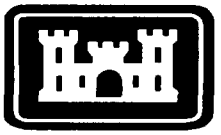


US Army Corps
of Engineers
ST. LOUIS
ENGINEER DISTRICT

RADIOLOGICAL HISTORICAL ASSESSMENT PELHAM RANGE

Fort McClellan
Anniston, Alabama

FINAL REPORT

December 2001

Prepared by
US ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

HISTORICAL ASSESSMENT - PELHAM RANGE

FORT McCLELLAN
ANNISTON, CALHOUN COUNTY
ALABAMA

Table of Contents

HISTORICAL ASSESSMENT - PELHAM RANGE

FORT McCLELLAN
ANNISTON, CALHOUN COUNTY
ALABAMA

Table of Contents

1.0 GLOSSARY OF TERMS, ACRONYMS AND ABBREVIATIONS

GLOSSARY AND ACRONYMS

AA	Anti-Aircraft
AAF	Army Airfield
AAR	After Action Report
AFP	Artillery Firing Point
AOC	Area of Concern
AEC	Army Environmental Center
AFP	Artillery Firing Point
AGO	Adjutant General's Office
AIT	Advance Individual Training
AOC	Area of Concern
AP	Armor Piercing
APDS	Armor Piercing Discarding Sabot
APERS	Antipersonnel
APT	Armor Piercing with Tracer
ASP	Ammunition Supply Point
ASR	Archives Search Report
Aux	Auxiliary
B	Bivouac Area
BAR	Browning Automatic Rifle
BD	Base Detonating
BD/DR	Building Demolition/Debris Removal
BE	Base Ejection
BGR	Bombing and Gunnery Range
BIRTC	Branch Immaterial Replacement Training Center
BLM	Bureau of Land Management
BRAC	Base Realignment and Closure
CADD	Computer-Aided Design/Drafting
Cal	Caliber
CBDA	Chemical and Biological Defense Agency
CBDCOM	Chemical and Biological Defense Command
CBR	Chemical, Biological, Radiological
CDTF	Chemical Decontamination Training Facility
CMTC	Citizens Military Training Camps
CE	Corps of Engineers

CEHNC	Corps of Engineers, Huntsville Engineering and Support Center
CEHND	Corps of Engineers, Huntsville Division (Old)
CEMVS	Corps of Engineers, St. Louis
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERFA	Community Environmental Response Facilitation Act
CFR	Code of Federal Regulations
cfs	Cubic Feet Per Second
COE	Chief of Engineers
COMP	Composition
CTG	Cartridge
CSM	Chemical Surety Material
CSM	Command Sergeant Major
CWM	Chemical Warfare Material
CWS	Chemical Warfare Service
CX	Center of Expertise
DA	Department of the Army
DARCOM	Development and Readiness Command
DERA	Defense Environmental Restoration Account
DERP	Defense Environmental Restoration Program
DERP-FUDS	Defense Environmental Restoration Program-Formerly Used Defense Sites
D&I	Detection and Identification
DoD	Department of Defense
DOE	Department of Energy
DOI	Department of Interior
EBS	Environmental Baseline Survey
EE/CA	Engineering Evaluation/Cost Analysis
EIS	Environmental Impact Statement
EOD	Explosives Ordnance Disposal
EPA	Environmental Protection Agency
ERDA	Environmental Restoration Defense Account
FDE	Findings and Determination of Eligibility
FFE	Flame Field Expedient
FFMC	Federal Farm Mortgage Corporation
FLCH	Flechette
FORSCOM	Forces Command
FS	Feasibility Study
FTMC	Fort McClellan
FWS	U.S. Fish and Wildlife Service
FUDS	Formerly Used Defense Sites
GIS	Graphic Information System
GSA	General Services Administration
HE	High Explosive
HEAT	High Explosive Anti-Tank
HEI	High Explosive Incendiary

HEP	Plastic
HE-S	Illuminating
HTRW	Hazardous Toxic and Radioactive Waste
HTW	Hazardous and Toxic Waste
IAS	Initial Assessment Study
IAIT	Infantry Advance Individual Training
ICM	Isotope Committee Meeting
INPR	Inventory Project Report
IRP	Installation Restoration Program
IRTC	Infantry Replacement Training Center
KD	Known Distance
LAW	Light Anti-Tank Weapons
MFP	Mortar Firing Point
MG	Machine Gun
MG	Major General
mm	Millimeter
MT	Mechanical Time
MTSQ	Mechanical Time Super Quick
NARA	National Archives and Records Administration
NAS	Naval Air Station
NBC	Nuclear, Biological, Chemical
NCDC	National Climatic Data Center
NCP	National Contingency Plan
NFS	National Forest Service
NG	National Guard
NGB	National Guard Bureau
NGVD	National Geodetic Vertical Datum
NOAA	National Oceanic and Atmospheric Administration
NOFA	No Further Action
NPRC	National Personnel Records Center
NRC	National Records Center
NRC	Nuclear Regulatory Commission
OE	Ordnance and Explosives
OEW	Ordnance and Explosive Waste
OP	Observation Point
ORC	Organized Reserve Corps
OSHA	Occupational Safety and Health Act
PA	Preliminary Assessment
PD	Point Detonating
PIBD	Point Initiating, Base Detonating
PL	Public Law
QASAS	Quality Assurance Specialist Ammunition Surveillance
R	Range
RA	Removal Action
RAC	Risk Assessment Code
RD	Remedial Design

RG	Record Group
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
ROTC	Reserved Officers Training Corps
RTC	Recruit Training Center
SARA	Superfund Amendments and Reauthorization Act
SCS	Soil Conservation Service
SDZ	Surface Danger Zone
SLD	St. Louis District, Corps of Engineers
SOP	Standard Operating Procedure
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Health Plan
SWMU	Solid Waste Management Units
T	Training Area
TA	Training Area
TAY	Toxic Agent Yard
TECOM	Test Evaluation Command
TEU	Technical Escort Unit
TMDE	Test Measuring and Diagnostic Equipment
TNT	Trinitrotoluene
TP	Target Practice
USA	United States of America
USACE	U.S. Army Corps of Engineers
USACHPPM	U.S. Army Center for Health Promotion and Preventive Medicine
USADACS	U.S. Army Defense Ammunition Center and School
USAED	U.S. Army Engineer District
USAEDH	U.S. Army Engineer Division, Huntsville, AL (Old)
USAESCH	U.S. Army Engineering and Support Center, Huntsville, Alabama
USATHMA	U.S. Army, Corps of Engineers, Toxic and Hazardous Materials Agency
USC	United States Code
USDA	U.S. Department of Army
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UTES	Unit Training Equipment Site
UXO	Unexploded Ordnance
WAA	War Assets Administration
WD	War Department
WNRC	Washington National Records Center

CHEMICAL GLOSSARY AND ACRONYMS

CG	Phosgene	Choking
DP	Diphosgene	Choking
GA	Tabun	Nerve

GB	Sarin	Nerve
GD	Soman	Nerve
VX	VX	Nerve
AC	Hydrogen Cyanide	Blood
CK	Cyanogen Chloride	Blood
SA	Arsine	Blood
HD	Distilled Mustard	Blister
HN-1	Nitrogen Mustard	Blister
HN-2	Nitrogen Mustard	Blister
HN-3	Nitrogen Mustard	Blister
CX	Phosgene Oxime	Blister
L	Lewisite	Blister
HL	Mustard-lewisite	Blister
PD	Phenyldichloro-arsine	Blister
ED	Ethyldichloro-arsine	Blister
MD	Methyldichloro-arsine	Blister
DA	Diphenylchloro-arsine	Vomiting
DM	Adamsite	Vomiting
DC	Diphenylcyano-arsine	Vomiting
CN	Chloroaceto-phenone	Tear
CNC	Chloroaceto-phenone in Chloroform	Tear
CNS	Chloroaceto-phenone and Chloropicrin in Chloroform	Tear
CNB	Chloroaceto-phenone in benzene and Carbon Tetrachloride	Tear
CA	Bromobenzylcyanide	Tear
CS	O-chlorobenzyl-malononitril	Tear
BZ	BZ	Incapacitating
BG	Bacillus globigii	Biological Simulants
SM	Serratia marcescens	Biological Simulants

OTHER CHEMICAL CORPS TERMS

BW	Biological Warfare
CBR	Chemical, Biological, Radiological
NBC	Nuclear, Biological, Chemical
Rad.	Radiological

2.0 EXECUTIVE SUMMARY

The purpose of this Historical Assessment is to identify any buildings and areas, which may have been associated with the use, storage, handling, disposal or burial of radioactive isotopes at the Pelham Range Area of Fort McClellan. The St. Louis Engineer District used the Archives Search Report process to identify areas, which previously to this investigation, were unknown.

New areas identified as being associated with radioactive materials are:

Area 10A: The fenced area at Range I and the surrounding area may have been used for radiological survey familiarization training as part of the Chemical, Biological, Radiological (CBR) Field Familiarization Course. The fenced area may have contained the radioactive material storage wells.

Area 10B: Lima Pond was originally used as an 'A-Bomb' crater for the CBR Field familiarization Course. Range K may have been used for the radioactive material storage wells. Additionally, the fenced area may have been used to conduct radioactive survey training. The 1954 aerial photographs show a grid like area northeast of what is now Rideout Hall. This area may also have been used for radiological survey training.

Area 9D: The south part of this Training Area was identified in the 1977 Initial Assessment of Fort McClellan as a possible Radiological Training Site. The area is across the road to the northeast of the Range K area. No follow on investigations for this area could be found.

Previously identified sites are:

The 300 source well field known as Radiological Survey Area #3.
Rideout Field with 1024 source wells.
The Pelham Range Radiological Burial Grounds

Recommendations for these specific areas may be found in Section 8.0, Conclusions.

3.0 PURPOSE OF THE HISTORICAL SITE ASSESSMENT (SCOPE)

3.1 Authority

Since 1988, Congress has enacted legislation providing for the closure, in part or in whole, of military bases/facilities and the realignment of others. The principal mechanism for implementing the policy in both statutes has been an independent, bipartisan commission. Two of the most pressing issues are: (1) providing assistance to local communities economically impacted by base closures; and (2) establishing a cost-effective program of environmental cleanup at bases prior to their disposition.

Congress introduced base closure procedures in Public Law 100-526, enacted 24 October 1988. The statute established a bipartisan commission to make recommendations to Congress and the Secretary of Defense on closures and realignments, commonly referred to as the Base Closure and Realignment Commission (BRAC).

On 5 January 1989, the Secretary of Defense approved the commission's report, BRAC 88, recommending closure of 86 installations, partial closure of 5, and realignment of 54 others. Since the commission approach adopted by Congress was successful, new base closure legislation was introduced (Public Law 101-510) which again relied upon the services of an independent commission. The Defense Base Closure and Realignment of 1990 (1990 Base Closure Act), Public Law 101-510 established the process by which Department of Defense (DoD) installations would be closed and/or realigned. This commission, in accordance with a statutory provision, met in 1991, 1993 and 1995. Fort McClellan, Alabama, was among the installations that were recommended to be closed in the BRAC 95 report.

3.2 Subject

Fort McClellan abuts the city of Anniston, Alabama and lies within Calhoun County. During the Spanish American War (1898), units stationed at Camp Shipp in the Blue Mountain area may have used the area for artillery training. Documented military use began in 1912 when the Alabama National Guard used part of the site as a Field Artillery Range. In 1917, Congress authorized the establishment of Camp McClellan. In 1929, the camp became officially designated as Fort McClellan. Following World War II, the Fort was put into an inactive status in June of 1947. The Fort was reactivated in January of 1950 and has remained an Active Army Installation. The U.S. Army Chemical School was a tenant activity from 1951 to 1973 and again from 1979 to 1999.

This report covers the Pelham Range area only. It does not cover main post and the Choccolocco Corridor.

3.3 Purpose

This Historical Assessment compiles information obtained through historical research at various archives and records holding facilities, interviews with persons associated with Pelham Range or its operations, and a team inspection of the site. The search directs efforts towards determining possible use or disposal of Radiological Materials on the site. The research places particular emphasis on establishing the types, quantities, and area of disposal. This process obtains information for use in developing recommendations for further action at Pelham Range.

3.4 Scope

This investigation focuses on the potential that Radiological Contamination could remain on Pelham Range. The primary focus was the use of Radioactive Isotopes by the Chemical School from 1952 to 1973. Of specific interest was 1952 to 1957 timeframe, when the Chemical School was not required to have a license from the Atomic Energy Commission (AEC). This report presents the following:

- A brief history of Pelham Range at Fort McClellan
- Historic use of Radioactive Isotopes
- A listing of related site investigations
- Findings of the site inspection
- Description of Radiological uses identified with the site

These factors represent the basis for the evaluation of potential Radiological Contamination and associated risks at Pelham Range.

4.0 PROPERTY IDENTIFICATION

4.1 Physical Characteristics

4.1.1 Name - Pelham Range

4.1.2 Location - Anniston, Alabama

4.1.3 Topography - Not included as part of the scope of this Historical Assessment.

4.1.4 Stratigraphy - Not included as part of the scope of this Historical Assessment.

4.2 Environmental Setting

4.2.1 Geology

Fort McClellan is located in the Tennessee section of the Valley and Ridge province. Consolidated rocks that range in age from Precambrian to Pennsylvanian have been sharply folded into northeastward trending synclines and anticlines complicated by thrust faults that have a general northeastward trending strike and a southeasterly dip. The predominating features of the area are the thrust faults.

Metamorphic rocks have been thrust northwestward and overlie rocks of Cambrian and Ordovician age along the eastern edge of the county. Throughout the rest of the county, the presence of faults is indicated by repetition of formations and by the absence of formations. Secondary stresses resulting from the primary folding and thrust faulting, caused numerous high-angle faults that are of more local extent. Additionally, the faulting and the attendant folding and crushing of beds caused the distribution of formations near the town of Choccolocco (Causey and Warman 1962).

4.2.2 Hydrogeology (Not applicable in this report).

4.2.3 Hydrology

Groundwater

The fault zones of the area form reservoirs and conduits for large quantities of groundwater. Abundant supplies are available over much of the area from the many springs that discharge groundwater from the fault systems. Several hundred gallons per minute commonly can be developed from drilled wells that are finished in the Shady Dolomite and the Conasauga Formation. These formations are relatively thick and crop out in large parts of the area. Locally, the Cambrian and Ordovician dolomites supply several hundred gallons per minute of ground water from springs, while drilled wells in

these rocks produce much smaller yields. Additionally, the Fort Payne Chert and the Newala Limestone in places furnish supplies of several hundred gallons per minute, but these formations are relatively small and scarce in this area.

General movement of the groundwater is to the south and west. Near Choccolocco Valley the groundwater moves southward and then westward around the southern end of the town of Choccolocco (Causey and Warman 1962).

Surface Water

Runoff from the site flows into Cane Creek and into the Coosa River. The Alabama River, at Montgomery, has a minimum flow of 52,000 cfs and a maximum flow of 284,000 cfs for the period of record 1886-1961.

4.2.4 Meteorology

Based on climatological data at Birmingham Municipal Airport, summers are long and hot. On a typical mid-summer day, the temperature will be nearly 70 degrees at daybreak, approach 90 degrees at mid-day, and level off in the low 90s during the afternoon. It is not unusual for the temperature to remain 100 degrees for several days in a row. However, every few years an extended heat wave will bring temperatures over 100 degrees. July is normally the hottest month but there is little difference from mid-June to mid-August. Rather persistent high humidity adds to the summer discomfort.

January is normally the coldest month but there is not much difference from mid-December to mid-February. Overall, winters are relatively mild. Even in cold spells, it is unusual for the temperature to remain below freezing all day. Sub-zero cold is extremely rare, occurring only a very few times this century.

Snowfall is erratic. Sometimes there is a two or three year span with no measurable snow. On rare occasions, there may be a two to four inch snowstorm. The snow usually melts quickly. In a normal year, the last 32-degree minimum temperature in the spring is in mid to late March and the first in autumn is in November.

Rainfall is abundant and is fairly well distributed throughout the year. However, some of the wetter winter months, plus March and July have twice the rainfall of October, the driest month. Summer rainfall is almost entirely from scattered afternoon and early evening thunderstorms. Serious droughts are rare and most dry spells are not severe. The stormiest time of the year with the greatest risk of severe thunderstorms and tornadoes is in spring, especially in March and April.

The prevailing wind is south with a mean speed of 7.2 miles per hour

5.0 HISTORICAL SITE ASSESSMENT METHODOLOGY

5.1 Approach and Rationale

The approach used for this Historic Assessment is the same approach as used in preparing an Archives Search Report (ASR) for Explosive Ordnance or Chemical Warfare Materials. Various Record Groups at the National Archives are searched as well as National Holding Centers for records. State and local archive holdings are also searched. On site reviews of existing records and interviews with knowledgeable sources are conducted. Aerial photos from previous over flights are interpreted if available. A site survey is conducted to confirm the historic research.

5.2 Boundaries of Site

All of the locations identified are within the boundaries of Pelham Range.

5.3 Documents Reviewed

Washington National Records Center
4205 Suitland Road
Suitland, MD 20409
POC: Velicia Chance
(301) 457-7010

Record Group 338 (Records of the U.S. Army Commands)
- Accession 68A6001
  - Boxes 1 – 2
- Accession 70B0668
  - Box 1
- Accession 71A0491
  - Boxes 1 – 2
- Accession 72B1094
  - Box 1
- Accession 72C1094
  - Boxes 1 – 3
- Accession 72D1094
  - Box 1
- Accession 73B5398
  - Box 1
- Accession 73C5398

Box 1
Accession 740688
Box 1
Accession 90-0174
Box 1
Accession 90176
Boxes 1 - 17 Destroyed in 1997.
Accession 93-0473
Boxes 1 – 5

National Archives I
8th and Pennsylvania
Washington, DC 20408
POC: Mitch Yockelson
(202) 501-5385

Record Group 77 (Records of the Chief of Engineers)
Entry 393
Boxes 138 - 140

National Archives at College Park
8601 Adelphi Road
College Park, MD 20740
POC: Ken Schlessinger
(301) 713-6800

Record Group 112 (Records of the Office of the Surgeon General)
Entry 31 Geographic Series, 1945-46.
Box 41 One folder on Fort McClellan.

Record Group 175 (Records of the Chemical Warfare Service)
Entry 1. US Army Schools; Chemical Corps School.
Boxes 1 – 10. Fort McClellan.
The Chemical Corps School Fort McClellan, AL General Records, 1949-50.
Box 1
Records of the Office of the Chief Chemical Officer, 1948-60.
Boxes 11 – 13.
Accession 67A4900 Records of the Chief Chemical Officer, 1946-54.
Boxes 372, 373, 422, 479, 481.
General Correspondence, Miscellaneous Series, 1955-59.
Boxes 23 – 26, 45, 46, 49, 67, 68, 73, 74, 75, 82, 102.
General Correspondence, Subject Series, 1955-60.
Boxes 1 – 10, 124, 145 – 149, 166, 181, 182, 192 – 195, 197.
General Correspondence, Station Series, 1955-59.
Boxes 24 – 28, 37 – 44, 53 – 68, 75.
Historian Background Files, 1951-54.

Boxes 7 – 13.

Record Group 337 (Records of the Army Ground Forces)
Entry 1
Box 15 Two folders on Fort McClellan.

U.S. Army Corps of Engineers
Office of History
7701 Telegraph Road
Fort Belvoir
Alexandria, VA 22315
POC: Lisa Wagner
(703) 428-6558

Copied Fort McClellan installation maps.

U.S. Army Center for Health Promotion and Preventive Medicine
Health Physicists Department, Building 5158
Edgewood Area, Aberdeen Proving Ground, MD
POC: Mr. Harris Edge
(410) 436-8395

The research team copied several reports pertaining to Fort McClellan radiological studies.

U.S. Army Center for Military History
103 3rd Avenue
Fort McNair, DC 20319-5058
POC: Mary Haynes
(202) 685-4042

The research team carefully viewed the appropriate history and found no pertinent information.

National Personnel Records Center
Military Personnel Records
9700 Page Avenue
St Louis, MO 63132-5100
POC: Wilson Sullivan
(314) 538-4085

Record Group 338 (Records of the U.S. Army Commands)
Accession 56A0434

Boxes 1 – 2 Copied documents on Talladega Forest Maneuver Area and Morrisville Training Area.

Accession 59A4097

Box 1 Decimals 010.3 – 674. Copied documents on Talladega Forest , HEW Demonstration Area, Pelham Fires.

Accession 69A4172

Box 1 Computer print out cards.

Accession 780758

Boxes 1 – 2 Vault boxes.

Chemical School Library
Building 1081
Fort McClellan, AL 36205-4414
POC: Richard Pastorett
(205) 848-4414

The research team carefully viewed all the pertinent files and made numerous copies.

U.S. Army Chemical Corps Museum
Building 2299
Fort McClellan, AL 36205-5020
POC: Thomas Miller
(256) 848-4449

The research team carefully viewed all the pertinent files and made numerous copies.

5.4 Property Inspections

During the investigation, three site visits were made during 1999. These site visits were made in May, September and November of 1999. Summaries of these visits are:

1. During 24-26 May the following radiological sites were visited:

   a. Lima Pond Area, Range L, the two military tanks on the hill to the east were inspected. There is a sign on the ground "Contaminated, Keep Off." The crater area is fenced and was not entered.

   b. Range K Area, the old fenced area was walked as were areas outside the fence. Numerous pieces of ordnance, which had been vented, using shape charges were found, along with partially buried bleach cans.

c. Range I Area, original fenced area still exists. There is a small concrete marker just inside the gate and a man made mound in the rear. Outside the fence to the south were 5 metal posts spaced approximately 75' apart in a row. This may have been the Radiological Survey Area, which was part of the Chemical Officer Field Familiarization Course.

d. Radiological Burial Area (north end of Battle Drill Area). This is the old Pelham Range Radiological burial ground. Two of the corner fence posts were still present. This area originally had a fence with a perimeter of 400 yards.

2. During 20-23 September the following radiological sites were visited:

   a. The area south of Range I was re-walked. No other signs of training other than the five 4" pipes were found.

   b. The road between Lima Pond and Range K was walked. Training aids such as expended smoke grenades and slap flares were found.

3. During 1-4 November 1999 the following radiological sites were visited:

   a. The area north of the grassy area at Range I was walked. Three more 4" pipes were found in a general east-west line. Two of the pipes were erect and one was near the edge of the road, on the west side of Range I.

   b. The eastern portion of Area 10B was walked. Some expended slap flares were discovered in the area.

   c. A Toxic Gas sign was discovered nailed to a tree on the north end of the western edge of Area 10A. The immediate area was walked, no evidence of CWM use was discovered.

   d. The service road between the Toxic Area (10A) and the Rideout Field (Area 24C) was inspected. All signage warning of Toxic Dangers or Radiological Dangers have been removed.

5.5 Personal Interviews

Dr. John May of the U.S. Army Chemical School was informally interviewed for general information concerning the use of radioactive material at Pelham Range. Information was also obtained from retired Sergeant Major Bart Truffa's interview done by USACHPPM (see Appendix B-Cited Documents). Bart Truffa was on site during the removal operations at Rattlesnake Gulch in 1971 (Main Post). In 1995 he assisted Dr. May in relocating the burial site on Main Post.

6.0 HISTORY AND CURRENT USAGE

6.1 History

In 1915 President Woodrow Wilson reserved 1,160 acres in Alabama for military purposes which soon became Fort McClellan. In 1941, during World War II, the War Department authorized the acquisition of additional lands for a military training area; thus 26, 912.17 acres were acquired. This area was originally called the Morrisville Maneuver Area and is now known as the Pelham Range Area. This area is separated from the Fort McClellan main post by approximately 6 miles (Mobile District 1988).

The Department of the Army established the Army Chemical Training Center at Fort McClellan in 1951 and academic instruction began at the U.S. Army Chemical Corps School in 1952. The Radiological Safety Support Unit, established in 1953, was an organizational element of the Army Chemical Training Center at Fort McClellan. The Rad Unit, as it was commonly called, conducted radiological tests and research and development, which aided in the development of training and tactical doctrine. In 1963 the name of the U.S. Army Chemical Corps School changed to the U.S. Army Chemical Center and School (Brief 1954; Rosell 1960).

In June of 1952 the Isotope Committee gave permission for the purchase of 10 sources of $Cobalt^{60}$ to be used by the Chemical School. The sources would be used in the CBR Familiarization Course in the Pelham Range Area as a training aid (Area 10-A and Area 10-B). The sources were to be stored, when not in use at the site at which they were used, in a similar manner as that used in the radiological field monitoring area "Rattlesnake Gulch" (Main Post). By December 1952 the 10 sources of $Cobalt^{60}$ had been received and installed in the CBR Field Familiarization Course. Much of Area 10-B was used for the CBR Tactical Training Exercise Course. The site known as Lima Pond was actually Station No. 5 (A-Bomb). Radiological sources were placed in the crater. Students had to monitor the radiation, take appropriate actions and continue on with the exercise (Isotope Committee Meeting (ICM) #4,1952; ICM #6, 1952, Lesson Summary Sheet 1955).

In July 1954 the use of radioactive sources on Pelham Range was restricted. The ICM minutes reads:

> "Approval was granted for the use of radioactive material only in the area fenced and designated as the Toxic Gas Area of Pelham Range. Any other area was disapproved on the basis that AEC regulations cannot be complied with in other areas without extreme difficulty"

In August of 1954 approval was given for a new Pelham Range Radiological Survey Training Area. Approval was also granted to purchase up to 500 Curies of $Cobalt^{60}$ in an

unencapsulated form. By December 1954, ten salvaged medium tanks had been obtained to place in the area to add realism to the problem and to serve as landmarks. Other military salvage, such as tents, fuel cans and tires had also been obtained. In January 1955 a fence to enclose the new area was being requisitioned. A new system of source wells was to be used using a system of cables or chains to raise and lower the sources from individual source wells. Prior to this sources had been stored in a source well and manually placed on a post or other device during training ('Fishing Pole' method) (ICM #13, 1954;
ICM #14, 1954; Powell 1955).

By April of 1956 the new field at Pelham had been designated as Radiological Survey Area #3. At least 90 source wells had been placed and another 100 were ready to be placed. The same month approval was granted the field to be used by radiological ground survey classes. The field consisted of $Cobalt^{60}$ sources from 300 source wells in an open field when needed for training. These sources simulated a fallout pattern from a nuclear detonation. The field was used to train students in the procedure for planning, controlling and conducting ground and aerial radiological surveys. (ICM #17, 1956; ICM #18, 1956).

By May of 1957 a Radioactive Burial Ground had been established at Pelham Range. Use of the burial area was placed on hold until the provisions of AR 755-380 could be met. The perimeter of the burial area required 400 yards of fencing. By October of 1957 a path was being made around radiological Survey Area #3 for the installation of a new fence around the area. By 13 November, work on the fence had been completed. A recommendation was also made in November to place a marker in concrete at the burial grounds (Progress Report 1957; ICM #29, 1957; ICM #30, 1957; Wood 1957).

