DEPARTMENT OF THE AIR FORCE

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

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. Per telecon between our Cathy Giblin and yourself, Holloman AFB (HAFB) revised the Sample and Closure Plan for the subject spill sites (Atch 1). This is considered amendment one and changes/additions are notated by the bold print. Please review and ensure this is satisfactory.

2. Items documenting the clean-up actions at the building 1080 site are at Atchs 2,3, and 4. These include results of field measurements using a Photon Ionization Detector (PID), air samples for personnel during the clean-up, and field notes from the clean-up operation. To date, HAFB has not received laboratory sample results of the soil. We will forward them as soon as they arrive.

3. If you have any questions, please contact Cathy Giblin or SSgt Jim Rachwal at (505)475-5040.

Howard E. Moffitt

HOWARD E. MOFFITT
Deputy Base Civil Engineer

Attachments:
1. Sample and Closure Plan
2. Field Measurements
3. Air Samples
4. Field Notes

Sample and Closure Plan for Spill Sites from Building 1080 and Hensel Phelps Construction Site

1. Introduction

a. This sampling plan is submitted for closure of the two permitted spill sites at Holloman Air Force Base. 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, 2nd edition.*

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 1[1] (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 requirements[2]. **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 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-105D[1] 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 requirements[2]. **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 size shall be in approximately 200 ml of soil to be placed into a laboratory provided bottle. The sample shall be tested for Benzene, Toluene, Ethyl Benzene and Total Xylene's (BTEX). The site shall be declared clean if the analytical results show BTEX less than 10 parts per million (ppm) for all constitutes except for Total Xylene's which shall be less than 3 ppm. **In addition, the quality control sample for each site shall be checked for acceptable tolerances to insure validity of the sample results.**

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 Table[3] 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 Bioenevironmental 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, 2nd edition. 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.

