HAFB 2003

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 49TH FIGHTER WING (ACC)
HOLLOMAN AIR FORCE BASE, NEW MEXICO

24 APR 2003

MEMORANDUM FOR NEW MEXICO ENVIRONMENT DEPARTMENT
Attn: Mr. James Bearzi
Hazardous Waste Bureau
2905 Rodeo Park Drive, East Bldg 1
Santa Fe NM 87505-6303

FROM: 49 CES/CD
550 Tabosa Ave
Holloman AFB, NM 88330-8458

SUBJECT: Submittal of First Quarter 2002 Monitoring Report, 20,000-Pound Open Detonation Unit (ODU) and Quality Assurance/Quality Control Report

1. Attached is the First Quarter 2002 20,000-pound ODU Monitoring Report and the First Quarter 2002 Monitoring Report Quality Assurance/Quality Control (Atchs 1 and 2, respectively).

2. The monitoring reports contain the results of soil sampling following the detonation events of 6 March 02. These results were compared to decision criteria specified in Atch J of the Operating Permit. Results from these analyses show that the ODU operations are effective.

3. If you have any questions or require additional information, please contact Ms. Debbie Hartell or Mr. Darvin St. John at (505) 572-3931.

HOWARD E. MOFFITT
Deputy Base Civil Engineer

Attachments:
1. First Quarter 2002 Monitoring Report 20,000-Pound Open Detonation Unit
2. First Quarter 2002 Monitoring Report Quality Assurance/Quality Control Results

cc w/Atchs:
Mr. Cornelius Amindyas
New Mexico Environment Department
Hazardous waste Bureau
4131 Montgomery Blvd NE
Albuquerque, New Mexico 87109

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Global Power for America

Headquarters, Air Combat Command
Langley Air Force Base,
Virginia

Final

First Quarter 2002 Monitoring Report
20,000-Pound Open Detonation Unit

Holloman Air Force Base,
New Mexico

April 2003

49 CES/CEV
Holloman Air Force Base,
New Mexico

FINAL
FIRST QUARTER 2002 MONITORING REPORT
20,000-POUND OPEN DETONATION UNIT

Prepared for:

Holloman Air Force Base
49 CES/CEV
550 Tabosa Avenue
Holloman AFB, New Mexico 88330

Prepared by:

Foster Wheeler Environmental Corporation
143 Union Boulevard, Suite 1010
Lakewood, CO 80228

Under Contract No. DACW45-94-D-0003

Delivery Order 37, Work Authorization Directive 7

U.S. Army Corps of Engineers
Omaha District
Omaha, Nebraska

April 2003

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LIST OF ACRONYMS

AFB	Air Force Base
DQO	data quality objective
EOD	explosive ordnance disposal
EPA	United States Environmental Protection Agency
HMX	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine
mg/kg	milligrams per kilogram
NCP	National Contingency Plan
OD	Open Detonation
QA	quality assurance
QC	quality control
RDX	Hexahydro-1,3,5-trinitro-1,3,5-triazine
USAF	United States Air Force
UTL	upper tolerance limit
Work Plan	Final Work Plan Addendum

1.0 INTRODUCTION

During the first quarter of 2002, Holloman Air Force Base (AFB) performed the 15th quarterly sampling event at the 20,000-Pound Open Detonation (OD) Unit in accordance with Attachment J of the operating permit Sampling and Analysis Plan (USAF, 1996). Twelve locations were sampled for metals and explosive compounds and the analytical results were compared to the decision criteria outlined on page 33 of Attachment J of the operating permit. No sample results exceeded the decision criteria, and therefore, no changes to operations at the 20,000-Pound OD Unit are recommended. The following report summarizes the field operations, analytical results, potential risk, and conclusions from the 15th quarterly sampling event.

