

1. Keywords

FPS 16
FPS 33
FPS 6B
MICROWAVE SYSTEMS
MOD II RADAR
RADAR SITE
TPS 41 WEATHER RADAR

2. Start Date: FY 70 Quarter 3

End Date: FY 70 Quarter 4

3. HQ Division: 42 - LASER MICROWAVE DIVISION

4. Phase:

5. Program NO: 24

6. Survey Type: NS - RFR/ULTRASOUND SURVEY

7. INSTALLATION OR SOURCE OF INFORMATION (CITY & STATE OR
COUNTY ARE ESSENTIAL)

CC - USA STRATEGIC COMMUNICATIONS COMMAND

8. Authors:

9. ARLOC/Activity: 04289 000 - FORT HUACHUCA

Location: FORT HUACHUCA

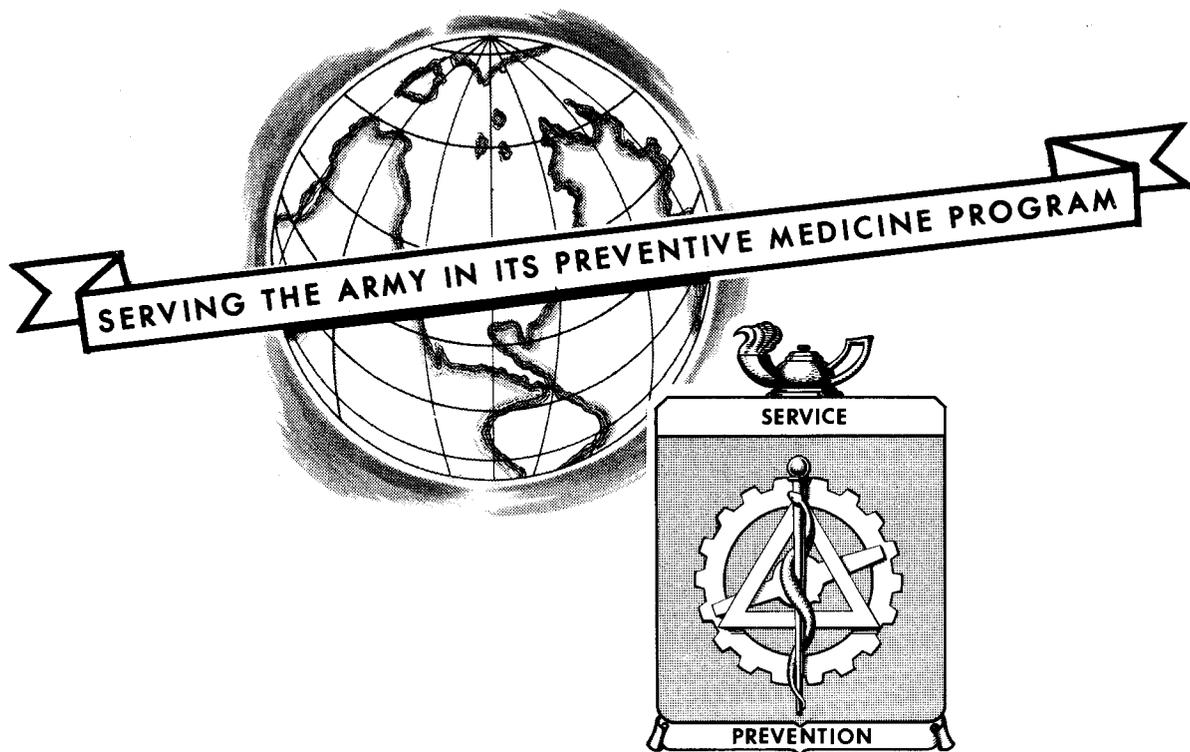
State: AZ

10. Project Control Number: 24-42-050-70

11. Title: MICROWAVE SURV

12. DSA: 66

RADIATION PROTECTION SURVEY NO. 42-050-70
MICROWAVE FACILITIES AND OPERATIONS
US ARMY ELECTRONIC PROVING GROUND (USAEPG)
FORT HUACHUCA, ARIZONA 85613
23-27 MARCH 1970



US ARMY
ENVIRONMENTAL HYGIENE AGENCY
EDGEWOOD ARSENAL, MD. 21010



DEPARTMENT OF THE ARMY
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY
EDGEWOOD ARSENAL, MARYLAND 21010

18 MAY 1970

USAEHA-RL

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ABSTRACT

A survey of microwave facilities and operations at USAEPG, Fort Huachuca, Arizona, was conducted from 23-27 March 1970. Facilities surveyed were the Avionics Meteorology and Electronics Warfare Test Division and the Contract Facilities operated by Bell Aerosystems.

In addition to microwave equipment evaluated on previous surveys, two new systems were also evaluated: the AN/TPS-41 (XE-2) Weather Radar and the MOD II radar.

Potentially hazardous power density levels existed in some areas under certain operating conditions. It was noted that warning signs of the proper design were not in evidence. Systems and equipment surveyed with pertinent findings are presented in paragraph 4.

Appropriate general and specific recommendations based on the findings of the survey are made in paragraph 5. These recommendations generally pertain to control of radiated beams into occupied areas, to limit access of personnel into potentially hazardous areas, and the placement of warning signs where indicated.



DEPARTMENT OF THE ARMY
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USAEHA-RL

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MICROWAVE FACILITIES AND OPERATIONS
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1. REFERENCES.

- a. AR 40-5, "Preventive Medicine," 13 March 1969.
- b. AR 40-583, "Control of Potential Hazards to Health from Microwave Energy," 1 October 1962.
- c. TB MED 270, "Control of Hazards to Health from Microwave Radiation," 6 December 1965.
- d. Letter, USAEHA-RE, this Agency, 13 July 1966, subject: Report of Microwave Survey No. 5237R67-66.

2. PURPOSE. To evaluate the microwave and X-radiation exposure to personnel from microwave equipment located at this installation and to make any necessary recommendations to protect personnel from needless exposure to such radiation.

3. GENERAL.

a. Previous Survey. This installation was last surveyed for microwave hazards in February 1968, as reported in US Army Environmental Hygiene Agency Report No. 42-035-68.

b. Instrumentation. The following microwave and X-radiation detection instruments were used:

- (1) Ramcor, Model 1200B, Densimeter
- (2) Hewlett Packard, Model 431, Power Meter with Ancillary Equipment
- (3) Victoreen, Model 440 RF, X-ray Survey Meter

USAEHA-RL Radn Protection Survey No. 42-050-70, USAEPG, Ft Huachuca,
Arizona, 23-27 Mar 70

c. Abbreviations. A glossary of common technical terms and units is available in appendix A. Abbreviations and units utilized in this report are included therein.

4. FINDINGS.

a. General.

(1) Facilities Surveyed. The only facilities having microwave equipment at the time of the survey were the Avionics Meteorology and Electronics Warfare Test Division and Contract Facilities (operated by Bell Aero-systems).

(2) Personnel at USAEPG were cognizant of the hazards associated with microwave equipment and the Safety Office maintains a very adequate control program; however, warning signs as required by paragraph 9a, TB MED 270, 6 December 1965, were not in evidence.

b. Avionics Meteorology and Electronics Warfare Test Division (AN/TPS-41). At the time of the survey tests were being performed on a new Weather Radar, the AN/TPS-41 (XE-2) by the Meteorology Branch of this division. Pertinent findings are as follows:

(1) This system has the following operating characteristics:

(a) Frequency: 8500-9600 MHz

(b) Peak power: 250 kW

(c) PRF: 750 Hz at 1 μ sec pulse width or 188 Hz at 5 μ sec pulse width

(d) Average power: 188 W at 1 μ sec and 235 W at 5 μ sec

(e) Antenna: 5 ft parabola, vertically polarized

(f) Antenna gain: \approx 40 db at 9500 MHz

(g) 3 db beam width: \approx 1.5°

(h) Antenna elevation angle: -5° to +90° (-89 to +1600 mils)

(i) Azimuth scan: 360° at 5 rpm

(j) Sector scan: any 5° to 25° portion of above (6 second cycle)

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(2) Based on the aforementioned parameters, calculated power densities at 9500 GHz would be as follows:

(a) At 188 W average power the maximum power density radiated from the antenna would be 38 mW/cm^2 , decreasing to 10 mW/cm^2 at a distance of 119 feet (37 meters).