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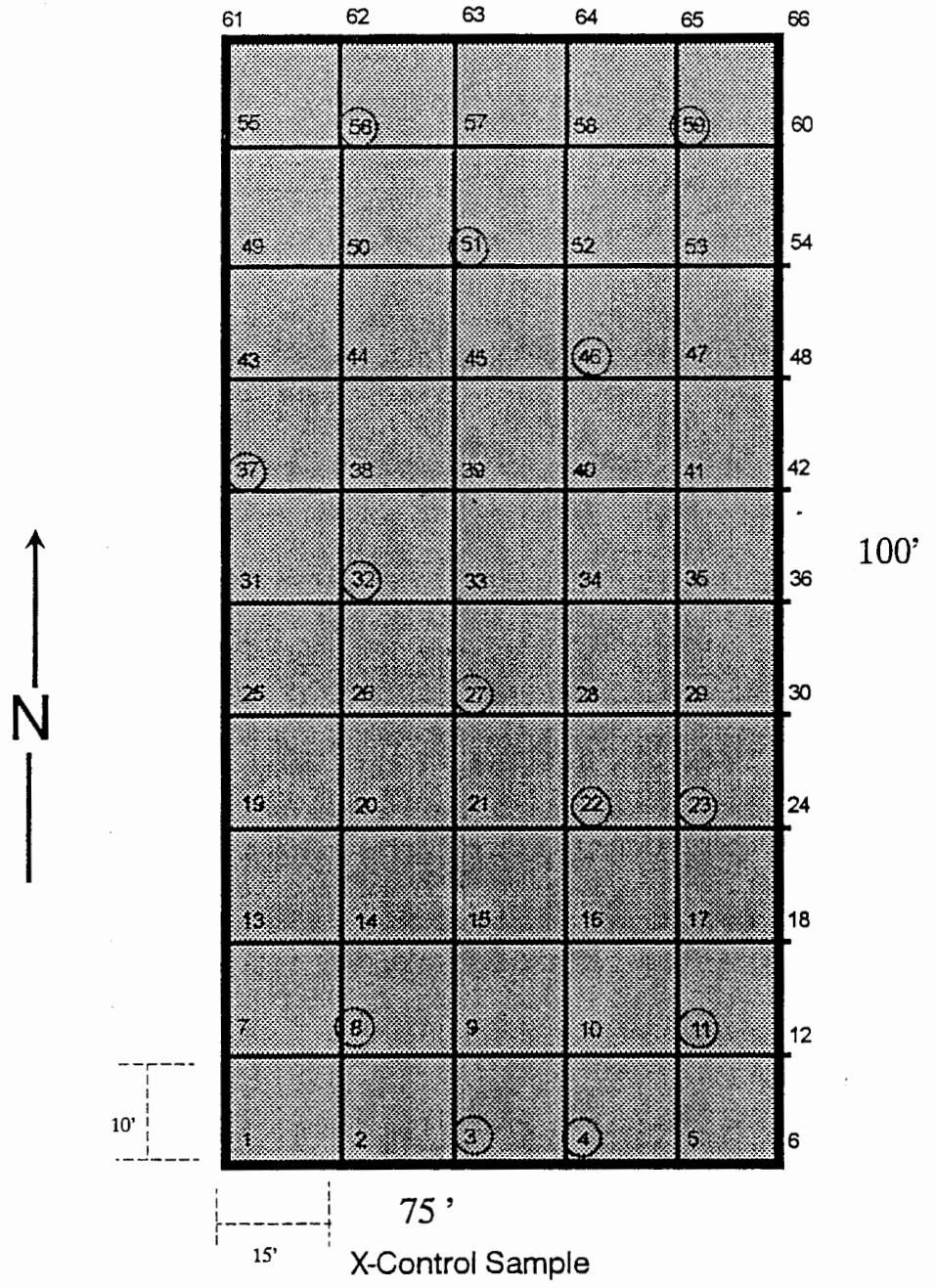
[1] Mil-STD-105D, Table 1, *Quality Control*, 2nd edition, Dale E. Besterfield.
[2] *RCRA Sampling Procedures Handbook*, Jacobs Engineering Group, Apr 91.
[3] *Base Level Service Contracts*, United States Air Force Regulation 400-28, Vol. 1, Attch. 1, Sept 79.

