

MEMORANDUM FOR Commander, U.S. Army Presidio of Monterey, Environmental and Natural Resources (Mr. David Eisen), P.O. Box 5004, Presidio of Monterey, CA 93944-5004


SUBJECT: Ambient Air Quality Assessment No. 43-EL-7168-03, Preliminary Data Summary for Energetic and Explosive Compound Samples, Prescribed Burn Sampling, Former Fort Ord, California, 24 - 25 October 2003

1. Subject document is forwarded for information and retention and includes all preliminary information and documentation requested. A formal report will be submitted at a later date which will include final results, field data sheets, calibration sheets, laboratory reports, and background documentation relevant to the ambient air sampling conducted for this project.

2. Questions regarding the above may be referred to Mr. David J. Gilbride or Mr. Joseph B. Sutphin, Air Quality Surveillance Program, this Center, DSN: 584-2509/3500 or commercial (410) 436-2509/3500.

FOR THE COMMANDER:

Encl


JAMES D. WOOD, P.E.
Program Manager
Air Quality Surveillance

CF:
CDR, USACHPPM-W

U.S. Army Center for Health Promotion and Preventive Medicine

**AMBIENT AIR QUALITY ASSESSMENT
NO. 43-EL-7168-03
PRELIMINARY DATA SUMMARY FOR ENERGETIC AND
EXPLOSIVE COMPOUND SAMPLES
PRESCRIBED BURN SAMPLING
FORMER FORT ORD, CALIFORNIA
24 - 25 OCTOBER 2003**



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Distribution limited to U.S. Government agencies only; protection of privileged information evaluating another command; Dec 03. Requests for this document must be referred to Commander, U.S. Army Presidio of Monterey, Environmental and Natural Resources, P.O. Box 5004, Presidio of Monterey, CA 93944-5004

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REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
US ARMY CENTER FOR HEALTH PROMOTION AND PREVENTIVE MEDICINE
5158 BLACKHAWK ROAD
ABERDEEN PROVING GROUND MD 21010-5403

MCHB-TS-EAQ

AMBIENT AIR QUALITY ASSESSMENT
NO. 43-EL-7168-03
PRELIMINARY DATA SUMMARY FOR ENERGETIC AND
EXPLOSIVE COMPOUND SAMPLES
PRESCRIBED BURN SAMPLING
FORMER FORT ORD, CALIFORNIA
24 - 25 OCTOBER 2003

I. **PURPOSE.** To summarize ambient air quality data from samples collected at Former Fort Ord during the prescribed burn conducted 24 - 25 October 2003.

II. **DISCUSSION.**

A. Tables EX1 - 15 summarize ambient air concentrations of Energetic and Explosive Compounds. Samples were identified by sampling station, type, and run number. For example, air sample "BA1-EXP-1" indicates this sample was for explosives (EXP) and collected at Range 46 (BA1), on the first day (1) of the two days of sampling.

B. Although, detonations of ordnance were heard throughout the burn, results from the 13 samples collected during the two days of burning (October 24 & 25) show that none of the analytes of concern were detected above their analytical reporting limits. Therefore, concentrations for all the samples collected for Energetic and Explosive Compounds were below their screening levels.

C. For comparative purposes, both the U.S. Environmental Protection Agency (EPA), Region IX Preliminary Remediation Goals (PRGs) and the Monterey Bay Unified Air Pollution District Rule 1000 (Rule 1000 screening values are 1/420th of the OSHA permissible Exposure Limit) were used as a standard to compare against for airborne concentrations of explosives. The most conservative screening levels for each target analyte were selected. The PRGs are tools for evaluating and cleaning up contaminated sites and include standards for air. They are risk-based concentrations derived from standardized equations, combining exposure information assumptions and EPA toxicity data. The PRGs are generic and are calculated without site-specific information. The PRGs should be viewed as EPA guidelines, not legally enforceable standards.

III. **RECOMMENDATION.** Please review the data from the samples collected on the 24 & 25 October 2003 and indicate whether additional information is required at this time.

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Table EX-1. Air Results for Sample BA1-EXP-1, Collected 24 Oct 03, Range 46.