(b) At 235 W average power the maximum power density radiated from the antenna would be 47 mW/cm^2 , decreasing to 10 mW/cm^2 at a distance of 136 feet (41.5 meters).

(3) Measurements performed on the system, with the antenna stationary, showed results as follows:

(a) With the system operating with 1 μsec pulse width, the maximum power density measured in front of the antenna was 35 mW/cm^2 , decreasing to 10 mW/cm^2 at a distance of 103 feet (31.4 meters).

(b) With the system operating with 5 μsec pulse width, the maximum power density measured in front of the antenna was 45 mW/cm^2 , decreasing to 10 mW/cm^2 at a distance of 125 feet (38 meters).

(c) The above measurements were made at a height of 6 feet above ground at negative antenna elevation angles. With the antenna positioned at elevation angles of 0° or higher, no potential hazard would exist to personnel at ground level. Power densities of either 35 or 45 mW/cm^2 (depending upon mode of operation) would exist on top of the shelter roof in front of the antenna. When scanning continuously in azimuth, the averaged scanning power density would be less than 10 mW/cm^2 (paragraph 7, TB MED 270, 6 December 1965).

c. Contract Facilities (Bell Aerosystems). These facilities had been previously surveyed in April 1966 (reference 1d). Equipment was located at the Laundry Ridge Test Facility and at the Oatman Mountain Radar Facility. Systems and operations were essentially the same as during the previous survey except for the addition of a MOD II radar at Laundry Ridge. Pertinent findings are as follows:

(1) Laundry Ridge Test Facility. Equipment installed at this facility consisted of an AN/FPS-16, an AN/FPS-33, an AN/FPS-6B, and a MOD II. See plate 1, appendix B, for overall site plan.

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(a) AN/FPS-16 Tracking Radar (Building 13582). The AN/FPS-16 is operated at 250 kW peak power output and an average power output of 125 W. When operated at this power level, the set does not radiate power densities greater than 10 mW/cm^2 . The antenna is mounted on the roof of the building and is never depressed more than -25 mils in elevation. Even if the AN/FPS-16 was operated at full power (1 megawatt peak), the radiated beam would not impinge upon the ground or any other normally occupied areas within the potentially hazardous range (395 feet). However, when operated at full power with the antenna at negative elevation angles, any personnel on the roof of the building could be exposed to power density levels as high as 36 mW/cm^2 . Plate 2, appendix B shows the location of the AN/FPS-16 and the immediate area.

(b) AN/FPS-33 Surveillance Radar (Building 13590). The AN/FPS-33 does not radiate power densities greater than 2.0 mW/cm^2 .

(c) AN/FPS-6B Height Finder Radar. The AN/FPS-6B can radiate power densities greater than 10 mW/cm^2 to a distance of 380 feet. As the AN/FPS-6B antenna is approximately 40 feet above ground, the only area within this distance where personnel could be exposed to the radiated beam would be on the roof of the AN/FPS-33, Building 13590, approximately 250 feet distant. If radiated by the AN/FPS-6B, the power density at this location would be approximately 20 mW/cm^2 . See plate 3, appendix B, for layout of AN/FPS-6B and AN/FPS-33 area.

(d) MOD II Radar. The MOD II radar radiates power density levels greater than 10 mW/cm^2 only in a small localized area out to 8 inches from the feed antenna. X-radiation measurements in the vicinity of the magnetron (QK 662A) showed no detectable X-radiation being emitted.

(2) Oatman Mountain Radar Facility. This facility included an AN/FPS-6B and an AN/FPS-33 at the west knoll and an AN/MPS-26 and an AN/TRC-29 at the east knoll. See plates 4 and 5, appendix B.

(a) AN/TRC-29. The AN/TRC-29 communications set does not radiate power densities greater than 10 mW/cm^2 , and the antennas are mounted on poles and do not radiate into occupied areas.

(b) AN/FPS-6B Height Finder Radar. The AN/FPS-6B can radiate power densities greater than 10 mW/cm^2 to a distance of 380 feet. As the AN/FPS-6B antenna is approximately 40 feet above ground, the only area within this distance where personnel could be exposed to the radiated beam would be on the roof of the AN/FPS-33, approximately 165 feet distant. If radiated by the AN/FPS-6B, the power density at this location would be approximately 30 mW/cm^2 .

(c) AN/FPS-33 Surveillance Radar. The AN/FPS-33 did not radiate power densities greater than 10 mW/cm^2 .

(d) AN/MPS-26. The AN/MPS-26 is essentially a modified SCR-584 radar. The operating frequency has been changed from S to C band and it utilizes a 10 foot diameter antenna. This system is normally operated at 320 Hz PRF with either a 0.5 or 1.0 μsec pulse width. Under these operating conditions, power densities greater than 10 mW/cm^2 do not exist. Although not utilized, this system can be operated at a maximum of 1707 Hz PRF at 1 μsec . Under these conditions, a maximum power density of 20 mW/cm^2 could be radiated, decreasing to 10 mW/cm^2 at a distance of approximately 200 feet (61 meters).

5. RECOMMENDATIONS.

a. General. Warning signs of the type shown in appendix C should be used where necessary to inform personnel of potential microwave hazards (paragraph 9a, TB MED 270, 6 December 1965). If the radiated power densities warrant a "DENIED OCCUPANCY" (plate 2, appendix C) or "LIMITED OCCUPANCY" (plate 3, appendix C) sign, these signs should be emplaced only during the duration of the requirement.

b. Avionics Meteorology and Electronics Test Division (AN/TPS-41).

(1) Due to the presence of potentially hazardous power density levels out to a distance of 125 feet (38 meters) when operated with the antenna stationary or in sector scan, personnel should be excluded from this area when the antenna is operated at negative elevation angles.

(2) Even when operated at positive elevation angles, caution should be exercised so as not to radiate any occupied elevated structures within the above distance.

(3) When operated with the antenna continuously scanning in azimuth, no precautions are necessary.

c. Contract Facilities (Bell Aerosystems).

(1) Laundry Ridge Test Facility.

(a) AN/FPS-16 Tracking Radar (Building 13582). If operated at 1 megawatt peak power and with the antenna at negative elevation angles, personnel should not be allowed on the roof of the building in front of the antenna

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Arizona, 23-27Mar 70

(b) AN/FPS-33 Surveillance Radar (Building 13590). None

(c) AN/FPS-6B Height Finder Radar. Personnel should not be allowed on the roof of the AN/FPS-33 (Building 13590) when the AN/FPS-6B is radiating in that direction.

(d) MOD II Radar. None

(2) Oatman Mountain Radar Facility.

(a) AN/TRC-29 None

(b) AN/FPS-6B Height Finder Radar. Personnel should not be allowed on the roof of the AN/FPS-33 when the AN/FPS-6B is radiating in that direction.

(c) AN/FPS-33 Surveillance Radar. None

(d) AN/MPS-26. If operated with 1 usec pulse width at 1707 PRF, caution should be exercised to ensure that personnel in the beam path at distances less than 200 feet not be radiated. If operated at lower duty cycles, no precautions are necessary.