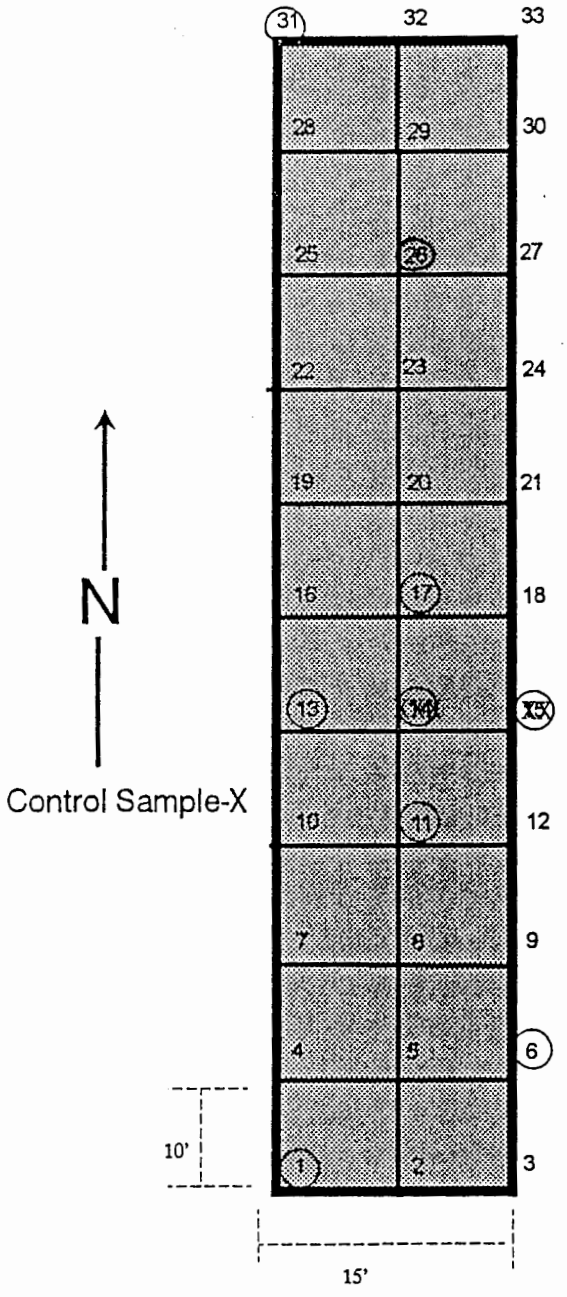
Spill Site Bldg 1080



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

Atch 2
Appendix 1

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.