Beginning in 1957 the U.S. Atomic Energy Commission began issuing Byproduct Material Licenses to the U.S. Army Chemical School at Fort McClellan for activities at Pelham Range Area and on main post. The Atomic Energy Commission amended license number 01-02861-01 twenty-two times and license number 01-02861-02 four times. Both of the licenses were renewed in 1972 with an expiration date of 1977. In 1959 the U.S. Army Chemical School received a Special Nuclear Material License No. SNM-344 for U-233 and plutonium. After the U.S. Army Chemical Corps School reopened in 1979 the Atomic Energy Commission issued license 01-02861-04. This license was amended and extended for several years (Morgan 1957; Schwertner 1972; Layfield 1971).

In 1957 Fort McClellan soldiers removed radioactive waste from Fort McClellan (Iron Mountain Waste Area) and transferred it to Pelham Range for burial (ICM #25, 1957; Anderson 1971).

In April of 1958 a test was accomplished on twenty of the sources at Pelham Range. There was one possible leaker that would need to be rechecked (results unknown). By August of 1958, the sources and wells had been removed from the Field Familiarization Course at Pelham Range. The engineers had also received a granite marker, for the burial ground (Johnson 1958; Knight 1958).

During the 6 March 1959 isotope committee meeting there was a discussion on the possibility of building a new larger radiological survey field (Knight 1959).

In 1960 the Atomic Energy Commission and U.S. Army Chemical Center and School entered into an Interagency Agreement For Enriched Uranium (SNM Interagency Agreement No. 1003) at Fort McClellan (McAlduff 1970). In 1971 the U.S. Atomic Energy Commission and the U.S. Army Chemical Center and School entered into an agreement (Agreement No. 3039) for plutonium management at Fort McClellan (Craig 1971).

By 1965, Radiological Survey Area #3 had been replaced by the newer Rideout Field. This new field used hydroelectric actuators to raise and lower the sources. This allowed the field's pattern to be changed and provide more realistic training. The field was designed to provide a gamma radiation field with one thousand $Cobalt^{60}$ sources distributed in a specific area. The sources were stored on rods in wells below ground and raised by remote control when needed for training. Although more than one thousand wells were installed (estimated 1,024), operational problems with the system prevented the usage of many wells (Estimated that no more than 800 were ever operational at one time). Additional construction at Rideout Field included a classroom with remote control console (Rideout Hall), two control towers, a security fence and gate and a helicopter landing pad (Anniston Star 1970; Dedication Ceremony 1965; U.S. Army Chemical Center and School 1972)

The Chemical Center at Fort McClellan closed Rideout Field as a training area in March 1972. Fort McClellan personnel removed the $Cobalt^{60}$ sources and the old Radioactive Material Burial Site was cleared. The U.S. Army Chemical Center and School at Fort McClellan was deactivated in 1973 (U.S. Army Chemical Center and School 1972; St. Louis 1999).

In 1975 the U.S. Army Military Police School moved from Fort Gordon, Georgia to Fort McClellan. In 1979 the U.S. Army Chemical School relocated back to Fort McClellan from Aberdeen Proving Ground, Maryland. The same year saw the establishment of a Training Brigade for Basic Training at Fort McClellan.

In 1977, during the Installation Assessment, the south part of Training Area 9D was identified as a possible Radiological Training Site. The area is across the road to the northeast of the Range K area (USATHMA 1977).

During a routine survey of Rideout Field in January 1985, Fort McClellan Chemical School Health Physics Office personnel discovered a radioactive $Cobalt^{60}$ source. Military personnel immediately removed and transferred the contamination from Rideout Field to Anniston Army Depot (Kingery 1985).

6.2 Current Usage

The Fort McClellan Transition Force has recently transferred the Pelham Range Area to the National Guard Bureau.

6.3 Adjacent Land Usage

All of the radiological sites are contained within the boundaries of Pelham Range. Currently, Training Areas border the sites where radiological activities occurred.

7.0 FINDINGS

7.1 Potential Contaminants

Fort McClellan was licensed to obtain and use small quantities of Radioactive Isotopes. These are listed in the License Review (Appendix D). The two most common Radioactive Isotopes used in large quantities were $Cobalt^{60}$ and $Cesium^{137}$. $Cobalt^{60}$ was used in the CBR Field Familiarization Course, Radiological Survey Area #3 and Rideout Field. A variety of radioactive materials may have been buried in the radioactive burial ground at Pelham Range.

7.2 Potential Contaminated Areas

7.2.1 Impacted Areas – known and potential

These areas have a potential for Radiological Contamination. Detailed information on each one is listed in Section 8.0.

Area 10A Toxic Training Area
Area 10B Toxic Training Area
Area 24A South Half Rideout Field
Area 24C North Half Rideout Field
Area 9D Training Area

7.2.2 Non-Impacted Areas

Based on this Historic Assessment none of the other areas at Pelham Range have had any activity associated with radioactive isotopes.

7.3 Potential Contaminated Media

A description of each location is in the Conclusions Section 8.

7.4 Related Environmental Concerns

As a precaution, the above areas should be limited in access and use until cleared by proper authorities. Of specific concern is the unfenced burial area with only one sign, which is only visible when approaching the site from the north side.

8.0 CONCLUSIONS

AREA 10-A (Toxic Training Area)
Plate 2, EN 915 321

Part of this area is currently marked as Range I and contains a small fenced area where radiological source storage wells may have been located (EN 9195 3210). Five steel posts were found about 50 feet south of the fenced area, running in a generally straight line with about 75' between each post. These posts may have been used to support radiological sources during CBR field training (EN 9195 32205). Three more posts were found north of the grassy area in front of the fenced area. Two of these posts are upright and about 50 feet into the woods (EN 9195 3225). The third post is lying on the ground near the service road and is generally in line with the other two. In the late 50's the radiological sources and storage wells were removed.

Recommended Action: This area was not identified in previous reports. There is no documented evidence that any of the sources used in the CBR Field Familiarization Course ever leaked. Recommend random sampling for radiological contamination within the fenced area and along the two lines of steel posts (MARSSIM Class 3).

AREA 10-B (Toxic Training Area)
Plate 2, EN 928 331

Much of Area 10-B was used for the CBR Tactical Training Exercise course. The site known as Lima Pond was actually Station No. 5 (A-Bomb) (EN 9280 3315). Radiological sources were placed in the crater during training exercises. Students had to monitor the radiation, take appropriate actions and continue on with the exercise. The crater may have been used to dispose of expended ordnance and other military materiel from other stations. Range K may have been used for the radioactive storage wells (EN 9285 3360). Additionally the fenced area may have been used to conduct radioactive survey training. In the late 50's, the tactical exercise was discontinued and radiological sources and storage wells removed. The 1954 aerial photographs show a grid like area northeast of what is now Rideout Hall. This area may also have been used for radiological survey training (EN 9350 3300).

Recommended Action: This area was not identified in previous reports. There is no documented evidence that any of the sources used in the CBR Field Familiarization Course ever leaked. Recommend random sampling for radiological contamination at the three above locations (MARSSIM Class 3).

AREA 9D (Training Area)
Plate 2, EN 933 337

Area 9D: The south part of this Training Area was identified in the 1977 Initial Assessment of Fort McClellan as a possible Radiological Training Site. The area is across the road to the northeast of the Range K area. No follow on investigations for this area could be found.

Recommended Action: This area was identified in the 1977 Installation Assessment of Fort McClellan. There is no documented evidence that any of the sources used in the CBR Field Familiarization Course ever leaked. Recommend random sampling for radiological contamination in the area identified on Plate 2 (MARSSIM Class 3).

AREA 24-A (South Half Rideout Field)
Plate 2, En 925 309

Rideout Field: This is second version of the large Radiological Survey Area at Pelham Range and was operational by 1965 (EN 925 309). The total field contained some 1,000 source wells, which were remotely controlled. The field was on the north and south side of Cane Creek and was closed down in 1972.

Recommended Action: This area has been identified in previous reports involving radiological activities. Recommend no new surveys.

AREA 24-C (North Half Rideout Field & Radiological Burial Ground)
Plate 2, EN 933 327

Radiological Survey Area #3: This is the first version of the large Radiological Survey Area at Pelham Range, which was operational in 1956 (EN 931 322). The area contained 300 source wells, which were raised by use of a pulley system. The field was entirely north of Cane Creek. The new Rideout Field replaced this radiological area in 1965.

Rideout Field: This is second version of the large Radiological Survey Area at Pelham Range and was operational by 1965 (EN 933 319). The total field contained some 1,000 source wells, which were remotely controlled. The field was on the north and south side of Cane Creek and was closed down in 1972.

Pelham Range Radiological Burial Ground: This area is on the north end of the Battle Drill Area (EN 9335 3275). The area was used from 1957 to approximately 1971. Burials may include $Cobalt^{60}$ and other radiological waste. Part of the area, was removed in 1973 by Major Anderson.

Recommended Action: These areas have been identified in previous reports involving radiological activities. Recommend the placing of a fence around the burial mound within the burial area. Signage should be posted in accordance with regulations and visible when approaching from any direction. Recommend no new surveys.

9.0 REFERENCES

1993 Regulation, *Manual for Conducting Radiological Surveys in Support of License Termination,* draft report for comment, NUREG/CR-5849, ORAU-92/C57, prepared for U.S. Nuclear Regulatory Commission, reprinted December 1993.

1997 Regulation, *Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM),* NUREG-1575, EPA 402-R-97-016, final, December 1997.

HISTORICAL ASSESSMENT - PELHAM RANGE

REPORT APPENDICES

APPENDIX A

Conceptual Model and Site Diagrams Showing classifications

Pelham Range
Radiological Areas

Index	Map Location	Military Grid	Name	Radionuclides	Recommendation
1	Plate 2	EN 915 321	AREA 10-A (Toxic Training Area)	$Cobalt^{60}$	MARSSIM Class 3
2	Plate 2	EN 928 331	AREA 10-B (Toxic Training Area)	$Cobalt^{60}$	MARSSIM Class 3
3	Plate 2	FN 933 337	AREA 9-D (Training Area)	$Cobalt^{60}$	MARSSIM Class 3
4	Plate 2	EN 925 309	AREA 24-A (South Half Rideout Field)	$Cobalt^{60}$	No New Surveys
5	Plate 2	EN 933 327	AREA 24-C (North Half Rideout Field & Radiological Burial Ground)	$Cobalt^{60}$ Multiple in Burial Ground	No New Surveys

APPENDIX B

Cited Documents

APPENDIX B - CITED DOCUMENTS

Anderson, Raymond L., Major, CmlC

1971 Iron Mountain (Rattlesnake Gulch) Radioactive Material Burial Site, 29 July 1971. U.S. Army Chemical School, Fort McClellan, Alabama.

Anniston Star

1970 Article, Soldiers Train in Radiology at Rideout Field, 30 September 1970. Fisher Library, Fort McClellan, Alabama.

Brief

1954 Brief. Chemical Corps School, Date 30 November 1954. Record Group 175, Boxes 1-10 Chemical Corps School, National Archives II, College Park, Maryland.

Chemical Corps School

1955 Lesson Summary Sheet, CBR Tactical Training Exercise, 12 January 1955. Record Group 175, Box 45, General Correspondence, Miscellaneous Series, 1955-59. National Archives II, College Park, Maryland.

Craig, P. (Appendix D-Licenses Listing)

1971 Interagency Agreement for Plutonium No. 3039. U.S. Army Chemical School, Fort McClellan, Alabama.

DD Form 96

1958 Summary of Corrective Action, 7 January 1958. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

Isotope Committee Meeting

1952a Fourth Meeting, 25 June 1952. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland

1952b Sixth Meeting, 19 December 1952. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

1954a Twelfth Meeting, 9 July 1954. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

1954b Thirteenth Meeting, 18 August 1954. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

1954c Fourteenth Meeting, 17 December 1954. The Chemical Corps School.

1956a Seventeenth Meeting, 15 March 1956. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

1956b Eighteenth Meeting, 10 April 1956. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

1957a Twenty-fifth Meeting, 14 June 1957. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

1957b Twenty-ninth Meeting, 20 September 1957. The Chemical Corps School, Fort McClellan, Alabama.

1957c Thirtieth Meeting, 2 October 1957. The Chemical Corps School, Fort McClellan, Alabama.

1957d Meeting, 13 November 1957. The Chemical Corps School, Fort McClellan, Alabama.

1958a Meeting, 8 January 1958. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

1958b Meeting, 9 April 1958. The Chemical Corps School, Fort McClellan, Alabama.

1958c Minutes, 13 August 1958. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

1959a Meeting, 6 March 1959. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

1959b Meeting 14 April 1959. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

1959c Meeting 7 October 1959. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

1959d Meeting 17 November 1959. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

Kingery, Andrew F., CPT, CmlC

1985 After Action Report Discovery and Disposal of a Cobalt^{60} Radiation Source 22 January-1 February 1985. U.S. Army Chemical School, Fort McClellan, Alabama.

Layfield, Robert L.

1971 Letter Amendment 1, to Mr. Allan W. Rehrig, Deputy Chief, PEMA Execution Division, 2 April 1971. C. U.S. Army Chemical School, Fort McClellan, Alabama.

McAlduff, H. J., Jr. (Appendix D-Licenses Listing)

1970 Interagency Agreement for Enriched Uranium No. 1003. U.S. Army Chemical School, Fort McClellan, Alabama. This license was amended, renewed and extended for several years through 1973.

Morgan, G.W. (Appendix D-Licenses Listing)

1957 Byproduct Material License No. 01-02861-01, 21 October 1957. U.S. Army Chemical School, Fort McClellan, Alabama.

Powell, William G., Second Lieutenant, CmlC

1955 Letter to Isotope Committee, Pelham Range Radiological Survey Area, 4 February 1955. Health Physics Group, The Chemical Corps School, Chemical Corps Training Command, Fort McClellan, Alabama.

Rosell, Fred E. Jr., Major and Egan, Daniel J., Specialist 4

1960 Article, The U.S. Army Chemical Corps Radiological Unit, U.S. Army Chemical Corps Training Command. *Armed Forces Chemical Journal,* January-February 1960. Edgewood, Maryland.

Schwertner, Larry J., Captain, CmlC

1972 Letter, Renewal of Atomic Energy Commission Byproduct Material Licenses No. 01-02861-01 and 01-02861-02. U.S. Army Chemical School, Fort McClellan, Alabama.

U.S. Army Chemical Center and School

1965 Dedication Ceremony, Rideout Field Radiological Training Area, 2 June 1965. Fisher Library, Fort McClellan, Alabama.

1972 Quarterly Historical Report (first page), regarding closing date of Rideout Field as a Training Area, 1 January-31 March 1972. U.S. Army Chemical School, Fort McClellan, Alabama.

U.S. Environmental Health Laboratories

1957 Progress Report on Summary of Action on Recommendation, Report of Radiation Protection Survey Number 2672R75057, 27-28 May 1957. Army Chemical Center, Maryland.

Anderson, Raymond L., Major, CmlC
1971 Iron Mountain (Rattlesnake Gulch) Radioactive Material Burial Site, 29 July 1971. U.S. Army Chemical School, Fort McClellan, Alabama.

Fort McClellan CWM, June 1998

Report Title ----IRON MOUNTAIN (RATTLESNAKE GULCH)
RADIOACTIVE MATERIAL BURIAL SITE

Prepared by ---- RAYMOND L. ANDERSON
Major, CmlC
C, Health Physics Div, USACMLCS

(THIS REPORT IS TO BE RETAINED AS A PERMANENT RECORD)

REPORT SUMMARY

On 18 February 1971, Health Physics Division personnel discovered an old burial grounds for radioactive material. The area was formerly known as Rattlesnake Gulch, however, the present name is Iron Mountain. A radiological survey of the area yielded a total of 22 hot spots on the surface of the ground. The survey results and a sketch of the area are contained in Section III of this report.

No records were available at the Chemical School indicating what was buried in this area or when it was buried. Several individuals were contacted who had knowledge of this area. Section IV contains a letter resulting from this contact.

Health Physics Division was given the mission of cleaning up this area and disposing of any radioactive material recovered in accordance with current AEC regulations.

As time allowed, Health Physics Division personnel explored the burial grounds with picks and shovels. Three beach cans filled with rad lab waste were uncovered. In addition, two lead cylinders were recovered containing quantities of cesium 137 and strontium 90. The earth in the vicinity of these containers was contaminated. Eighteen 55 gallon drums of contaminated dirt were removed.

On 19 July 1971, a back-hoe was used to trench the area to be sure all radioactive material had been recovered from the site. By 23 July, the trenching was completed. On 27 July, a bulldozer filled in the trenches. A health physics survey of the area failed to reveal significant surface contamination remaining. The fence around the area was removed and the area closed out.

The recovered material will be disposed of in accordance with AR 755-15. A copy of this report will be on file in the Chemical School library and one will be retained by the Health Physics Division.

DISPOSITION FORM

For use of this form, see AR 340-15; the proponent agency is The Adjutant General's Office.

REFERENCE OR OFFICE SYMBOL	SUBJECT
ATSCM-H	Memo for Record - Iron Mountain Burial Site

TO | FROM C, Health Physics Div | DATE 22 Feb 1971 | CMT 1

1. This memo is to document the events surrounding the discovery of the Iron Mountain (Rattlesnake Gulch) radioactive material burial site. The location of this site is: Coordinates 103290, ref: Map - Anniston, sheet 3851 III, series V744, scale 1:50,000.

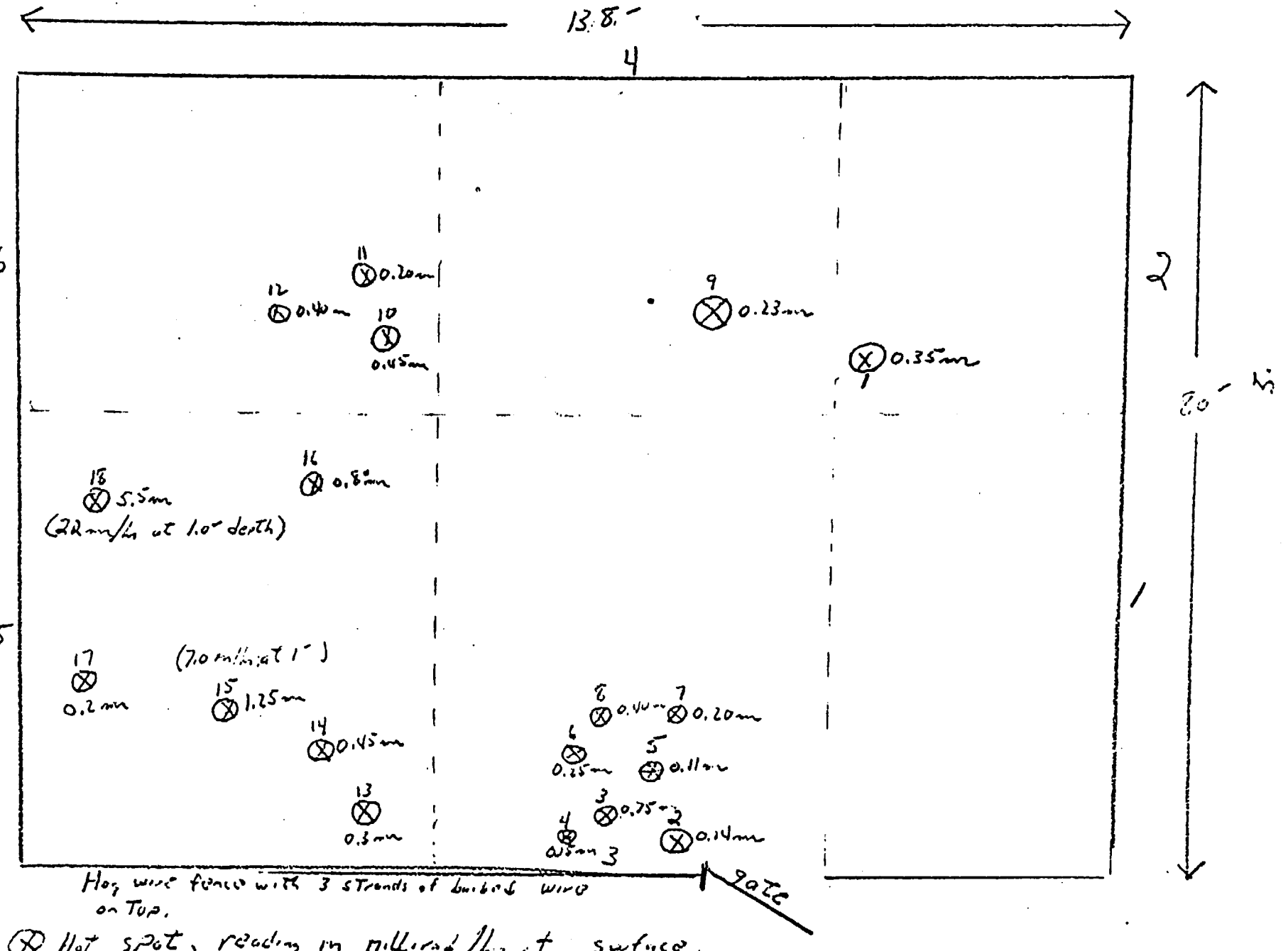
2. On 18 February 1971, SFC Pryor, SSG Truffa, and myself, decided to check an area for possible radiological contamination. This survey was undertaken due to rumors about an old burial grounds and also due to some references to this area on some old dosimetry records in the Health Physics Division files. No other records pertaining to this area could be found anywhere at the Chemical School. The general location of the area in question was thought to be in a gully behind the biological field sampling area off Summerall Gate Road. After surveying a sizable portion of the area, I finally found the area in question. It is on the side of a mountain, not in a gulch. The area is about 140 feet long and 80 feet wide. It is enclosed with a hog wire fence topped with 3 strands of barbed wire. There is a gate in the fence and radiation warning signs located every fifty feet along the fence. Inside this fence, there is another fence made of barbed wire. A quick survey of the area revealed at least six (6) hot spots with the highest reading being 5 mr/hr. Upon returning to the Chemical School, I informed LTC Habermehl of this event. He said he would pass the information on to the Asst Commandant, Col Startt. As far as guidance as to what action should be taken, I was instructed to retain this information within the Health Physics Division for the time being.

3. On 19 Feb 71, members of the Health Physics Division returned to the Iron Mountai site to make a detailed survey of the area. The equipment used included two AN/PDR two E-510s, one AN/PDR-60, plastic bags, tape, tongs, shovels, and a film badge and dosimeter for everyone. The area was divided into six sections for the survey. A total of 18 hot spots were found on the surface of the ground. The highest reading was 5.5 mr/hr. At this spot a hole was dug to a depth of about one (1) foot. The reading at about the six (6) inch level was 22 mr/hr and then decreaded as the hole was made deeper. Numerous samples were taken throughout the area. These included soil, leaves, and bark from the trees in the area. Samples were also taken from the area outside the fence. Most of the samples were hot, however we did not get a sample that was hot enough for use in the single channel analizer. We suspect that the radioactive material in the area is cobalt 60 or cesium 137. These results were reported to LTC Habermehl, DOI, who in turn was to inform the Asst Commandant. He said that no decision had been made as of yet as to what to do about this area. Health Physics Division personnel are going to make another survey of the area. This will entail digging numerous holes to insure that no large containers of radioactive material are buried in the area.

Raymond L. Anderson

RAYMOND L. ANDERSON
Major, CmlC
C, Health Physics Div

Coordinates 103 d 60
Map: Anniston, sheet 3851 III
series 0744
Scale 1:50,000



⊗ Hot spot, reading in millirad/hr at surface.

Health Physics Survey Worksheet

Iron Phantom ~~(Alpha Field~~ Survey)

Survey #______

Date 19 Feb 71

Wipe Number	Plate Number	Location	Gross Count	Background	Net Count	DPM	Microcuries
1	—	1	47	26	21	249	1.12×10^{-4}
3	—	3	58	26	32	379	1.71×10^{-4}
6	—	6	26	26	0	0	0
8	—	8	24	26	0	0	0
9	—	9	37	26	11	130	5.87×10^{-5}
10-1	—	10-1	36	26	10	118	5.34×10^{-5}
10-2	—	10-2	32	26	6	71	3.20×10^{-5}
16-1	—	16-1	52	26	26	308	~~1.4~~ 1.39×10^{-4}
16-2	—	16-2	33	26	7	83	3.73×10^{-5}
16-3	—	16-3	52	26	26	308	1.39×10^{-4}
16-4	—	16-4	52	26	26	308	1.39×10^{-4}
18-1	—	18-1 ~~16-4~~	34	26	8	95	4.26×10^{-5}
18-2	—	16-2	68	26	42	498	2.23×10^{-4}
18-3	—	18-3	52	26	26	308	1.39×10^{-4}
18-1-1		18-1-1	240	26	214	2525	1.82×10^{-3}
18-1-2		18-1-2	116	26	90	1068	4.8×10^{-4}

Ft McCl Fm 441-R
(20 Nov 70)

Performed by: RZL

Health Physics Survey Worksheet

From Mountain (~~Alpha Field~~ Survey)

Survey # ______

Date ______

Wipe Number	Plate Number	Location	Gross Count	Background	Net Count	DPM	Microcuries
18-1-3		18-1-3	124	26	98	1163	5.23×10^{-4}
15-1	(1ft depth)	15-1	38	26	12	142	6.41×10^{-5}
15-2	(2in depth)	15-2	35	26	9	106.8	4.80×10^{-5}
15 3	(3in depth)	15-3	36	26	10	118	5.34×10^{-5}
15-4	(2in depth)	15-4	40	26	14	165	7.47×10^{-5}
15-5	(2in depth)	15-5	56	26	30	355	1.60×10^{-4}

Ft McCl Fm 441-R (1 Nov 70)

Performed by: R2a

DISPOSITION FORM

For use of this form, see AR 340-15; the proponent agency is The Adjutant General's Office.

REFERENCE OR OFFICE SYMBOL	SUBJECT
ATSCM-H	Iron Mountain Site - Memo for Record

TO Record File | FROM | DATE 23 Feb 71 | CMT

In an effort to find individuals who had knowledge of the Iron Mountain Burial site and specifically what activities occurred there, a Mr. Philip W. La Vie was contacted by phone. He had formally worked in the Health Physics Division during the late 1 50s and early 60s. He is presently employed at the Norfolk Naval Shipyard (phone # 461-0111 ext 5886). The information recieved from Mr. La Vie reveals that this area was used in past times as a radiological training area. A Hot Cell had even been constructed out there. It was made of sand bags and a bromine window and utilized steel rods as manipulators. A burial grounds was established to dispose of waste from the radiological laboratories. Items were put in bleach can and buried at a depth of 6 to 8 feet. Materials buried included 6o 60, thalium, radium 226, plus others he could not remember. In XXX 1 60 upon returning to the Health Physics Div after an overseas tour of duty, Mr. La Vie inquired as to what ever became of Rattlesnake Gulch (Iron Mountain.) He was told by the Health Physics Officer a Major Corky Colgin, that the radioactive material buried there had been partially removed, Mr. La Vie got the impression that the subject of this area was not to be discussed and the whole subject was treated as a "hot potato".