William A. Palmisano
WILLIAM A. PALMISANO
Chief, Laser-Microwave Division

APPROVED:

W.D. Holland

W. D. HOLLAND
COL, MSC
Director, Radiation Services

APPENDIX A
DEFINITIONS, ABBREVIATIONS AND UNITS

1. DEFINITIONS.

- a. Electromagnetic Radiation. The propagation of varying electric and magnetic fields through space at the speed of light.
- b. Microwave Region. A portion of the electromagnetic spectrum which, for the purpose of this publication, covers the approximate frequencies of 100-300,000 megahertz, with the corresponding wavelengths of three meters to one millimeter.
- c. Microwave. An electromagnetic wave having a wavelength in the microwave region.
- d. Power Density. The intensity of electromagnetic radiation present at a given point. Power density is the average power per unit area expressed as milliwatts per square centimeter (mW/cm^2).
- e. Maximum Permissible Power Density. The intensity of electromagnetic radiation that, in the light of present medical knowledge, is not expected to cause detectable bodily injury to a person at any time during his lifetime. The maximum permissible power density is defined as 10 milliwatts per square centimeter for continuous exposure, based on the average radiation output (AR 40-583).
- f. Limited Occupancy Area. Any accessible area in which the incident power density is in excess of 10 milliwatts per square centimeter but less than 100 milliwatts per square centimeter.
- g. Denied Occupancy Area. Any accessible area in which the incident power density is in excess of 100 milliwatts per square centimeter.
- h. Watt (W). A unit of power defined as the rate of energy consumption or conversion when one joule of energy is consumed or converted per second.
- i. Milliwatt (mW). A submultiple of the watt equal to one thousandth of a watt.
- j. Kilowatt (kW). A multiple of the watt equal to one thousand times a watt.

APPENDIX A (cont)

k. Decibel (db). The unit used to express a power ratio. The decibel is equal to 10 times the logarithm of the power ratio as expressed by the following equation:

$$n(\text{db}) = 10 \log_{10} \frac{(P_1)}{(P_2)}$$

Where P_1 and P_2 designate two amounts of power and n the numbers of decibels corresponding to their ratio.

l. Hazard Evaluation Survey. Evaluation of the hazards to personnel working or remaining within the vicinity of microwave transmitting equipment.

m. Dummy Load. An absorption-type termination used to dissipate the energy generated by the transmitting tube. In radar and communication sets, the dummy load is used in place of the transmitting antenna.

2. ABBREVIATIONS.

meter = m

centimeter = cm

milliroentgen = mR

radio frequency = RF

Hertz = Hz

kilohertz = kHz

Megahertz = MHz

Gigahertz = GHz

3. UNITS.

1 m = 100 cm = 1,000 mm = 39.37 inches

1 cm = 0.3937 inches; 1 inch = 2.54 cm

1 millisecond = 1/1,000 seconds = 1×10^{-3} seconds

1 microsecond = 1/1,000,000 seconds = 1×10^{-6} seconds

1 nanosecond = 1/1,000,000,000 seconds = 1×10^{-9} seconds

Appendix A (cont)

1 Hertz = 1 cycle/second

1 kilohertz = 1,000 Hertz - 1×10^3 Hertz

1 Megahertz = 1,000,000 Hertz - 1×10^6 Hertz

1 Gigahertz = 1,000,000,000 Hertz - 10^9 Hertz

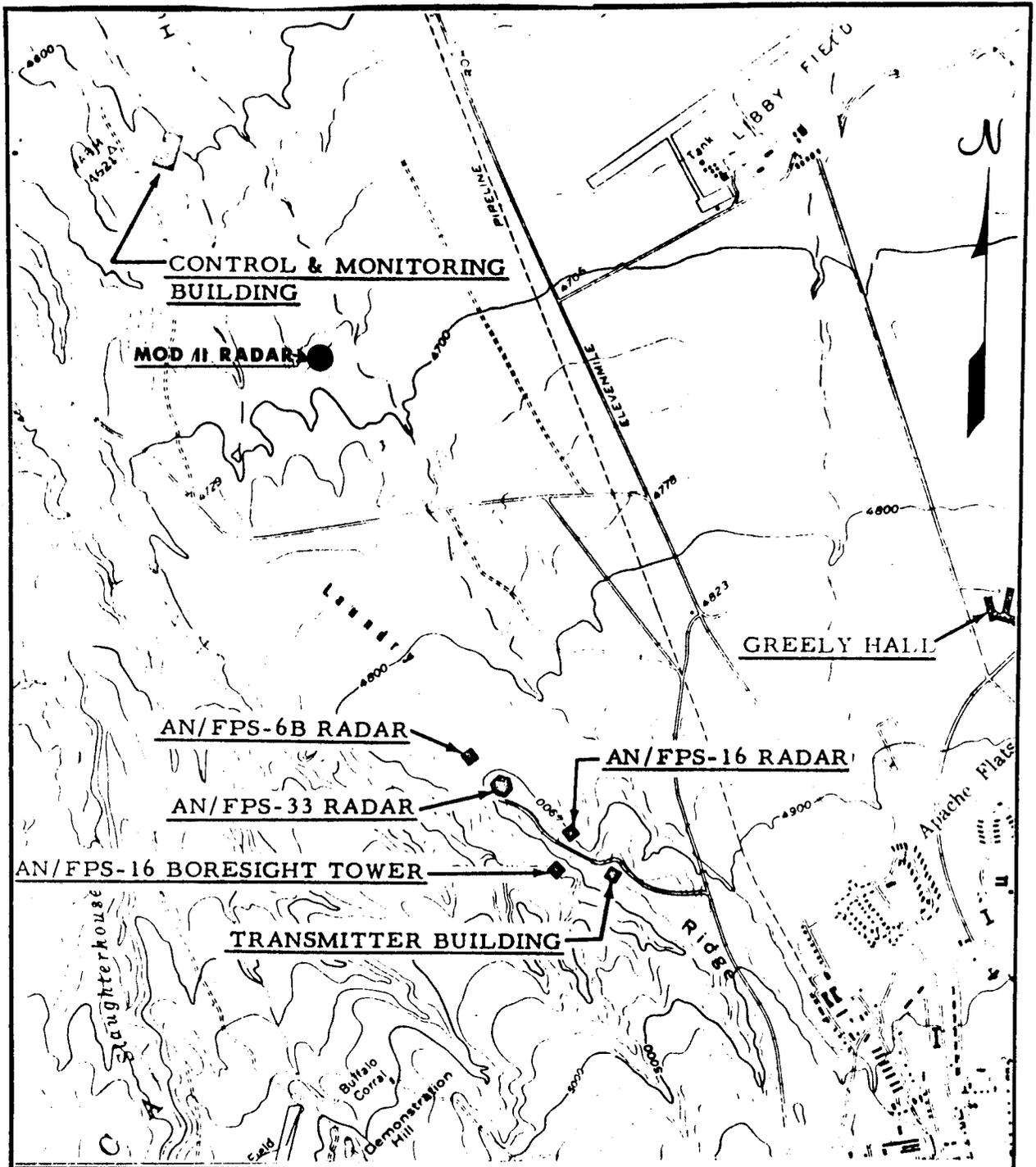
4. EXPONENTIAL SYSTEM. For convenience in writing and manipulation, unwieldy numbers are written as factors of appropriate powers of 10. The following examples will illustrate:

$$2,380,000,000 = 2.38 \times 10^9$$

$$238 = 2.38 \times 10^2$$

$$0.238 = 2.38 \times 10^{-1}$$

$$0.000000238 = 2.38 \times 10^{-7}$$



LAUNDRY RIDGE (OVERALL VIEW)