Energetic and Explosive Compounds	CAS NUMBER	Mass¹ (µg/Sample)	Concentration (µg/m³)	PRG² (µg/m³)
Nitrobenzene	98-95-3	<25 [^]	<0.33	2.1
2-Nitrotoluene	88-72-2	<25 [^]	<0.33	26 ³
3-Nitrotoluene	99-08-1	<120 [^]	<1.6	26 ³
4-Nitrotoluene	99-99-0	<250 [^]	<3.3	26 ³
Nitroglycerine	55-63-0	<25 [^]	<0.33	0.48
1,3-Dinitrobenzene	99-65-0	<2.5	<0.033	0.37
2,6-Dinitrotoluene	60-62-02	<25 [^]	<0.33	3.7
2,4-Dinitrotoluene	121-14-2	<25 [^]	<0.33	0.36 ³
1,3,5-Trinitrobenzene	99-35-4	<2.5	<0.033	110
2,4,6-Trinitrotoluene	118-96-7	<2.5	<0.033	0.22
RDX	121-82-4	<2.5	<0.033	0.061
4-Amino-2,6-dinitrotoluene	1946-51-0	<2.5	<0.033	N/A
2-Amino-4,6-dinitrotoluene	355-78-2	<2.5	<0.033	N/A
Tetryl	479-45-8	<2.5	<0.033	3.6 ³
HMX	2691-41-0	<25 [^]	<0.33	180
PETN	78-11-5	<2.5	<0.033	N/A

¹ Mass results reported from analysis of air samples by the USACHPPM Laboratory.

² EPA Region 9 Preliminary Remediation Goals (PRG).

³ Monterey Bay Unified Air Pollution Control District Rule 1000.

N/A: No screening data available.

Note: The "<" indicates that the compound was not quantified above the analytical reporting limit for that sample. The "^" indicates that the reporting limit was raised due to an interferences in the sample that could not be resolved on either the primary or conformation columns.

Table EX-2. Air Results for Sample BA1-EXP-2, Collected 25 Oct 03, Range 46.

Energetic and Explosive Compounds	CAS NUMBER	Mass ($\mu\text{g}/\text{Sample}$)	Concentration ($\mu\text{g}/\text{m}^3$)	PRG ² ($\mu\text{g}/\text{m}^3$)
Nitrobenzene	98-95-3	<2.5	<0.035	2.1
2-Nitrotoluene	88-72-2	<2.5	<0.035	26 ³
3-Nitrotoluene	99-08-1	<12 [^]	<0.17	26 ³
4-Nitrotoluene	99-99-0	<12 [^]	<0.17	26 ³
Nitroglycerine	55-63-0	<2.5	<0.035	0.48
1,3-Dinitrobenzene	99-65-0	<2.5	<0.035	0.37
2,6-Dinitrotoluene	60-62-02	<2.5	<0.035	3.7
2,4-Dinitrotoluene	121-14-2	<2.5	<0.035	0.36 ³
1,3,5-Trinitrobenzene	99-35-4	<2.5	<0.035	110
2,4,6-Trinitrotoluene	118-96-7	<2.5	<0.035	0.22
RDX	121-82-4	<2.5	<0.035	0.061
4-Amino-2,6-dinitrotoluene	1946-51-0	<2.5	<0.035	N/A
2-Amino-4,6-dinitrotoluene	355-78-2	<2.5	<0.035	N/A
Tetryl	479-45-8	<2.5	<0.035	3.6 ³
HMX	2691-41-0	<5.0	<0.70	180
PETN	78-11-5	<2.5	<0.035	N/A

¹ Mass results reported from analysis of air samples by the USACHPPM Laboratory.

² EPA Region 9 Preliminary Remediation Goals (PRG).

³ Monterey Bay Unified Air Pollution Control District Rule 1000.

N/A: No screening data available.

Note: The "<" indicates that the compound was not quantified above the analytical reporting limit for that sample. The "^" indicates that the reporting limit was raised due to an interferences in the sample that could not be resolved on either the primary or conformation columns.

Table EX-3. Air Results for Sample BA1-EXP-1C, Collected 24 Oct 03, Range 46 Co-located.