A report was recieved from Mr. Corky Colgin via his wife who is employed at the USACMLCS. The report was not very useful. It consisted of confirmation that the area had been used for radiological activities but no details were provided. After X confiring with Col Ladson, Commandant of the USACMLCS, he made the decision that whatever material was still at the burial site should be recovered, packaged properly and shipped out of Fort McClellan for burial. HPD was given this task and given the instructions to handle it in a discrete manner.

In order to get information as to what might be buried at the site, I wrote a letter to LTC Powell, then stationed in Korea, requesting any information he might have concerning this matter. He had been assigned to the Radiological Division during the time the activities in question were occurring.

Raymond L. Anderson

RAYMOND L. ANDERSON
Major, CmlC
C, Health Physics Div

8.

DA FORM 1 FEB 62 2496 REPLACES OD FORM 96, EXISTING SUPPLIES OF WHICH WILL BE ISSUED AND USED UNTIL 1 FEB 63 UNLESS SOONER EXHAUSTED.

from the, d written note, l typing assistan
is at a premium over here. If you can't read th
all I am sure Alice Noll or Ed Bradley can trans

LTC William G. Powe
CmI Br ASW Div G3
HQ Eighth USArmy
APO 96301
6 March 1971

Dear Maj Anderson

The Rattlesnake Gulch area south of Summerall Gate road was in use as a training area in 1954 when I first became acquainted with it. From your description the fence separating it from the big training area on the east and another train area to the west you have it pretty well pegged. The area had about a dozen pipe type source wells with 0.5-2 curies of cobalt-60 when I was there Col Carrol Tuttle and that before 1954 there were some pits used with strings of suspended sources from a pulley above them.

This was a radioactive waste burial point near the top of [illegible]

hill about where you have the dot on your map 103290. From what I was told and from what I put in there myself the waste consisted of: a. towels, paper and other laboratory junk from the scaler lab. b. tantalum-(?) with a half life in the order of 100 days. The Tantalum was purchased around 1952 for a field decon test but couldn't be used because there was no way to pick it up again after one dropped out the pellets from the bubble gum type dispenser shield. Therefore this stuff sat around and disintegrated (pellet to powder) and decayed. In about 1953-54 we cleaned out the pit and put the residual tantalum in a black can and buried it in this area about 6' down. c. There may be some cobalt-60 waste from encapsulating operations buried in this area but I do not recall ever putting any there.

Bleach cans were the container for all waste put in the area whi[le] I was there. This area had its own little barb wire fence and was so marked as a waste burial point. The Engineers post hole digger was frequently used to dig our holes.

Another activity took place in this area was cobalt encapsula[tion]. This was done I would guess in the vicinity of 102 295, or abo[ut] one quarter of the way up the hill on the center road (which you probably can't find now) and to the east near the bio area fence. Th[e] hot cell consisted of cement block, many sand bags, 2' thick water win[dows] etc. This area is probably still identifiable from the sand bag residue, this area should be clea[ned] (and all someone ...)

The waste disposal area, I was told was moved to the following ...

Ridout field area about 1959 an[d]
then a few years later the
whole mess was dug up and
moved to Oak Ridge for burial
in an AEC burial site. If these
hot spots are located relatively clos[e]
together 10-20' in the area indicat[ed]
I would suspect that you have
the old burial ground. If you
dig and find black. cans the[n]
the burial ground was not
moved, at least not totally. If th[is]
area is nearer Sammerall gate
road as the old hot cell was the[n]
nothing is buried but you may be
finding some contamination that
was missed in that clean up.
In either case you should no[t]
encounter very high dose rates
unless there was some cobalt-6[0]
scrap (ruptured capsules 5/8" x 3" put
in there around '54-59.

Considering the 10 yr elapsed
and the isotopes remaining [illegible]
Sr 90 Cs 137 and perhaps [illegible]
is probably your isotope. Sr 90
was used in lab. but in [illegible]

quantities. There were some leaking Cs 137 capsules encountered in this time frame but this doesn't seem likely either. I would guess on what you would find I would expect that some Co-60 contamination will be found in the dirt of the old [illegible] area, or the whole burial ground cans and all is still there. Happy digging.

At the moment I am finishing up my C&GS subcourse and have filed a letter of intent to attend Phase X at Lexington Ky on 13-26 Jun. I hope to take a couple weeks leave at this time and if you think I can be of any further help would be glad to come down for a day. [illegible] Trollis wrote me that he was leaving CONUS [illegible] I have been looking for him - [illegible] he hasn't got here yet. I plan to assign him to my office to work in [illegible] [illegible]

16 July 1971

Major Anderson briefed Col Ladson and Col Fair on the situation at Iron Mountain. Permission was requested from Col Ladson to use a ditch-digger at the site. This request was granted with the guidance that the operator of the equipment was to be a military man. After this, Major Anderson contacted LTC Bauer, CO, 2d Cml Bn about getting the necessary equipment and help. He in turn contacted LTC Warden the Post Engineer. In the afternoon, CPT Crawford, CO, Co.D, 83d Engineer Bn, arrived at the Health Physics Division to coordinate the necessary support. A Ford back-hoe would be used and SSGT Blackburn would be the operator. Col Ladson was again contacted and informed of the arrangement He immediately notified Col Hines, Deputy Post Commander of what action was being taken. After this, the final approval to proceed was given.

23 July 1971

The back-hoe from the Engineer Company started to work at the site today. A power saw was used to remove trees that were hindering the digging. The area is to be trenched with trenches 5 to 6 feet deep and about 6 feet apart. Health Physics Division personnel were to be on hand during the digging to monitor the area and recover any objects dug up. On 20 July, a trench between points 15 and 7 yielded an old actuator assembly. It was the type with a pulley on top. A large area was dug up between points 15 and 16. About a dozen concrete blocks were dug up and a large quantity of sandy soil that was different from the surrounding soil. It is thought that this material might have been used in the walls of a hot cell that was reportedly constructed in this area. The sand and surrounding soil was slightly contaminated with radioactive material. The radiation intensity was around 1 mr/hr. This was the only contamination uncovered during this week of digging. On 23 July, the digging was completed. On 27 July, Post Engineers provided a bulldozer to back-fill the trenches. Once the area was recovered, a health physics survey was conducted. No contamination was found on the surface. The fence surrounding this area was then removed by the dozer and buried.

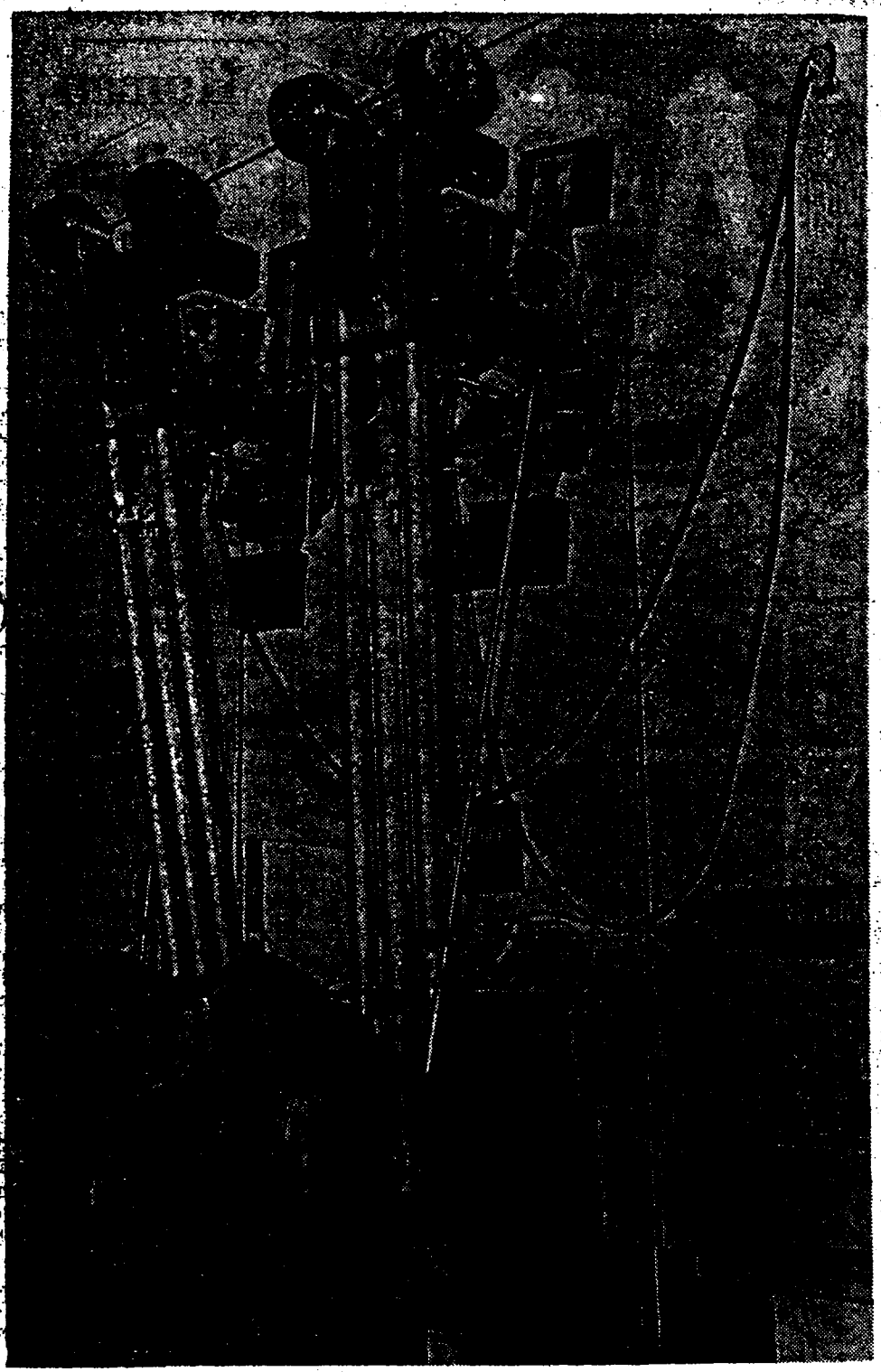
A total of 18 drums of low level contaminated dirt was removed from the burial site. In addition, three bleach cans full of lab waste and two lead containers containers filled with radioactive material were recovered. This material will be disposed of in accordance with AR755-15.

The bulldozer operator who filled in the trenches at the site, told SFC Pryor that he had worked in this same area 12 or 13 years ago. They had dug the area up and all the radioactive material they had recovered was taken to Rideout Field and placed in the burial grounds that are maintained there at the present time.

Anniston Star
1970 Article, Soldiers Train in Radiology at Rideout Field, 30 September 1970. Fisher Library, Fort McClellan, Alabama.

Ft McClellan

Soldiers Train In Radiology At



SP4 Ramanauska And Sgt. Truffa
...work behind 34-inch thick shielding

RIDEOUT FIELD — The Army probably won't like the analogy, but radiological detecting training at Rideout Field could be likened to a well-disciplined Boy Scout field trip.

At least it looked that way to a civilian observer.

RIDEOUT FIELD is where the free world sends soldiers it wants to train with the aid of live radiological sources.

It looks military.

Close - clipped perimeter roads circle the source area, and a high mesh fence encloses it.

Burned out tanks and jeeps

and ass
hardware
"Makes
realist
spokesman

FROM
perimeter,
machinery
foot paths
of a ro
metal tube

At one
a barn-lik
classroom
field train
cerned wi
tion.

And at
building is
control

Pelham Rang

Site For Fre

RIDEOUT FIELD — Hidden deep in the recesses of Pelham Range, Rideout Field is the free world's only radiological training field utilizing live radioactive sources.

It cost $1,180,000 to date.

It's not a very impressive

million do

IT LOO
dirt field,
of metal
of the gro

And tho
the smal
"sources"

Sgt. Truffa Uses Fishin
...to rep

›logy At Rideout Field

JT FIELD — The bably won't like the but radiological training at Rideout ld be likened to a olined Boy Scout

t it looked that way ian observer.

UT FIELD is where world sends soldiers to train with the e radiological

s military.
clipped perimeter cle the source area, high mesh fence it.
l out tanks and jeeps and assorted military hardware litter the area.

"Makes it look more realistic," one army spokesman said.

FROM THE dusty perimeter, flanked by rusty machinery, freshly mowed foot paths lead to the edge of a roughly rectangular, metal tube studded section.

At one end is Rideout Hall, a barn-like structure used for classroom instruction prior to field training for troops concerned with detecting radiation.

And at one end of the building is a console panelled control room from which training teams are in constant radio contact, and the radioactive sources are controlled.

THE CONTROL room is "Painful Mind Hotel."

The training teams, armed with radiation detectors are, respectively, Painful Minds Alpha, Bravo, Charlie and Delta.

Roving jeep patrols scattered to keep troops from entering the field itself are "Foxtrot," and "Painful Mind Echo."

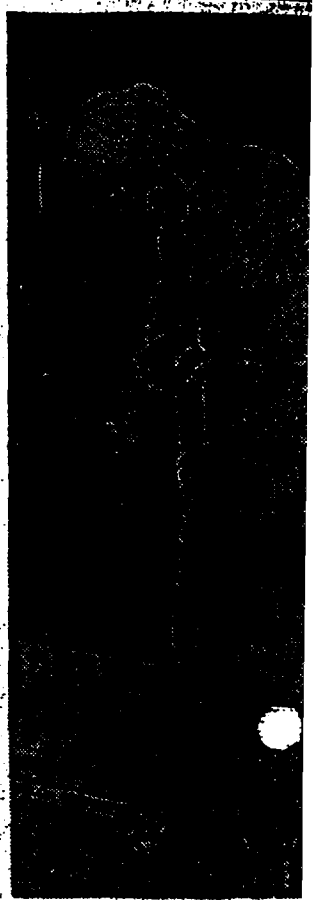
On a typical training trek, troops are hauled to Rideout Hall aboard a deuce-and-a-half, sit through a 30-minute refresher course, climb back into the truck and are dumped along the perimeter road.

Their instructions are to walk down their assigned path until prescribed "rad" readings are obtained.

THEN THEY walk back to the perimeter road, radio "Painful Mind Hotel" of their rusults and get back into the truck.

The training is quick and easy at the field.

Listen to a lecture, a brisk twenty-minute walk and head back to the water cooler at Rideout Hall.



SP4 Cornell
. . . in protective

:lham Range Has Only Radiological
te For Free World Field Training

OUT FIELD — Hidden n the recesses of Range, Rideout Field free world's only ical training field live radioactive

t $1,180,000 to date. ot a very impressive million dollar project.

IT LOOKS like any other dirt field, with the exception of metal poles sticking out of the ground in neat rows.

And those poles — or rather the small cylindrical "sources" they contain — are what make the 1,414.4-acre field different from other 1,414.4-acre fields.

Inside the pole-like containers are radioactive "sources" of Cobalt 60, each measuring approximately one-half inch in diameter, and three inches in length.

Those "sources" emit gamma rays — radiation of pure energy waves that leaves no residue — and each, when new, had 10 curies of radiation.

COBALT 60's half-life — the period during which it loses one-half its radiation — is 5.3 years.

The source containers, about 70 inches in length, are buried in concrete to a depth of 40 inches.

One-thousand of them, according to Army spokesmen, are in the rectangular field, arranged in rown.

An air compressor atop each container can raise or lower the Cobalt 60 source, and is operated from a control console at one end of the field.

BY VARYING the height to which various sources are raised, the radiological intensity of the field can be controlled at all times, depending on how many actuators are raised, and different patterns can be created for student training.

Students, after formal classroom work, are taken to the field and are expected to detect the pattern of radioactivity.

They are instructed to turn back when their instruments approach the danger level, and even if they fail to detect the pattern's edge, a chain blocks entrance to any danger area.

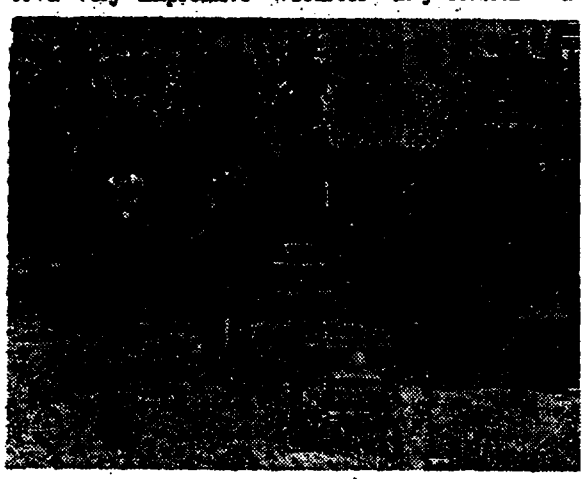
THE EQUIPMENT used by the students, an army spokesman said, are calibrated to read 1,000 ti the actual amount of radi tivity being omitted.

"We take every conceiv safety precaution," radiology specialist said. haven't had an accident injury since 1962 when facility went into operatic

The field was granted Atomic Energy Commi license for operation in Initial construction and e ment cost $900,000.

RENOVATION AND r earlier this year came t additional $200,000.

In addition to the field i a smaller plot — proximately three-fou an acre — is planted alpha radiation emitt sources.



Sgt. Truffa Uses Fishing Pole
. . . to replace live source

Brief

1955 Brief. Chemical Corps School, Date 30 November 1954. Record Group 175, Boxes 1-10 Chemical Corps School, National Archives II, College Park, Maryland.

CHEMICAL CORPS SCHOOL

TABLE OF CONTENTS

BRIEF

CHEMICAL CORPS SCHOOL

FORT MCCLELLAN, ALABAMA

DATE

30 NOVEMBER 1954

HISTORY

The Chemical Corps School had its informal beginning during the period following the first World War. After gas warfare became a reality in World War I, responsibility for chemical warfare activities was divided among five different agencies within the U. S. War Department. Training of troops in offensive employment of toxics was given at an Army Gas School located at Camp A.A. Humphries, Accontink, Virginia by the Corps of Engineers. The need for establishment of a single agency with responsibility for all aspects of Chemical Warfare was recognized by publication of a War Department General Order which established the Chemical Warfare Service effective 1 July 1918. This new service was made responsible for research, development, procurement, supply, and training of the entire Army in offensive and defensive aspects of gas warfare.

Chemical warfare training under the Chemical Warfare Service was first conducted at Camp Kendrick, New Jersey located adjacent to Lakehurst Proving Ground. Special Regulation No. 18 published in 1920 established The Chemical Warfare School at Lakehurst Proving Ground, Lakehurst, N. J. Its objects were to give courses in instruction in chemical warfare to officers of the Chemical Warfare Service and such other officers as may be ordered to the school for instruction; to supervise such work in the above subjects as may be taken by officers of the Chemical Warfare Service at civilian educational institutions and commercial establishments when so authorized by the Director of the Chemical Warfare Service; to give instruction in the operations of the field service of the Chemical Warfare Service and such military training as may be found necessary. Two courses of instruction were to be given. A Regular Course of fourteen (14) weeks duration and special courses for line, staff, and reserve officers. The school was also to maintain a library which was to be open for the general use of personnel at the Lakehurst Proving Ground.

The Regular Course embraced every phase of Chemical Warfare with particular emphasis being given to offense methods and tactical uses of chemical warfare agents in the field. Instruction was also included in pertinent auxiliary subjects such as Meteorology, Intelligence, Reconnaissance, Map Reading, and Orders and Reports. Only one Regular Course of instruction was conducted at Lakehurst Proving Grounds. This course ended on 30 June 1920. The Chemical Warfare School was transferred on 20 September 1920 to Edgewood Arsenal, Edgewood, Maryland where it was operated by the Chemical Warfare Service as a Special Army Service School for the next thirty-one (31) years.

At Edgewood Arsenal, the first Regular Course of instruction given for officer students opened on 10 January 1921. There were twelve (12) students enrolled in the class, nine (9) of whom successfully completed the course. The school staff consisted of five (5) officers who conducted most of the instruction. Special instructors and guest lecturers were secured to supplement instruction given in manufacturing and technical chemical details of the course.

Instruction was divided into three major departments. The Department of Technique of Chemical Warfare was concerned with the properties, manufacture, and physiological action of chemical warfare agents; the construction and manipulation of chemical warfare apparatus; and pertinent auxiliary subjects. The Department of Military Art was principally concerned with application of the agents and apparatus studied in the course. The Department of History and Research studied the origin of chemical warfare, its use in past wars, history of the Chemical Warfare Service, and new developments.

On 18 April 1921, the first course for non-commissioned officers was started. This was a three-weeks course in Chemical Warfare Weapons for enlisted personnel of the First Gas Regiment. Their instruction included Stokes Mortars, Livens Projectors, Toxic Cylinders, Hand and Rifle Granades, Smoke and Toxic Smoke Candles and Gas Defense. Methods of handling, cleaning, and firing were emphasized together with drills in use of the various pieces.

The first year of operation of the school at Edgewood Arsenal saw several notable events take place. While the first Regular Course was in progress, a Signal Corps Meteorological Station was established to furnish weather data to the school and other agencies. A Chemical Warfare Museum was established to be used for instructional and historical purposes. It consisted of chemical warfare materiel of friendly as well as enemy origin and demonstrated the development of protective apparatus including current developmental masks and parts. A school library for use by instructors and students was also set up.

The first home of the school was in the Fort Hoyle area of Edgewood Arsenal. A barracks building of the First Gas Regiment was used as the school plant. Housed on the first floor were staff offices and the museum. Located on the second floor were a classroom, library, meteorological station, and supply room. Even at this early date, the need for larger quarters was felt. Plans were formulated and suggestions made for building a suitable structure specifically designed to meet the growing needs of the Chemical Warfare School.

Fiscal Year 1922 saw the beginning of instruction specifically designed for U. S. Navy and U. S. Marine Corps personnel. A special course for Navy Chief Petty Officers and Marine Corps non-commissioned officers was given from 15 May through 10 June 1922. Thirty-nine students earned certificates for completing the course. From this beginning there developed other specialized courses for Navy and Marine Corps personnel which led to a Navy Board Report in 1924 recommending that the Chemical Warfare School receive the support of Navy funds and instructional personnel to assist in accomplishment of the school mission. To this end, the organization of the school for the school year 1926-1927 incorporated a Department of Naval Instruction composed of one (1) Navy and three (3) U. S. Marine Corps Officer instructors. They assisted in the development and presentation of a Line and Staff Officers Course which emphasized "Defense Against Chemical Warfare".

Fiscal Year 1922 also saw the beginning of school participation in the preparation of official training literature. Army Chemical Warfare Service Correspondence Courses known as the Red, White and Blue Courses and some Training Regulations on "Tactics for Special Gas Troops", "The Company (Gas)" "Defense Against Gas", and "Chemical Warfare by Air Service" were prepared and submitted. School Instructional material also was prepared for dissemination and a bulletin entitled "Chemical Warfare" was edited.

During the following Fiscal Year, 1923, the first specialized instruction was given for Medical Officers. This was a short course under the supervision of the Medical Research Division for which two days of the instruction was conducted at the school.

By the end of 1922, the school had outgrown its facilities in the Fort Hoyle area. In February 1923, its location was moved to Building 250 and the Museum, Meteorological Section and Duplicating Plant (which functioned for the Arsenal as well as the school) were moved to Building 249. The school remained in these buildings during the ensuing years.

Expansion and growth during the years preceding World War II brought with it many problems which materially affected the extent and effectiveness of the school in accomplishment of its mission. One of the most pressing problems was that of adequate personnel. In the early years emphasis was placed on securing Regular Army Officers for assignment to the school. This effort was abandoned in the years immediately prior to Work War II when many Reserve officers were assigned to the Staff and Faculty. Troops available for school support were those of the First Gas Regiment who were required to carry out normal training activities in addition to supporting demonstrations and field problems for the school. Additional instructors and especially instructor representatives of the Infantry and Field Artillery could not be secured. School personnel were called upon to support Post functions such as preparation of mobilization plans for Edgewood Arsenal, furnishing an Assistant Post Executive Officer, serving on various Boards, and performing printing and reproduction work for the Arsenal. Another problem involved transportation and training areas. Vehicles of the required type were neither authorized nor made available for student transportation to training areas which were inaccessible by ordinary transportation during inclement weather. Training areas were seriously overcrowded during the summer months. Furthermore, the school had to depend on the Arsenal for such transportation as could be provided. Quarters for housing both student and staff personnel were scarce and inadequate. The school plant itself was not large enough. There was a constant need for revision of school texts and a Basic Field Manual was needed for instruction of troops in the field. These and many other problems were faced by the school during the years between the wars.

During World War II and the years immediately preceding, the school reacted to the emergency by rapidly expanding to meet the need for training large numbers of officer and enlisted personnel. Its basic organization was expanded and there were added to it School Troops, and an Officer Candidate

School which followed the general organizational pattern of the school. The number of classes conducted increased from thirty-six (36) officer and enlisted classes during school year 1940-41 to eighty-seven (87) such classes plus thirteen (13) Officer Candidate Classes during school year 1942.

In the years following World War II, the school has continued to fill a need for technically trained personnel other than officer candidates. The number of courses and students trained has been on a reduced scale from that of the war years but of a much larger extent than that of the pre-war years. One notable academic advancement in the post-war years has been the development of a nine-months Chemical Officer Advanced Course. The first such Advanced Course was given between September 1946 and June 1947 for a class of twenty-one (21) students. In September 1954, the Ninth Chemical Officer Advanced Class started with an enrollment of thrity-one (31) students. Another important post-war development was the elevation of the Chemical Warfare Service to the status of a Corps on 2 August 1946. The name of the school was changed accordingly to The Chemical Corps School.

Department of the Army General Order Number 17 dated 2 April 1951 established the Army Chemical Training Center, a class II installation to be locat at Fort McClellan, Alabama effective 9 April 1951. The Chemical Corps School was designated as an activity of the ACTC effective 15 August 1951. The scho as such, ceased operations at Army Chemical Center (formerly Edgewood Arsenal on 15 October 1951. The museum and printing plant were not moved to Fort McClellan.

From 15 August 1951 until 15 October 1954 the school was housed at Fort McClellan in a converted barracks building with laboratories, shops and personnel decontamination station in outlying buildings. Academic instructio began in September 1954. One of the first classes to receive regularly sched instruction was the Sixth Chemical Officer Advanced Class. Opening exercises were held on 17 September 1951 with General Leonard J. Creelgy as the principal speaker.