U.S. ARMY ENVIRONMENTAL HYGIENE AGENCY

UNITED STATES ARMY MEDICAL DEPARTMENT

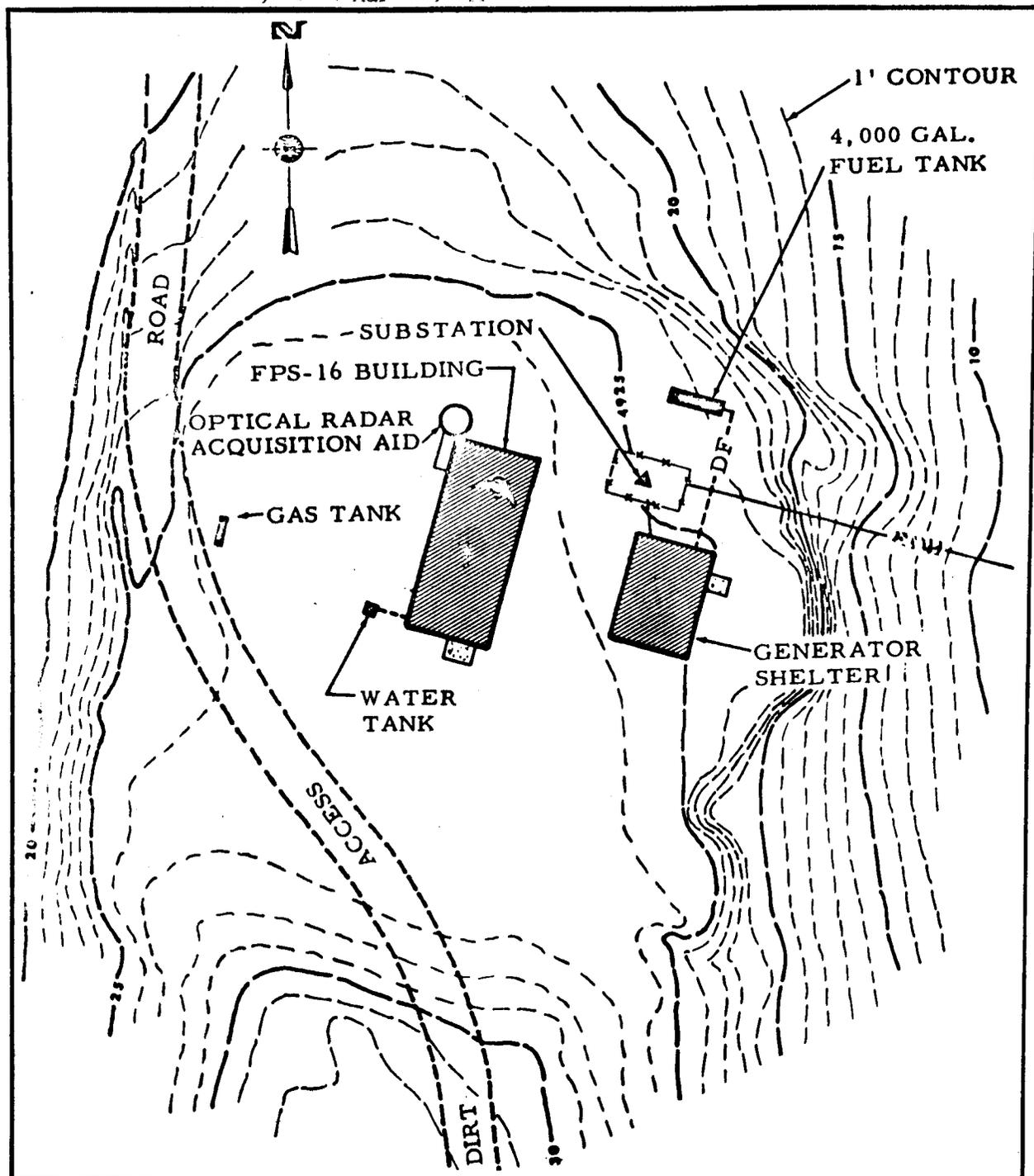
DATE 23-27 Mar. 70

DRAWN M.J.D.

APPROVED W.A.P.

SCALE 1:24000

PLATE 1



LAUNDRY RIDGE (AN/FPS-16)

U.S. ARMY ENVIRONMENTAL HYGIENE AGENCY

UNITED STATES ARMY MEDICAL DEPARTMENT

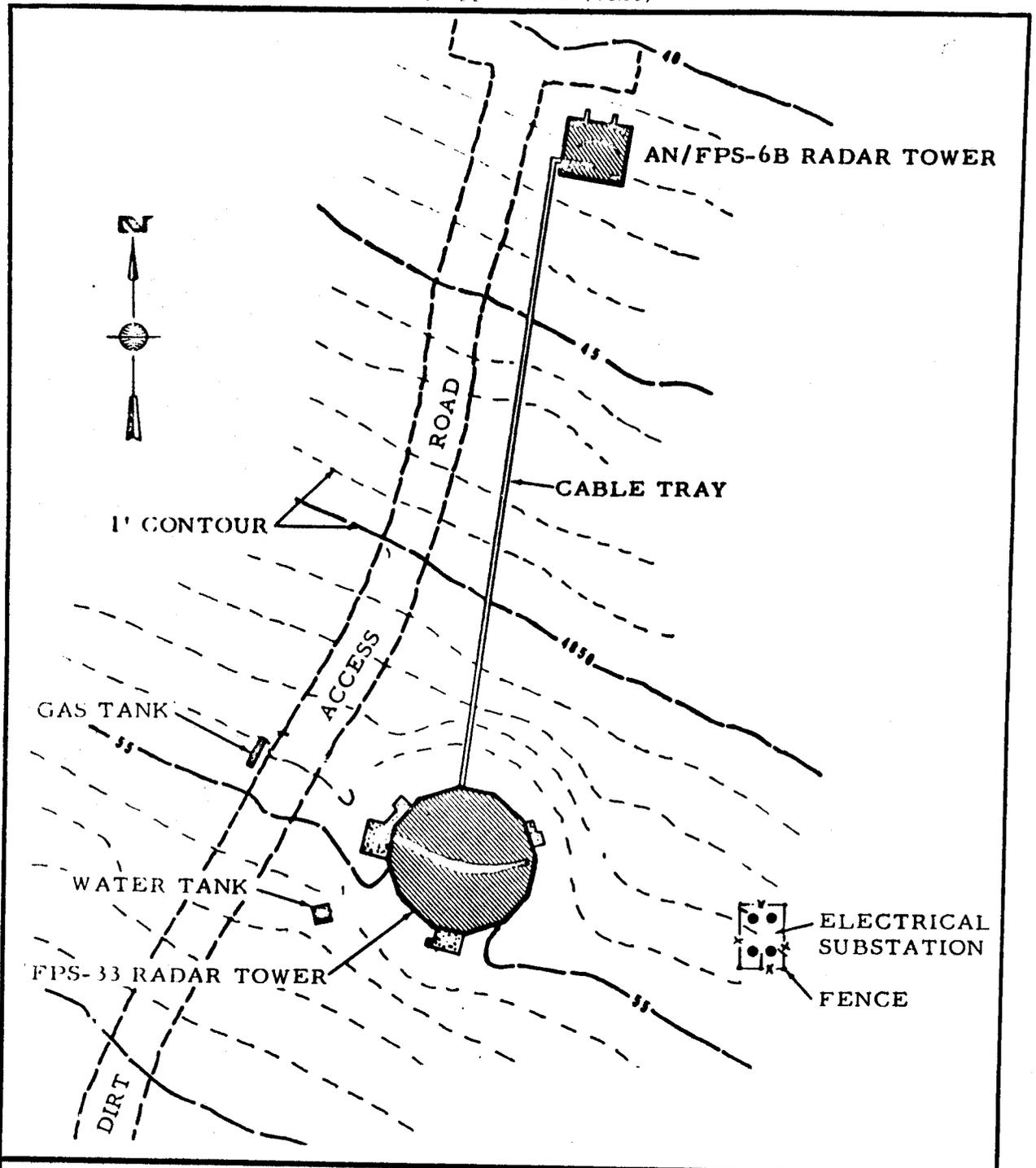
DATE 23-27 Mar. 70

DRAWN M.J.D.