Energetic and Explosive Compounds	CAS NUMBER	Mass¹ (µg/Sample)	Concentration (µg/m³)	PRG² (µg/m³)
Nitrobenzene	98-95-3	<25 [^]	<0.33	2.1
2-Nitrotoluene	88-72-2	<25 [^]	<0.33	26 ³
3-Nitrotoluene	99-08-1	<120 [^]	<1.6	26 ³
4-Nitrotoluene	99-99-0	<250 [^]	<3.3	26 ³
Nitroglycerine	55-63-0	<25 [^]	<0.33	0.48
1,3-Dinitrobenzene	99-65-0	<2.5	<0.033	0.37
2,6-Dinitrotoluene	60-62-02	<25 [^]	<0.33	3.7
2,4-Dinitrotoluene	121-14-2	<25 [^]	<0.33	0.36 ³
1,3,5-Trinitrobenzene	99-35-4	<2.5	<0.033	110
2,4,6-Trinitrotoluene	118-96-7	<2.5	<0.033	0.22
RDX	121-82-4	<2.5	<0.033	0.061
4-Amino-2,6-dinitrotoluene	1946-51-0	<2.5	<0.033	N/A
2-Amino-4,6-dinitrotoluene	355-78-2	<2.5	<0.033	N/A
Tetryl	479-45-8	<2.5	<0.033	3.6 ³
HMX	2691-41-0	<25 [^]	<0.33	180
PETN	78-11-5	<2.5	<0.033	N/A

¹ Mass results reported from analysis of air samples by the USACHPPM Laboratory.

² EPA Region 9 Preliminary Remediation Goals (PRG).

³ Monterey Bay Unified Air Pollution Control District Rule 1000.

N/A: No screening data available.

Note: The "<" indicates that the compound was not quantified above the analytical reporting limit for that sample. The "^" indicates that the reporting limit was raised due to an interferences in the sample that could not be resolved on either the primary or conformation columns.

Table EX-4. Air Results for Sample BA1-EXP-2C, Collected 25 Oct 03, Range 46 Co-located.

Energetic and Explosive Compounds	CAS NUMBER	Mass (µg/Sample)	Concentration (µg/m³)	PRG² (µg/m³)
Nitrobenzene	98-95-3	<2.5	<0.033	2.1
2-Nitrotoluene	88-72-2	<2.5	<0.033	26 ³
3-Nitrotoluene	99-08-1	<12 [^]	<0.16	26 ³
4-Nitrotoluene	99-99-0	<12 [^]	<0.16	26 ³
Nitroglycerine	55-63-0	<2.5	<0.033	0.48
1,3-Dinitrobenzene	99-65-0	<2.5	<0.033	0.37
2,6-Dinitrotoluene	60-62-02	<2.5	<0.033	3.7
2,4-Dinitrotoluene	121-14-2	<2.5	<0.033	0.36 ³
1,3,5-Trinitrobenzene	99-35-4	<2.5	<0.033	110
2,4,6-Trinitrotoluene	118-96-7	<2.5	<0.033	0.22
RDX	121-82-4	<2.5	<0.033	0.061
4-Amino-2,6-dinitrotoluene	1946-51-0	<2.5	<0.033	N/A
2-Amino-4,6-dinitrotoluene	355-78-2	<2.5	<0.033	N/A
Tetryl	479-45-8	<2.5	<0.033	3.6 ³
HMX	2691-41-0	<5.0	<0.065	180
PETN	78-11-5	<2.5	<0.033	N/A

¹ Mass results reported from analysis of air samples by the USACHPPM Laboratory.

² EPA Region 9 Preliminary Remediation Goals (PRG).

³ Monterey Bay Unified Air Pollution Control District Rule 1000.

N/A: No screening data available.

Note: The "<" indicates that the compound was not quantified above the analytical reporting limit for that sample. The "^" indicates that the reporting limit was raised due to an interferences in the sample that could not be resolved on either the primary or conformation columns.

Table EX-5. Air Results for Sample BA2-EXP-1 Collected 24 Oct 03, Range 43.