Soon after the school started operations at Fort McClellan, construction of a permanent school facility was started. This structure was made available for beneficial occupancy on 4 October 1954 and all offices and activities of the Chemical Corps School were moved to its permanent home thirty-four (34) years after its inception.

Responsibility for training enlisted replacement stream input personnel became an added responsibility of the school on 20 July 1953. Currently, the school conducts six courses of Advanced Individual Training for RSI personnel and thirteen officer and enlisted courses for other personnel. This is accomplished with an authorized strength of one hundred twenty (120) officers (including one Warrant Officer), fifty-nine (59) enlisted, and one hundred twenty-three (123) civilian employees.

Chemical Corps School graduates from 1921 through October 1954 number twenty seven thousand thirty-four (27,034) officers of the U. S. Army, Navy and Marine Corps, two hundred twenty-one (221) officers from Allied Nations, one thousand three hundred nine (1,309) civilians, and twenty thousand four hundred eighty-two (20,482) enlisted personnel.

Fort McClellan, Alabama

2. GENERAL ORDERS ESTABLISHING UNIT: Section II - General Orders No. Department of the Army dated 2 August 1951

3. ORGANIZATIONAL STATUS:

The Chemical Corps School is a Class II activity of the Chemical Corps Training Command, with station at Fort McClellan, Alabama.

4. MISSION:

a. The mission of The Chemical Corps School is to provide resident and non-resident education and training to the following:

(1) Officers, warrant officers, and enlisted men of the Chemical Corps (regular and reserve components) in the command and staff functions of the Corps.

(2) Officers, warrant officers, enlisted men, and selected civilian employees of the Armed Forces in chemical, biological, and radiological warfare.

b. Additional missions accomplished by the School include the development of new and revision of existing doctrine; the preparation and revision of Department of the Army, Chemical Corps and Chemical Corps School publications on appropriate technical and military subjects; and any special studies or support activities assigned by competent authority.

5. ADMINISTRATION:

Table of Distribution Number 03-9770-00 is assigned; Technical Service Unit 9772.

Chemical Corps School
1955 Lesson Summary Sheet, CBR Tactical Training Exercise, 12 January 1955. Record Group 175, Box 45, General Correspondence, Miscellaneous Series, 1955-59. National Archives II, College Park, Maryland.

L E NO. ~~3025/C/PE-U~~
3-0-5, 3-E-2

THE CHEMICAL CORPS SCHOOL
CHEMICAL CORPS TRAINING COMMAND
FORT McCLELLAN, ALABAMA

12 Jan 55

LESSON SUMMARY SHEET

COURSE SEE FILE NUMBER

SUBCOURSE Operations, Training and Intelligence

SUBJECT CBR Tactical Training Exercise

LENGTH OF PERIOD Four Hours

TRAINING AIDS "Special Map Toxic Gas Area", Morrisville Maneuver Area, Scale 1:12,500, Venetian Blind Strips 4.6-67; Chart, "Pelham Range Training Area" 4.6-68.

METHODS OF PRESENTATION Conference and Practical Exercise

DESCRIPTION OF PERIOD

a. Objectives.
(1) To provide the student with the necessary requirements for the preparation of a tactical training exercise.
(2) To give practical experience in the actual preparation of a tactical training exercise in which the integration of CBR situations is emphasized.

b. Procedures.
Review of previous instruction. A discussion and explanation of the requirements by the instructor. Preparation of the exercise and presentation by students, followed by a critique.

c. Sequence.
This is the 16th period in a series of 18 periods covering 41 hours in this subcourse on Operations, Training and Intelligence for CBR Officer and Enlisted Courses. This exercise follows 3020 or 3005 and precedes 3906, and permits the student to apply the methods and techniques of integrating CBR situations into regular unit training.

REFERENCES
a. For the Student
(1) Scan All previous on Operations, Training and Intelligence.
(2) Review All previous on Operations, Training and Intelligence.

REMARKS Issue Sections I and II on call from instructor. This Lesson Plan includes 3025.1, Section I, Requirement w/annex, 3025.2, Section II, Solution, Special Map Toxic Gas Area, Morrisville Maneuver Area, Venetian Blind Strip 4.6-67, Chart 4.6-68, Pelham Range Tng Area.

APPROVED BY ASST. COMDT.

DATE 12 January 1955

3-2.11 Cml C School

1. Station No. 1.

Platoon assembles at foot of hill just in from the entrance to the course. Platoon is briefed by the instructor in charge. Platoon is to advance along the lane (open ground to the front of the platoon) and secure a wooded objective at a distance of about 400 yards. On a signal from the platoon leader the unit advances to the objective. It is fired upon by machine guns (simulated) and finds itself in an artillery barrage (aerial bursts and demolitions charges). CN-DM grenades may be used to force masking by the men. As platoon reaches the edge of the woods, the firing ceases, or becomes sporadic from the far edge of the woods.

As the platoon reorganizes to continue the advance, it will come under CN-DM attack, controlled from tower No. 2. When platoon is ready, it continues the attack, finding an abandoned enemy position dug in at the edge of the woods.

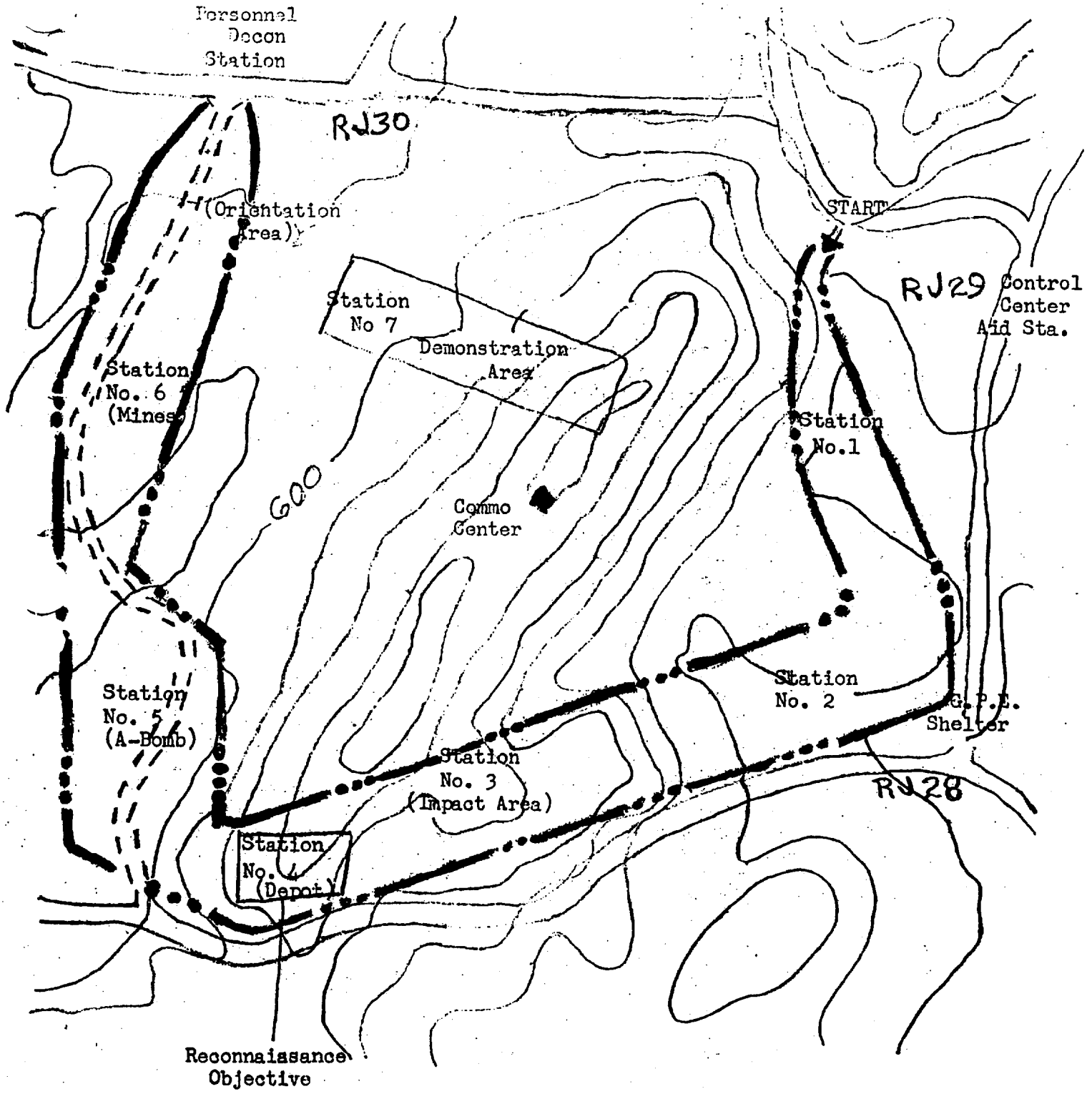
The platoon leader completes his reorganization, assigning men to check for presence of gas, others to act as sentinels. There will be signs in the area in Aggressor language which direct the platoon along the course to a protective shelter in the hillside about 200 yards away from the edge of the woods. Sign reads ABRIGO PROTECTOR.

2. Station No. 2. - Preparation and occupation of a Protective Shelter.

The platoon leaves the woods and advances across the open ground in the direction of the course. As it enters the woods again, the platoon finds the abandoned protective shelter. Signs in the vicinity are in Aggressor language. Platoons should investigate the shelter and make it operable, at the same time determining the capacity and length of stay. Booby traps are attached to the door so as to detonate when the door is pushed open. While platoon is investigating the shelter, concealed Special Troops personnel simulate an artillery gas attack using CN-DM grenades and simulator shell bursts. Platoon leader should take his group into the shelter, leaving a sentinel posted outside with proper instructions.

3. Station No. 3. - Advance through impact area, investigation of abandoned Aggressor storage area.

Following the attack at station No. 2, the platoon continues along the wooded lane. It will first come upon the impact area with several Aggressor chemical shell (duds) which should be investigated and reported on proper forms; report covers marking, caliber, location, etc. Shell simulators, aerial bursts, simulated MG fire will be used by operating personnel. Tubes of chloropicrine and phosgene will be detonated up-wind of group.



SKETCH MAP OF PATROL ROUTE

3025.2

4, Station No. 4, - Investigation of Abandoned Aggressor Installation.

As the platoon continues its advance, it discovers what appears to be an abandoned CP area. Signs in aggressor language are in the area. Various items of Aggressor protective equipment are in in the area. Buildings or tents used to represent the CP are booby trapped. Intermittent shelling occurs in the area as the platoon advances through the impact area and into the CP area; PS (chloropicrin) is released in conjunction with the shell simulators.

5. Station No. 5. - Monitoring of BW Hazard (Atomic Bomb Crater).

As platoon leaves the CP area, it will come upon signs in Aggressor language which read PERIGO, RADIAZIONE. These signs will be placed about the edge of a large crater which represents an A-Bomb crater. As the platoon approaches the crater, instruments will indicate that radiation is present. (Instruments should be given to the platoon as they leave the CP area to avoid excessive damage). Platoon leader takes appropriate steps to moniter the area, reports the extent of the hazard, and the location of the crater, time of monitoring, etc.

6. Station No. 6. - Passage through contaminated area (Mustard)

Platoon encounters an Aggressor minefield as it continues along the road from the crater. A prima cord rope is detonated as the patrol approaches; mines are already detonated. The platoon leader should make his reconnaissance of the area and decide where and how to cross the area. Mines will contain MR, but mustard will be located on the ground throughout the area to present a hazard. AP mines (simulated) are scattered through the area to impede the platoon's progress across the minefield. At the far edge of the minefield are signs in Aggressor language which warn of the minefield. A shufflebox or pit filled with dry mix is located at the far edge of the area to allow decontamination of shoes.

7. Station No. 7. - Role of Smoke and Flame in the Attack of a Fortified Position (Demonstration by Special Troops Personnel).

Upon arrival at Pelham Range, the students are moved to the bleachers in vicinity of RJ 30, for the purpose of observing the attack of a fortified position by Special Troops Personnel.

The instructor in charge will orient the students on this demonstration as provided in Annex VI of this lesson plan.

The demonstration consists of an infantry squad, reinforced with smoke, flame and demolitions, which attacks a bunker located about 500 yards to the students front.

Prior to the squad's attack the bunker is isolated from its supporting troops and fortifications by smoke, and direct fire weapons, i.e.: recoilless rifles and tanks, are used to "button up" the bunker. Under cover of this supporting fire the squad moves to its assault position about 50 yds to the front of the bunker. Two flame throwers saturate the bunker with flame and a demolition man completes the destruction of the position with a satchel charge. The squad then moves to the crest of the hill and digs in against a possible counterattack.

After this demonstration the instructor in charge will brief the students on the field familiarization course as provided in Annex VII to this lesson plan.

B. Munitions and Equipment Requirement.

1. Control Group.

a. Control Center.

(1) First Aid Station.
(2) Decon Truck or Indian Fire Extinguishers.
(3) Telephone.
(4) Orientation map and easel.
(5) Field Tables and Chairs.

b. Communications Center.

(1) Switchboard.
(2) Field Table and Chairs.
(3) Maintenance supplies.

c. Decontamination Center.

(1) Decon truck (may be same as in a,(2), above).
(2) Boxes or bins for collecting protective clothing (if changed).
(3) Soap, towels.

2. Operational Stations (per Patrol).

a. Station No. 1.

8 blocks	Nitrostarch (1/2 lb blocks)
20 ea	Caps, blasting
6 ea	Simulators, shell-burst, ground 20 X (commercial)
50 ea	Ctg Cal 30 blank, MLB
2 ea	Demolitions switchboards, with power source
2 ea	Machine, blasting
2 ea	Telephones, field, TA-43
5 ea	Gren, hand irritatn CN-DM

b. Station No. 2.

2 ea	Simulator, booby trap, flash
6 ea	Simulator, shell-burst ground, 20 X w/whistle
5 ea	Grenade, hand, irritant, CN-DM
1 ea	Telephone, field, TA-43

c. Station No. 3.

2 ea	Caps, blasting, electric, No. 8
2 ea	Simulator, booby-trap, flash
6 ea	Simulator, shell-burst, ground, w/whistle 20 X power
8 ea	Chemical shell, various sizes, Aggressor markings
1 ea	Machine, blasting
10 lb	Gas Phosgene, CG

d. Station No. 4.

2 ea	Caps, blasting
6 ea	Simulators, shell-burst w/whistle, 20 power
2 ea	Simulator, booby-trap, flash M117
10 lb	Gas chlorine, CL
1 ea	Telephone, TA-43
1 ea	Machine, blasting
2 ea	Tent, small wall

Various Foreign protective equipment, tech intell documents, etc.

e. Station No. 5.

5 or 6	Radioactive sources
1 ea	Telephone, field, TA-43
2 ea	RADIAC instruments, (issue at control point).

f. Station No. 6.

100 ft	Cord, detonating
2 ea	Caps, blasting, electric
1 ea	Blasting machine
1 ea	Shufflebox
1 ea	Telephone, TA-43
132 lb	Gas, Mustard, HD (for entire exercise)

g. Station No. 7 (for one demonstration - each exercise)

12 ea	Grenades, hand, smoke, WP, M-15
12 ea	Grenades, hand, smoke HC
8 ea	Nitrostarch, 1/2 lb blocks
2 ea	Flame throwers, portable, M2
30 ea	Caps, blasting, electric
4 ea	Pots, smoke, HC, M5
400 ea	Ctg blank in clips
1000 ea	Ctg blank in belts
2 ea	Telephones, TA-43
2 ea	Demolitions switchboards, with power source
1 ea	MG, w/blank adapter
15 ea	Simulator shell burst ground
1000 ea	Cord detonating Petn

Craig, P. **(Appendix D-Licenses Listing)**
1971 Interagency Agreement for Plutonium No. 3039. U.S. Army Chemical School, Fort McClellan, Alabama.

UNITED STATES ATOMIC ENERGY COMMISSION

INTERAGENCY AGREEMENT FOR PLUTONIUM

AGREEMENT NO. 3039

THIS INTERAGENCY AGREEMENT FOR PLUTONIUM (sometimes referred to as the "Agreement"), entered into this 1st day of January, 1971, by and between the UNITED STATES ATOMIC ENERGY COMMISSION (hereinafter called the "Commission") and U. S. ARMY CHEMICAL CENTER AND SCHOOL (hereinafter called "Agency"), an executive department or independent establishment of the Government of the United States of America or a bureau or office thereof;

WHEREAS, the parties hereto desire to establish the terms and conditions applicable to the distribution of plutonium to the agency, pursuant to the Atomic Energy Act of 1954, as amended, whether ordered and received directly from a Commission facility or transferred from a lessee of the Commission;

NOW, THEREFORE, the parties hereto do mutually agree as follows:

ARTICLE I - DEFINITIONS

A. The term "Act" means the Atomic Energy Act of 1954, as amended.

B. The term "base charges" means the dollar amount per unit of plutonium in standard form and specification in effect as of the time any particular transaction under this Agreement takes place, as set forth in schedules published by the Commission in the Federal Register from time to time.

C. The term "blending" means the altering of the isotopic composition of a quantity of an element by means other than through the irradiation of material in a nuclear reactor.

D. The term "Commission" means the United States Atomic Energy Commission or any duly authorized representative thereof.

E. The term "Commission facility" means a laboratory, plant, office, or other establishment operated by or on behalf of the Commission.

F. The term "Commission's established specifications" means the specifications for purity and other physical or chemical properties of plutonium, as published by the Commission in the Federal Register from time to time.

40-109

G. The terms "consumed" or "consumption" mean the destruction, burnup, loss or disposition of material in such manner that it cannot be economically recovered for further use, material unaccounted for, or changes in the composition of material due to blending of different assays of material or other alteration of the isotopic ratio resulting in the reduction in value of such material.

H. The term "established Commission pricing policy" means any applicable price or charge in effect at the time any particular transaction under this Agreement takes place (i) published by the Commission in the Federal Register, or (ii) in the absence of such a published figure, determined in accordance with the Commission's Pricing Policies. A statement of such Pricing Policies will be furnished Agency upon request. The Commission's published prices and charges, as well as its Pricing Policies, may be amended from time to time.

I. The term "lessee" means a person who is a party to a Special Nuclear Material Lease Agreement or Plutonium Lease Agreement with the Atomic Energy Commission. For the purposes of this Agreement, the term "lessee" also includes another Government agency which has executed an Interagency Agreement for Plutonium with the Commission.

J. The term "persons acting on behalf of the Commission" means employees and contractors of the Commission, and employees of such contractors, who implement or participate in the implementing of this Agreement pursuant to their employment or their contracts with the Commission.

K. The term "standard form" means the chemical form of plutonium, as published by the Commission in the Federal Register from time to time.

L. The term "value" means the dollar amount determined by multiplying the applicable base charge by the number of units, or fractions thereof, of plutonium involved, whether or not such material is in standard form or meets the Commission's established specifications.

ARTICLE II - SCOPE

A. Unless otherwise provided herein, or in a written agreement between the Commission and Agency, the terms and conditions contained herein shall apply to plutonium, hereinafter sometimes referred to as "material" and related services furnished to Agency by the Commission on and after the date of execution of this Agreement, and to the material, if any, subject to the Special Nuclear Material Interagency Agreement between the Commission and Agency, as of midnight, December 31, 1970, whether ordered and received directly from a Commission facility or obtained from another lessee of the Commission. Nothing herein shall be deemed to prevent Agency from shipping material covered by this Agreement to any person duly authorized by the Commission to process and use such material. Agency may be relieved of its obligations under this Agreement for such material only in accordance with the terms of this Agreement. Material received by Agency from any source shall be subject to the provisions of this Agreement only if such material is furnished pursuant to an order accepted by the Commission as provided in paragraphs B. and C. below.

B. Agency shall order material pursuant to this Agreement through the execution and submission of a plutonium order form prescribed by the Commission.

C. Acceptance of Agency's order for material by or on behalf of the Commission shall constitute the Commission's commitment to furnish the material specified in such order subject to the terms of this Agreement. When Agency orders material which is to be obtained from a lessee, this Agreement shall not be applicable to such material until such lessee and the Commission have agreed to the transfer of such material to Agency.

D. Nothing herein shall be deemed to obligate Agency to order material or to obligate the Commission to furnish material to Agency, or to provide services for Agency with respect to material.

ARTICLE III - TERM OF AGREEMENT, TERMINATION AND CANCELLATION

A. Except as otherwise provided herein, Agency shall have the right to possess and use the material covered by this Agreement until June 30, 1973; provided that material subject to this Agreement furnished to or received by Agency after December 31, 1970, shall not, unless otherwise authorized in writing by the Commission, be used in the course of activities under a license issued pursuant to Section 103 or 104b. of the Act.

B. Agency may cancel any order for material under this Agreement by notice in writing to the Commission at any time prior to delivery of the material; provided, Agency shall reimburse the Commission for the costs incurred by the Commission in connection with such order, as determined in accordance with established Commission pricing policy in effect at the time such costs are incurred.

C. The Commission may terminate or suspend in whole or in part this Agreement at no cost to the Commission at any time, by written notice to Agency in the event that (i) the right of Agency to possess material subject to this Agreement expires or is suspended or terminated by any authority having power to take such action, or (ii) Agency shall fail to perform its obligations hereunder and shall fail to take corrective action within 30 days of the date of the written notice of such failure to perform as provided above, unless such failure arises out of causes beyond the control and without the fault or negligence of Agency.

ARTICLE IV - MATERIAL TO BE FURNISHED BY THE COMMISSION

A. Except as otherwise agreed to in writing by the Commission and Agency, plutonium subject to this Agreement shall be furnished to Agency in standard form in accordance with the Commission's established specifications.

B. Agency shall pay the Commission's service charges, if any, for withdrawal and packaging, and for any other special service rendered pursuant to Agency's order. Unless such charge or charges are agreed to in the order executed by Agency and the Commission for material, Agency shall pay the Commission its charges for the services rendered pursuant to Agency's order as determined in accordance with established Commission pricing policy in effect at the time such services are rendered. Agency shall also pay the value of material consumed in the rendering of such special services.

C. If the material delivered by the Commission pursuant to an order executed by Agency and the Commission does not conform to the Commission's established specifications (or to the specifications set forth in an order executed by Agency and the Commission), the responsibility and liability of the Commission and persons acting on behalf of the Commission shall be limited solely to correcting such discrepancies by delivery of material which does conform to the applicable specifications. Neither the Commission nor persons acting on its behalf shall have any responsibility or liability for replacing or furnishing material which Agency obtains directly from a lessee of the Commission. The Commission will pay to the carrier the transportation charges for returning any material obtained directly from the Commission which does not conform to applicable specifications, as well as the transportation charges for shipping conforming replacement material. No service charges will be made with respect to such replacement material, and rental charges for Commission-owned containers in which such material shall be shipped will not commence until 30 days after date of shipment.

D. 1. The Commission, upon delivery to Agency of plutonium, subject to this Agreement, may direct that such plutonium not be blended with other plutonium.

2. In the case of blending of plutonium subject to this Agreement with privately owned plutonium, Agency agrees either (i) to secure the Commission's written agreement in advance as to the terms and conditions under which such material may be blended or (ii) to accept as conclusive and binding the Commission's determination in writing as to the consequences of any such blending including the disposition of any blended product and amounts due the Commission and Agency.

3. It is hereby agreed that Agency shall be responsible for handling any claims of third parties on account of rights alleged in or in connection with the plutonium used in blending.

E. 1. Agency shall maintain and make available to the Commission for examination, upon reasonable notice, complete and adequate records pertaining to its receipt, possession, use, location, movement, and physical inventories of material subject to this Agreement. Such records shall fully reflect physical measurements, consumption, actual inventories, and the transactions relating thereto. Agency will submit such transfer documents and reports reflecting quantities of material received, physically present, consumed and transferred, with respect to material subject to this Agreement as the Commission may prescribe. Agency will make at least one physical inventory of material subject to this Agreement and in the custody of Agency during each twelve months' period of the Agreement and will insure that such inventories are also made of material subject to this Agreement but in the custody of others.

2. Agency shall afford to the Commission, at all reasonable times, opportunity to inspect the material subject to this Agreement and the premises and facilities where such material is used or stored. Agency shall permit the Commission to perform such audit tests and inventory tests (which may include the taking of a reasonable number of samples for physical or chemical analyses but which does not include sampling and destructive testing of fabricated articles except as agreed to by Agency) as the Commission deems necessary for verification of the accuracy of any reports submitted by Agency to the Commission. The Commission agrees to perform any inventory tests with respect to material subject to this agreement so as to minimize interference to Agency's processing, delivery schedules, and third-party commitments regarding the material. Agency agrees that no charges for costs or value of any material samples, or for services or equipment, should such be furnished by Agency, provided in connection with the performance of audit tests and inventory tests, shall be made against the Commission; however, the Commission will allow full credit in Agency's account with the Commission for the value of the material included in the samples and the Commission will make no charge against Agency for reconversion of the material samples to standard form. In the event Agency should ship material subject to this Agreement to any other person, or cause such shipment of such material, Agency shall assure that the rights and privileges granted to the Commission under this paragraph shall not be affected by such shipment.

ARTICLE V - RETURN OF MATERIAL TO THE COMMISSION; SPECIAL CHARGES FOR COMMISSION SERVICES

A. Agency shall return all material subject to this agreement which has not been consumed upon the expiration or earlier termination of this Agreement, provided, however, that Agency shall have the right to return any such material at any time prior to such date.

B. Except as otherwise provided herein, material returned by Agency will be returned directly to the Commission in the standard form and in accordance with the Commission's established specifications for return of material in effect as of the date the material is returned.

C. Material subject to this Agreement transferred to a lessee of the Commission, regardless of the form or specification of such material, shall be deemed to have been returned to the Commission if such lessee, the Commission, and Agency have executed an order covering the material so transferred.

D. The Commission may at its sole discretion accept material in a form or specification other than as provided in B. above. In such cases, unless the Commission shall determine that acceptance of the material in its existing form is in the best interests of the Government, Agency shall pay a service charge for processing such returned material so as to enable it to meet the standard form and to satisfy the Commission's established specifications in effect at the time the material is returned. Such charge shall include the Commission's charge for processing, as determined in accordance with the established Commission pricing policy in effect at the time the material is returned and an amount as determined by the Commission, for the value of the material consumed during such processing.

E. All material returned directly to the Commission shall be delivered by Agency to the Commission facility or location specified by the Commission, f.o.b. commercial conveyance at such facility or location. Unless waived by the Commission, Agency shall give the Commission at least fifteen (15) days' written notice of intent to return material directly to the Commission. The Commission will notify Agency promptly after receipt of Agency's notice of intent to return material as to the Commission facility or location designated for return of the material. (Agency, at the time of shipment of material, shall notify the Commission facility or other location to which shipment is made of the date and method of shipment, and expected date of arrival.