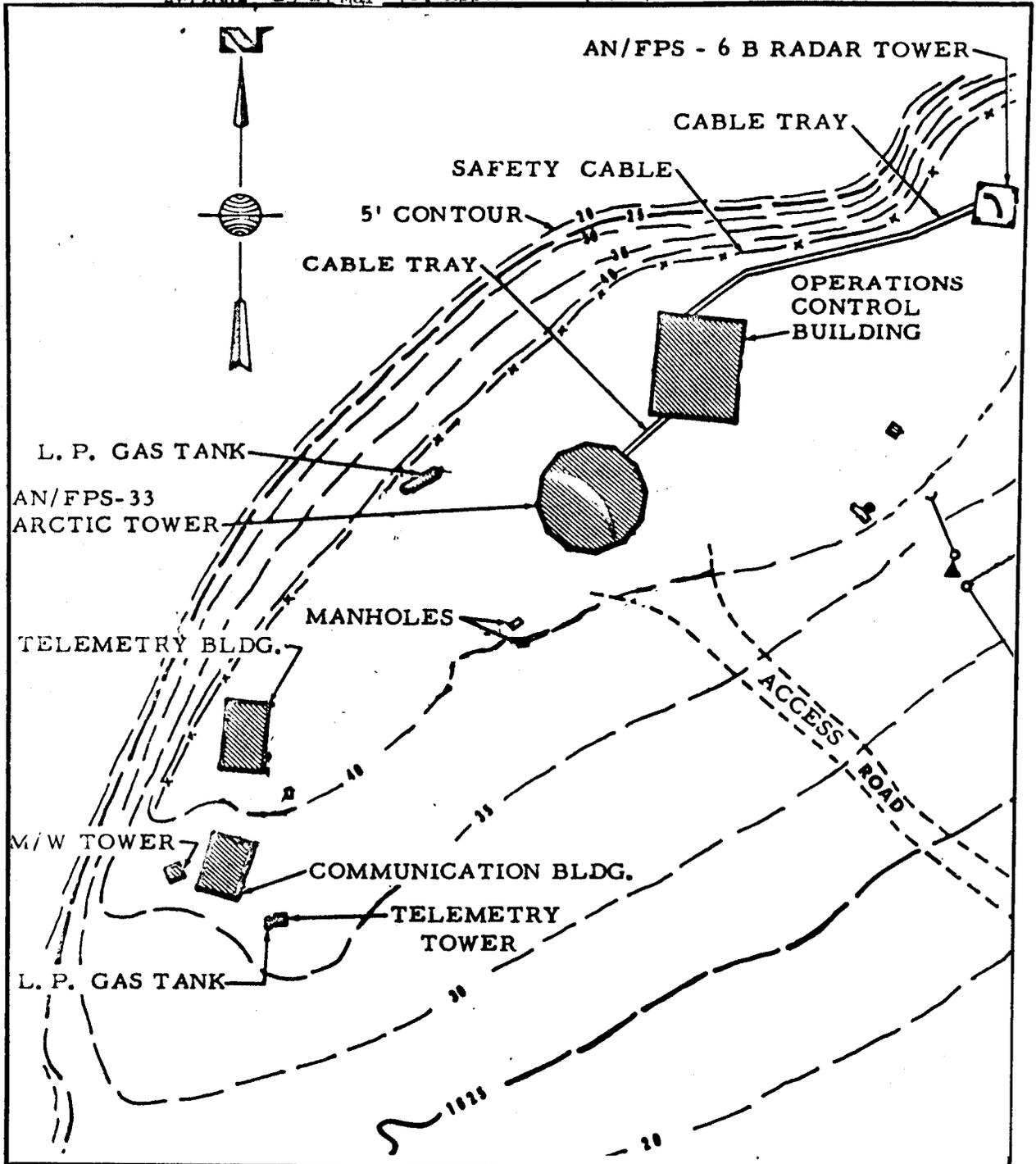
APPROVED W.A.P.

SCALE 1"=50'

PLATE 2



<p>LAUNDRY RIDGE (AN/FPS-6B and AN/FPS-33)</p>	<p>DATE <u>23-27 Mar. 70</u></p>
<p>U.S. ARMY ENVIRONMENTAL HYGIENE AGENCY UNITED STATES ARMY MEDICAL DEPARTMENT</p>	<p>DRAWN <u>M.J.D.</u></p> <p>APPROVED <u>W.A.P.</u></p> <p>SCALE <u>1"=50'</u></p> <p>PLATE <u>3</u></p>



OATMAN MOUNTAIN (WEST KNOLL)

U.S. ARMY ENVIRONMENTAL HYGIENE AGENCY
UNITED STATES ARMY MEDICAL DEPARTMENT

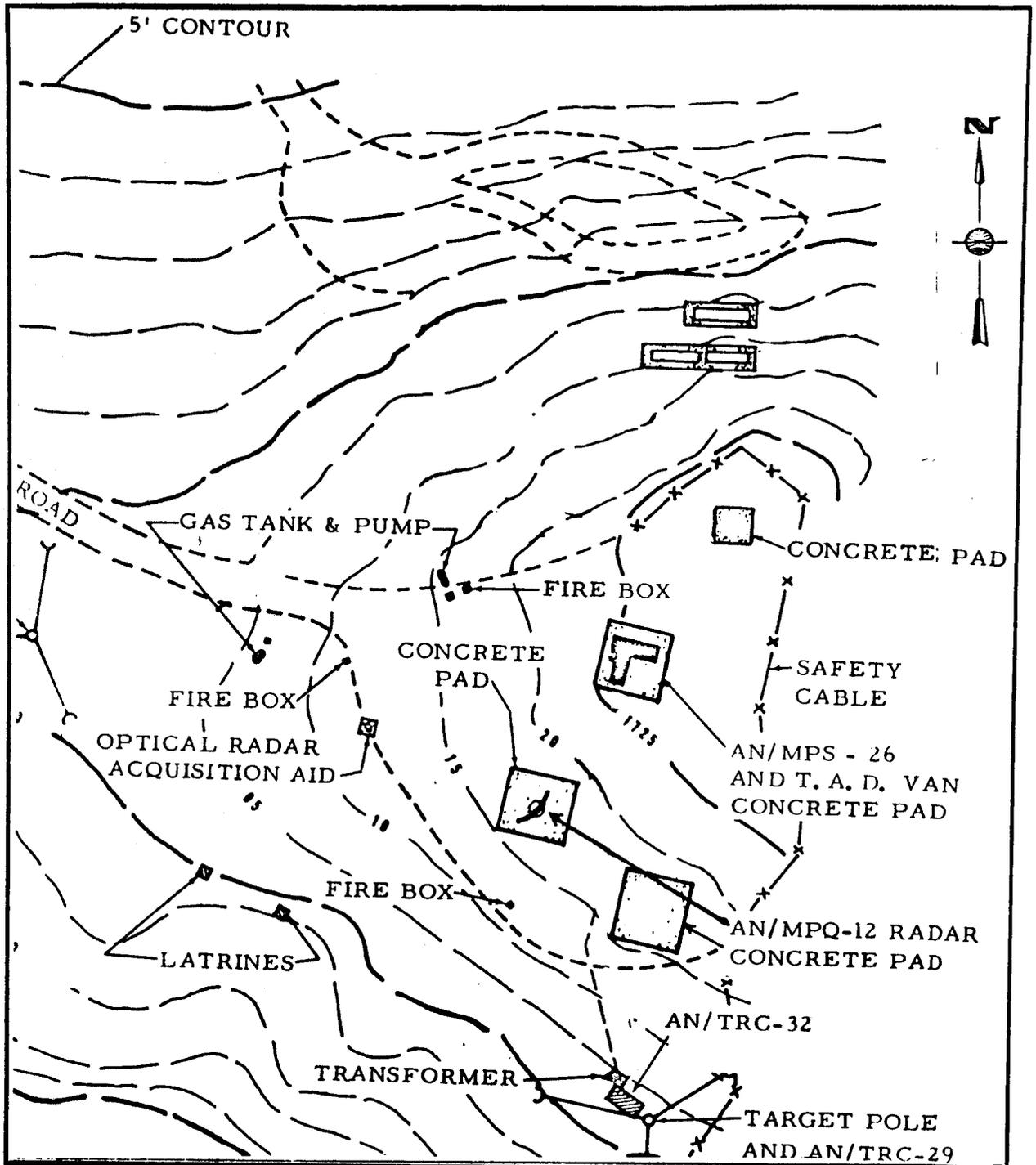
DATE 23-27 Mar. 70

DRAWN M.J.D.

APPROVED W.A.P.