Energetic and Explosive Compounds	CAS NUMBER	Mass¹ (µg/Sample)	Concentration (µg/m³)	PRG² (µg/m³)
Nitrobenzene	98-95-3	<2.5	<0.032	2.1
2-Nitrotoluene	88-72-2	<2.5	<0.032	26 ³
3-Nitrotoluene	99-08-1	<12 [^]	<0.15 [^]	26 ³
4-Nitrotoluene	99-99-0	<12 [^]	<0.15 [^]	26 ³
Nitroglycerine	55-63-0	<2.5	<0.032	0.48
1,3-Dinitrobenzene	99-65-0	<2.5	<0.032	0.37
2,6-Dinitrotoluene	60-62-02	<2.5	<0.032	3.7
2,4-Dinitrotoluene	121-14-2	<2.5	<0.032	0.36 ³
1,3,5-Trinitrobenzene	99-35-4	<2.5	<0.032	110
2,4,6-Trinitrotoluene	118-96-7	<2.5	<0.032	0.22
RDX	121-82-4	<2.5	<0.032	0.061
4-Amino-2,6-dinitrotoluene	1946-51-0	<2.5	<0.032	N/A
2-Amino-4,6-dinitrotoluene	355-78-2	<2.5	<0.032	N/A
Tetryl	479-45-8	<2.5	<0.032	3.6 ³
HMX	2691-41-0	<5.0	<0.063	180
PETN	78-11-5	<2.5	<0.032	N/A

¹ Mass results reported from analysis of air samples by the USACHPPM Laboratory.

² EPA Region 9 Preliminary Remediation Goals (PRG).

³ Monterey Bay Unified Air Pollution Control District Rule 1000.

N/A: No screening data available.

Note: The "<" indicates that the compound was not quantified above the analytical reporting limit for that sample. The "^" indicates that the reporting limit was raised due to an interferences in the sample that could not be resolved on either the primary or conformation columns.

Table EX-6. Air Results for Sample BA2-EXP-2, Collected 25 Oct 03, Range 43.

Energetic and Explosive Compounds	CAS NUMBER	Mass¹ (µg/Sample)	Concentration (µg/m³)	PRG² (µg/m³)
Nitrobenzene	98-95-3	<2.5	<0.034	2.1
2-Nitrotoluene	88-72-2	<2.5	<0.034	26 ³
3-Nitrotoluene	99-08-1	<12 [^]	<0.17	26 ³
4-Nitrotoluene	99-99-0	<12 [^]	<0.17	26 ³
Nitroglycerine	55-63-0	<2.5	<0.034	0.48
1,3-Dinitrobenzene	99-65-0	<2.5	<0.034	0.37
2,6-Dinitrotoluene	60-62-02	<2.5	<0.034	3.7
2,4-Dinitrotoluene	121-14-2	<2.5	<0.034	0.36 ³
1,3,5-Trinitrobenzene	99-35-4	<2.5	<0.034	110
2,4,6-Trinitrotoluene	118-96-7	<2.5	<0.034	0.22
RDX	121-82-4	<2.5	<0.034	0.061
4-Amino-2,6-dinitrotoluene	1946-51-0	<2.5	<0.034	N/A
2-Amino-4,6-dinitrotoluene	355-78-2	<2.5	<0.034	N/A
Tetryl	479-45-8	<2.5	<0.034	3.6 ³
HMX	2691-41-0	<5.0	<0.069	180
PETN	78-11-5	<2.5	<0.034	N/A

¹ Mass results reported from analysis of air samples by the USACHPPM Laboratory.

² EPA Region 9 Preliminary Remediation Goals (PRG).

³ Monterey Bay Unified Air Pollution Control District Rule 1000.

N/A: No screening data available.

Note: The "<" indicates that the compound was not quantified above the analytical reporting limit for that sample. The "^" indicates that the reporting limit was raised due to an interferences in the sample that could not be resolved on either the primary or conformation columns.

Table EX-7. Air Results for Sample OB1-EXP-1, Collected 24 Oct 03, Fitch Park.