ARTICLE VI - PAYMENT FOR MATERIAL CONSUMED

A. Except as otherwise provided herein, Agency shall be responsible for and shall reimburse the Commission for any consumption of material, whether or not such consumption is due to the fault or negligence of Agency or any other cause occurring from the time of delivery of such material to Agency and until such material has been returned to the Commission as provided herein.

B. Agency shall make reports to the Commission, on forms prescribed by the Commission, to accurately reflect all consumption of material as then known to Agency. In reporting material as consumed, Agency shall make reasonable effort to accurately fix the time of such consumption on the basis of a specific occurrence or in accordance with procedures and methods of calculating consumption accepted by the Commission.

C. Except as otherwise provided herein, the amount due the Commission for material consumed shall be the value of such material computed in accordance with this Agreement as of the time of such consumption. Agency may, and shall when required by the Commission, pay on a provisional basis for material consumed. Full custody to and responsibility for all consumed material shall be deemed transferred from the Commission to Agency upon final payment to the Commission of the amount due.

ARTICLE VII - OTHER AUTHORITY

Nothing in this Agreement shall be deemed to require Agency to pay the Commission's charges with respect to materials or services subject to this Agreement, or to observe other specific provisions of this Agreement, if the Commission, in accordance with statutory authority or other authority available to it, determines that such charges, or other provisions are not applicable.

ARTICLE VIII - ESTABLISHMENT OF PLUTONIUM ACCOUNT

A. The Commission will establish a plutonium account for Agency to which will be debited, as provided herein, the amount or amounts equal to the value of the material subject to this Agreement. Such account will be credited, as provided herein, with the amount or amounts equal to the value of the material returned or paid for in accordance with this Agreement. The value of material reflected in this account after credit for the value of material returned and for payments for material consumed shall represent the amount due to the Commission for material not returned or paid for. In the event material paid for provisionally as having been consumed is later re-established in Agency's account, said account shall be debited as of the date of refund (or appropriate setoff) of such payment to Agency as provided in paragraph C. of Article X hereof, with the amount or amounts equal to the value of such material at the time of such re-establishment in Agency's account.

B. Except as otherwise provided in this Agreement, Agency's account will be debited for material furnished as of the date material is delivered to Agency, provided that in the case of leased material transferred directly from a lessee of the Commission, the debit will be made as of the effective date specified in the order executed by Agency, the lessee, and the Commission for such material. Except as otherwise agreed to by the Commission, such effective date shall not precede the date of the Commission's execution of such order by more than 30 days and such date shall also be set forth in the applicable transfer document.

C. Agency's account will be credited for material returned to the Commission or transferred to a lessee only when material is returned or transferred in accordance with Article V. Except as otherwise provided in this Agreement, Agency's account will be credited for material returned directly to the Commission as of the date the material is delivered to a location specified by the Commission pursuant to this Agreement. Credit for material transferred to a lessee will be made as of the effective date specified in the order executed by the lessee, the Commission, and Agency. Credit for material paid for will be made as of the date payment is received by the Commission.

D. Whenever the Commission changes any applicable base charge as provided in Article IX below, the value of material recorded in Agency's account will be recomputed at the new base charge, provided that the value of material consumed as of the effective date of such change shall not be recomputed. Subsequent to the effective date of the change in the applicable base charge, the new base charge will be used in determining the value of material consumed.

E. Agency will be promptly notified of the debits and credits made to its account as the result of shipments, consumption, or transfers of material, and of any changes in the value of material in such account as the result of changes in the applicable base charges. Agency will promptly notify the Commission of any disagreement with, or alleged discrepancies, or errors in such notices.

ARTICLE IX - CHANGES IN BASE CHARGES AND SPECIFICATIONS

A. The base charges, standard form, and specifications for material furnished pursuant to this agreement are subject to change by the Commission in accordance with the Act.

B. Any increase in base charges or any changes in the standard form or in the Commission's established specifications shall require at least 180 days' notice to Agency by publication or otherwise.

ARTICLE X - PERFORMANCE OF AEC OBLIGATIONS - BILLING

A. The Commission may fulfill its obligations under this Agreement through the operator of any of its facilities. No such operator is authorized to modify the terms of this Agreement, waive any requirement thereof, or settle any claim or dispute arising hereunder.

B. Billings for amounts due the Commission under the Agreement will ordinarily be made

(1) following the performance of any service, and

(2) semiannually for consumption of material.

C. All billings and payments made on a provisional basis are subject to adjustment to recognize actual or calculated amounts, isotopic content, and specifications of material involved. Whenever Agency has provisionally paid for material reported as having been consumed and such material is later re-established in Agency's account, the Commission shall refund to Agency (or appropriately setoff against any amounts due the Commission) the amount paid by Agency for such material. The adjustments provided for in this paragraph will not subject Agency or the Commission to liability for interest.

D. All bills rendered by or on behalf of the Commission are due 30 days from the date of invoice.

ARTICLE XI - TIME OF DELIVERY

The Commission will make reasonable efforts to deliver material at the time or times stated in orders for material subject to this Agreement.

ARTICLE XII - DELIVERY - F.O.B. POINT

A. Material furnished directly from a Commission facility will be shipped f.o.b. Agency's vehicle or commercial conveyance at such Commission facility. Delivery of material or containers to Agency or its designee or to a carrier for the account of Agency or its designee shall be deemed delivery of such material or containers to Agency for the purposes of this Agreement.

B. Unless Agency furnishes a prepared bill of lading, all shipments by the Commission will be made collect on a commercial bill of lading to be converted at destination.

C. When Agency obtains material from a lessee of the Commission pursuant to this Agreement, the Commission shall not be responsible for costs of packaging, shipment, and handling.

ARTICLE XIII - CONTAINERS AND EQUIPMENT

A. All shipments of material from the Commission to Agency, and from Agency to the Commission, will be made in Agency-furnished containers; provided, however, that in the event the Commission determines that the required containers are not reasonably available from commercial sources, the Commission may furnish Commission-owned containers if such are available. Any Commission-owned containers to be used for shipment of material will be made available to Agency, f.o.b. Agency's vehicle or commercial conveyance, at a Commission facility designated by the Commission, unless otherwise agreed. Agency-furnished containers and equipment shall be delivered to a Commission facility designated by the Commission within a reasonable time specified by the Commission prior to the scheduled delivery of materials to be shipped to Agency in such containers and equipment. Agency-furnished containers or equipment will be used by the Commission only for the shipment of material from the Commission to Agency and for temporary storage of material shipped therein.

B. All containers and equipment, whether Commission-owned or Agency-furnished, must meet Commission regulations, specifications, and practices as to safety, design criteria, cleanliness, and freedom from contamination in effect at the time furnished, utilized, or returned, of which the Commission shall be the sole judge. In the event material is returned by Agency to the Commission in non-Commission-owned containers and other material is to be delivered to Agency, the Commission shall utilize to the extent practicable such non-Commission-owned containers for shipments of material if so desired by Agency. The Commission will promptly return to Agency non-Commission-owned containers and other equipment identified as "Returnable," but will not be responsible for any loss of or damage to such containers or equipment except as may result from its fault or negligence. Such return shipments by the Commission will be made f.o.b. Agency's vehicle or commercial conveyance at the Commission facility to which they were shipped.

C. Agency shall pay such rental charge, for such containers and equipment, as shall be established by the Commission for general application to users of such Commission-owned property. Agency will promptly return Commission-owned containers and equipment to the Commission facility from which received, f.o.b. Agency's vehicle or commercial conveyance at the Commission facility. Agency will not be responsible for any loss or damage to Commission-owned containers or equipment except as may result from the fault or negligence of Agency, its contractors, or agents. Commission-owned containers or equipment will be used only for shipment of material to and from the Commission and for temporary storage of material shipped therein.

D. Whenever material or containers are shipped to the Commission or Commission-owned containers are returned to the Commission, and the Commission elects to decontaminate the containers, railroad cars, trucks, or other shipping vehicles or the Commission's unloading area and machinery, because the containers, or the material or the method of shipment failed to meet the health and safety standards prescribed by the Commission or any other Federal or State agencies having jurisdiction over such matters, Agency shall pay the Commission the full cost of such decontamination as determined by the Commission in accordance with established Commission pricing policy. Any residual quantities of material in containers or equipment returned to the Commission will be deemed to have been consumed by Agency, and Agency shall pay for such material in accordance with this Agreement.

ARTICLE XIV - DETERMINATION OF MATERIAL QUANTITIES AND PROPERTIES

A. The Commission will furnish Agency a statement of the quantities and properties, including a statement of the weight of the material subject to this Agreement which is received by Agency directly from a Commission facility or returned directly to a Commission facility. The following provisions and procedures shall apply to the determination of the quantities and properties, including weight of the material:

1. Commission samples obtained at a Commission facility using the Commission's procedures will be binding upon the Commission and Agency unless the Commission and Agency agree upon the use of other samples, procedures or sampling locations.

2. The weight of the material will be determined prior to delivery to Agency or acceptance of delivery by the Commission, as the case may be, at a Commission facility using the Commission's procedures and facilities. The weight of the material determined by the result of such procedures shall be binding upon the Commission and Agency, unless the Commission and Agency agree upon other procedures or facilities.

B. Agency may, upon request to the Commission, observe the weighing of the material and the taking of samples by the Commission. The dates and places for the weighing and sampling will be established by the Commission and communicated to Agency upon receipt of Agency's request.

ARTICLE XV - TRANSFER OF MATERIAL

Transfer of material by Agency to a lessee with the approval of the Commission as provided in this Agreement shall not have the effect of relieving Agency of any obligation hereunder, except as to return of or payment for material so transferred.

ARTICLE XVI - OTHER CONTRACTS AND AGREEMENTS

This Agreement contemplates the possibility of separate agreements between Agency and the Commission with respect to materials which are subject to this Agreement, which may provide for suspension, termination, or revision of matters hereunder; and for reimbursement of charges incurred pursuant to this Agreement. Except as provided in such agreements, Agency's obligations under this Agreement for material subject to this Agreement shall continue notwithstanding the existence of such separate agreement or agreements.

ARTICLE XVII - NOTICES

A. Any notices required by this Agreement of Agency shall be submitted in writing to the Commission addressed to:

AEC Plutonium Leasing Officer
Richland Operations Office
United States Atomic Energy Commission
P. O. Box 550
Richland, Washington 99352

509-9[illegible]-7378
P. Craig
509-942-7275
Mrs. Rorick

B. Any notices required by this Agreement of the Commission shall be submitted in writing to Agency addressed to:

Commandant

U. S. Army Chemical Center and School

ATTN: Chief, Health Physics Division

Fort McClellan, Alabama 36201

IN WITNESS WHEREOF, the parties hereto have executed this Interagency Agreement the day and year first above written.

U. S. Army Chemical Center and School
(Agency)

BY: R. L. Hewlett

TITLE: Assistant Commandant

THE UNITED STATES ATOMIC ENERGY COMMISSION

BY: P. R. Craig
(AEC Plutonium Leasing Officer)

DD Form 96
1958 Summary of Corrective Action, 7 January 1958. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

SECURITY CI CATION (If any)

DISPOSITION FORM

FILE NO.	SUBJECT
	Summary of Corrective Action

TO	FROM	DATE	COMMENT NO. 1
Isotope Committee	Rad Safe Officer	7 Jan 58	

The following is a summary of actions taken by the Radiological Branch in regard to the recommendations made by the U. S. Army Environmental Health Laboratory on 28 May 1957.

a. A locally designed metal tag has been forwarded to Purchasing and Contracting for local manufacture.

b. Same as sub paragraph a.

c. Accomplished by initiation of a daily inventory of sources.

d. Leakage tests on all radium sealed sources are being conducted every 3 months. Leakage tests at Pelham Range are conducted on 5-10% of the sources every 6 months.

e. "Hot Cell" design and location are still being studied.

f. Signs have been placed on all contaminated material and it is being safely stored.

g. No contaminated material used for training exists.

h. An adequate fence around Pelham Range has been erected.

i. Accomplished.

j. No action necessary.

k. Reference sub-paragraph "C".

l. Accomplished by erection of combination barbed—hog wire fence.

m. AEC does not consider it necessary to decontaminate old burial ground if isotope has a half-life of one (1) year or less. Material in old burial ground has been identified as Tantalum (half-life 115 days).

n. Fence materials have been requested.

U. S. GOVERNMENT PRINTING OFFICE: 1951 O - 906878

Isotope Committee Meeting
1952a Fourth Meeting, 25 June 1952. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

CMLTC-S-8 [redacted] 26 June 1952

MINUTES OF THE MEETING OF THE ISOTOPES COMMITTEE OF THE CHEMICAL CORPS SCHOOL

In accordance with Memorandum No. 1, The Chemical Corps School, Chemical Corps Training Command, Fort McClellan, Alabama, subject: "Isotopes Committee", dated 2 January 1952, pars 2 and 4, SO 14, The Chemical Corps School, Chemical Corps Training Command, Fort McClellan, Alabama, dated 31 January 1952, and at the call of the chairman of the Isotopes Committee, the fourth meeting of the Isotopes Committee was held at The Chemical Corps School on 25 June 1952.

The meeting was called to order by the committee chairman at 1000 hours. All members of the committee were present.

The minutes of the previous meeting were read by the recorder and presented to the committee for approval. The committee voted to approve the minutes as read.

First in the order of business was the status of any unfinished business.

Lt Pardee, the Radiological Safety Officer, reported that the radiological monitoring area "Rattlesnake Gulch" of The Chemical Corps School had been marked with radiological contamination symbols; 16 curies of Co^{60} had been received at the Raiological Laboratories and set up in the field monitoring area "Rattlesnake Gulch" for training personnel in the techniques of monitoring a radiologically contaminated area; The Chemical Corps School has a total of 48 curies of Co^{60} all of which is located in 2 and 4 curie point sources in the field monitoring area; these point sources have been changed from plastic to metal capsules which are dropped into wells in the ground when not being used and secured by lock and key; the Isotopes preparation room for storage and preparation of gamma, beta and beta-gamma emitting isotopes for training purposes had been completed as per recommendations made during a previous meeting, reference, minutes of Isotopes Committee Meeting of 28 March 1952; the Health Physics Office had been moved as per recommendations; several shipments of beta, gamma and beta-gamma emitting radioisotopes had been received from the Oak Ridge National Laboratory, Oak Ridge, Tennessee during the past three months and were stored in the storage area of the Isotopes preparation room; wash basins had been installed in the scaler room, top floor, laboratory "A", Bldg T-836 for students using radioisotopes to wash their hands before leaving the laboratory.

[redacted]

The next order of business was that of any new business.

A request for the purchase of radioisotopes made by the Military Arts Branch, The Chemical Corps School was presented to the committee by the Radiological Safety Officer for approval. The purchase order was for the purchase of 10 each Cobalt 60 sources having activities of 2 curies per source. These sources were to be used in the CBR Familiarization Course in the Pelham Range Area as a training aid. The sources were to be stored when not in use at the site at which they were used in a similar manner as that used in the radiological field monitoring area "Rattlesnake Gulch".

Col Thompson, the School Surgeon, brought up the question as to the radiation dosage which personnel would receive during such an exercise using this quantity of radioactive materials. Lt Pardee, the Radiological Safety Officer, informed the committee that during the operation of such an exercise a Health Physics representative was always present to enforce radiation safety measures and prevent the overexposure of personnel. Also, that RADIAC instruments used in such an exercise have been modified to register radiation intensities greater than the acutal intensity by a factor of 100.

The decision of the committee was to approve the purchase of the radioisotopes with the following recommendations, "Modified RADIAC instruments will be used during the exercise. However, personnel will be informed of this modification and all personnel will wear correct reading personnel dosage devices at all times during such an exercise."

The next order of business was that of D/A policy regarding the disposition of records of radiation exposure which are maintained by the Health Physics Group at The Chemical Corps School.

Since information regarding the D/A policy on the subject wasn't available the committee decided that a letter should be prepared for the Commandant's signature to The Adjutant General requesting the information regarding the policy of Maintenance of records of radiation dosage of personnel working with radioactive materials.

MINUTES OF THE MTG OF THE ISOTOPES COMMITTEE OF THE CML C SCH

[redacted]

There being no other business the meeting was adjourned by the chairman at 1025 hours.

George F Carroll

GEORGE F. CARROLL
1st Lt, Cml C
Recorder

APPROVED:

George F Carroll
for

NELSON McKAIG, JR.
Colonel, Cml C
Chairman

Copies furnished:

Comdt, The Cml C School
Health Physics Group, The Cml C School

[redacted]

Isotope Committee Meeting
1952b Sixth Meeting, 19 December 1952. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

CMLTC-S-8 19 December 1952

MINUTES OF THE MEETING OF THE ISOTOPES COMMITTEE
OF THE CHEMICAL CORPS SCHOOL

In accordance with Memorandum No. 1, The Chemical Corps School, Chemical Corps Training Command, Fort McClellan, Alabama, subject: "Isotopes Committee", dated 2 January 1952, pars 2 and 4, SO 14, The Chemical Corps School, Chemical Corps Training Command, Fort McClellan, Alabama, dated 31 January 1952 and at the call of the Chairman of the Isotopes Committee, The Chemical Corps School, the sixth meeting of the Isotopes Committee was held at The Chemical Corps School on 12 December 1952.

The meeting was called to order by the Committee Chairman at 1000 hours. Colonel Barksdale, Major MacWilliams, 1st Lt Pardee and 1st Lt Lloyd were present. Members absent were Colonel Thompson and 1st Lt Carroll.

The minutes of the previous meeting were read by the recorder and presented to the Committee for approval. The Committee voted to approve the minutes as read.

First in the order of business was the status of any unfinished business.

Lt Pardee, the Radiological Safety Officer, reported that the 20 curies of Co^{60} reported as received had been installed in the Pelham Range CBR Field Familiarization Course.

1st Lt Elwood A. Lloyd has been appointed as a member of the Isotopes Committee as per Par 3, SO 150, The Cml C Sch, dated 21 October 1952.

The next order of business was that of any new business.

The report of the conference with Mr. Bizzell of Advisory Field Service Branch, Isotopes Division, United States Atomic Energy Commission, of 13 November 1952 was presented and recommendations of Mr. Bizzell were discussed and were approved for action insofar as possible. The specific recommendations are listed in minutes for that conference.

Major MacWilliams reported that proposed move of Radiological Survey Area would require a minimum of three weeks.

Major MacWilliams recommended that Mr. Moore, civilian employee of the Radiological Laboratories, attend the 30th ADO Course. Recommendation approved.

Request of Navy Unit for permission to use isotopes in large scale decontamination exercise was considered and approved with reservations as listed in reply.

Lt Pardee made a brief interim report on the lost isotope. No further action by the Committee was indicated at this time.

The pending receipt of a 9-curie source from Naval Procurement was discussed and decision was made to accept this source when delivered.

Colonel Barksdale reported that he and Lt Col Caldwell had made an inspection of the isotope storage vault and that corrective action had been taken.

Colonel Barksdale asked if the School should send a representative to the AAAS meetings in St Louis in January. Opinion was negative.

There being no further business, the meeting was adjourned by the Chairman at 1030 hours.

APPROVED:

JAMES E ROGERS, Lt Col, Cml C
Chairman

ELWOOD A LLOYD, 1st Lt, Cml C
Recorder

Copies Furnished:
Commandant, The Cml C Sch
Health Physics Gp, The Cml C Sch

Isotope Committee Meeting
1954a Twelfth Meeting, 9 July 1954. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

THE CHEMICAL CORPS SCHOOL
CHEMICAL CORPS TRAINING COMMAND
FORT McCLELLAN, ALABAMA

~~FOR OFFICIAL USE ONLY~~

MINUTES OF THE ISOTOPE COMMITTEE

10 July 1954

The twelfth meeting of the Isotope Committee was held at The Chemical Corps School on 9 July 1954.

The meeting was called to order by the Committee Chairman at 1040 hours. The following members were present: Lt. Col. Rogers, Lt. Col. Brice, 1st Lt. Carroll, 1st Lt. Lloyd. Lt. Deeks, Medical Member was absent.

The minutes of the previous meeting were read by the recorder and presented to the committee for approval. Lt. Carroll recommended the following addition to paragraph 4 of the new business section of the minutes of the eleventh meeting:

> "Approval was granted for the use of radioactive material only in the area fenced and designated as the Toxic Gas Area of Pelham Range. Any other area was disapproved on the basis that AEC regulations cannot be complied with in other areas without extreme difficulty".

With this correction, the minutes of the previous meeting were approved.

First in the order of business was the status of the unfinished business.

1. Purchase of Cesium 137. In accordance with Item 5 and 6 of the minutes of the last meeting six sources of various sizes were requisitioned on 21 April. This quantity is sufficient for most student laboratory exercises. The purchase of Cs^{137} for field sources is not recommended on the basis that the purchase of Cs^{137} in large quantities is much more expensive than Co^{60}. This differential is not true for the small quantities requisitioned. (See price breakdown in file). This purchase, action and recommendation were approved.

Next in the order of business was the new business.

1. Lt. Deeks, Medical Member of the committee, has been transferred. The committee approved the recommendation for the appointment of Lt. Col. Cameron as Medical Member of the committee.

~~FOR OFFICIAL USE ONLY~~

[redacted]

2. The semiannual reports of the Radiological Safety Officer were submitted to and approved by the committee. (See Incl 1, Report of Receipt of Unpackaged Radioisotopes, and Incl 2, Unpackaged Isotopes on Hand at The Chemical Corps School. No burials had been made).

3. The current status of film procurement for dosimetry was discussed. Action by the Radiological Branch, through Corps and Channels, to attempt to prevent further difficulties was approved.

There being no further business the meeting was adjourned at 1120 hours.

Elwood A. Lloyd

ELWOOD A. LLOYD, 1st Lt., CmlC
Recorder, Isotope Committee

APPROVED:

James E. Rogers

JAMES E. ROGERS, Lt Col, CmlC
Chairman, Isotope Committee

[redacted]

HEALTH PHYSICS GROUP
THE CHEMICAL CORPS SCHOOL
CHEMICAL CORPS TRAINING COMMAND
FORT McCLELLAN, ALABAMA

GFC/emm

CMLTC-S-8 [redacted] 6 July 1954

SUBJECT: Unpackaged Isotopes on Hand at The Chemical Corps School

TO: Isotope Committee
The Chemical Corps School
Fort McClellan, Alabama

1. Listed below are radioisotopes in unpackaged form on hand at The Chemical Corps School, as of 1 July 1954. Tabulated data shows name of Isotope and quantity on hand.

ISOTOPE	QUANTITY ON HAND
Cadmium-115	.05 MC
Cobalt-60	8 MC
Iron-59	.07 MC
Niobium-95	.23 MC
Rubidium-86	.02 Units
Strontium-89	4.75 MC
Yttrium-91	.75 MC
Partially decayed mixture estimated	- 7 MC

2. The partially decayed mixture consists of quantities of isotopes whose specific activity is inadequate for use as samples for scaler counting. These isotopes are used for radiological decontamination demonstrations and exercises.

George F Carroll

GEORGE F. CARROLL
1st Lt., Cml C
Radiological Safety Officer

[redacted]

HEALTH PHYSICS GROUP
THE CHEMICAL CORPS SCHOOL
CHEMICAL CORPS TRAINING COMMAND
FORT McCLELLAN, ALABAMA

GFC/emm

CMLTC-S-8 [redacted] 6 July 1954

SUBJECT: Report of Receipt of Unpackaged Radioisotopes

TO: Isotope Committee
The Chemical Corps School
Fort McClellan, Alabama

1. Listed below are radioisotopes received at The Chemical Corps School during the first half of calendar year 1954 (January to July).

2. The tabulated data shows name of Isotope, quantity received and date of receipt of isotope.

DATE	ISOTOPE	QUANTITY
21 Dec 53	Cadmium-115	2 MC
12 Jan 54	Yttrium-91	2 MC
14 Jan 54	Iodine-131	2 MC
18 Jan 54	Iron-59	1 MC
18 Jan 54	Phosphorus-32	2 MC
23 Feb 54	Niobium-95	1 MC
24 Feb 54	Iodine-131	2 MC
24 Feb 54	Phosphorus-32	2 MC
1 Mar 54	Strontium-89	2 MC

George F Carroll

GEORGE F. CARROLL
1st Lt., Cml C
Radiological Safety Officer

[redacted]

Isotope Committee Meeting
1954b Thirteenth Meeting, 18 August 1954. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

THE CHEMICAL CORPS SCHOOL
CHEMICAL CORPS TRAINING COMMAND
FORT McCLELLAN, ALABAMA

MINUTES OF THE ISOTOPES COMMITTEE

19 August 1954

The thirteenth meeting of the Isotope Committee was held at the Chemical Corps School on 18 August 1954.

The meeting was called to order by the Committee Chairman at 1400 hours. The following members were present: Col. Wood, Lt. Col. Brice, Lt. Col. Cameron, 1st Lt. Carroll, and 1st Lt. Lloyd. All members were present.

The minutes of the previous meeting were read by the recorder and presented to the committee for approval. The minutes were approved as read.

First in the order of business was the status of the unfinished business.

1. Arrival of Cesium 137. The Cesium 137 which was approved at the previous meeting arrived and is in the quantity needed, as calculated for calibration sources.

2. Dosimetry Film Procurement. The procurement of film was discussed. The delivery of the 21 April 1954 requisition for 14 gross of film is still pending. Post Signal is inquiring by TWX and telephone. Office Director of Logistics has been informed that the school has only a two week supply of film on hand at this time.

3. Paragraph 5, S. O. 33, The Chemical Corps School, dated 26 July 1954, appointed Lt. Col. Joseph M. Cameron as medical member of this committee vice Lt. Daeks, transferred.

Next in the order of business was new business.

1. Paragraph 5, S. O. 35, The Chemical Corps School, dated 17 August 1954, appointed Col. C. H. Wood as Chairman of this committee vice Lt. Col. James E. Rogers.

2. Action on Pvt. Clarke. Considering the medical reports of consistently low white cell blood count, it was recommended by Lt. Col. Brice as Chief, Health Physics Group, that Pvt. Kenneth M. Clarke, US 51300432, be restricted to work which will not require or allow him to be exposed to internal or external radiation hazards. It was further agreed that since all personnel of the Radiological Branch

[redacted]

may possibly be called on to work with radioactive material, Pvt. Clarke should be transferred from his present position with the Radiological Branch to another position where there would be no possibility of exposure. This recommendation had the concurrence of the medical member who stated that the present condition of Pvt. Clarke could in no way be attributed to radiation exposure received at the school. The complete medical and exposure record of Pvt. Clarke is filed in the committee files.

3. Progress Report on Pelham Range Training Area. The contents of the indorsement which grants approval for the use of an area of Pelham Range ((1st Ind. (File CMLTC-T 600 (22 July 54) Subject: Request for Pelham Range Training Area, From: Headquarters, CMLCTNGCOM, To: Commandant, The Chemical Corps School, dated 30 July 1954) to letter, File CMLTC-S-8, Subject as above, To: Commanding Officer, CMLCTNGCOM, ATTN: Director Training, dated 22 July 1954)), was read to the committee. The committee agreed that to carry out the responsibilities of the Commandant for the safety program for CMLCTNGCOM, and particularly for radiation safety, all units desiring to use this area must first clear through the Health Physics Group of the Isotope Committee.