SITE 1 START

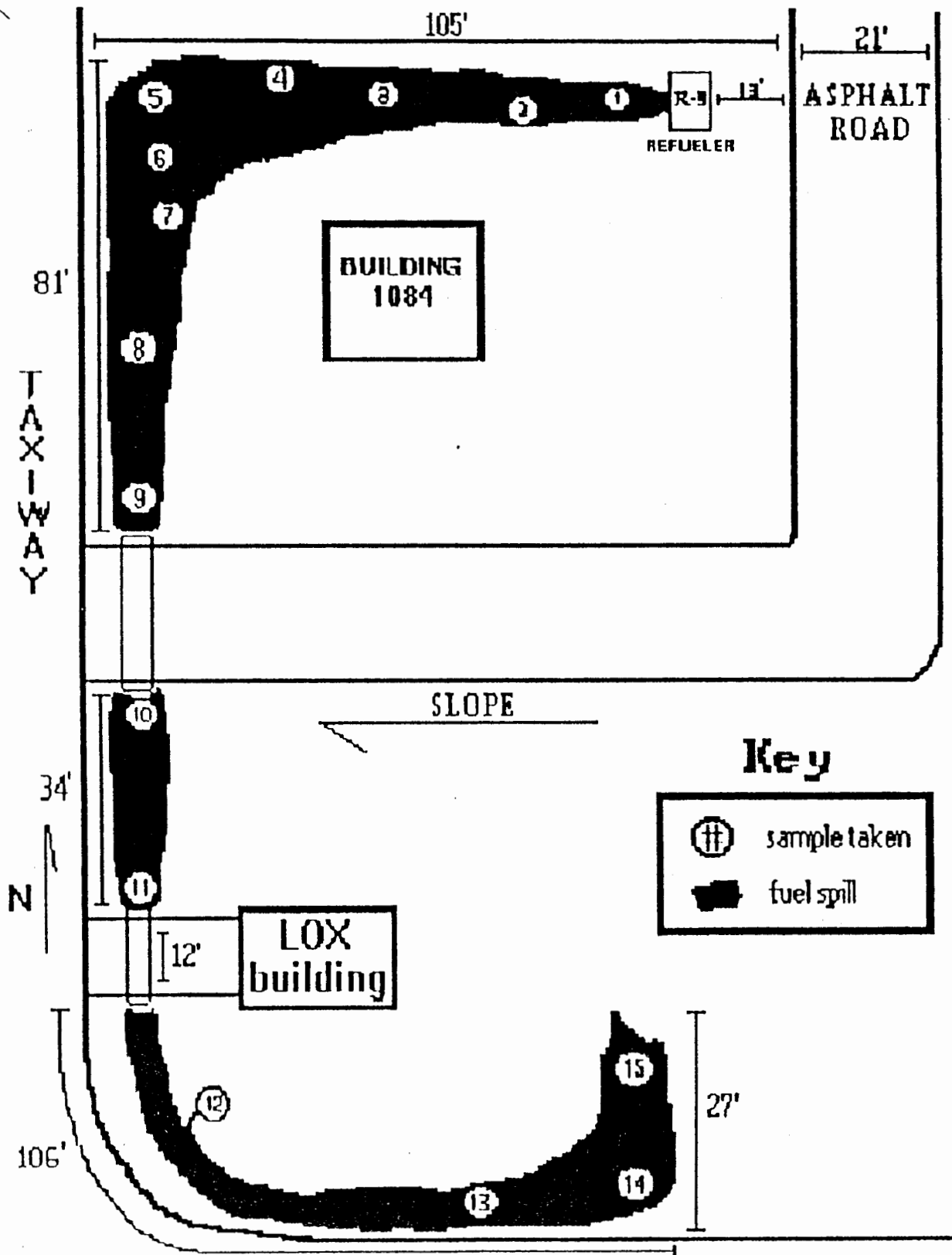
SITE 2 START

Random Number Table

Page 1

Line \ Col.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1	10480	15011	01536	02011	81647	91646	69179	14194	62590	36207	20969	99570	91291	90700
2	22368	46573	25595	85393	30995	89198	27982	53402	93965	34095	52666	19174	39615	99505
3	24130	48360	22527	97265	76393	64809	15179	24830	49340	32081	30680	19655	63348	58629
4	42167	93093	06243	61680	07856	16376	39440	53537	71341	57004	00849	74917	97758	16379
5	37570	39975	81837	16656	06121	91782	60468	81305	49684	60672	14110	06927	01263	54613
6	77921	06907	11008	42751	27756	53498	18602	70659	90655	15053	21916	81825	44394	42880
7	99562	72905	56420	69994	98872	31016	71194	18738	44013	48840	63213	21069	10634	12952
8	96301	91977	05463	07972	18876	20922	94595	56869	69014	60045	18425	84903	42508	32307
9	89579	14342	63661	10281	17453	18103	57740	84378	25331	12566	58678	44947	05585	56941
10	85475	36857	53342	53988	53060	59533	38867	62300	08158	17983	16439	11458	18593	64952
11	28918	69578	88231	33276	70997	79936	56865	05859	90106	31595	01547	85590	91610	78188
12	63553	40961	48235	03427	49626	69445	18663	72695	52180	20847	12234	90511	33703	90322
13	09429	93969	52636	92737	88974	33488	36320	17617	30015	08272	84115	27156	30613	74952
14	10365	61129	87529	85689	48237	52267	67689	93394	01511	26358	85104	20285	29975	89868
15	07119	97336	71048	08178	77233	13916	47564	81056	97735	85977	29372	74461	28551	90707
16	51085	12765	51821	51259	77452	16308	60756	92144	49442	53900	70960	63990	75601	40719
17	02368	21382	52404	60268	89368	19885	55322	44819	01188	65255	64835	44919	05944	55157
18	01011	54092	33362	94904	31273	04146	18594	29852	71585	85030	51132	01915	92747	64951
19	52162	53916	46369	58586	23216	14513	83149	98736	23495	64350	94738	17752	35156	35749
20	07056	97628	33787	09998	42698	06691	76988	13602	51851	46104	88916	19509	25625	58104
21	48663	91245	85828	14346	09172	30168	90229	04734	59193	22178	30421	61666	99904	32812
22	54164	58492	22421	74103	47070	25306	76468	26384	58151	06646	21524	15227	96909	44592
23	32639	32363	05597	24200	13363	38005	94342	28728	35806	06912	17012	64161	18296	22851
24	29334	27001	87637	87308	58731	00256	45834	15398	46557	41135	10367	07684	36188	18510
25	02488	33062	28834	07351	19731	92420	60952	61280	50001	67656	32586	86679	50720	94953
26	81525	72295	04839	96423	24878	82651	66566	14778	76797	14780	13300	87074	79666	95725
27	29676	20591	68086	26432	46901	20849	89768	81536	86645	12659	92259	57102	80428	25280
28	00742	57392	39064	66432	84673	40027	32832	61362	98947	96067	64760	64584	96096	98253
29	05366	04213	25669	26422	44407	44048	37937	63904	45766	66134	75470	66540	34693	90449
30	91921	26418	64117	94305	26766	25940	39972	22209	71500	64568	91402	42416	07844	69618
31	00582	04711	87917	77341	42206	35126	74087	99547	81817	42607	43808	76655	62028	76630
32	00725	69884	62797	56170	86324	88072	76222	36086	84637	93161	76038	65855	77919	88006
33	69011	65795	95876	55293	18988	27354	26575	08625	40801	59920	29841	80150	12777	48501
34	25976	57948	29888	88604	67917	48708	18912	82271	65424	69774	33611	54262	85963	03547
35	09763	83473	73577	12908	30883	18317	28290	35797	05998	41688	34952	37888	38917	88050
36	91567	42595	27958	30134	04024	86385	29880	99730	55536	84855	29080	09250	79656	73211
37	17955	56349	90999	49127	20044	59931	06115	20542	18059	02008	73708	83517	36103	42791
38	46503	18584	18845	49618	02304	51038	20655	58727	28168	15475	56942	53389	20562	87338
39	92157	89634	94824	78171	84610	82834	09922	25417	44137	48413	25555	21246	35509	20468
40	14577	62765	35605	81263	39667	47358	56873	56307	61607	49518	89686	20103	77490	18062
41	98427	07523	33362	64270	01638	92477	66969	98420	04880	45585	46565	04102	46880	45709
42	34914	63976	88720	82765	34476	17032	87589	40836	32427	70002	70663	88863	77775	69348
43	70060	28277	39475	46473	23219	53416	94970	25832	69975	94884	19661	72828	00102	66794
44	53976	54914	06990	67245	68350	82948	11398	42878	80287	88267	47363	46634	06541	97809
45	76072	29515	40980	07391	58745	25774	22987	80059	39911	96189	41151	14222	60697	59583
46	90725	52210	83974	29992	65831	38857	50490	83765	55657	14361	31720	57375	56228	41546
47	64364	67412	33339	31926	14883	24413	59744	92351	97473	89286	35931	04110	23726	51900
48	08962	00358	31662	25388	61642	34072	81249	35648	56891	69352	48373	45578	78547	81788
49	95012	68379	93526	70765	10592	04542	76463	54328	02349	17247	28865	14777	62730	92277
50	15664	10493	20492	38391	91132	21999	59516	81652	27195	48223	46751	22923	32261	85653

