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

3 DEC 2002

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

1. Attached is the Third Quarter 2001 20,000-pound ODU Monitoring Report and the Third Quarter 2001 Monitoring Report Quality Assurance/Quality (Atchs 1 and 2, respectively).

2. The monitoring report contain the results of soil sampling following the detonation events of 14 Jul 01. 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 or require additional information, please contact Ms. Debbie Hartell or Mr. Darvin St. John at (505) 572-3931.

Howard E. Moffitt
HOWARD E. MOFFITT
Deputy Base Civil Engineer

Attachments:
1. Third Quarter 2001 Monitoring Report 20,000-Pound Open Detonation Unit
2. Third Quarter 2001 Monitoring Report Quality Assurance/Quality Control Results

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

CERTIFIED MAIL NO. 7001 1940 0002 2179 2948
RETURNED RECEIPT REQUESTED

Global Power for America

Headquarters, Air Combat Command
Langley Air Force Base,
Virginia

Final

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

Holloman Air Force Base,
New Mexico

November 2002

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49 CES/CEV
Holloman Air Force Base,
New Mexico

FINAL
THIRD 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

November 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
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 2001, Holloman Air Force Base (AFB) performed the 13th 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 13th quarterly sampling event.

2.0 FIELD OPERATIONS

The third quarter 2001 detonation event occurred on July 12 and sampling was conducted on July 14, 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.

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 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	0.341	5.1	A5
2	0.476	7.1	A7
3	0.602	9.0	A9
4	0.231	3.5	A3

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	0.531	10.1	B10
2	0.976	18.5	B19
3	0.313	5.9	B6
4	0.092	1.7	B2

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	0.894	20.6	C21
2	0.287	6.6	C7
3	0.794	18.3	C18
4	0.566	13.0	C13

The area sampled was based on wind data recorded at the time of the May 14, May 23, June 19, June 26, and July 12, 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 July 14, 2001 sampling event. The wind data are presented below:

- My 14, 2001 (1600)—wind direction variable/wind speed 5 knots
- May 23, 2001 (1600)—wind direction 290 degrees/wind speed 10 knots
- June 19, 2001 (1100)—wind direction 210 degrees/wind speed 8 knots
- June 26, 2001 (1300)—wind direction 290 degrees/wind speed 8 knots
- July 12, 2001 (1245)—wind direction variable/wind speed 6 knots

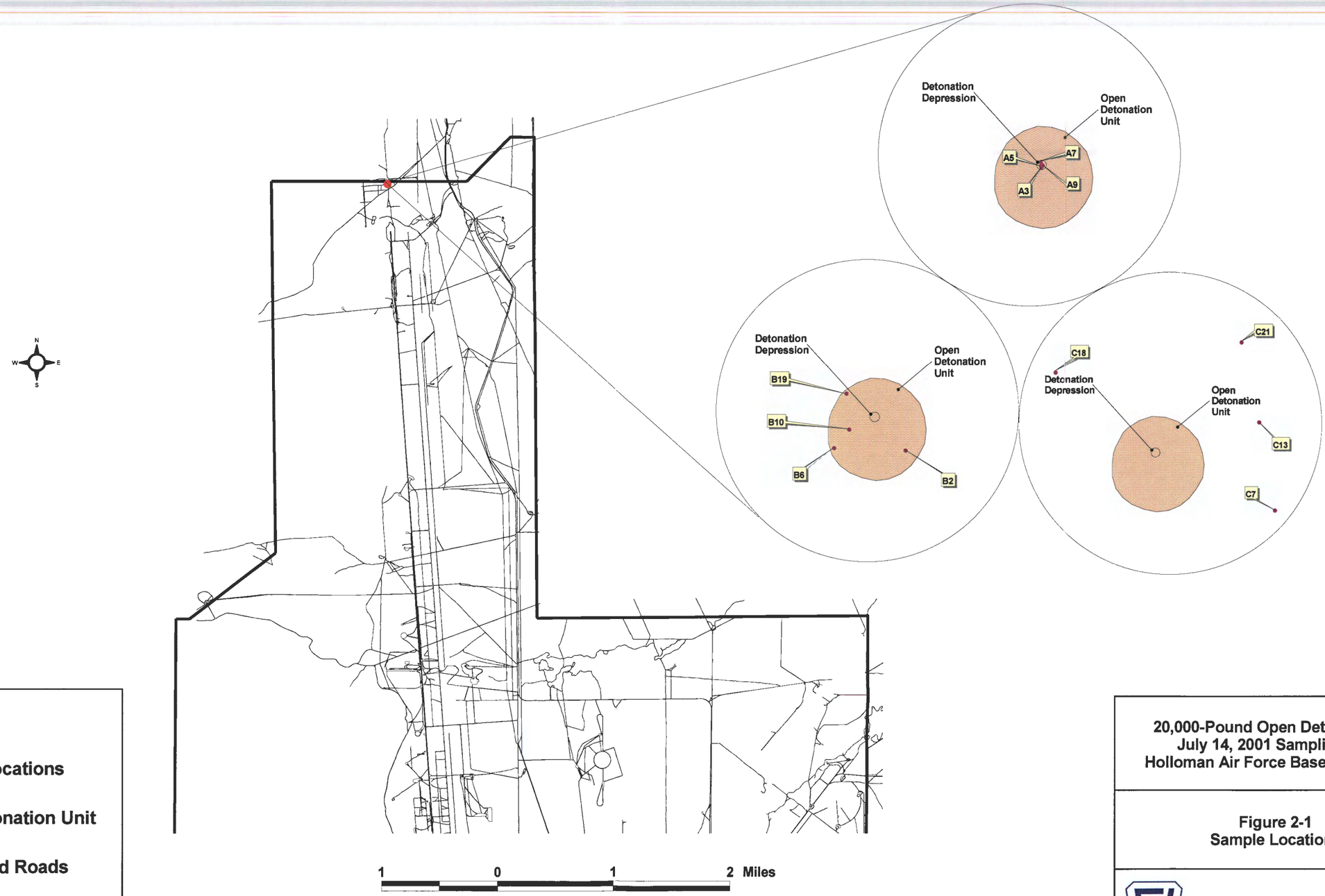
3.0 ANALYTICAL RESULTS

This section presents an evaluation of the QA/QC data associated with the analytical results for the third 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 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 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
July 14, 2001 Sampling Event
Holloman Air Force Base, New Mexico

Figure 2-1
Sample Locations

Foster Wheeler Environmental Corporation

July 2001