4. Approval was requested for the purchase of Cobalt 60 for the Pelham Range Training Area in quantities up to 500 curies in an unencapsulated form. After discussion of the facilities and personnel available to the school to perform the necessary encapsulation, approval was granted for the purchase of the Cobalt 60 in this form.

5. Approval was requested for the use of larger quantities of short half life isotopes in the Howitzer Hill Decon Exercise (8859) in order to provide more realistic training. Tentative approval was granted with the limitation that the isotopes used be those of less than 40 day half life.

6. Lt. Carroll reported a burial of waste radioisotopes and contaminated articles. Three containers were buried. Full information is entered in the Health Physics Journal.

7. It was recommended that some new officer, to be selected by Lt. Col. Brice, be sent to a four week training course at Oak Ridge to prepare to replace members of the Health Physics Group. This recommendation was approved.

8. In view of the unavailability of long tour officer personnel and to provide continuity in the Health Physics Group, it was agreed unanimously that the employment of civilian personnel would be highly advantageous. It was directed that an investigation of the possibility of obtaining a competent additional civilian for this position be made.

MINUTES OF THE ISOTOPES COMMITTEE (contd)

[redacted]

There being no further business the meeting was adjourned at 1450.

ELWOOD A. LLOYD
1st Lt. Cml C
Recorder, Isotope Committee

Approved:

C. H. WOOD
Col, Cml C
Chairman, Isotope Committee

[redacted]

Isotope Committee Meeting
1954c Fourteenth Meeting, 17 December 1954. The Chemical Corps School.

THE CHEMICAL CORPS SCHOOL
CHEMICAL CORPS TRAINING COMMAND
FORT McCLELLAN, ALABAMA

MINUTES OF THE ISOTOPES COMMITTEE

20 December 1954

The fourteenth meeting of the Isotopes Committee was held at The Chemical Corps School on 17 December 1954.

The meeting was called to order by the Committee Chairman at 0900 hours. The following members were present: Col Wood, Lt Col Brice, Lt Col Cameron, Capt Carroll, and Capt Lloyd. All members were present. It was requested that Lt Powell and Lt Killen be allowed to observe the meeting. Request was approved.

The minutes of the previous meeting were read by the recorder and presented to the committee for approval. The minutes were approved as read.

First in the order of business was the status of the unfinished business.

1. Dosimetry Film Procurement. The procurement of film was discussed. Delivery of the 21 April 1954 requisition for 14 gross of film was made in September after considerable TWX and phone communication. An additional 3300 film packets were ordered on 22 September 1954 and were received on 16 December 1954. The requisition specifications were not met in that the film was unnumbered. It was directed that a new order with stronger specifications be placed in order to replace the unsatisfactory film with numbered film as soon as possible.

2. Action on Private Clarke. The action directed on Pvt Clarke at the thirteenth meeting has been completed by his transfer to the Chemical Agents Branch.

3. Progress report on Pelham Range. A report was made by Lt Powell (Incl 1). It was directed that a letter be prepared to expedite procurement of the necessary material in time to avoid unnecessary storage of an expected shipment of Cobalt-60.

4. Approval for use of Radioisotope. Approval was requested for the use of Mercury-203 (half-life of 43.5 days) in the Howitzer Hill Decontamination Exercise (8859). Request was approved.

5. Officer training at Oak Ridge. It was noted that Lt Powell will attend a four-week Health Physics training course at Oak Ridge in March 1955, as approved in the thirteenth meeting.

6. Civilian for Health Physics. A request has been forwarded from the School for an allotment of space for a civilian (GS 7 to 9) for the Health Physics Group. It was directed that a strong follow-up be made.

Next in order of business was the new business.

1. Renewal of general authorization. It was reported that the application for a general authorization for procurement of radioisotopes during 1955 was forwarded to USAEC on 16 December 1954. The accompanying letter included answers to specific questions relative to the authorization.

2. The Radiological Safety Officer made the following reports which are included as Inclosures to the minutes:

a. Report of minor contamination of personnel (Incl 2).

b. Reports of over-exposed film badges (Incl 3, 4, 5, and 6).

c. Report of receipts of unpackaged Radioisotopes during the Second Half of the Calendar Year 1954 at The Chemical Corps School (Incl 7).

d. Report of Unpackaged Isotopes on Hand (Incl 8).

e. Report of burial of ten containers at the School burial ground (Incl 9).

3. Storage Vault. A report was made on the flooding of the vault. Because of either improper design or construction, surface water drains through the vault, into the storage well, and out to the storm sewer. A strong request for grading, installation of a valve in the drain, fencing around the vault, and construction of a road to the vault has been forwarded to CMLCTNGCOM. (Letter ref: CMLTC-S-1, To: Commanding Officer, CMLCTNGCOM, dated, 9 Dec 1954, Subject: Correction of Deficiencies in Radioactive Storage Vault. This action was endorsed and approved by the committee.

4. Tantalum Source. In response to Letter CMLTC-S-8, To: CO, CMLCTNGCOM, dtd 23 Oct 54, Subject: Request for Disposition Instructions, and signed by Col Wood for the committee, information has been received to the effect that OCCMLO has directed that the Tantalum and container be shipped, via technical escort, to Oak Ridge for burial. The committee dissented and recommended holding the Tantalum at the School for burial here at a later date. It was directed that a letter be forwarded stating specific reasons as discussed in the committee meeting (Ltr CMLTC-S-8, to CO, CMLCTNGCOM, dtd 29 Dec 54, Subject: Disposition of Radioactive Tantalum and Container.)

5. Qualifications of New Members. As required by USAEC, Oak Ridge, the qualifications of the new members of this committee, Col Wood and Lt Col Cameron, were forwarded on 3 September 1954.

6. Consolidation of Health Physics and Isotopes Committee files. It was requested that certain sections of the Isotopes Committee file be placed, for administrative reasons, in the Health Physics file. The sections to be retained in the Isotopes Committee file are:

a. Minutes of meetings.

b. Health Physics memos.

c. Correspondence.

d. Report of SOP violations.

e. Chemical Corps School orders and memos concerning the Isotopes Committee.

All other sections of the file will be transferred to the Health Physics file. The request was approved.

7. New Members. It was proposed that 2nd Lt William G Powell, 04001720, and 2nd Lt James R. Killen II, 04027476, be nominated as members of the committee and designated as Assistant Radiological Safety Officers. The proposal was moved and carried. It was directed that a letter of qualification of the new members be sent to USAEC.

8. Classification of Isotopes Committee file. It was requested that the Isotopes Committee file be classified: "For Official Use Only." The request was approved.

There being no further business the meeting was adjourned at 1000 hours.

Elwood A. Lloyd
ELWOOD A LLOYD
Capt, Cml C
Recorder, Isotopes Committee

APPROVED:

C. H. Wood
C. H. WOOD
Col, Cml C
Chairman, Isotopes Committee

[redacted]

HEALTH PHYSICS GROUP
THE CHEMICAL CORPS SCHOOL
CHEMICAL CORPS TRAINING COMMAND
FORT McCLELLAN, ALABAMA

17 December 1954

SUBJECT: Pelham Range Radiological Survey Area

TO: Isotopes Committee
The Chemical Corps School
Fort McClellan, Alabama

1. Project: To construct a larger and more realistic radiological survey training area on Pelham Range.

2. Work Completed:

a. The area of contamination has been cleared of brush and dead tree limbs with the support of the first RCSU.

b. The area has been geometrically surveyed so that the location of the source wells can be accurately recorded.

c. The center of the area of contamination has been burned over to remove a two foot stand of dead grass and brush which detracted from the realism of the training area and inhibited the construction of the area.

d. Stakes marking the location of the first pattern of contamination, 105 source wells, have been surveyed in place.

e. Ten salvaged medium tanks have been obtained to place in the area to add realism to the problem and to serve as land marks. Other military salvage, such as tents, fuel cans, and tires have been obtained.

3. Work pending:

a. Source wells are completed except for the hinges and hasps. These items are on order by the training aids branch and were due on the 27th of November, but have not yet been received.

b. The first 100 source capsules, empty, have been delivered by training aids, and 150 more are being constructed.

c. Engineer support for the drilling of 105 holes with a mechanical auger, to accomodate the source wells, was requested 22 October 1954. At the same time support was requested to tow the 10 tanks, which are now on Pelham Range, to the new area. No acknowledgement of either of these requests has been received.

[redacted]

d. An order of 500 Curies of Cobalt-60 has been placed with ORNL. The Cobalt-60 is expected to be of low specific activity, in pellets ranging in size from 1/8" to 1/4" in diameter. It will be shipped together in one container.

James R. Killian Jr

Submitted by for William G Powell
2d Lt. Cml C

[redacted]

Isotope Committee Meeting
1956a Seventeenth Meeting, 15 March 1956. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

THE CHEMICAL CORPS SCHOOL
CHEMICAL CORPS TRAINING COMMAND
FORT McCLELLAN, ALABAMA

MINUTES OF ISOTOPE COMMITTEE

10 April 1956

The seventeenth meeting of the Isotope Committee was held at The Chemical Corps School on 15 March 1956. The following members were present: Colonel Wood, Lt Colonel Brice, Lt Powell, and Lt Killen. Lt Colonel Cameron was absent.

The minutes of the previous meeting were read by the recorder and presented to the committee for approval. The minutes were approved as read.

It was recommended and approved that note be made of a series of informal meetings as follows:

a. The Isotope Committee met on 22 August 1955. It was noted that The Chemical Corps School has been directed by higher headquarters to conduct a feasibility study of methods for the survey of ground contamination resulting from the surface detonation of large weapons. Methods of conducting the study were discussed and estimates were made of the additional radioactive material required to establish a radiological study area. Detailed plans were made for construction and clearing of the area. Approval was given for an initial order of 750 curies of Cobalt 60.

b. The Isotope Committee met on 7 December 1955. Specific plans and assignment of personnel for the feasibility study was made. The use of new instruments and other equipment was discussed and it was noted that an initial $3500 has been alloted for the study. Plans for a new semi-permanent multi-curie cell were approved.

c. The Isotope Committee met on 5 and 6 January 1956. Final arrangements were made for logistical support of the feasibility study. Radiological safety measures were discussed and it was recommended that these be included in the study SOP.

First in the order of business was the status of the unfinished business.

1. Dosimetry Film Procurement. It was reported that 3300 film packets were received on 10 January 1956.

2. Progress Report on Pelham Range. Lt Powell reported that an additional 90 source wells have been placed in the Radiological Survey Area #3 (Pelham Range). It was also reported that an additional 100 source wells are ready for placement in the area.

3. Radiological Survey Area #1. A report was made on the rebuilding

of the Summerall Gate Road area. New grid lines have been established and clearing of the area has commenced. A new source pattern has been planned.

4. Civilian for Health Physics. It was reported that a civilian T/D position was authorized for Health Physics, but that this position was eliminated by the civilian cut-back. Because of this, temporary overstrength of one officer has been authorized.

5. Radioactive Materials Storage Vault Area. It was reported that a fence was constructed around the area and the area has been blacktopped.

6. Personnel for Health Physics. Sgt Arthur M Binkley has left as Dosimetry Technician. Pfc James R Courtright, Pvt James L Christensen, and Pvt John H Mitchell have been assigned vice Sgt LaVie, Sp 3 Clemons, and Sp 3 Rutledge.

7. Storage Vault. It was recommended and approved that work be iniated for altering the door of the Radioactive Materials Storage Vault so it can be unlocked from the inside.

8. Film Packet Holders. It was reported that the 400 cadmium shielded film holders have been replaced by lead shielded holders.

Next in order of business was the new business.

Pur chase of Radioactive Cobalt. It was requested that approval be granted for the purchase of 1000 curies of Cobalt-60 for the enlargement of the Pelham Range Radiological Survey Area. The request was approved.

There being no further business the meeting was adjourned at 1130 hours.

James R. Killen II

JAMES R. KILLEN II
1st Lt, CmlC
Recorder, Isotope Committee

APPROVED:

Edwin Van Keuren

EDWIN VAN KEUREN
Colonel, CmlC
Commandant

Isotope Committee Meeting
1956b Eighteenth Meeting, 10 April 1956. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

THE CHEMICAL CORPS SCHOOL
CHEMICAL CORPS TRAINING COMMAND
FORT McCLELLAN, ALABAMA

MINUTES OF ISOTOPE COMMITTEE

10 April 1956

The eighteenth meeting of the Isotope Committee was held at The Chemical Corps School on 10 April 1956.

The meeting was called to order by the Committee Chairman at 0800 hours. The following members were present: Colonel Wood, Lt. Colonel Brice, Lt. Powell and Lt. Killen. Lt. Colonel Cameron was absent. It was requested that Lt. Smith be allowed to observe the meeting. The request was approved.

The minutes of the previous meeting were read by the recorder and presented to the committee for approval. The minutes were approved as read.

First in the order of business was the status of the unfinished business.

1. Dosimetry Film Procurement. It was reported that 3600 film packets were received on 5April 1956. This film did not meet School specifications in that the numbering duplicated film presently being utilized. The film was returned to School Supply for replacement. It was directed that an investigation of the circumstances be made.

2. Radiological Survey Area #3 (Pelham Range). Lt. Powell reported that Post Engineer will improve the main access road into the area and will clear the area of trees. An investigation is being made to develop new methods for safe storage and utilization of the radioactive materials in the area.

3. Personnel for Health Physics: It was reported that a temporary overstrength of two officers and five enlisted men have been authorized for the conduct of the feasibility study. In addition, six men (enlisted) from First RSSU have been detailed to the Health Physics Group.

4. Emergency Exit in Storage Vault. No action has been taken concerning an interior lock release for the Radioactive Materials Storage Vault since the last meeting.

5. Purchase of Radioactive Cobalt. Lt. Powell reported that he visited Oak Ridge on 20-22 March 1956, and was able to obtain 1200 curies of Cobalt-60. The purchase order has been forwarded and the Cobalt is expected by 17 April.

Next in order of business was the new business.

1. New Member of Isotope Committee. It was proposed 2nd Lt. Robert F. Smith, 04 010 529, be nominated as member of the committee and designated as Assistant Radiological Safety Officer VICE Lt. Killen who is awaiting release from active Service. The proposal was moved and carried. It was directed that appropriate School action be taken and that a letter of qualification be sent to USAEC.

2. Ground Surveys at Pelham Range. It was requested that approval be granted for the use of Radiological Survey Area #3 (Pelham Range) by radiological ground survey classes. The request was approved.

3. Health Physics Society. Lt. Powell reported that a Health Physics Society has been formed and that application for new members are being accepted by Dr. E. Anderson, ORNL, Secretary. He also reported that a Health Physics Conference will be held from 25 to 27 June 1956 at Ann Arbor, Michigan.

4. Feasibility Study Progress Report. It was reported that considerable work has been accomplished for determining various instrument and equipment combinations for surveys of ground radiological contamination. A CONFIDENTIAL interim report is being prepared and will be on file with the Radiological Branch.

There being no further business the meeting was adjourned at 0850 hours.

James R. Killen (R.T.S.)
JAMES R. KILLEN II
1st Lt Cml C
Recorder, Isotope Committee

APPROVED:

Edwin Van Keuren
EDWIN VAN KEUREN
Col, Cml C
Commandant

Isotope Committee Meeting
1957a Twenty-fifth Meeting, 14 June 1957. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

US ARMY CHEMICAL CORPS SCHOOL
FORT McCLELLAN, ALABAMA

MINUTES OF ISOTOPE COMMITTEE

14 June 1957

The 25th meeting of the Isotope Committee was called to order at 0730 hours, 14 June 1957. The minutes of the last meeting were read and approved.

The list of discrepancies in the isotopes handling system at the Chemical Corps School listed by the inspection team from the Environmental Health Laboratories was presented and discussed.

A temporary storage site for radioactive material was proposed by Capt Habermehl. It will consist of ground storage wells behind the present concrete storage building.

The construction of a new hot cell was discussed. It was recommended that instead of designing a completely new hot cell perhaps the design could be gotten from Oak Ridge. Location of the new hot cell will probably be to the rear of the Radiological Laboratory. The building to house the new hot cell is at present 4th out of 60 projects within Chemical Corps Training Command.

The proposed three day high level course will probably preclude use of the hot cell within the Radiological Laboratory if it is brought to the Chemical Corps School, because one of the rooms inside the laboratory will probably be utilized for this purpose.

Marking of individual source and hazards of the survey field were discussed.

The meeting was adjourned at 0830.

Victor V. Johnson

VICTOR V. JOHNSON
2/Lt CmlC
Recorder

APPROVED:

C. V. Burke

CARL V. BURKE
Colonel, CmlC
Commandant

Recommended Improvements in Radiological Facilities
by Environmental Health Laboratories

1. Film badges should be sent to Lexington Signal Depot at intervals of approximately four months to check the accuracy and reliability of our film developing and reading equipment.

2. All source capsules should be identified as to size and contents by some suitable system such as color or numbers on the capsule.

3. There should be an inventory performed on all radioactive material at the Chemical Corps School to verify its location and to insure that none is missing.

4. New and larger storage facilities are needed most urgently because of the large quantity of radioactive material on hand. Present facilities are completely inadequate.

5. A new hot cell should be constructed, near the storage area, which is large enough to handle any amount of radioactive material which we may have on hand in the forseeable future.

6. The question was raised as to whether water which enters the source wells is enough to cover the source capsule. If it does has the capsule been suitably constructed so as to withstand being immersed in water?

7. In as far as safety to the student is concerned it was suggested by the Inspection Team that since the sources on our survey field are so large some type of marker should be shown when they are in the operating position.

8. A suitable fence (2 or 3 strand) and padlocked gates all of which are suitably marked should be erected around the Rad Survey area. This fence should be surveyed at least monthly to determine that everything is in order.

9. In view of the amount of radioactive waste which is anticipated at the School in the future it was recommended that we cease using our burial grounds and ship our waste, in 50 gal. drums, either to Edgewood, Dugway, or perhaps Oak Ridge. This opinion was aggravated by the condition of the old burial grounds at Rattlesnake Gulch.

10. The old burial grounds at Rattlesnake Gulch will have to be dug up, preferably by pick and shovel to localize contamination, and either shipped to a recommended burial ground or reburied on Pelham Range. Contamination level should reach approximately 1mr/hr before the pits are covered. This is to make reasonably sure there are no capsules or particles of radioactive material which a person could pick up if they were uncovered.

Isotope Committee Meeting
1957b Twenty-ninth Meeting, 20 September 1957. The Chemical Corps School, Fort McClellan, Alabama.

US ARMY CHEMICAL CORPS SCHOOL
FORT McCLELLAN, ALABAMA

MINUTES OF ISOTOPE COMMITTEE

20 Sep 1957

The 29th meeting of the Isotope Committee was called to order at 0730 hours, 20 Sep 1957.

Those present were Col Wood, Lt Col Brice, Lt Col Bacon, Maj Beach, Maj Hinman, Capt Stamper, Lt Powell, Lt Ellis, and Lt Knight.

Col Wood stated that Mr. Hitch from the Division of Civilian Application of Radioisotope at Oak Ridge would be visiting the School on 3 Oct.

Rattlesnake Gulch is to have another fence, of hog wire and barbed wire, erected outside the present barbed fence during the coming week. New signs will be posted on this fence. They will also be posted on Pelham Range, and on the hot cell.

It was moved and passed that Lt Powell be reinstated as a member of the Isotope Committee.

It was moved and passed that Lt Col Bacon be deputy chairman of the Isotope Committee.

Bi[redacted]ographies are to be submitted on all new and old personnel on the Isotope Committee. These are to be included with the AEC By-Product Material License.

A new SOP has been written and is now ready for review and approval.

It was directed that special orders be cut from CCTC specifically placing members of the Isotope Committee on that committee.

It was directed that radioactive materials will not be placed in the "hot cell" laboratory W either for handling, storage, or demonstrations.

The meeting was adjourned at 0800.

Victor V. Johnson

VICTOR V. JOHNSON
2/Lt CmlC
Recorder

APPROVED:

C. V. Wood
for

CARL V. BURKE
Colonel, CmlC
Commandant

UNITED STATES
ATOMIC ENERGY COMMISSION

IN REPLY REFER TO:
IEB:JWH

Oak Ridge, Tennessee
September 12, 1957

Colonel C. H. Wood
Assistant Commander
Chemical Corps School
Fort McClellan, Alabama

Subject: ERECTION OF FENCE SURROUNDING PELAM RANGE

Dear Colonel Wood:

Reference is made to our telephone conversation of this date and the letter of August 22 from Colonel Palmer.

We should like to confirm the agreement reached concerning the erection of a 6 foot fence consisting of 4 feet of mesh wire, which will minimize entry of small animals, to be surmounted by 3 strands of barbed wire. We would also like to confirm the understanding reached that a similarly constructed fence has been constructed around the old burial grounds located at Fort McClellan.

As pointed out to you during our telephone conversation, we should like to send a representative to Fort McClellan to take a closer look at this particular phase of your program and to discuss with you any additional information necessary pursuant to the issuance of a license to cover the Fort McClellan program. We shall contact you soon with regard to completing final arrangements for such a visit.

Very truly yours,

James W. Hitch

James W. Hitch, Assistant Chief
Byproduct Licensing
Isotopes Extension
Division of Civilian Application

cc: Colonel Lloyd MacMurray
Army Chemical Center, Maryland

✓ Xtra copy made for:
① Col Holtzmann, Post
② Maj Hinman, CCTC
③ Capt [illegible], School
④ Col [illegible], "

ColWood/ac/5294
Date typed: 13Sep57

CMLTC-S-2

The Budd Company
Nuclear System Division
Radiation Facility
2450 Hunting Park Avenue
Philadelphia 32, Pennsylvania
ATTN: Mr. Stephens

Dear Mr. Stephens:

The U. S. Army Chemical Corps School uses some 6,000 curies of Cobalt 60 in testing field projects and instruction. We have a small "hot cell" designed locally which, while adequate, is not completely satisfactory for our purposes. In consultation with some of the people from Oak Ridge, they made reference to the fact that your company has done a lot of work in designing and constructing small cells.

I expect to be in the vicinity of Baltimore and Aberdeen during the period 26 to 28 September 1957. Permission is requested to visit with one of your design engineers, either on Thursday afternoon, 26 September, or Saturday morning, 28 September, in order that construction and design of a "hot cell" for handling the school's working curiage may be discussed.

Sincerely,

C. M. WOOD
Colonel, CmlC
Assistant Commandant

COPY

COPY

Wood File Isotopes Com -

UNITED STATES
ATOMIC ENERGY COMMISSION

Oak Ridge, Tennessee
September 12, 1957

IEB:JWH

Colonel C. H. Wood
Assistant Commandant
U. S. Army Chemical Corps School
Fort McClellan, Alabama

Subject: ERECTION OF FENCE SURROUNDING PELHAM RANGE

Dear Colonel Wood:

Reference is made to our telephone conversation of this date and the letter of August 22 from Colonel Palmer.

We should like to confirm the agreement reached concerning the erection of a 6 feet fence consisting of 4 feet of mesh wire, which will minimize entry of small animals, to be surmounted by 3 strands of barbed wire. We would also like to confirm the understanding reached that a similarly constructed fence has been constructed around the old burial grounds located at Fort McClellan.

As pointed out to you during our telephone conversation, we should like to send a representative to Fort McClellan to take a closer look at this particular phase of your program and to discuss with you any additional information necessary pursuant to the issuance of a license to cover the Fort McClellan program. We shall contact you soon with regard to completing final arrangements for such a visit.

Very truly yours,

/s/t/JAMES W. HITCH, Assistant Chief
Byproduct Licensing
Isotopes Extension
Division of Civilian Application

cc: Colonel Lloyd MacMurray
Army Chemical Center, Maryland

Westinghouse
ELECTRIC CORPORATION
COMMERCIAL ATOMIC POWER

P.O. BOX 355
PITTSBURGH 30, PA.

file
Isotope
file.

September 11, 1957

Col. C. H. Wood
U. S. Army Chemical Corporation
Fort McClellan, Alabama

Dear Sir:

The Westinghouse Testing Reactor now being constructed at Waltz Mill, Westmoreland County, Pa., is expected to be in operation by April 1, 1957.

One of the many services available from the reactor is the preparation of metallic radio-isotopes. We are interested in determining the probable demand for such materials to aid in the proper planning of their production.

Since you have used one or more metallic radio-isotopes in the past and presumably have plans to use them in the future, we hope you will feel it to your benefit to have another source of such items available to you. If so, will you please complete and return the enclosed postcard?

We will keep you informed concerning our plans for radio-isotope production. Thank you for your cooperation.

Sincerely yours,

E. T. Morris

E. T. Morris
Manager, WTR

ColWood/ac/5294
Date typed: 23Aug57

CMLTC-S-2 23 August 1957

United States Atomic Energy Commission
Oak Ridge, Tennessee
ATTN: Mr. James W. Hitch, Isotopes Extension

Subject: Progress Report on Implementation of Improved Safety Procedures

Dear Mr. Hitch:

The following steps have been taken to comply with the recommendations made at our recent meeting with you at Oak Ridge. Also, certain procedures have been established in accordance with the comments given in your letter of 16 August 1957.

1. The U. S. Army Chemical Corps School now schedules Isotope Committee Meetings on a regular basis.

2. ORGANIZATION FOR RADIOLOGICAL SAFETY - The Isotope Committee Standing Operating Procedure is being corrected and a copy will be sent to you in the near future. The suggestions made in paragraphs 3, 4, 8, 9, 10 and 11 of letter dated 16 August 1957 will be adopted.

3. OPERATIONAL DIRECTIVE #2. 12. a. - Colonel Cameron, the Isotope Committee Representative, plans to discuss this problem with the members of the Isotope Committee.

4. OPERATIONAL DIRECTIVE #3 - 4. a. (3). - A letter has been written to Third Army and to the Office of the Chief Chemical Officer, General Creasy, indicating the high priority of a more effective barrier. Cost estimates have been obtained and a local contractor has the facilities and equipment to install this fence. We feel that it would be impossible to install a fence with local labor at the 300 mr/hr line and have made a detailed survey of the range and the road network, in order to plan for a fence of some 3.5 miles outside of the 2 mr/hr line.

5. OPERATIONAL DIRECTIVE #3 - 4 a. (5). - On 15 August 1957 some 20 sources were sampled. It was found that there were no leaks from the Cobalt 60 field sources.

CMLTC-S-2 23 August 1957
U. S. AEC, Oak Ridge, Tenn, ATTN: Mr. James W. Hitch
Subj: Progress Report on Implementation of Improved Safety Procedures

I have been informed that a copy of the letter to Third Army has been sent to your office. We are making every possible effort to put this field in a secure condition and will keep you posted as to the progress being made.