TO BLDG 1080



Total Hydrocarbon Results taken with PID - 10 Nov 92 (Grab/Air)

GC920513 # 1 - 23.8 ppm GC920514 # 2 - 322 ppm GC920515 # 3 - 10.4 ppm GC920516 # 4 - 0.0 ppm GC920517 # 5 - 0.0 ppm GC920518 # 6 - 0.0 ppm # 7 - 432 ppm GC920519 # 8 - 54.8 ppm GC920520

Michael P. Svinarich
Michael P. Svinarich, SSgt USAF
NCOIC, Bioenvironmental Engineering

over →

#9 GC920521 - 114ppm

#10 GC920522 - 1175 ppm

#11 GC920523 - 87.4 ppm

#12 GC920524 - 146ppm

#13 GC920525 — 32.4 ppm

#14 GC920526 - 9.0 ppm

#15 GC920527 — 45.6 ppm

file #9214

DEPARTMENT OF THE AIR FORCE

833D MEDICAL GROUP (TAC)
HOLLOMAN AIR FORCE BASE, NM 88330-5300

FROM: 49 MEDICAL GROUP/MGPB 20 Jan 93

SUBJECT: Air Sampling Results

TO: 49 CES/CEV
Attn: MSgt Atwell

1. Bioenvironmental Engineering Services conducted personal air sampling in the breathing zone of three individuals during a soil removal process accomplished by the 49 CES HAZMAT team on 4 Nov 92, outside of building 1080. The soil was contaminated with JP-4. Samples were analyzed for benzene and petroleum distillates.

