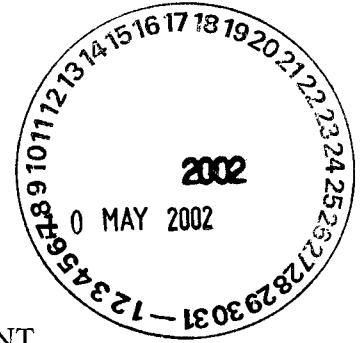




DEPARTMENT OF THE AIR FORCE

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



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 and Second Quarter 2001 Monitoring Reports, 20,000-Pound Open Detonation Unit (ODU) and Quality Assurance/Quality Control Reports

1. Attached are the 20,000-pound ODU First and Second Quarter 2001 Monitoring Reports and the First and Second Quarter 2001 Monitoring Reports Quality Assurance/Quality Control (Atchs 1 and 2, respectively).
2. The first and second quarterly monitoring reports contain the results of soil sampling following the detonation events of 4 Jan 01 and 20 Apr 01, respectively. These results were then compared to decision criteria specified in Attachment 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. Darwin St. John at (505) 572-3931.


HOWARD E. MOFFITT
Deputy Base Civil Engineer

Attachments:

1. First and Second Quarter 2001 Monitoring Report 20,000-Pound Open Detonation Unit
2. First and Second Quarter 2001 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, NM 87109

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*Headquarters, Air Combat Command
Langley Air Force Base,
Virginia*

Final

*First Quarter 2001 Monitoring Report
20,000-Pound Open Detonation Unit*

*Holloman Air Force Base,
New Mexico*

April 2002



*49 CES/CEV
Holloman Air Force Base,
New Mexico*

**FINAL
FIRST QUARTER 2001 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 2002

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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
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 2001, Holloman Air Force Base (AFB) performed the 11th 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. None of the 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 11th quarterly sampling event.

2.0 FIELD OPERATIONS

The first quarter 2001 detonation and sampling events occurred on January 4 and 5, 2001. A total of 12 soil samples were collected from 3 different strata within the boundaries of the 20,000-Pound OD Unit. Samples, including 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 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.

Table 2-1. First Quarter 2001 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	0.309	4.6	A5
2	0.389	5.8	A6
3	0.778	11.7	A12
4	0.137	2.1	A2

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	0.699	13.3	B13
2	0.105	2.0	B2
3	0.637	12.1	B12
4	0.415	7.9	B8

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	0.060	1.4	C1
2	0.308	7.1	C7
3	0.260	6.0	C6
4	0.076	1.8	C2

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)

The area sampled was based on wind data recorded at the time of the October 11, November 29, December 13, December 15, 2000, and January 4, 2001 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 January 5, 2001 sampling event. The wind data are presented below:

- October 11, 2000—wind direction 200 degrees/wind speed 12 knots
- November 29, 2000—wind direction 180 degrees/wind speed 8 knots
- December 13, 2000—wind direction 340 degrees/wind speed 4 knots
- December 15, 2000—wind direction variable/wind speed 6 knots
- January 4, 2001—wind direction variable/wind speed 4 knots

3.0 ANALYTICAL RESULTS

This section presents an evaluation of the QA/QC data associated with the analytical results for the first quarter 2001 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



LEGEND

• **Sample Locations**

■ **Open Detonation Unit**

— **Roads**

— **Boundary**

**20,000-Pound Open Detonation Unit
First Quarter 2001 Sampling Event
Holloman Air Force Base, New Mexico**

**Figure 2-1
Sample Locations**



Foster Wheeler Environmental Corporation