Sincerely,

C. E. WOOD
Colonel, CmlC
Assistant Commandant

UNITED STATES
ATOMIC ENERGY COMMISSION

IN REPLY REFER TO:
IEB:DAS

Oak Ridge, Tennessee
August 16, 1957

U. S. Army Chemical Corps School
Fort McClellan, Alabama

Attention: Col. C. H. Wood, Chairman
Radioisotopes Committee

Subject: COMMENTS ON FORT McCLELLAN'S "STANDARD OPERATING PROCEDURES FOR WORK INVOLVING RADIATION HAZARDS."

Dear Col. Wood:

As requested, we have reviewed your recent draft of "Standard Operating Procedures for Work Involving Radiation Hazards." We offer the following comments:

1. ORGANIZATION FOR RADIOLOGICAL SAFETY - B. As a general rule, we recommend that Isotope Committee meetings be regularly scheduled. The practice of scheduled meetings tends to encourage action as a group and discourages gradual assumption of the Committee's function by a single individual. Regular meetings, of course, should be supplemented by those called at the discretion of the Chairman.

2. ORGANIZATION FOR RADIOLOGICAL SAFETY - C.2.b. - We are not quite sure what is meant by maintaining authorizations. Does this refer to the procurement approval which has been granted by your Isotopes Committee?

3. OPERATIONAL DIRECTIVE #1, 2. As discussed during our visit, we suggest that Title 10, Code of Federal Regulations, Part 20 (10 CFR 20) be referenced rather than the National Bureau of Standards. You may also wish to expand this section to cover exposure of minors (reference 20.101(c) 10 CFR 20).

4. OPERATION DIRECTIVE #2. It may be advisable to add an Item 11.f. to provide for certification of lost radiation dosage readings. On occasion a batch of film may be "lost" because of contamination, heat, dark room processing error, etc. Such instances should be duly recorded.

5. OPERATIONAL DIRECTIVE # 2. 12. a. A variety of opinions exist concerning how great the radiation exposure should be before requiring medical attention. You may wish to discuss this further with your Isotope Committee Medical representative. For determination of internal exposure, a radiactivity analysis of the urine may be of definite value.

6. OPERATIONAL DIRECTIVE # 3 - 4. a. (3) As discussed during our visit, we recommend a more effective barrier be installed around permanent radiation fields.

7. OPERATIONAL DIRECTIVE # 3 - 4 a. (5) Also as discussed, 5 - 10% representative sampling may be employed for leak testing the Cobalt 60 field sources.

8. OPERATIONAL DIRECTIVE # 5 - 7 (a) The referenced paragraph on sanitary sewer disposal should be 20.303, Title 10, Code of Federal Regulations, Part 20.

9. OPERATIONAL DIRECTIVE # 6 - 2. Apparently a typographical error has been made in the definition of an incident. Perhaps the May 14, 1957, Amendment to 10 CFR 20 may be of assistance in defining an incident. We recommend that the reporting requirements prescribed therein be included in your course of action.

10. As previously discussed, an OPERATIONAL DIRECTIVE on the procurement of radioisotopes may be a worthwhile addition to the Standard Operating Procedures.

11. An OPERATIONAL DIRECTIVE should be added to provide issuance of written radiological safety instructions to students. If the instructions do not contain military classified data, we would be pleased to receive and review a copy. Should they contain classified material, a brief non-classified summary would be appreciated.

Understandably, there will be some variation between the instructions appropriate for your students and instructions which may be provided a university student who is working with microcurie quantities.

Be assured of our interest in serving your radioisotope needs.

Very truly yours,

for John L. Bawyer

James W. Hitch, Assistant Chief
Byproduct Licensing
Isotopes Extension
Division of Civilian Application

Enclosure:
Licensing Requirements for Broad Licenses....

cc: Captain Archie L. Stamper

CE/Wood

Major Hinman/smc/4162

CMLRC-L 600.1

22 AUG 1957

SUBJECT: Fencing of Pelham Range (Radiological Training Area)

TO: Commanding Officer
Fort McClellan, Alabama

1. On 27-28 May 1957, the radiological facilities of the US Army Chemical Corps School, this command, were subjected to a Radiation Protection Survey. This survey was conducted by representatives of USA Environmental Health Laboratory, Army Medical Service, Army Chemical Center, Maryland.

2. Included in the report of this survey was the following recommendation:

"Either erect a 7-foot high, chainlink fence, or equal, around the present radiation area within Pelham Field; post the fence with signs as required by para 20.203 (a) of AEC regulations; and lock the entrance, or lock the entrance to present barbed wire enclosure; erect an additional fence around the sources at such a distance that the exposure rate at the fence does not exceed 300 mr/hr; post the fence with signs as required by para 20.203 (c) of AEC regulations; and indicate the exposure rates on the signs."

3. On 7 August 1957, Colonel C. H. Wood, Assistant Commandant, Chemical Corps School, attended a conference at AEC, Oak Ridge, Tennessee. During this conference, the recommendations contained in the Radiation Protection Survey Report were discussed, and the following modifications to the recommendation quoted in para 2 above were approved:

Construction of a 6-foot fence, consisting of 4-foot hog wire, topped by 3 strands of barbed wire, along the inside edge of a fire trail or bull dozed road. The radiation level at the fence should be no higher than 3 mr/hr.

CMLTC-L 600.1
SUBJECT: Fencing of Pelham Range (Radiological Training Area)

4. Upon receipt of the survey report, 8 July 1957, action was taken to get an extension of the existing AEC Isotope "License of Byproduct Material" at the US Army Chemical Corps School until 31 October 1957. This extension was approved with the proviso that corrective action would be initiated on the recommendations, and specifically the one contained in para 2 above.

5. It is recognized that this project was unforeseeable during FY 58. Nevertheless, since it has taken on the nature of an emergency it is requested that the construction of subject fence for the elimination of the existing safety hazard be undertaken by you as early as practicable. Without immediate corrective action, the Chemical Corps School will have its AEC license revoked and will be prohibited from conducting further training or testing in radiological defense.

J. M. PALMER
Colonel, CmlC
Commanding

Copies Furnished:
OCEmlO
Attn: Plans & Trng Div
AEC, Oak Ridge, Tenn
Attn: Mr. Ritch

PRIMARY EXPENSE ACCOUNT 2110.9 (U.S. Army CmlC School - O&M of Facilities)

Dollar Requirement

	FY 1958 Tentative AFP	FY 1959 Estimate
Total	$854,400	$948,600

NARRATIVE:

Distribution of funds for Operation and Maintenance of Facilities to Project 2110 for FY 1958 and FY 1959 is based on the following factors:

	FY 1958	FY 1959
a. Local Headquarters and Command Administration	43.2%	41.1%
b. Local Welfare Services	40.6%	38.9%
c. Local Maintenance and Management of Facilities	61%	45.5%
d. Field Maintenance	51.1%	51.1%
e. Local Logistic Services	43.2%	41.1%

A requirement of $90,000 is included in FY 59 to improve the radiological facilities at the U. S. Army Chemical Corps School. This sum is needed to meet the minimum safety requirements established by the Atomic Energy Commission. In order to accomplish the objectives and comply with the recommendations of the Report of Radiation Protection Survey Number 2672R75-57, dated 27-28 May 1957, conducted by Inspection Team, U. S. Army Environmental Health Laboratories, Army Chemical Center, Maryland, the following facilities are needed:

a. Construction of a permanent improved "Hot Cell" facility to conform to AEC specifications - $70,000. The cell would be needed to replace the existing cell which does not meet the new specifications of the AEC.

b. A new remotely selected storage well facility to be constructed in conformance with AEC specifications for use in conjunction with "Hot Cell" facilities - $10,000.

c. Fencing of the survey area and burial ground at Pelham Field, with 7 foot high chain link fence, or equal, posting of the fenced area with proper signs, and providing for a locked entrance to the fenced area. Construction of a dirt surfaced perimeter road outside of the fence, at least wide enough for inspection by a jeep. Fence of approximately 4 miles in total length. Fencing of local burial ground which would need approximately 400 yards of fencing. (10,000)

d. Copies of the Report of Radiation Protection Survey are on file at the following agencies:

The Surgeon General, Department of the Army, Washington 25, D. C.
ATTN: MEDCH-CH

Chief Chemical Officer, Department of the Army, Washington 25, D. C.
ATTN: CMLRC-T-2

COMMANDANT, U. S. Army Chemical Corps School, Fort McClellan, Ala.
ATTN: CMLRC

UNITED STATES
ATOMIC ENERGY COMMISSION

IN REPLY REFER TO: IEB:JWH
(AU 37769)

Oak Ridge, Tennessee
July 30, 1957

The Chemical Corps School
Chemical Corps Training Command
Fort McClellan, Alabama

Attn: C. H. Wood, Colonel, Cml C
Chairman, Radioisotope Committee

Subject: EXTENSION OF LICENSE (AUTHORIZATION NO. 37769)

Dear Sir:

In accordance with the letter of July 23 from Lt. Colonel William B. Ware, General Authorization No. 37769 is hereby revised to further extend the expiration date to October 31, 1957. This extension is being given to permit the completion of our review of your application dated April 10, 1957 for a renewal of your license.

We have received Major John B. Beach's letter of July 24 and note that he speaks of a letter from Colonel Wood and that a copy of such a letter is enclosed. It appears that this copy may have been misplaced since we did not receive it as an enclosure with Major Beach's letter.

It is also indicated in Major Beach's letter that you would like to come to Oak Ridge to discuss in detail your pending application. We shall be happy to discuss with you, at your convenience, any points you may care to raise. We would appreciate however that you give us a few days notice so that we can have the proper personnel present at the time of your proposed visit.

Very truly yours,

James W. Hitch

James W. Hitch, Assistant Chief
Byproduct Licensing
Isotopes Extension
Division of Civilian Application

cc: Colonel John R. Hall, Jr.
Washington, D.C.

Hinge 1 side
Hasp 1 side

[illegible] 200 [illegible]
200 [illegible]
strip

1000 ft 1½ to 2" pipe
[illegible] ft 3/4" conduit
1000 ft 1/8 or [illegible]
200 [illegible]
[illegible]

Important

C.M.

LICENSING REQUIREMENTS FOR BROAD LICENSES FOR RESEARCH AND DEVELOPMENT

AUGUST 1, 1957

ISOTOPES EXTENSION
UNITED STATES ATOMIC ENERGY COMMISSION
POST OFFICE BOX E
OAK RIDGE, TENNESSEE

LICENSING REQUIREMENTS FOR BROAD LICENSES FOR RESEARCH AND DEVELOPMENT

The purpose of this announcement is to acquaint applicants with the type of information needed by the Commission's radioisotope licensing group to review an application for a broad specific license for research and development.

A broad specific license for research and development is reserved to accommodate those institutions involved in a large radioisotope program where the demand is great for a variety of radioisotopes for many uses in research and development. This type of license is issued for all radioisotopes between Atomic Numbers 3 and 83, inclusive. It is unnecessary to list each radioactive element and its chemical or physical form as is required in applying for a limited specific license. When it has been determined that an institution can no longer operate under a limited specific license without seriously hindering their program, the following guide should be used in applying for a broad specific license for research and development purposes.

I. GENERAL REQUIREMENTS

A. Application Form AEC-313

All items on the application should be completed in detail so that a realistic review may be made of the institution's instrumentation, facilities, provisions for personnel monitoring, waste disposal, etc. The space provided on the Application Form AEC-313 is limited, and applicants should append additional sheets so that complete information may be presented.

B. Possession Limit

A possession limit is that quantity of any radioisotope which a licensee may have in his possession at any one time. For example, a limit of 10 millicuries for each byproduct material between Atomic Numbers 3 and 83, inclusive, may be adequate. However, the actual possession limit requested should be commensurate with the applicant's need and facilities for safe handling. It may be necessary to establish higher possession limits for certain isotopes which the applicant may need in quantities in excess of the general possession limit for other isotopes. Such needs should be clearly stated. It may also be necessary to limit the quantity of more hazardous isotopes, such as Strontium 90. In addition, the total quantity of all byproduct material which the applicant desires to possess at any one time should be stated. Stored wastes should be included in establishing the total possession limit.

1. Teletherapy, Gamma Irradiation Facilities, Etc.

   A separate application should be submitted for multi-curie sealed sources, teletherapy, gamma irradiation facilities, etc. Upon request, the Isotopes Extension will outline the type of information which the applicant should submit in support of such an application.

2. Byproduct Materials Outside Atomic Numbers 3 - 83

   Isotopes such as Hydrogen 3 and Polonium 210 may be included in an application for a broad license. The possession limits for these isotopes should be stated separately from that requested for Atomic Nos. 3 - 83. However, the total possession limit should include these materials.

   NOTE: Hydrogen 3 (tritium) is the only radioisotope licensed on a procurement limit, as well as a possession limit, basis. Therefore, applicants desiring to use Hydrogen 3 should state not only the amount of Hydrogen 3 which they wish to have in their possession at any one time but also the total quantity which they desire to procure during the valid period of the license.

   If any licenses for byproduct materials outside Atomic Numbers 3 - 83 have been issued prior to submission of an application for a broad license, a request for these materials should be resubmitted so that one license may be issued for the institution's total program.

II. ISOTOPE COMMITTEE

An institution desiring a broad specific license for research and development must form an isotope committee in conformance with Section 30.24(d) (3) of Title 10, Code of Federal Regulations, Part 30, "Licensing of Byproduct Material". A list of the members of the committee and a description of the training and experience with radioactive materials, if any, of each member should be submitted. The control functions of the committee and the administrative procedures by which these functions are carried out should be delineated. These functions should include:

(1) the frequency at which members meet to discuss and act on proposals relative to the use of radioisotopes.

(2) the method the committee will employ to determine whether an individual is qualified to use radioisotopes.

(3) the procedures used for controlling procurement of radioisotopes.

(4) the methods used to maintain an inventory of radioisotopes and control of possession limits.

III. RADIATION PROTECTION OFFICER

A radiation protection officer must be appointed by the isotope committee. A description of his training and experience with radioactive materials and in the field of radiation protection should be provided. The radiation protection officer should be responsible for overall radiation protection within the institution.

IV. RADIATION PROTECTION PROCEDURES

A formal set of rules, recommendations, and procedures for procurement and safe handling of radioisotopes within the institution should be established by the isotope committee. A copy of these rules and procedures should be given to all personnel under the jurisdiction of the isotope committee. A copy should accompany the license application.

V. OTHER

A broad specific license does not authorize the use of radioisotopes for field uses or in products distributed to the public unless such uses are specifically requested and detailed in the application. Approval of such requests is dependent on the supporting information which the applicant submits regarding the uses. Upon request, the Isotopes Extension will outline the type of information which the applicant should submit in support of such an application.

Isotope Committee Meeting
1957c Thirtieth Meeting, 2 October 1957. The Chemical Corps School, Fort McClellan, Alabama.

US ARMY CHEMICAL CORPS SCHOOL
FORT McCLELLAN, ALABAMA

MINUTES OF ISOTOPE COMMITTEE

2 Oct 1957

The 30th meeting of the Isotope Committee was called to order at 0930 hours, 2 Oct 1957.

Those present were Col Wood, Col Cameron, Lt Col Bacon, Lt Col Brice, Maj Beach, Maj Hinman, Capt Stamper, Lt Powell, Lt Johnson, and Lt Ellis.

Correction to the previous minutes was the changing of the word bibliographies to biographies. The primary purpose of the meeting is orientation of interested personnel for Mr. Hitch's visit on 3 Oct.

The fence at Rattlesnake Gulch has been completed and appropriate signs posted. Readings inside the area are about 1 mr/hr.

Bulldozers are clearing a path for the fence to be built around Area No. 3 Pelham Range. At present approximately 600 yards has been cleared. US Army Chemical Corps Training Command has received an allowance of $10,000 for construction of the fence. $8,500 is to be allowed for maximum bid price on the fence while the remaining $1,500 is to be used for preparing a temporary hot cell.

The new hot cell was discussed. It was suggested that perhaps a semi-permanent hot cell should not be built this year. Since a new permanent cell has been asked for in the budget for next year the construction of a semi-permanent structure may impair the chance of acquiring the permanent cell. After discussion it was decided to go ahead with plans for a temporary hot cell.

The separation of Health Physics from the Radiological Branch was discussed. No solution was reached.

A discussion was held on safety officers and their qualifications. It was suggested that US Army Chemical Corps Training Command and Post's safety officers be kept informed by the Isotope Committee. They could also attend safety courses taught by the Radiological Branch.

It was moved and passed that another request for a civilian Health Physicist with a job level of GS-11 should be requested.

Inventory and labeling of sources has not been accomplished. Inventory will be done when the proper handling tools and labels are available.

Requests have been made as to the price of metal tags which are to be used for labeling sources. It was suggested that these be made in our own machine shops.

The lowering of the sources in the radiation field at Pelham Range was discussed. The condition of the field as it now is with rusty cables and dense vegetation would make it difficult to lower the sources. The field will be burned this fall and next spring chemically sprayed to reduce growth of vegetation. When the fence is completed around the area it will not be necessary to lower the field at any time unless there is an exceptionally long period of time (1 or 2 months) between classes.

Victor V. Johnson

VICTOR V. JOHNSON
2/Lt CmlC
Recorder

APPROVED:

C. H. Wood
for

CARL V. BURKE
Colonel, CmlC
Commandant

CMLTC-SDI 1 October 1957

Mr. A. Krasnow
Nuclear Systems
2950 Roberts Avenue
Philadelphia 32, Pennsylvania

Dear Mr. Krasnow:

With reference to our conversation last Thursday, 26 September, I am supplying the information that you requested:

a. Master Slave Manipulator, Model 4
Central Research Laboratories, Inc., Red Wing, Minnesota

b. Window is 12" x 18" x 9" thick and made of two layers of glass 5" thick with density of 4.72, and 4" thick with density of 3.2

I appreciate your interest in the problem that we discussed, and want to reemphasize that our conversation was on an informal basis only and in no way can I commit either the Chemical Corps or the U. S. Army Chemical Corps School to any promises concerning the design or preliminary design data for a radiation "hot cell."

The information I received from you will be used for post planning purposes in order to initiate a request for additional work in this area.

Again, may I thank you for your many courtesies.

Sincerely,

C. H. WOOD
Colonel, CmlC
Acting Commandant

cc: Isotope Committee

CaptStamper/ac/7184
Date typed: 23 Sep 57

CMLRC-SDI-T-8

SUBJECT: Progress Report on Radiation Protection Survey No. 26728T5-57

TO: Chief Chemical Officer
Department of the Army
Washington 25, D. C.
ATTENTION: Mr. G. L. Fennell

1. References:

a. Letter MEDEI-R 726.2, Subject: "Report of Radiation Protection Survey No. 26728T5-57," Hq, US Army Environmental Health Laboratory of the Army Medical Service, Army Chemical Center, Maryland, dated 17 June 1957 and 1st Indorsement thereto, CMLRC-S-8, US Army Chemical Corps School, dated 23 July 1957.

b. Telephone conversation between Mr. Fennell, OCCmlO, and Colonel Wood, Acting Commandant, US Army Chemical Corps School, dated 23 September 1957.

2. Report requested is attached as Inclosure 1.

FOR THE ACTING COMMANDANT:

2 Incls
1. Progress Rpt
2. Notes on Conf at Oak Ridge

CHARLES D. CAUSEY
Major, CmlC
Secretary

cc: Health Physics Gp

Isotope Committee Meeting

1957d Meeting, 13 November 1957. The Chemical Corps School, Fort McClellan, Alabama.

Lo copy

MINUTES OF ISOTOPE COMMITTEE MEETING
13 November 1957

1. Meeting was called to order at 0745 hours.

2. Members present were: Colonel Wood, Colonel Cameron, Lt Colonel Bacon, Major Beach, Major Hinman (attended the meeting as an auditor from USA CmlC Tng Comd), Lt Johnson, Lt Powell and Lt Knight.

3. A statement was made by Lt Powell that all of the cesium plastic capsules will be placed in brass capsules and sealed with Specification 430 silver solder within the next two weeks. (We now have 7 cesium sources, 6 of which are in plastic capsules. These will be put in metal by Health Physics as soon as possible.

4. Lt Johnson advised that the fence at Pelham Range has been completed. (Confirmed by Major Hinman.) It was necessary to put in a 14-foot gate in order to allow the entrance of a bulldozer when needed. Colonel Wood stated that he planned to go out to Pelham Range to observe the situation.

5. Lt Johnson advised that the biographies and pictures of the members of the Isotope Committee would be completed on 14 November 1957.

6. A locally designed outline of the new "hot cell" was presented by Lt Johnson for consideration. Colonel Wood read portions of minutes of the Post Planning Board, concerning the "hot cell," wherein they advised they could not approve this project without additional justification for the need of same. Comments were invited as to how much money should be spent on the "hot cell." Colonel Wood presented the question as to whether or not we should go for a new "hot cell;" asking what chances we have of getting $80,000 for this project in the near future. Suggestion was made by Colonel Bacon that the building be constructed of concrete and located adjacent to the laboratory, rather than next to Classroom Q. Colonel Wood pointed out the advantages of using an aluminum roof rather than concrete. Colonel Cameron stressed the fact that sometimes past operations have exceeded the capacity of our facilities to handle the situation, therefore, inviting new difficulties.

7. In the past, as an economy measure, unencapsulated cobalt has been purchased and Colonel Wood stated that we would not buy any more bargain lots of loose cobalt. Future policy will prohibit purchase or approval of orders for loose cobalt. Motion was made and approved not to encapsulate large quantities of cobalt 60 or other radioactive isotopes.

8. Major Beach advised that the Chemical Corps School had received a letter from the British Embassy, requesting advice in setting up a radiological section and field. He suggested appointing Lt Powell to assist them. Colonel Wood pointed out that it might be well for Lt Powell to assist them by correspondence through the Embassy in Washington.

9. Colonel Wood proposed sending the "hot cell" plans to Oak Ridge. Major Hinman advised that Post had been requested to put this project in their budget but they cannot do so without the necessary information and specifications.

10. Inventory of sources and tags was discussed. Lt Johnson presented a sample of the tag. Colonel Wood recommended that 1,000 tags be purchased now.

11. Comparable test on film badges was returned from Lexington Signal Depot. Calibration curve from Lexington was in error. Our calibration was smooth and theirs irregular. Recommendation was made that another series of test curves be obtained from Lexington Signal Laboratories.

12. A job description for a Health Physics Instructor, GS-11, was presented to Colonel Wood by Lt Johnson. No discussion.

13. Lt Johnson advised that the Atomic Energy Commission License had been extended for one year - and presented License to Colonel Wood. Lt Johnson pointed out that a discrepancy exists concerning the allowable millicuries of Strontium 90. Lt Powell will write a letter to AEC, requesting clarification.

14. Suggestion was made by Colonel Bacon that Major Gittes be appointed a member of the Isotope Committee. Motion made and seconded. Recommendation was approved.

15. Lt Johnson advised that they were in the process of cleaning up Pelham Range, fencing burial ground, filling in hole, and bulldozing the roads before the arrival of the Pathfinders Group from Fort Benning on 20 November 1957.

16. Lt Powell recommended putting up a permanent marker (brass type) to be placed in concrete on the burial ground at Pelham Range. Engineers can make a marker of this type.

17. Major Beach advised that a new SOP has been written, separating Health Physics Group from Radiological Branch, and placing Health Physics directly under the supervision of the Chief of Technical Division. Colonel Wood expressed approval of this action.

18. Meeting adjourned at 0830 hours.

C. H. Wood

C. H. WOOD
Colonel, CmlC
Chairman

U. S. ARMY CHEMICAL CORPS SCHOOL
FORT MCCLELLAN, ALABAMA

SPECIAL ORDER
NUMBER 36

10 October 1957

1. Fol Off are apt members of the U. S. Army Chemical Corps School ISOTOPES Committee (Ref: Memo Nr. 5, this School, 9 Oct 1957):

COL CECIL H. WOOD, 0288922, CmlC	Chairman
COL JOSEPH M. CAMERON, 029180, MC	
LT COL JOHN A. BACON, JR., 0272259, CmlC	Deputy Chairman
MAJ JOHN B. BEACH, 025978, CmlC	
CAPT ARCHIE L. STAMPER, 064222, CmlC	
1ST LT CONRAD M. KNIGHT, 04020176, CmlC	
1ST LT WILLIAM G. POWELL, 04001720, CmlC	
2D LT VICTOR V. JOHNSON, 04051283, CmlC	Recorder

2. Fol Off are asgd add dy w/Health Physics Group as indicated:

MAJ JOHN B. BEACH, 025978, CmlC	Chief
CAPT ARCHIE L. STAMPER, 064222, CmlC	Deputy Chief
1ST LT CONRAD M. KNIGHT, 04020176, CmlC	Radiological Safety Officer
2D LT VICTOR V. JOHNSON, 04051283, CmlC	Asst Radiological Safety Officer

3. Paragraph 3, Special Order Number 19, this school, cs, is revoked.

4. VOCO 25 Sept 57 cfm as fol: MAJ BRUCE M. WHITESIDES, 049707, CmlC reld PDY Cml Log Adv MOS 7314 and asgd PDY Instr Log MOS 82625.

5. SMOP 1 SO 32 dtd 16 Sept 57 as reads MOS 768.10 IATR 542.60 and as reads FSAC "A" IATR FSAC "C".

FOR THE ACTING COMMANDANT:

CHARLES D. CAUSEY
Major, CmlC
Secretary

OFFICIAL:

Charles D. Causey

CHARLES D. CAUSEY
Major, CmlC
Secretary

DISTRIBUTION:
A

Isotope Committee Meeting

1958a Meeting, 8 January 1958. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

U.S. ARMY CHEMICAL CORPS SCHOOL

FORT McCLELLAN, ALABAMA

IN REPLY REFER TO:

MINUTES - ISOTOPE COMMITTEE MEETING

The meeting was called to order at 1400 hours, 8 January 1958. Those present were: Colonel Wood, Colonel Cameron, Lt Colonel Bacon, Major Beach, Captain Stamper and Lieutenants Knight and Johnson.

Major Puckett is now the new Radiological Safety Officer, and as such, is now a member of the Isotope Committee.

Lt Powell's membership in the Isotope Committee is discontinued due to a change of duty station.

Cesium capsules are in the process of being encapsulated in brass capsules. The plastic capsules which were leaking have been reencapsulated. The remainder will be encapsulated as soon as lead pigs of sufficient size are available from the machine shops.

The second test run on Lexington Film Badges will be returned to the Signal Depot within the week for checking the accuracy of our photodosimetry process.

The letter informing AEC of the amount of Sr^{90} that we have on hand has been forwarded. The By-Product License level is 100 millicuries. We have in our possession 335 millicuries.

