



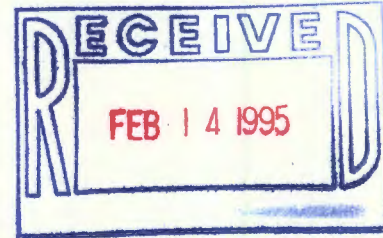
*file
HAFB
red 95*

DEPARTMENT OF THE AIR FORCE

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

09 FEB 1995

MEMORANDUM FOR NEW MEXICO ENVIRONMENT DEPARTMENT
Hazardous and Radioactive Materials Bureau
Attn: Barbara Hodischek
525 Camino De Los Marquez
P.O. Box 26110
Santa Fe, NM 87502



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

SUBJECT: Building 1080 and Hansel Phelps Spill Sites

1. This is in response to your letter dated 9 Jan 95, as well as your verbal request on 23 Jan 95, for an update to subject spills.
2. All your comments have been incorporated into Change 2 to the Sample and Analysis plan (see Atch 1). A section was added to the plan on decontamination procedures. Additionally, paragraph 2d was rewritten to be consistent with clean-up standards on Holloman AFB. The 3 ppm level for total Xylene's in the original plan was a mistake and should be 30 ppm. This will be consistent with universal treatment standards.
3. At Atch 2 are the results from the building 1080 spill site. A table at the end of this paragraph summarizes the results. Not all results were available for unknown reasons; i.e., locations #5 through #9 are missing (Atch 3 is the location map). As you can see, the results are not good. At the time, HAFB took two samples at each location for Quality Assurance/Quality Control (QA/QC) procedures. However, the Air Force laboratory cancelled all second samples due to lack of funding without the base's approval. Consequently, we have no QC for these results. Holloman proposes to resample in locations 2, 9, 10, 11, and 12. We are assuming location #9 may have been a "hot spot". Samples will be analyzed for Total Petroleum Hydrocarbon (TPH) and Benzene as stated in paragraph 2d in the Sample and Analysis plan.

*what
about
Hansel
Phelps
site?*

totals

<u>SAMPLE NUMBER</u>	<u>LOCATION</u> <u>(Refer to Map)</u>	<u>BENZENE</u> <u>(EPA 8260)</u> <u>UNITS ppm</u> <small>2020</small>	<u>TPH (ppm)</u>
GS920485	# 2	1.5 72	24000
GS920487	# 3	<.25/ND < 0.4	480
GS920489	# 4	<.25/ND < 0.4	44
GS920501	# 10	57 110	22200
GS920503	# 11	<.25/ND < 0.4	1180
GS920505	# 12	<.25/ND < 4.2	8400
GS920507	# 13	<.25/ND < 0.4	24
GS920509	# 14	<.25/ND < 0.4	24
GS920511	# 15	<.25/ND < 0.4	251

4. Pictures of the building 1080 spill are attached (Atch 4) for your information. If you have any questions, please contact Cathy Giblin at (505)475-5040.

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

- Attachments:
1. Sample and Analysis Plan
 2. Analytical Results
 3. Map
 4. Pictures

Sample and Analysis for Soil Remediation Wastes from Building 1080 and Hensel Phelps Construction Site

1. Introduction

a. This sampling plan is submitted for clean-up of the two spill sites at Holloman Air Force Base. Spill site 1 is located on the north ramp near building 1080. Spill site 2 is located in the west area on a construction site of Hensel Phelps. This plan shall detail proposed sampling procedures and rationale behind the sampling plan. After approval of this plan, we shall collect the samples to send next day air to an independent laboratory for analytical testing in accordance with EPA SW-846, *Test Methods for Evaluating Solid Wastes; Physical/Chemical Methods, 3rd edition dated July 1992 with Update I.*

b. The Site 1 spill was caused by an act of vandalism, which resulted in soil contamination near building 1080. The spill area was surveyed with a Photoionization Detector (PID) to determine horizontal and vertical extents of contamination. The contaminated soil determined by the PID was removed and placed on a bermed plastic-lined area located North of the base landfill. The soil was placed in a single 10" lift in the bermed area and encompassed an area of approximately 75' x 100'. The bermed area prevents run-on and run-off water.

c. The Site 2 spill resulted in contaminated soil near the F-117A maintenance docks/hanger project, which was under construction by Hensel Phelps. The spill site was issued an emergency treatment permit on 15 July 1993. In accordance with this permit, the spill site horizontal and vertical contamination extents were established with a PID. The contaminated soil was removed and placed onto a bermed plastic-lined area located in the "West Area" on an abandoned road near the spill site. The soil was placed in a single 12" lift and encompassed an area of approximately 15' x 100'. The bermed area prevents run-on and run-off water.