2. Armstrong Laboratories reported the petroleum distillates as naphthas. Therefore the standard for naphtha, 1370 milligrams per cubic meter (mg/m3), was used. The standard of 0.1 parts per million (ppm) was used for benzene. All results were below the standards indicating that personnel were not exposed to hazardous levels of contaminants. Sample results are listed below by individual and constituent.

NAME	SAMPLED FOR	RESULTS
Beck, Roy. A.	Benzene	0.013 ppm
	Naphthas	2.21 mg/m3
Brohimer, Timothy, D.	Benzene	0.046 ppm
	Naphthas	9.88 mg/m3
Calhoun, Michael, S.	Benzene	0.023 ppm
	Naphthas	4.04 mg/m3

3. All personnel were wearing full face respirators with organic vapor cartridges during this removal project which would further reduce exposure to these chemicals.

4. Contact Sgt Hampton or myself at ext. 7812 if there are any questions concerning this survey.

CHARLES L. COLE, 1LT, USAF, BSC
Bioenvironmental Engineer

cc: SSgt Roy A. Beck
Sgt Timothy D. Brohimer
SrA Michael S. Calhoun

Readiness is our Profession

Atch 3

1000 gal JP4 fuel spill 4 Nov 92 1 of 2

Wind out of the South West at 9 Knots 11:15 A

Spill ran about 80 yards

MSgt Gary Atwell - IC
Bill Ford - Safety
SSgt Roy Beck - Equip Operator
SSgt Tim Brohimer - " "
SRA Michael Calhoun - " "
SSgt Cliff Hampton - BIO monitoring

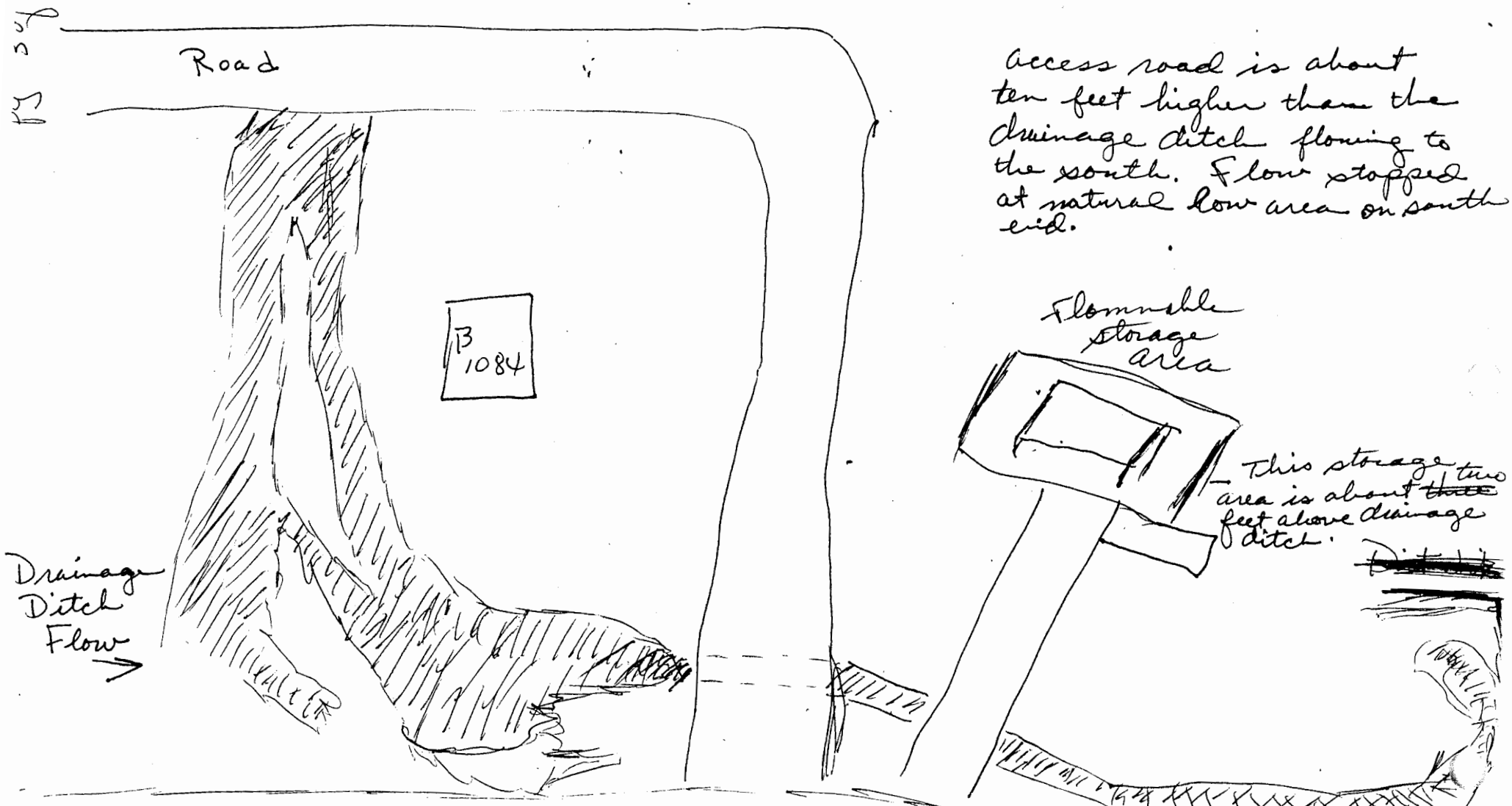
Spill Cleanup Equipment: 2, ten ton dump trucks and 2 front loaders and hand tools. Workers wearing full face Neg pressure Respirators Filter TC-23C-155