SCALE 1"=50'

PLATE 4



<p>OATMAN MOUNTAIN (EAST KNOLL)</p>	<p>DATE <u>23-27 Mar. 70</u></p>
<p>U.S. ARMY ENVIRONMENTAL HYGIENE AGENCY UNITED STATES ARMY MEDICAL DEPARTMENT</p>	<p>DRAWN <u>M.J.D.</u> APPROVED <u>W.A.P.</u> SCALE <u>1"=50'</u> PLATE <u>5</u></p>

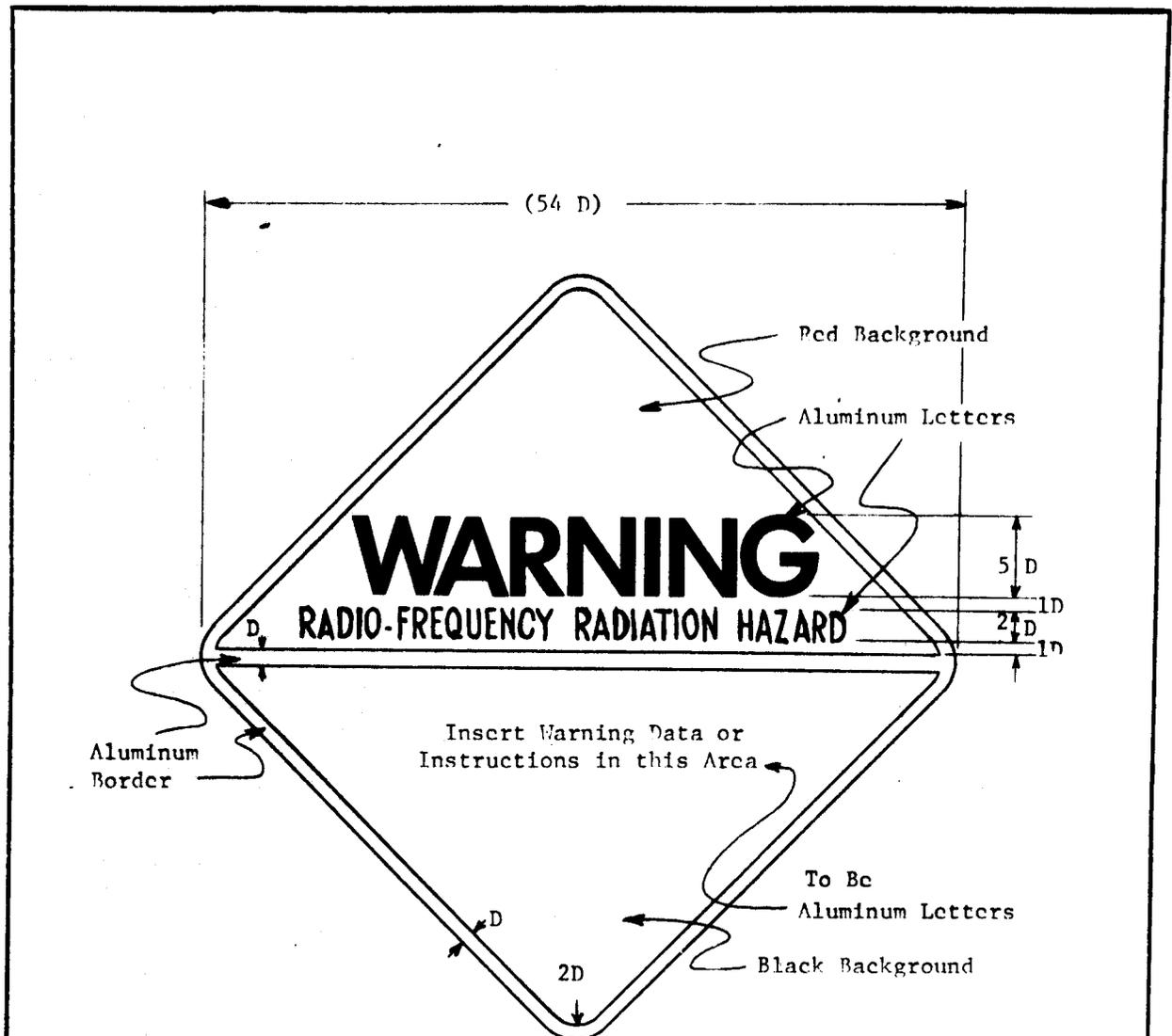
USAEHA-RL Radn Protection Survey No. 42-050-70, USAEPG, Ft Huachuca,
Arizona, 23-27Mar 70

APPENDIX C
RADIO FREQUENCY RADIATION HAZARD WARNING SYMBOL

The Department of Defense, for purposes of standardization, has concurred in the use of the United States of America Standards Institute (USASI)* "C95.2-1966, Radio Frequency Radiation Hazard Warning Symbol" on 28 June 1967. It should be noted that when TB MED 270 is updated, it will incorporate the information indicating this particular sign.

The three illustrations included are to be considered as guidelines for establishing a sign of correct size and type for the degree of hazard involved.

* Effective 6 October 1969, United States of America Standards Institute, Inc. changed its name to American National Standards Institute, Inc. Standards will be prefixed ANS in the future.

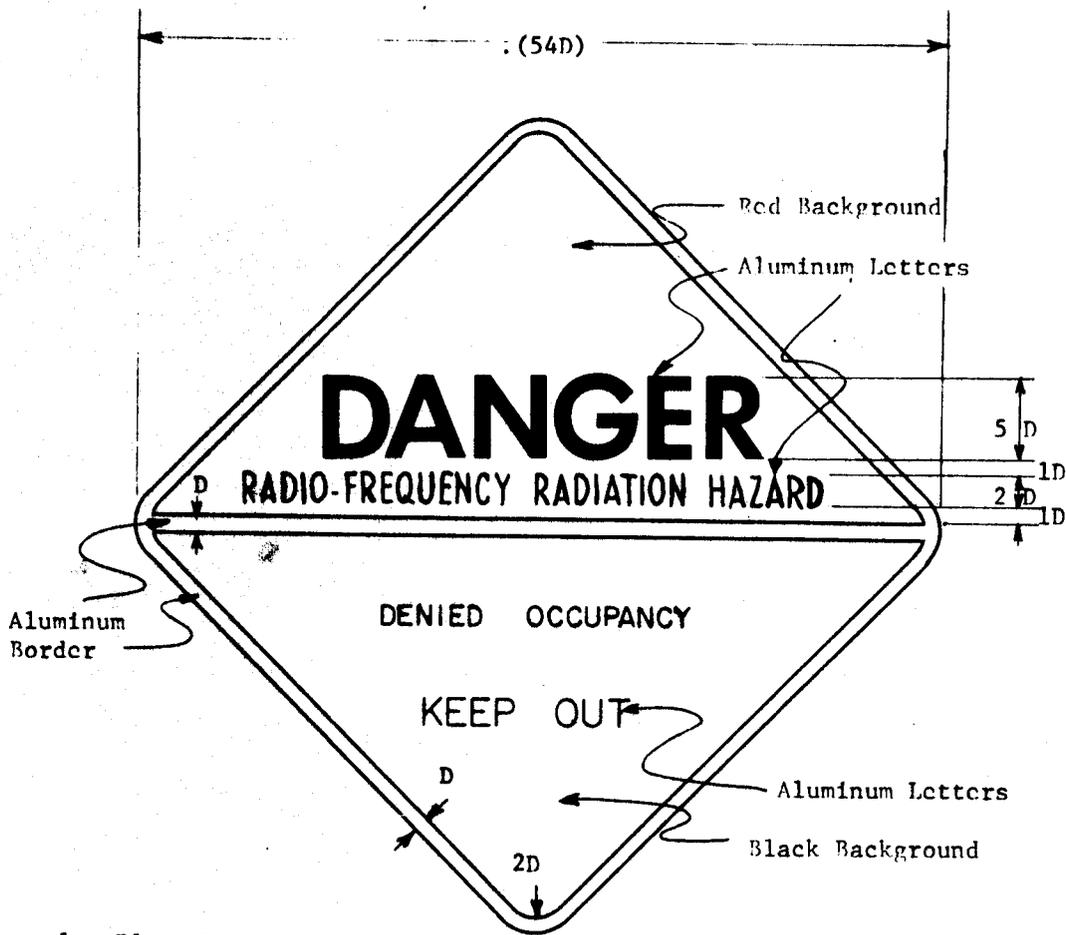


1. Place handling and mounting instructions on reverse side.
2. D = Scaling Unit
3. Lettering: Ratio of letter height to thickness of letter lines.