2.0 FIELD OPERATIONS

The first quarter 2002 detonation event occurred on March 6, and sampling was conducted on March 8, 2002. A total of 12 soil samples and one field duplicate were collected from 3 different strata within the boundaries of the 20,000-Pound OD Unit. Field and quality assurance/quality control (QA/QC) samples were obtained following the procedures outlined in the Final Work Plan Addendum for the 20,000-Pound Open Detonation Unit (Work Plan) (Foster Wheeler, 1999). Samples were analyzed for metals and explosive compounds as specified in the Work Plan.

During the field operations, the dimensions of each stratum were measured and recorded, and a grid was developed based on these measurements. Random sampling locations were determined following the guidelines established in the Work Plan. Sample locations are listed in Table 2-1.

Samples were labeled according to the following number sequence: OD-SO-s-x, where:

OD = open detonation
SO = soil
s = stratum (A, B, or C)
x = sequential sample number within each stratum (01, 02, 03, 04)

Table 2-1. First Quarter 2002 Sample Locations

Stratum: A
Number of Samples: 4
Number of Potential
Sampling Locations (n): 16
Scale Factor (n-1): 15

Sample Number	Random Number	Scaled Random Number	Grid-to-Node Sample
1	0.460	6.9	A7
2	0.708	10.6	A11
3	0.036	0.5	A1
4	0.857	12.9	A13

Stratum: B
Number of Samples: 4
Number of Potential
Sampling Locations (n): 20
Scale Factor (n-1): 19

Sample Number	Random Number	Scaled Random Number	Grid-to-Node Sample
1	0.986	18.7	B19
2	0.294	5.6	B6
3	0.967	18.4	B18
4	0.535	10.2	B10

Stratum: C
Number of Samples: 4
Number of Potential
Sampling Locations (n): 24
Scale Factor (n-1): 23

Sample Number	Random Number	Scaled Random Number	Grid-to-Node Sample
1	0.987	22.7	C23
2	0.105	2.4	C2
3	0.805	18.5	C19
4	0.602	13.8	C14

The area sampled was based on wind data recorded at the time of the November 27 and December 19, 2001, and March 6, 2002 detonations. The assumption was made that any small particles from the detonation events would settle downwind of the detonation location. Figure 2-1 illustrates the strata layout and the sample locations associated with the March 8, 2002 sampling event. The wind data are presented below:

- November 27, 2001 (15:15)—wind direction 170 degrees/wind speed 16 knots
- December 19, 2001 (17:20)—wind direction 140 degrees/wind speed 2 knots
- March 6, 2002 (16:47)—wind direction 120–200 degrees/wind speed 3 knots