Energetic and Explosive Compounds	CAS NUMBER	Mass¹ (µg/Sample)	Concentration (µg/m³)	PRG² (µg/m³)
Nitrobenzene	98-95-3	<2.5	<0.035	2.1
2-Nitrotoluene	88-72-2	<2.5	<0.035	26 ³
3-Nitrotoluene	99-08-1	<12 [^]	<0.17	26 ³
4-Nitrotoluene	99-99-0	<2.5	<0.035	26 ³
Nitroglycerine	55-63-0	<2.5	<0.035	0.48
1,3-Dinitrobenzene	99-65-0	<2.5	<0.035	0.37
2,6-Dinitrotoluene	60-62-02	<2.5	<0.035	3.7
2,4-Dinitrotoluene	121-14-2	<2.5	<0.035	0.36 ³
1,3,5-Trinitrobenzene	99-35-4	<2.5	<0.035	110
2,4,6-Trinitrotoluene	118-96-7	<2.5	<0.035	0.22
RDX	121-82-4	<2.5	<0.035	0.061
4-Amino-2,6-dinitrotoluene	1946-51-0	<2.5	<0.035	N/A
2-Amino-4,6-dinitrotoluene	355-78-2	<2.5	<0.035	N/A
Tetryl	479-45-8	<2.5	<0.035	3.6 ³
HMX	2691-41-0	<5.0	<0.070	180
PETN	78-11-5	<2.5	<0.035	N/A

¹ Mass results reported from analysis of air samples by the USACHPPM Laboratory.

² EPA Region 9 Preliminary Remediation Goals (PRG).

³ Monterey Bay Unified Air Pollution Control District Rule 1000.

N/A: No screening data available.

Note: The "<" indicates that the compound was not quantified above the analytical reporting limit for that sample. The "^" indicates that the reporting limit was raised due to an interferences in the sample that could not be resolved on either the primary or conformation columns.

Table EX-8. Air Results for Sample OB1-EXP-2, Collected 25 Oct 03, Fitch Park.

Energetic and Explosive Compounds	CAS NUMBER	Mass¹ (µg/Sample)	Concentration (µg/m³)	PRG² (µg/m³)
Nitrobenzene	98-95-3	<2.5	<0.037	2.1
2-Nitrotoluene	88-72-2	<2.5	<0.037	26 ³
3-Nitrotoluene	99-08-1	<12 [^]	<0.18	26 ³
4-Nitrotoluene	99-99-0	<2.5	<0.037	26 ³
Nitroglycerine	55-63-0	<2.5	<0.037	0.48
1,3-Dinitrobenzene	99-65-0	<2.5	<0.037	0.37
2,6-Dinitrotoluene	60-62-02	<2.5	<0.037	3.7
2,4-Dinitrotoluene	121-14-2	<2.5	<0.037	0.36 ³
1,3,5-Trinitrobenzene	99-35-4	<2.5	<0.037	110
2,4,6-Trinitrotoluene	118-96-7	<2.5	<0.037	0.22
RDX	121-82-4	<2.5	<0.037	0.061
4-Amino-2,6-dinitrotoluene	1946-51-0	<2.5	<0.037	N/A
2-Amino-4,6-dinitrotoluene	355-78-2	<2.5	<0.037	N/A
Tetryl	479-45-8	<2.5	<0.037	3.6 ³
HMX	2691-41-0	<5.0	<0.075	180
PETN	78-11-5	<2.5	<0.037	N/A

¹ Mass results reported from analysis of air samples by the USACHPPM Laboratory.

² EPA Region 9 Preliminary Remediation Goals (PRG).

³ Monterey Bay Unified Air Pollution Control District Rule 1000.

N/A: No screening data available.

Note: The "<" indicates that the compound was not quantified above the analytical reporting limit for that sample. The "^" indicates that the reporting limit was raised due to an interferences in the sample that could not be resolved on either the primary or conformation columns.

Table EX-9. Air Results for Sample OB2-EXP-1, Collected 24 Oct 03, BLM.