2. Data Quality Objectives

a. For Site 1, the area will be gridded off in sections of 15' x 10' (see Appendix 1), which produces a sample lot of 66. Based on Military Standard 105D Table 1¹ (MIL-STD-105D) for a normal sample inspections, 13 samples should be extracted for a representative sample. The sample shall be a discrete aliquot in accordance with grab sample requirements². Furthermore, the sample core shall be collected in a single vertical column with minimal disturbance to the soil to prevent Volatile Organic Compound (VOC) loss. Care shall be taken to clean and remove any contamination on the sample removing device(s). Sample bottles shall be prepared in accordance with laboratory instructions. Any cleaning solvents and/or decontaminating fluids shall be evaluated to determine if they may be hazardous wastes. If

2. Data Quality Objectives (con't)

decontaminating liquids are determined to be hazardous wastes, they shall be disposed of in accordance with proper hazardous waste procedures.

b. For Site 2, the area will be gridded off in sections of 7.5' x 10' (see Appendix 2), which produces a sample lot of 66. Based on Mil-STD-105D¹ for a normal sample inspections, 8 samples should be extracted for a representative sample. The sample shall be a discrete aliquot in accordance with grab sample requirements². Furthermore, the sample core shall be collected in a single vertical column with minimal disturbance to the soil to prevent VOC loss. Care shall be taken to clean and remove any contamination on the sample removing device(s). Sample bottles shall be prepared in accordance with laboratory instructions. Any cleaning solvents and/or decontaminating fluids shall be evaluated to determine if they may be hazardous wastes. If decontaminating liquids are determined to be hazardous wastes, they shall be disposed of in accordance with proper hazardous waste procedures.

c. In addition, for each sample site, a single sample immediately adjacent to one of the sample points shall be removed to be used as a quality control sample. The sample shall be removed in the same manner upon which the other samples were collected. Furthermore, the laboratory shall not be notified of this duplicate sample. In addition, a second sample shall be removed outside the treatment area in the same manner the other samples were collected. The treatment site is not expected to leach any of the contamination to the groundwater table. The second control sample will confirm this premise.

d. The sample shall be tested for Benzene, Toluene, Ethyl Benzene and Total Xylene's (BTEX) as well as Total Petroleum Hydrocarbons (TPH). BTEX sample method will be EPA Method 8260. The site shall be declared clean when the analytical results show BTEX less than 10 parts per million (ppm) for all constituents except for Total Xylene's which shall be less than 30 ppm. This follows the universal treatment standards. TPH levels will be at 1000 ppm or less which is the standard at Holloman AFB. In addition, the quality control sample for each site shall be checked for acceptable tolerances to insure validity of the sample results.

e. Decontamination Procedures: To ensure that soil sampling equipment is not contaminated or cross-contaminated by materials and equipment used in the course of the investigation, the following procedures will be used to decontaminate hand augers and other sampling equipment between and before usage:

- Wash with ALCONOX detergent;
- Rinse with distilled water;
- Rinse with pesticide-grade hexane;
- Rinse with laboratory reagent grade water; and
- Allow to air dry.

Decontamination Procedures (con't)

Wash and rinse water generated during all decontamination activities will be considered potentially contaminated. This wastewater will be collected in 35-gallon plastic drums.

Methodology: Small, reusable equipment, including sampling equipment, is mainly decontaminated by rinsing with liquids that include soap or detergent solutions, tap water, or deionized water. Following decontamination, if the equipment is not to be reused immediately, it will be stored, protected from recontamination by wrapping in aluminum foil, and appropriately rinsed before the next use.

Pre-sampling Decontamination Activities:

- Don the appropriate PPE, as required for the specific work area.
- Assemble containers and equipment for decontamination, designing the decontamination station in such a manner as to prevent liquid from spilling onto the ground.
- Decontaminate all new equipment or equipment not previously decontaminated before use.
- If the protective wrapping on a piece of precleaned equipment has been torn, or if there is any question about its cleanliness, the equipment should be considered contaminated and undergo the full decontamination procedures before it is used.

Decontaminating Sampling Equipment

- Remove any solid particles from the equipment or material by brushing and rinsing with available potable water. This will remove gross decontamination.
- Wash equipment with a brush and a phosphate-free detergent solution.
- Rinse equipment thoroughly with potable water.
- Double rinse the equipment with reagent-grade water.
- Allow equipment to air dry thoroughly. If there is not enough time to air dry complete, the equipment should be rinsed with copious amounts of reagent water. Equipment may then be reused immediately.
- Unless the equipment is going to be used immediately, it must be wrapped in new aluminum foil, shiny side out, to keep it clean until needed. For

Decontaminating Sampling Equipment (con't)

large bulky equipment, new visqueen can be substituted for the aluminum foil.