Upper triangle: 5 to 1 Large
 6 to 1 Medium
 Lower triangle: 4 to 1 Small
 6 to 1 Medium

4. Symbol is square, triangles are right-angle isosceles.

RADIO-FREQUENCY RADIATION HAZARD WARNING SYMBOL	DATE <u>20 Apr 70</u>
U.S. ARMY ENVIRONMENTAL HYGIENE AGENCY UNITED STATES ARMY MEDICAL DEPARTMENT	DRAWN <u>M.C.H.</u>
	APPROVED <u>J.R.T.</u>
	SCALE <u>As Shown</u>
	PLATE <u>1</u>



1. Place handling and mounting instructions on reverse side.
2. D = Scaling Unit
3. Lettering: Ratio of letter height to thickness of letter lines.

Upper triangle: 5 to 1 Large
 6 to 1 Medium
 Lower triangle: 4 to 1 Small
 6 to 1 Medium

4. Symbol is square, triangles are right-angle isosceles,

RADIO-FREQUENCY RADIATION HAZARD WARNING SYMBOL

U.S. ARMY ENVIRONMENTAL HYGIENE AGENCY
 UNITED STATES ARMY MEDICAL DEPARTMENT

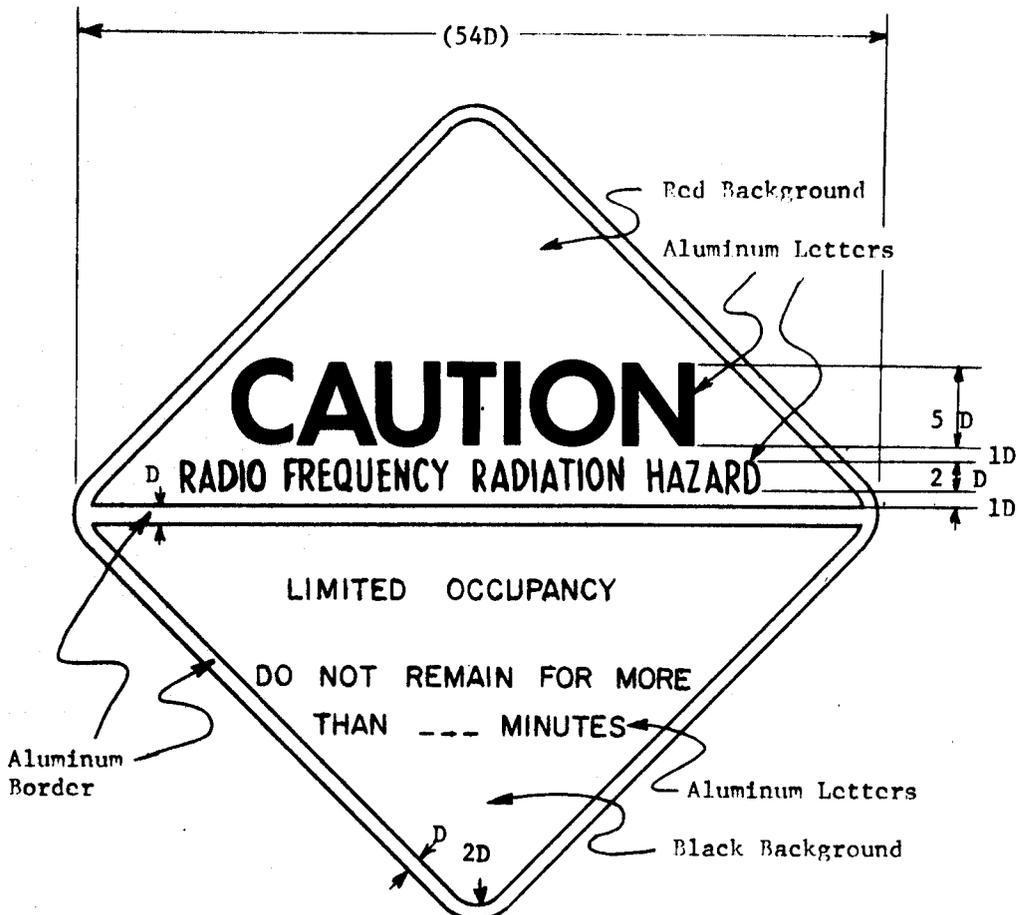
DATE 20 Apr 70

DRAWN M.C.H.

APPROVED J.R.T.

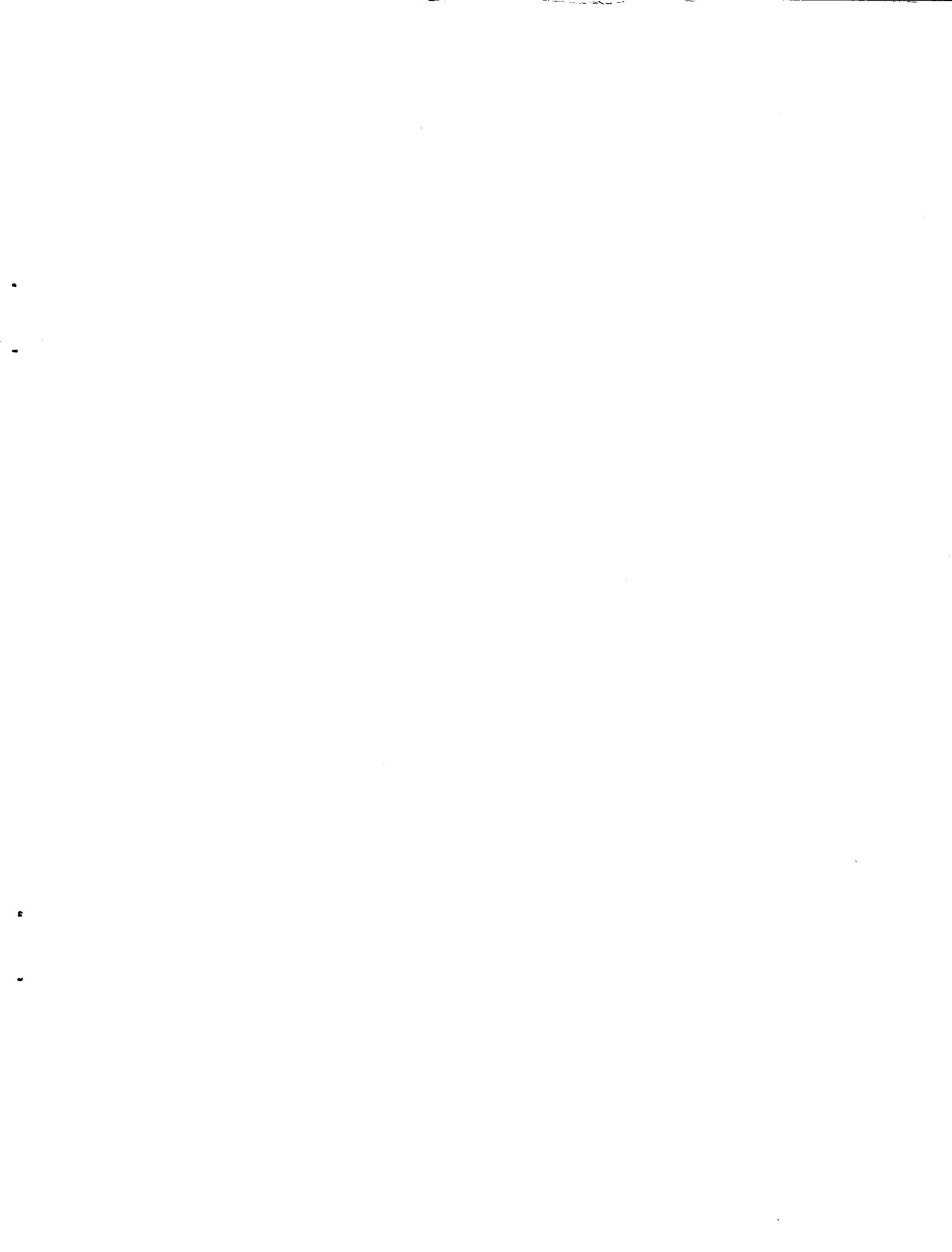
SCALE As Shown

PLATE 2



1. Place handling and mounting instructions on reverse side.
2. D = Scaling Unit
3. Lettering: Ratio of letter height to thickness of letter lines.
 - Upper triangle: 5 to 1 Large
 - 6 to 1 Medium
 - Lower triangle: 4 to 1 Small
 - 6 to 1 Medium
4. Symbol is square, triangles are right-angle isosceles.