Energetic and Explosive Compounds	CAS NUMBER	Mass ¹ (µg/Sample)	Concentration (µg/m ³)	PRG ² (µg/m ³)
Nitrobenzene	98-95-3	<2.5	<0.037	2.1
2-Nitrotoluene	88-72-2	<2.5	<0.037	26 ³
3-Nitrotoluene	99-08-1	<12 [^]	<0.18	26 ³
4-Nitrotoluene	99-99-0	<2.5	<0.037	26 ³
Nitroglycerine	55-63-0	<2.5	<0.037	0.48
1,3-Dinitrobenzene	99-65-0	<2.5	<0.037	0.37
2,6-Dinitrotoluene	60-62-02	<2.5	<0.037	3.7
2,4-Dinitrotoluene	121-14-2	<2.5	<0.037	0.36 ³
1,3,5-Trinitrobenzene	99-35-4	<2.5	<0.037	110
2,4,6-Trinitrotoluene	118-96-7	<2.5	<0.037	0.22
RDX	121-82-4	<2.5	<0.037	0.061
4-Amino-2,6-dinitrotoluene	1946-51-0	<2.5	<0.037	N/A
2-Amino-4,6-dinitrotoluene	355-78-2	<2.5	<0.037	N/A
Tetryl	479-45-8	<2.5	<0.037	3.6 ³
HMX	2691-41-0	<5.0	<0.073	180
PETN	78-11-5	<2.5	<0.037	N/A

¹ Mass results reported from analysis of air samples by the USACHPPM Laboratory.

² EPA Region 9 Preliminary Remediation Goals (PRG).

³ Monterey Bay Unified Air Pollution Control District Rule 1000.

N/A: No screening data available.

Note: The "<" indicates that the compound was not quantified above the analytical reporting limit for that sample. The "^" indicates that the reporting limit was raised due to an interferences in the sample that could not be resolved on either the primary or conformation columns.

Table EX-10. Air Results for Sample OB2-EXP-2, Collected 25 Oct 03, BLM.

Energetic and Explosive Compounds	CAS NUMBER	Mass ($\mu\text{g}/\text{Sample}$)	Concentration ($\mu\text{g}/\text{m}^3$)	PRG ² ($\mu\text{g}/\text{m}^3$)
Nitrobenzene	98-95-3	<2.5	<0.039	2.1
2-Nitrotoluene	88-72-2	<2.5	<0.039	26 ³
3-Nitrotoluene	99-08-1	<12 [^]	<0.19	26 ³
4-Nitrotoluene	99-99-0	<2.5	<0.039	26 ³
Nitroglycerine	55-63-0	<2.5	<0.039	0.48
1,3-Dinitrobenzene	99-65-0	<2.5	<0.039	0.37
2,6-Dinitrotoluene	60-62-02	<2.5	<0.039	3.7
2,4-Dinitrotoluene	121-14-2	<2.5	<0.039	0.36 ³
1,3,5-Trinitrobenzene	99-35-4	<2.5	<0.039	110
2,4,6-Trinitrotoluene	118-96-7	<2.5	<0.039	0.22
RDX	121-82-4	<2.5	<0.039	0.061
4-Amino-2,6-dinitrotoluene	1946-51-0	<2.5	<0.039	N/A
2-Amino-4,6-dinitrotoluene	355-78-2	<2.5	<0.039	N/A
Tetryl	479-45-8	<2.5	<0.039	3.6 ³
HMX	2691-41-0	<5.0	<0.077	180
PETN	78-11-5	<2.5	<0.039	N/A

¹ Mass results reported from analysis of air samples by the USACHPPM Laboratory.

² EPA Region 9 Preliminary Remediation Goals (PRG).

³ Monterey Bay Unified Air Pollution Control District Rule 1000.

N/A: No screening data available.

Note: The "<" indicates that the compound was not quantified above the analytical reporting limit for that sample. The "^" indicates that the reporting limit was raised due to an interference in the sample that could not be resolved on either the primary or conformation columns.

Table EX-11. Air Results for Sample OB3-EXP-1, Collected 24 Oct 03, Pumpwell.