3. Background on Sample Strategies

a. A simple Random Sampling method was chosen because of the homogeneous nature of the treatment site. Selection of the sampling points was based on the Random Number Table³ at Appendix 3. The homogeneous mixture of the soil, time exposure to the elements, in conjunction with a vertical sample, **with minimal disturbance to the soil and express shipment to the laboratory,** shall ensure a representative sample is obtained.

b. The random sample and lot size determination were made with prudent judgment. Mil-STD-105D was used as a starting point for sample lot determination only. A normal inspection of Level II was selected for equal protection between costs and sample representatives. The proposed sampling method should give clear, definitive, and representative results as to the levels of contamination that exists, if there are any in the proposed treatment areas.

4. Sample Procedures

a. List of Equipment:

Sampling Equipment:

- Auger accessories
- Sampling Bottles
- 500 ml wide-mouth glass bottle with Teflon® cap
- Decontaminating fluid**

Miscellaneous Field Gear:

- Latex Gloves
- First-aid Kit

b. Sample Collection.

- Sampling shall be done by the 49th Medical Group BioEnvironmental Engineering office, as per this plan and the independent laboratory instructions.

c. Sample Preparation.

-Samples shall be prepared in accordance with the independent laboratory requirements and this plan. **As a minimum, the samples shall be collected with minimal disturbance to the soil and next day air shipped to the laboratory.**

d. Sample Analysis.

- Sample analysis shall be done by an independent laboratory in accordance with EPA SW-846, Test Methods for Evaluating Solid Wastes, **3rd edition, dated July 1992 with Update I**. The contractor has not been determined yet, we are awaiting award of the contract from our contracting office.

Upon award of the contract, Holloman Air Force Base will strictly adhere to the laboratories instructions to ensure sample integrity.

e. Chain of Custody.

- A chain of custody form will be used to record the number of samples collected and the corresponding laboratory analysis. Indelible ink will be used for entry of the information on both the bottle and chain of custody form. Information on the chain of custody form shall include time and date of sample, sample number, type of sample, sampler's name, preservatives used, any special instructions. A copy of the chain of custody form will be retained by the sampler, and also be maintained in a field documentation file.

5. Closure

a. Upon return of negative results, the remedied soil shall be placed back onto the spill sites or disposed of in the base landfill.

b. If any of the soil should be fail BTEX, we shall continue treatment and repeat the sampling procedures after 90 days.

Note:

Bold/shading represents changes. This is change 2 dated 24 Jan 94.

