



HAFB 2004
DEPARTMENT OF THE AIR FORCE

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

MAY 10 2004

MEMORANDUM FOR NEW MEXICO ENVIRONMENT DEPARTMENT

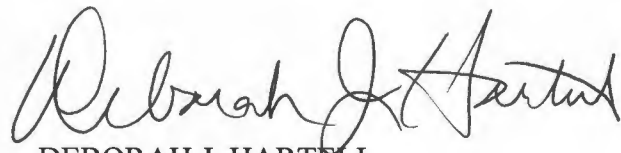
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Santa Fe NM 87505-6303

FROM: 49 CES/CEV
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SUBJECT: Submittal of Third Quarter 2003 Monitoring Report, 20,000- Pound Open Detonation Unit (ODU) and Quality Assurance/Quality Control Report

1. Attached is the Third Quarter 2003 20,000-pound ODU Monitoring Report and the Third Quarter 2003 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 21 July 03. These results were 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, please contact Ms. Susan Van Horn or Mr. Darvin St. John at (505) 572-3931.


DEBORAH J. HARTELL
Chief, Environmental Flight

Attachments:

1. Third Quarter 2003 Monitoring Report 20,000-Pound Open Detonation Unit
2. Third Quarter 2003 Monitoring Report Quality Assurance/Quality Control Results

cc w/Atch:

Mr. Cornelius Amindyas
New Mexico Environment Department
Hazardous Waste Bureau
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Albuquerque, New Mexico 87109

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

Final

*Third Quarter 2003 Monitoring Report
20,000-Pound Open Detonation Unit*

*Holloman Air Force Base,
New Mexico*

April 2004



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

FINAL
THIRD QUARTER 2003 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:

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Under Contract No. DACW45-94-D-0003

Delivery Order 40, Work Authorization Directive 1

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

April 2004

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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 third quarter of 2003, Holloman Air Force Base (AFB) performed the 21st 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 21st quarterly sampling event.

2.0 FIELD OPERATIONS

The third quarter 2003 detonation event occurred on July 21, and sampling was conducted on July 22, 2003. A total of 12 soil samples and 1 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. Third Quarter 2003 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	0.887	13.3	A13
2	0.563	8.4	A8
3	0.171	2.6	A3
4	0.647	9.7	A10

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	0.792	15.1	B15
2	0.478	9.1	B9
3	0.377	7.2	B7
4	0.860	16.3	B16

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	0.660	15.2	C15
2	0.877	20.2	C20
3	0.411	9.5	C9
4	0.319	7.3	C7

The area sampled was based on wind data recorded at the time of the June 26 and July 21, 2003 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



LEGEND

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

**20,000-Pound Open Detonation Unit
July 22, 2003 Sampling Event
Holloman Air Force Base, New Mexico**

**Figure 2-1
Sample Locations**