Energetic and Explosive Compounds	CAS NUMBER	Mass ¹ (µg/Sample)	Concentration (µg/m ³)	PRG ² (µg/m ³)
Nitrobenzene	98-95-3	<2.5	<0.034	2.1
2-Nitrotoluene	88-72-2	<2.5	<0.034	26 ³
3-Nitrotoluene	99-08-1	<12 [^]	<0.16	26 ³
4-Nitrotoluene	99-99-0	<2.5	<0.034	26 ³
Nitroglycerine	55-63-0	<2.5	<0.034	0.48
1,3-Dinitrobenzene	99-65-0	<2.5	<0.034	0.37
2,6-Dinitrotoluene	60-62-02	<2.5	<0.034	3.7
2,4-Dinitrotoluene	121-14-2	<2.5	<0.034	0.36 ³
1,3,5-Trinitrobenzene	99-35-4	<2.5	<0.034	110
2,4,6-Trinitrotoluene	118-96-7	<2.5	<0.034	0.22
RDX	121-82-4	<2.5	<0.034	0.061
4-Amino-2,6-dinitrotoluene	1946-51-0	<2.5	<0.034	N/A
2-Amino-4,6-dinitrotoluene	355-78-2	<2.5	<0.034	N/A
Tetryl	479-45-8	<2.5	<0.034	3.6 ³
HMX	2691-41-0	<5.0	<0.067	180
PETN	78-11-5	<2.5	<0.034	N/A

¹ Mass results reported from analysis of air samples by the USACHPPM Laboratory.

² EPA Region 9 Preliminary Remediation Goals (PRG).

³ Monterey Bay Unified Air Pollution Control District Rule 1000.

N/A: No screening data available.

Note: The "<" indicates that the compound was not quantified above the analytical reporting limit for that sample. The "^" indicates that the reporting limit was raised due to an interferences in the sample that could not be resolved on either the primary or conformation columns.

Table EX-12. Air Results for Sample OB3-EXP-2, Collected 25 Oct 03, Pumpwell.

Energetic and Explosive Compounds	CAS NUMBER	Mass ($\mu\text{g}/\text{Sample}$)	Concentration ($\mu\text{g}/\text{m}^3$)	PRG ² ($\mu\text{g}/\text{m}^3$)
Nitrobenzene	98-95-3	<2.5	<0.035	2.1
2-Nitrotoluene	88-72-2	<2.5	<0.035	26 ³
3-Nitrotoluene	99-08-1	<12 [^]	<0.17	26 ³
4-Nitrotoluene	99-99-0	<2.5	<0.035	26 ³
Nitroglycerine	55-63-0	<2.5	<0.035	0.48
1,3-Dinitrobenzene	99-65-0	<2.5	<0.035	0.37
2,6-Dinitrotoluene	60-62-02	<2.5	<0.035	3.7
2,4-Dinitrotoluene	121-14-2	<2.5	<0.035	0.36 ³
1,3,5-Trinitrobenzene	99-35-4	<2.5	<0.035	110
2,4,6-Trinitrotoluene	118-96-7	<2.5	<0.035	0.22
RDX	121-82-4	<2.5	<0.035	0.061
4-Amino-2,6-dinitrotoluene	1946-51-0	<2.5	<0.035	N/A
2-Amino-4,6-dinitrotoluene	355-78-2	<2.5	<0.035	N/A
Tetryl	479-45-8	<2.5	<0.035	3.6 ³
HMX	2691-41-0	<5.0	<0.070	180
PETN	78-11-5	<2.5	<0.035	N/A

¹ Mass results reported from analysis of air samples by the USACHPPM Laboratory.

² EPA Region 9 Preliminary Remediation Goals (PRG).

³ Monterey Bay Unified Air Pollution Control District Rule 1000.

N/A: No screening data available.

Note: The "<" indicates that the compound was not quantified above the analytical reporting limit for that sample. The "^" indicates that the reporting limit was raised due to an interferences in the sample that could not be resolved on either the primary or conformation columns.

Table EX-13. Air Results for Sample MS-EXP-1, Collected 24 Oct 03, Mobile Station.