i

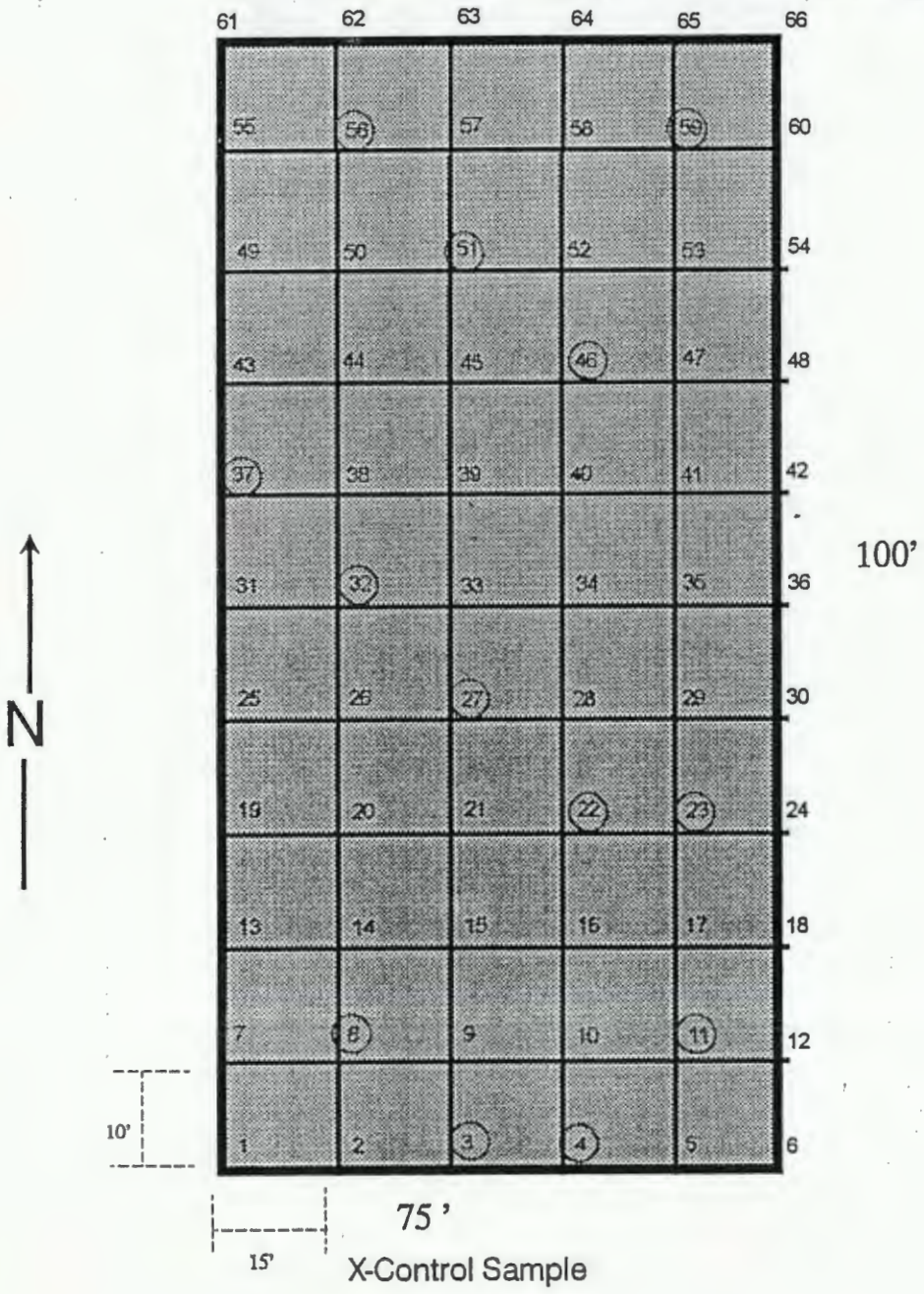
i

¹ Mil-STD-105D, Table 1, *Quality Control*, 2nd edition, Dale E. Besterfield.

² *RCRA Sampling Procedures Handbook*, Jacobs Engineering Group, Apr 91.

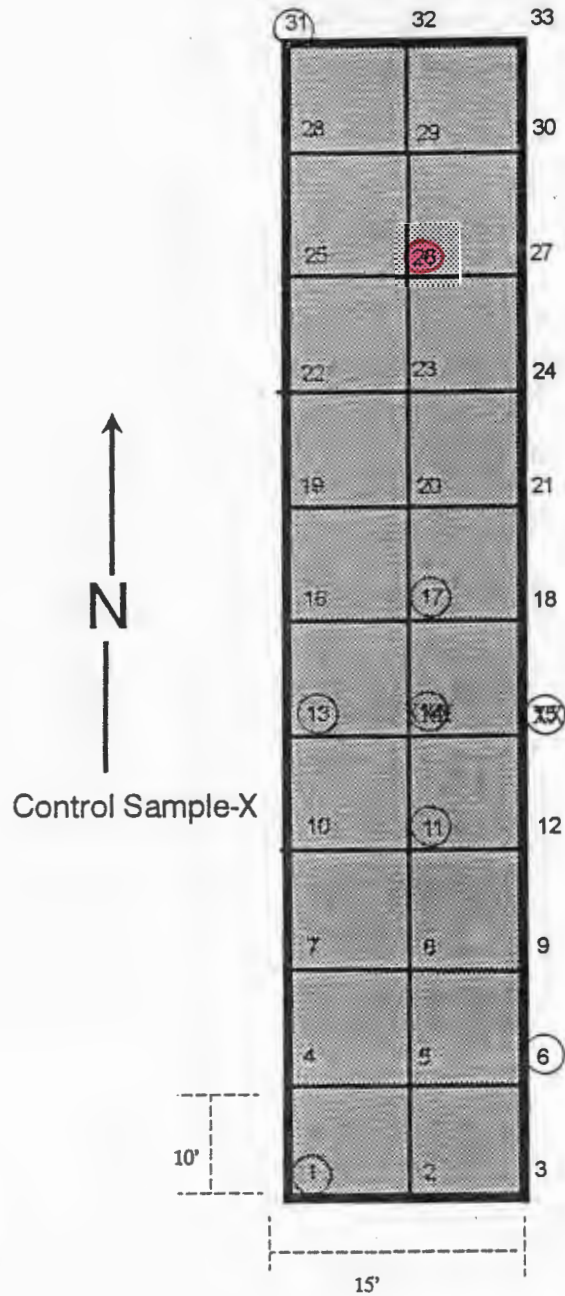
³ *Base Level Service Contracts*, United States Air Force Regulation 400-28, Vol. 1, Attach. 1, Sept 79.

Control Sample- X Spill Site Bldg 1080



Spill Site North of Landfill
 7500 square Feet
 66 sample points @ 150' ,
 10" thick

Spill Site F-117A Maintenance Docks/Hanger Project



Spill Site West Area

750 square Feet

33 sample points @ 75', 12" thick

100'

X-Control Sample

Note: Sample number 14 was moved to Sample number 26. Control sample number 15 is eliminated.