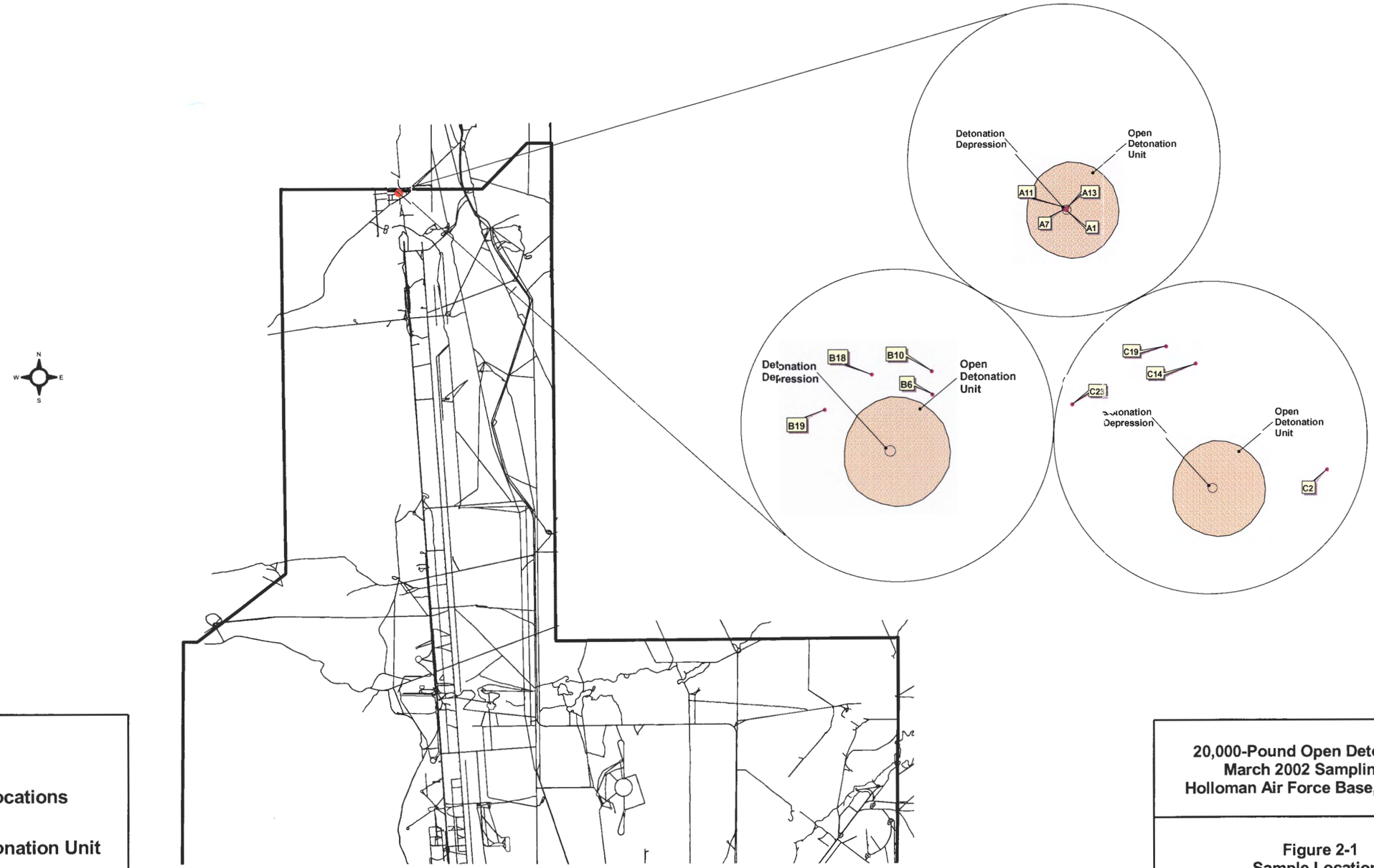
3.0 ANALYTICAL RESULTS

This section presents an evaluation of the QA/QC data associated with the analytical results for the first quarter 2002 monitoring event. Analytical methods for chemical analysis were taken from the latest revision of United States Environmental Protection Agency (EPA) Test Methods for Evaluating Solid Waste, SW-846, Third Edition and Updates (EPA, 1986).

3.1 QUALITY ASSURANCE/QUALITY CONTROL SUMMARY

The QC data were reviewed to determine usability and achievement of project data quality objectives (DQOs). The review focused on laboratory method blanks, matrix and control sample spikes, surrogate recoveries, and holding times. Overall, QC data associated with this sampling event indicate that project measurement data are reliable and fulfill project DQOs.

The explosives data (EPA SW-846 Methods 8330 and 8332) for this monitoring event are reported to the method detection limit. A "J" qualifier signifying an estimated concentration was assigned to concentrations reported below the sample-specific detection limit(also known as the method reporting limit) and above the method detection limit. Explosive compounds that were not detected are reported with a "U" qualifier accompanying the sample detection limit.



LEGEND

- Sample Locations
- Open Detonation Unit
- Streets and Roads
- Installation Boundary

20,000-Pound Open Detonation Unit
March 2002 Sampling Event
Holloman Air Force Base, New Mexico

Figure 2-1
Sample Locations

Foster Wheeler Environmental Corporation

January 2003