Energetic and Explosive Compounds	CAS NUMBER	Mass¹ (µg/Sample)	Concentration (µg/m³)	PRG² (µg/m³)
Nitrobenzene	98-95-3	<2.5	<0.064	2.1
2-Nitrotoluene	88-72-2	<2.5	<0.064	26 ³
3-Nitrotoluene	99-08-1	<12 [^]	<0.31	26 ³
4-Nitrotoluene	99-99-0	<2.5	<0.064	26 ³
Nitroglycerine	55-63-0	<2.5	<0.064	0.48
1,3-Dinitrobenzene	99-65-0	<2.5	<0.064	0.37
2,6-Dinitrotoluene	60-62-02	<2.5	<0.064	3.7
2,4-Dinitrotoluene	121-14-2	<2.5	<0.064	0.36 ³
1,3,5-Trinitrobenzene	99-35-4	<2.5	<0.064	110
2,4,6-Trinitrotoluene	118-96-7	<2.5	<0.064	0.22
RDX	121-82-4	<2.5	<0.064	0.061
4-Amino-2,6-dinitrotoluene	1946-51-0	<2.5	<0.064	N/A
2-Amino-4,6-dinitrotoluene	355-78-2	<2.5	<0.064	N/A
Tetryl	479-45-8	<2.5	<0.064	3.6 ³
HMX	2691-41-0	<5.0	<0.13	180
PETN	78-11-5	<2.5	<0.064	N/A

¹ Mass results reported from analysis of air samples by the USACHPPM Laboratory.

² EPA Region 9 Preliminary Remediation Goals (PRG).

³ Monterey Bay Unified Air Pollution Control District Rule 1000.

N/A: No screening data available.

Note: The "<" indicates that the compound was not quantified above the analytical reporting limit for that sample. The "^" indicates that the reporting limit was raised due to an interferences in the sample that could not be resolved on either the primary or conformation columns.

Table EX-14. Air Results for Sample FB-EXP-1, Field Blank Collected 24 Oct 03, Range 46.

Energetic and Explosive Compounds	CAS NUMBER	Mass (µg/Sample)
Nitrobenzene	98-95-3	<2.5
2-Nitrotoluene	88-72-2	<2.5
3-Nitrotoluene	99-08-1	<2.5
4-Nitrotoluene	99-99-0	<2.5
Nitroglycerine	55-63-0	<2.5
1,3-Dinitrobenzene	99-65-0	<2.5
2,6-Dinitrotoluene	60-62-02	<2.5
2,4-Dinitrotoluene	121-14-2	<2.5
1,3,5-Trinitrobenzene	99-35-4	<2.5
2,4,6-Trinitrotoluene	118-96-7	<2.5
RDX	121-82-4	<2.5
4-Amino-2,6-dinitrotoluene	1946-51-0	<2.5
2-Amino-4,6-dinitrotoluene	355-78-2	<2.5
Tetryl	479-45-8	<2.5
HMX	2691-41-0	<5.0
PETN	78-11-5	<2.5

¹ Mass results reported from analysis of air samples by the USACHPPM Laboratory.


Note: Since these are field blanks, air was not applied to the samples. Concentrations were not determined and results are simply reported as a mass (µg/sample).


Table EX-15. Air Results for Sample FB-EXP-2, Field Blank Collected 25 Oct 03, Range 43.

Energetic and Explosive Compounds	CAS NUMBER	Mass¹ (µg/Sample)
Nitrobenzene	98-95-3	<2.5
2-Nitrotoluene	88-72-2	<2.5
3-Nitrotoluene	99-08-1	<2.5
4-Nitrotoluene	99-99-0	<2.5
Nitroglycerine	55-63-0	<2.5
1,3-Dinitrobenzene	99-65-0	<2.5
2,6-Dinitrotoluene	60-62-02	<2.5
2,4-Dinitrotoluene	121-14-2	<2.5
1,3,5-Trinitrobenzene	99-35-4	<2.5
2,4,6-Trinitrotoluene	118-96-7	<2.5
RDX	121-82-4	<2.5
4-Amino-2,6-dinitrotoluene	1946-51-0	<2.5
2-Amino-4,6-dinitrotoluene	355-78-2	<2.5
Tetryl	479-45-8	<2.5
HMX	2691-41-0	<5.0
PETN	78-11-5	<2.5

¹ Mass results reported from analysis of air samples by the USACHPPM Laboratory.

Note: Since these are field blanks, air was not applied to the samples. Concentrations were not determined and results are simply reported as a mass (µg/sample).

for 
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