1115: Started Cleanup operation South End of Spill area
1130: Stopped for lunch break
1230: Resumed Cleanup operations

Clean up started down wind, first Loader and dump, second Loader and Dump began removal south side of access road. Sgt Hampton (BIO) is monitoring spill gases at south most operations. (Photon Gas detector MSA)

1310: Dump trucks make run to staging area, located east side of the asbestos landfill fence.
1335: Trucks returned, Bio changed personal exposure sample cassettes on workers.
1353: Trucks make run to staging area.
1353: Fuel truck has been refilled it took 1000 gals. This spill is the results from the drain valve (1/4 in) on a fuel truck being opened and the fuel ran out onto the ground.

Atch 4



Access road is about ten feet higher than the drainage ditch flowing to the south. Flow stopped at natural low area on south end.

RAMP (Paved) Area

Spill ran about 80 yards from source dwg upper access road
1000 gallon JP4 fuel spill. 4 Nov 92

1000 gal JP4 fuel Spill
4 Nov. 92

1410: Trucks returned
1435: Trucks run back to staging
1453: Trucks return
1455: Call came in with the NM State requirements to complete removal. Need to Test for ignightable VOCs and Benezene levels.
1518: Trucks run to staging area. Total of eight loads went to staging area today.
1540: One more load went to staging area for a total of nine loads for the day. This completed dirt removal for the day. B10 will do samples tomorrow.

William L. Ford
Project Safety Officer

Day 2 5 NOV 92

3 Equipment Operators @ 8 hrs each
2 10 Ton Dump trucks @ 8 hrs. each
2 front end loaders @ 8 hrs. each
1 Bio Technician @ 8 hrs.

PID reading still exceeding 1000 PPM in numerous locations. Soil being removed additional 10-12 inches in "hot" spots.
CE w/o 36304

Day 3 6 NOV 92

3 Equipment Operators
2 10 Ton Dump trucks
2 frontend loaders
1 backhoe

Removing additional soil between and around culverts