RADIO-FREQUENCY RADIATION HAZARD WARNING SYMBOL	DATE <u>20 Apr 70</u>
U.S. ARMY ENVIRONMENTAL HYGIENE AGENCY UNITED STATES ARMY MEDICAL DEPARTMENT	DRAWN <u>M.C.H.</u>
	APPROVED <u>J.R.T</u>
	SCALE <u>As Shown</u>
	PLATE <u>3</u>



AMCMM-I (18 May 70) 6th Ind

SUBJECT: Radiation Protection Survey No. 42-050-70, US Army Electronic Proving Ground (USAEPG), Fort Huachuca, Arizona

HQ, US Army Materiel Command, Washington, D. C. 20315

24 August 1970

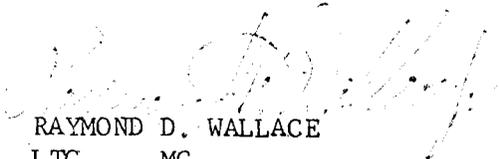
TO: Office of The Surgeon General, Department of the Army,
ATTN: MEDPS-PO, Washington, D. C. 20314

Corrective actions taken by US Army Electronic Proving Ground on recommendations contained in subject survey are considered adequate with the following comment:

Reference paragraph 5a, subject survey report: It has recently come to the attention of this Headquarters that the Radio-Frequency Radiation Hazard Warning Symbol recommended by USAEHA (adopted from USA Standard, USAS C95.2-1966) is out of proportion in regard to borders, letter height, and letter spacing. Consequently, this office advised TECOM Safety Office to use AR 385-30, Safety Color Code Markings and Signs, 16 August 1970, for guidance on the standard Army sign. In the interim TECOM will advise US Army Electronic Proving Ground to post the microwave exposure area in accordance with TB Med-270, Control of Hazards to Health from Microwave Radiation, December 1965.

Reference paragraph 5b, 4th Indorsement: TECOM Safety Office has assured this Headquarters that the developer and Electronics Command will include a 125 ft. exclusionary warning in the engineering publication of the AN/TPS-41 Radar.

FOR THE COMMANDER:


RAYMOND D. WALLACE
LTC, MC
Acting Surgeon

MEDPS-PO (18 May 70) 7th Ind

DA, OTSG, Washington, D. C., 20314 - 31 August 1970

TO: Commanding Officer, U. S. Army Environmental Hygiene Agency,
Edgewood Arsenal, Maryland 21010


AOP.

44-050-70-012

MEDPS-PO (18 May 70) 1st Ind

JEA/gew

SUBJECT: Radiation Protection Survey No. 42-050-70, US Army Electronic Proving Ground (USAEPG), Fort Huachuca, Arizona

DA, OTSG, Washington, D. C., 20314 - 4 June 1970

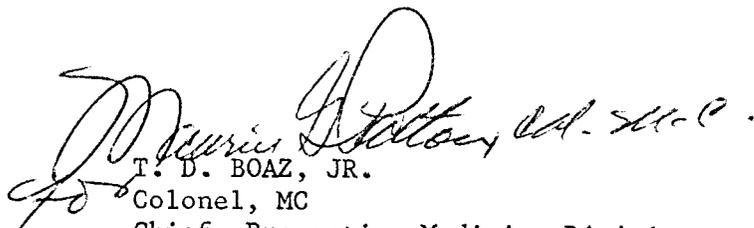
TO: Commanding General, U. S. Army Materiel Command, ATTN: Surgeon, Washington, D. C. 20315

1. Your attention is invited to the abstract on the first page of this report.
2. Concur in the recommendations contained in paragraph 5 of subject survey. Request this office be notified when recommended action has been taken so that our files may be completed. Please advise this office in the event additional assistance is required.
3. A copy of this report should be maintained until replaced by a more recent survey.

FOR THE SURGEON GENERAL:

1 Incl
nc

CF:
CO, USAEHA (wo incl)


T. D. BOAZ, JR.
Colonel, MC
Chief, Preventive Medicine Division

AMCMM-I (18 May 70) 2nd Ind
SUBJECT: Radiation Protection Survey No. 42-050-70, US Army Electronic
Proving Ground (USAEPG), Fort Huachuca, Arizona

HQ, US Army Materiel Command, Washington, D. C. 20315 16 June 1970

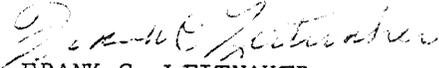
TO: Commanding General, US Army Test & Evaluation Command, Aberdeen
Proving Ground 21005

1. Radiation Protection Survey No. 42-050-70 for US Army Electronic
Proving Ground is forwarded for information and appropriate action.

2. Status of corrective actions should be forwarded to HQ, ATTN:
AMCMM-I.

FOR THE COMMANDER:

1 Incl
nc (wd 11 cys)


FRANK C. LEITNAKER
Colonel, MC
Surgeon

AMSTE-ST (18 May 70) 3d Ind

S-13 Jul 70
MrLerwill/pd/234-3350-2478

HQ, US Army Test and Evaluation Command, Aberdeen Proving Ground, Md.
21005 19 JUN 1970

TO: Commanding Officer, US Army Electronic Proving Ground, ATTN:
STEEP-PA-S

Reply indicating corrective actions taken on recommendations in para 5
of attached report will be submitted to arrive at this headquarters,
ATTN: AMSTE-ST, by COB 13 July 1970.

FOR THE COMMANDER:

1 Incl
wd 2 cys


ROGER J. LERWILL
Chief, Safety Office

STEEP-PA-S (7 Jul 70) 4th Ind
SUBJECT: Radiation Protection Survey
No. 42-050-70

S-10 July 70
Mr. Dupree/gk/879-6181

HQ, US Army Electronic Proving Ground, Fort Huachuca, Arizona
85613

TO: Commanding General, US Army Test & Evaluation Command,
ATTN: AMSTE-ST, Aberdeen Proving Ground, Maryland
21005

The following action has been taken to comply with recommendations contained in paragraph 5 of subject report:

a. General. Work request has been initiated for warning signs of the type shown in appendix C of subject report.

b. Avionics Metrology and Electronics Test Division (AN/TPS-41). The TPS-41 was undergoing test at the Proving Ground at the time of survey and has since been shipped elsewhere for further testing. No action to be taken by this headquarters.

c. Contract Facilities (Bell Aerospace)

1. Laundry Ridge Test Facility.

(a) AN/FPS-16 Tracking Radar (Bldg 13582) There is a warning light and a sign installed to warn personnel against occupancy of the roof when the radar is radiating. However a newly approved sign will be affixed to the top of the stairway to the roof.

(b) AN/FPS-33 Surveillance Radar (Bldg 13590) No action required.

(c) AN/FPS-6B Height Finder Radar. The FBS-6B has a blanking indicator system to prevent the signal from radiating when it traverses the sector in which the FPS-33 building is located. To insure safety of personnel in event the blanking device fails a denied occupancy sign will be placed at the roof access for the FPS-33 (Bldg 13590).

(d) Mod II Radar. No action required.

AMSTE-ST (18 May 70) 5th Ind

SUBJECT: Radiation Protection Survey No. 42-050-70, US Army Electronic
Proving Ground (USAEPG), Fort Huachuca, Arizona

HQ, US Army Test and Evaluation Command, Aberdeen Proving Ground, Md.
21005 15 JUL 1970

TO: Commanding General, US Army Materiel Command, ATTN: AMCMM-I,
Washington, D. C. 20315

This headquarters concurs in corrective actions indicated in previous
indorsement.

FOR THE COMMANDER:


ROY A. HIGHSMITH
Colonel, MC
Staff Surgeon