DF's have been written requesting fencing and filling of the new burial ground, bulldozing and grading of the roads in the survey area and burning of the vegetation from the area. Colonel Wood stated that Major Hinman would procure the material needed for construction of a fence around the burial area.

Lt Knight stated that a brass marker had been designed for marking the burial ground. Colonel Wood said that Major Hinman could procure the necessary brass markers if we furnish him the design.

Brochures were presented on forthcoming scientific meetings. A Nuclear Congress is to be held in Chicago on 17-21 March 1958 and a Health Physics Society Meeting at the University of California in June. Contingent upon the availability of funds for this type of travel, a representative will be sent from the Isotope Committee.

Three alternatives and costs of each were presented on the design of a new "hot cell." It was agreed unanimously by the Isotope Committee that the "hot cell" should be made an addition to the southwest wing of the present Radiological Laboratory. Drawings of the proposed cell were presented and discussed. It was decided that the drawings should be taken to AEC at Oak Ridge for comments and approval. It was recommended that a telephone call be made to Mr. Hitch arranging a suitable meeting time. Lt Knight said that all drawings and plans necessary for going to Oak Ridge could be completed by Wednesday, 15 January 1958.

It was suggested that, if necessary, Colonel Allen, from the Chemical Corps Engineering Command, would assist us in making blueprints for the "hot cell." Colonel Wood suggested that a scale model of the proposed "hot cell" be constructed by Training Aids Branch for use as an aid in building the cell and also as a training aid in classes.

Meeting adjourned at 1530 hours.

Victor V. Johnson

VICTOR V. JOHNSON
2/Lt, CmlC
Recorder, Isotope Committee

APPROVED:

C. H. Wood.

C. H. WOOD
Colonel, CmlC
Chairman, Isotope Committee

9 Jan

ISOTOPE COMMITTEE MEETING AGENDA

1. Cesium capsules are in the process of being encapsulated in brass capsules. The plastic capsules which were leaking have been encapsulated. The remainder will be encapsulated as soon as lead pigs of sufficient size are available from the machine shops.
2. The second test run on Lexington Film badges will be returned to the Signal Depot within the week for checking our photodosimetry process.
3. The letter requesting an increase in the amount of Sr^{90} that we are licensed for has been forwarded to AEC. The By-Product license level is 100 millicuries. We have in our possession 335 millicuries.
4. DF's have been written requesting fencing and filling of the new burial ground, bulldozing and grading of the roads in the survey area and burning of the vegetation from the area.
5. A brass marker has been designed for marking the burial grounds. It is now being talked over with Training Aids Branch as to its construction.
6. Three alternatives are now available for constructing a new hot cell. A summary of the cost, feasibility, and convenience of each of the locations and structures follows.

    Three Alternatives:

    1. Completely new building and hot cell located in rear of Radl Lab.
    2. Remodeling of Building 3175 and construction.
    3. Construction of a room to contain a hot cell on the southwest wing of the Radl Lab.

COST OF MATERIALS FOR CELL	ALTERNATIVES		
	(1)	(2)	(3)
Total concrete for walls and floor slab	$5,000	$5,000	$5,000
Lead doors (lead available at Lab)	3,500	3,500	3,500
Shielding Window (Est.)	5,000	5,000	5,000
Stainless Steel covering in Cell	1,000	1,000	1,000
Steel for covering top of Cell	800	800	800
Utilities: Plumbing, Ventilation & Electrical (TID 5280) Page 290	5,000	5,000	5,000
Cost of outer building	26,000 (Butler)	** (See below)	
Walls		900	900
Roof		500	500
Total for Cell and Building without Equipment	46,000	21,700**	21,700

**The cost for alternative #2 does not include dost of:

1. Removing roof from present building.
2. Removing portions of walls so contractors can work inside building.
3. Extending all utilities to this area.

Alternative #1 must be excluded because of cost. Alternative #2 and #3 will cost approximately the same the differentiation being in the notes above.

The location of the hot cell within the Radl Laboratory also classes this as remodeling an existing structure.

This preliminary cost estimate does not take into consideration the cost of equipment to be used in operation of the cell.

SECURITY CI ICATION (If any)

DISPOSITION FORM

FILE NO.	SUBJECT
	Summary of Corrective Action

TO	FROM	DATE	COMMENT NO. 1
Isotope Committee	Rad Safe Officer	7 Jan 58	

The following is a summary of actions taken by the Radiological Branch in regard to the recommendations made by the U. S. Army Environmental Health Laboratory on 28 May 1957.

a. A locally designed metal tag has been forwarded to Purchasing and Contracting for local manufacture.

b. Same as sub paragraph a.

c. Accomplished by initiation of a daily inventory of sources.

d. Leakage tests on all radium sealed sources are being conducted every 3 months. Leakage tests at Pelham Range are conducted on 5-10% of the sources every 6 months.

e. "Hot Cell" design and location are still being studied.

f. Signs have been placed on all contaminated material and it is being safely stored.

g. No contaminated material used for training exists.

h. An adequate fence around Pelham Range has been erected.

i. Accomplished.

j. No action necessary.

k. Reference sub-paragraph "C".

l. Accomplished by erection of combination barbed—hog wire fence.

m. AEC does not consider it necessary to decontaminate old burial ground if isotope has a half-life of one (1) year or less. Material in old burial ground has been identified as Tantalum (half-life 115 days).

n. Fence materials have been requested.

U. S. GOVERNMENT PRINTING OFFICE: 1953 O - 906975

SUBJECT: Summary of Corrective Action (continued)

TO Isotope Committee FROM Rad Safe Officer DATE 7 Jan 58

o. Commanding General, Chemical Corps Material Command has disapproved use of new burial ground, therefore no new burials have been made.

p. Arrangements have been made with Lexington Signal Depot for quarterly accuracy checks. The first check has been completed and the second is now in progress.

Conrad M Knight

CONRAD M KNIGHT
1st Lt CmlC
RADL SAFE OFF

E X T R A C T

Hqs, USA Environmental Health Laboratory of the Army Medical Service, Army Chemical Center, Maryland - REPORT OF RADIATION PROTECTION SURVEY NO. 2672R75-57, THE CHEMICAL CORPS SCHOOL, CHEMICAL CORPS TRAINING COMMAND, FORT McCLELLAN, ALABAMA, 27, 28 MAY 1957..

* * * * *

5. RECOMMENDATIONS.

a. Label all radioactive sealed sources with serial numbers and radiation caution symbols; identify the radioactive material and specify the curiage and date of curiage determination.

b. Label all radioactive source holders as required by paragraph 20.203 of the AEC regulations.

c. Maintain an inventory of specific sources so that the location of each numbered source may be readily determined.

d. Conduct leakage tests of all radium sealed sources and other radioactive sealed sources as required by AEC regulations. The radium sources should be tested every 3 months. Records of test results should be maintained.

e. Construct a permanent, completely enclosed, "hot cell." The barriers should be of uniform density. Radiographic examinations should be made of all structural joints. The barriers should be of sufficient thickness to reduce the exposure rate at any accessible area outside the cell to not more than 100 milliroentgens per 40-hour-weekly-work-shift when the maximum anticipated quantity of the highest energy emitter likely to be handled is positioned in the cell in the most hazardous practical location. The curiage handling capacity of the cell should be posted in view of the operator so that he may know when operational time should be limited to prevent overexposure. Provisions should be made in the design of the cell for the routine or emergency handling of radioactive material which presents an internal radiation hazard.

f. Post conspicuous signs on all contaminated material and store the material in a safe place.

g. Decontaminate all contaminated material which is not being used for training purposes.

h. Either erect a 7' high, chainlink fence, or equal, around the present radiation area within Pelham Field; post the fence with signs as required by paragraph 20.203(c) of AEC regulations; and lock the entrance,

or lock the entrance to the present barbed wire enclosure; erect an additional fence around the sources at such a distance that the exposure rate at the fence line does not exceed 300 mr/hr; post the fence with signs as required by paragraph 20.203(c) of AEC regulations; and indicate the exposure rates on the signs.

E X T R A C T - MEDEI-R 726.2 Rpt of Rad Prot Sur #2672R75-57 (Ft McClellan) dtd 27, 28 May 57

i. Remove a randomly selected low curiage sealed source from the Pelham Field area every three months and examine the source for leakage. If the source container shows signs of leakage or deterioration remove all the sources from Pelham Field and reincapsulate them.

j. Any source removed from Pelham Field area should be reincapsulated in the Chemical Corps School designed brass capsule prior to further use.

k. Provide a suitable storage site for the radioactive material. Insofar as practicable individual source holders should be provided. The source holders should be conspicuously posted to show the quantity of identity of the respective sources and the remote handling and shielding equipment required to effect a transfer from the source holder. The area should be of sufficient size and layout to permit the safe handling of sources and the source holders. The area should be inaccessible to unauthorized persons.

l. Render the old burial ground inaccessible to children pending completion of decontamination.

m. Decontaminate the old burial ground.

n. Fence and post the new burial ground.

o. Discontinue the use of the new burial ground until specific approval of its use has been obtained from the AEC and Commanding General, Chemical Corps Materiel Command (see par 7, AR 755-380).

p. Make arrangements with either the Lexington Signal Depot or the National Bureau of Standards to submit Chemical Corps School film badges for an annual accuracy check.

6. CONCLUSION. When the recommendations of this report have been effected all reasonable precautions will have been taken to protect persons from needless exposure to ionizing radiation and the radiologic protection program at the Chemical Corps School will be in consonance with the recommendations of the National Committee on Radiation Protection and Measurements, the pertinent Army Regulations, and the AEC regulations.

1 Incl
CmlC Sch - SOP
"Work Involving
Radiation Hazards"

/s/t/ CHARLES E. COMER
Captain, MSC
Chief, Radiologic Hygiene Division

APPROVED:

/s/ Edward J. Dehne
EDWARD J. DEHNE
Lt Colonel, MC
Commanding

16 August -

E X T R A C T - MEMORANDUM [illegible] Rpt of [illegible] (Pelham [illegible]) [illegible] May [illegible]

1. Remove a randomly selected low curie source from the Pelham Field area every three months and examine the source for leakage. If the source container shows signs of leakage or deterioration remove all the sources from Pelham Field and [illegible] inaccessible [illegible].

17 sources - no leakage

Tested by Lt Knight - 15 August

2. All sources removed from Pelham Field area should be reencapsulated in the Chemical Corps School designed brass capsule prior to further use.

3. Provide a suitable storage site for the radioactive material. [illegible] as practicable [illegible] containers should be provided. The source holders should be conspicuously posted to show the quantity or identity of the respective sources and the remote handling and shielding equipment required to effect a transfer from the source holder. The area should be of sufficient size and layout to permit the safe handling of sources and the source holders. This area should be inaccessible to unauthorized persons.

4 miles - fences needed

Work already in

4. Render the old burial ground inaccessible to children pending completion of decontamination.

Source strength - 7 roentgens/hour

5. Decontaminate the old burial ground.

35 curies strongest source

6. Fence and post the new burial ground.

7. Discontinue the use of the new burial ground until specific approval of its use has been obtained from the AEC and Commanding General, Chemical Corps Materiel Command (see par [illegible], AR 755-380).

rattlesnake gulch - 4 strands barbed wire & posted - signs up

8. [illegible] arrangements with either the Lexington Signal Depot or the National Bureau of Standards to submit Chemical Corps School film badges for an annual accuracy check.

9. CONCLUSION. When the recommendations of this report have been effected all reasonable precautions will have been taken to protect persons from needless exposure to ionizing radiation and the radiological protection program at the Chemical Corps School will be in consonance with the recommendations of the National Committee on Radiation Protection and Measurements, the pertinent Army Regulations, and the AEC regulations.

[illegible] 18 August

115 days

1 Incl
[illegible]
"Work Involving Radiation Hazards"

/s/ [illegible] CONNER
Captain, MSC
Chief, Radiological Hygiene Division

APPROVED:

/s/ Edward J. Dehne
EDWARD J. DEHNE
Lt Colonel, MC
Commanding

Isotope Committee Meeting
1958b Meeting, 9 April 1958. The Chemical Corps School, Fort McClellan, Alabama.

U. S. ARMY CHEMICAL CORPS SCHOOL
FORT MCCLELLAN, ALABAMA

File

9 April 1958

MINUTES-ISOTOPE COMMITTEE MEETING

The meeting was called to order at 0910 hours, 9 April 1958. Personnel attending were: Colonels Wood and Cameron, Majors Puckett, Gittes and Beach, Lieutenants Knight and Johnson, and Mr. Ogar.

The minutes of previous meeting were read and approved.

Discussion was opened on the "hot cell." The preliminary cost estimate has been received from Post Engineers and is $62,650. This does not include equipment for the cell. Colonel Wood stated there is a possibility that money may become available for this construction near the end of FY 58. Mr. Ogar stated that a letter should be sent forward through U. S. Army Chemical Corps Training Command to Post, requesting completion of preliminary plans for the "hot cell" with a view toward including it in the MCA FY 59 program as emergency construction. Colonel Wood suggested this be done immediately.

Leak testing was accomplished on twenty of the sources at Pelham Range. There is one possible leaker which is to be rechecked.

Fencing for the burial ground will be available by the end of this week. Construction should be completed by the end of next week. Bulldozers have cleared a path for the fence and constructed drainage for the burial site. The survey area on Pelham Range was burned by Post Engineers under the supervision of Radiological Safety Office, on 2 April 1958.

Improvements to radiological facilities include:

a. Cost for transportation of laboratory sources and pigs around the laboratory. It will confine possible contamination and make monitoring for it easier.

b. A change station for personnel working in a contaminated area is to be constructed in the laboratory.

c. A modification to the survey field is to be made which will allow the pattern to be changed easily. It will consist of installing source wells for a ground zero circle and various "hot spots."

Victor V. Johnson

VICTOR V. JOHNSON
1/Lt, CmlC
Recorder, Isotope Committee

RECOMMEND APPROVAL:
C H Wood
C. H. WOOD
Colonel, CmlC
Chairman, Isotope Committee

APPROVED:
Carl V. Burke
CARL V. BURKE
Colonel, CmlC
Commandant

Isotope Committee Meeting

1958c Minutes, 13 August 1958. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

U. S. ARMY CHEMICAL CORPS SCHOOL
Fort McClellan, Alabama

CMLTC-SDI-T 13 August 1958

MINUTES OF ISOTOPE COMMITTEE MEETING

The meeting was called to order at 1030 hours, 13 August 1958. Present were Colonel Cameron, Major Puckett, Major Gittes, Captain Stamper, Mr. Ogar, Lieutenants Knight and Johnson, and Major Carew (non-member).

A motion was passed for disposing of all radioactive material presently licensed to the School, with the exception of the sources located at Pelham Range and several laboratory sources required for calibration of RADIAC instruments. Mr. Ogar will determine the availability of obtaining funds and materials for the construction of appropriate shipping containers for disposing of this excess material.

All radioactive sources and wells have been removed from the Field Familiarization Course located at Pelham Range.

A granite marker for the radioactive materials burial ground has been received. The marker is inscribed with the date the burial area was closed, the types and amounts of radioisotopes buried, and the organization performing the burial.

The School's Radiological Safety SOP is being revised and will be circulated to all members of the isotope committee and the AEC By-product Licensing Branch for approval. Particular emphasis is being placed on the delineation of responsibilities of the Radiological Safety Office and Radiological Branch.

Lt Johnson's membership in the Isotope Committee is discontinued due to discharge from the service.

Meeting adjourned at 1140 hours.

Conrad M. Knight
CONRAD M. KNIGHT
1ST LT, CMLC
Recorder, Isotope Committee

RECOMMEND APPROVAL:

John A. Bacon Jr.
JOHN A. BACON, JR.
Lt Colonel, CmlC
Acting Chairman, Isotope Committee

APPROVAL:

Carl V. Burke
CARL V. BURKE
Colonel, CmlC
Commandant

File

RADIOLOGICAL SAFETY OFFICER'S REPORT FOR MEETING OF DEFENSE [redacted] 31 AUGUST 1958

1. PROJECTS COMPLETED.

a. All outposts and source wells have been removed from the field fumigation area at Pelham Range.

b. The granite marker for the radioactive materials burial ground has been received.

c. A new Los Alamos type Dosimeter has been received and is in operation.

2. ENGINEERING PROJECTS.

a. A complete calibration of the AN/UDM-1 was conducted during the period.

b. A survey of the radioactive materials storage area indicates that several of the pigs are overloaded with sources.

3. INCIDENTS.

a. Gate Number 2 to Radl Area Number 3, Pelham Range, was found damaged to the extent that it is impossible to secure it by lock and chain. A gate post support had been broken and the gate hinges were twisted greater than 1/4 turn. Damage has been reported to the Operations Division.

b. On 24 July 1958 a film badge signed to CWO Samuel J. Mowery, 31st Transport Company, Ft Benning, Ga., indicated an extremely high dosage. This dosage is indicated by the low range film. The high range film, included in the same packet, will be developed on 12 August 1958. This is an attempt to prove willful tampering of the film badge. A draft letter of the findings will be prepared by the Radl Safety Officer for the Commandant's approval and forwarding through channels to the individual's parent unit for necessary disciplinary action.

CHARLES D. PACKER
Major, Inf
Radiological Safety Officer

Isotope Committee Meeting

1959a Meeting, 6 March 1959. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

US ARMY CHEMICAL CORPS SCHOOL
FORT McCLELLAN, ALABAMA

6 March 1959

MINUTES OF ISOTOPE COMMITTEE MEETING

The meeting was called to order at 1500 hours, 6 March 1959. Present were: Colonels Parks and Cameron; Lt Colonels Bacon, Shapira and Carew; Captain Buddee and Lt Knight. Non-members in attendance were: Major Colgin, Lt Young and Mr. Ogar.

Lt Young, Radiological Branch, presented two proposals for modifications of the Radiological Training Area located at Pelham Range. Proposal A gave an estimated cost for repairing the existing area whereas proposal B estimated the cost required for construction of a new Radiological Area. After discussion, it was agreed that these proposals would be forwarded.

It was noted that Mr. Gerald H. Daly, US Atomic Energy Commission, Savannah River Operations Office, will visit the School on 16 and 17 March. Purpose of visit is to inspect the School's radioisotope program, physical facilities and written records.

In the future, class schedules will reflect a safety officer for all courses receiving training in the Radiological Area.

A letter has been forwarded to the Commanding General, Materiel Command requesting disposal instructions and funds for shipment of the radioactive waste located at the rear of the Radiological Laboratory Building. At present there are twenty-three (23) each concrete filled 55 gallon drums and three (3) each lead containers requiring disposal.

Conrad M. Knight

CONRAD M. KNIGHT
1st Lt, CmlC
Recorder, Isotope Committee

RECOMMEND APPROVAL:

L. A. PARKS
Colonel, CmlC
Chairman, Isotope Committee

APPROVAL:

CARL V. BURKE
Colonel, CmlC
Commandant

Isotope Committee Meeting
1959b Meeting 14 April 1959. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

US ARMY CHEMICAL CORPS SCHOOL
FORT McCLELLAN, ALABAMA

14 April 1959

MINUTES OF ISOTOPE COMMITTEE MEETING

The meeting was called to order at 1345 hours on 14 April 1959. Present were: Colonel Parks; Lt Colonels Bacon and Shapira; Captain Buddee and Lt Knight. Non-member in attendance was: Mr. Ogar.

A special Isotopes Committee Meeting was conducted on 6 April 1959 in view of the proposed forthcoming Armor Radiac Instrument Test. The minutes of this meeting are attached.

It was moved and passed that the following radioisotopes be purchased: 3 mc Mercury - 203, 2 mc Bismuth - 210, 3 mc Phosphorous - 32, 5 mc Rubidium - 86, 5 mc Rhenium - 186, 2 mc Silver - 111, and 3 mc Yttrium - 91. Subject isotopes will be used in scaler instruction.

Based on information submitted by the Radiological Safety Officer, it was determined that necessary labor and cost to remove the contents from the large silver lead container, located at the rear of the Radiological Laboratory, would be excessive. The contents do not exceed 100 curies of radioactive material or a monetary value of $200.00. In addition, the container is exceedingly radioactively hot. Therefore appropriate disposal instructions will be obtained from MATCOM.

1 Incl
a/s

Conrad M. Knight
CONRAD M. KNIGHT
1st Lt, CmlC
Recorder, Isotope Committee

RECOMMEND APPROVAL:

L. A. Parks
L. A. PARKS
Colonel, CmlC
Chairman, Isotope Committee

APPROVAL:

Carl V. Burke
CARL V. BURKE
Colonel, CmlC
Commandant

Report of Special Isotopes Committee Meeting

Commenced: 1600 hours 6 April 1959

Members present: Col L. A. Parks
Col J. M. Cameron
Lt Col J. A. Bacon
Lt Col N. I. Shapira

Members absent: Lt Col T. E. Carew
1/Lt C. M. Knight

1. The Isotopes Committee approved the purchase from the Union Carbide Nuclear Company, Oak Ridge, Tennesse, 50 - 16 curie Co-60 sources with the stipulation upon receipt they will be stored in the closed shipping pig until such time as a detailed plan for opening, handling, and utilization in the temporary field at Pelham Range has been approved, in detail, by the Isotopes Committee.

2. Detailed plans for the Air and Armor phases of the radiological tests being performed at Pelham Range shall be submitted to the committee.

3. The difference in the amount allotted for the Armor Board tests ($6000) and the cost of the radioisotope (approximately $4650) is available for the purchase of necessary handling equipment.

4. Meeting adjourned 1645 hours.

Recorded by:

John Fleming

JOHN FLEMING, 1/Lt CmlC

Isotope Committee Meeting
1959c Meeting 7 October 1959. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

US ARMY CHEMICAL CORPS SCHOOL
FORT McCLELLAN, ALABAMA

CMLTC-SDI-T 7 October 1959

MINUTES OF ISOTOPE COMMITTEE MEETING

The meeting was called to order at 1300 hours on 7 October 1959. Present were: Colonels Parks and Cameron; Lt Colonels Danald and Shapira; and Lt Knight. Non-member in attendance was: Major Colgin.

On 5 October 1959 two students of the 4th Chemical Entry Course received excessive dosages while performing a radiological survey exercise at Pelham Range. A thirty-day report as specified in Part 20, Title 10, Code of Federal Register will be forwarded through channels.

It was moved and passed that the following changes in the Committee's membership, subject to AEC approval, would take place in order to fill existing vacancies:

Lt Colonel George E. Danald to replace Lt Colonel John A. Bacon, Jr. as Chief, Technical Division.

Captain Harold E. Shaw to replace Lt Colonel Thomas E. Carew as Nuclear Effects Engineer.

1st Lt Barry T. J. Balint to act as Assistant Radiological Safety Officer in addition to his other duties.

A motion was made and passed to initiate action to substitute Major Clarence H. Colgin for Captain Rudolph S. Buddee as "Individual User" on School's AEC Byproduct Material License, due to change in duty assignments.

It was noted that the School's AEC License has been ammended to authorize possession of 130 curies of Cesium - 137. This isotope is contained in the ANUDM-1A Radiac Calibrator.

CMLTC-SDI-T
Minutes of Isotope Committee Meeting

7 October 1959

The meeting adjourned at 1420 hours, with the next meeting scheduled for 10 November 1959.

CONRAD M. KNIGHT
1st Lt, CmlC
Recorder, Isotope Committee

APPROVAL:

for L. A. PARKS
Colonel, CmlC
Chairman, Isotope Committee

APPROVAL:

WILLIAM H. GREENE
Colonel, CmlC
Commandant

Isotope Committee Meeting

1959d Meeting 17 November 1959. Record Group 338, Box 5, Accession 72A1094. Washington National Records Center, Suitland, Maryland.

US ARMY CHEMICAL CORPS SCHOOL
FORT McCLELLAN, ALABAMA

CMLTC-SDI-T 18 November 1959

MINUTES OF ISOTOPE COMMITTEE MEETING

The meeting was called to order at 0830 hours on 17 November 1959. Present were: Colonels Parks and Cameron; Lt Colonel Shapira; Captain Shaw and Lt Knight. Non-members in attendance were: Major Colgin, Captain Peterson and Lt Martin.

A Radiological Branch proposal to fabricate a simulated indoor aerial radiological survey device, utilizing several small cobalt-60 sources, was approved.

The report of the last AEC inspection, received on 14 November 1959, was reviewed. All deficiencies noted have been corrected and a reply delineating these corrective actions will be prepared by the Radiological Safety Officer.

Due to Colonel Parks' departure, appropriate information necessary for appointing his replacement, Colonel Bartling, as the School's AEC Licensee must be submitted. This will be accomplished by the Radiological Safety Officer.

During the period 7 October 1959 to 1 November 1959, three instances of overexposures occurred. Two individuals received excessive dosages while performing annual maintenance of the source wells located at Pelham Range. The third individual was overexposed while acting as a driver for the 4th Chemical Entry Course. It is believed that this man was the driver for the students who were overexposed in October 1959 (reference Minutes of Isotope Committee dated 7 October 1959). A thirty-day report as specified in Part 20, Title 10, Code of Federal Register will be forwarded through channels.

CONRAD M. KNIGHT
1st Lt, CmlC
Recorder, Isotope Committee

APPROVAL:

L. A. PARKS
Colonel, CmlC
Chairman, Isotope Committee

APPROVAL:

WILLIAM H. GREENE
Colonel, CmlC
Commandant

Kingery, Andrew F., CPT, CmlC
1985 After Action Report Discovery and Disposal of a Cobalt^{60} Radiation Source 22 January-1 February 1985. U.S. Army Chemical School, Fort McClellan, Alabama.

AFTER ACTION REPORT
DISCOVERY AND DISPOSAL OF A COBALT-60 RADIATION SOURCE
22 JANUARY - 1 FEBRUARY 1985

Prepared by:
ANDREW F. KINGERY
CPT, CmlC
Health Physics Officer

REPORT SUMMARY

1. The Rideout Field Radiological Training Area had been in use from 1957 to 1972. There were two fields, the first was in service from 1958 to 1962; the second, larger field, was in service from 1964 to 1972. The original field utilized locally fabricated Cobalt-60 sources emplaced in Area 24C, Pelham Range. This training area was replaced in 1964 by another field, which utilized commercially-procured, serial-numbered Cobalt-60 sources. The field was certified clean to the Atomic Energy Commission (AEC) in 1973.

2. A Cobalt-60 radiation source was discovered in Area 24C, Pelham Range (FN 934325) on 25 Jan 85 during a routine survey. The area was posted and secured. The NRC was provided with an immediate report. The source was packaged and moved to Anniston Army Depot on 26 Jan 85 in preparation for disposal.

3. HQ AMCCOM initiated disposal action under an emergency response contract with Chem-Nuclear Systems, Inc. (CNSI). A representative from CNSI arrived on-site on 29 Jan 85. With assistance from Fort McClellan and Anniston Army Depot, the source was identified as a locally fabricated Cobalt-60 source from the original Rideout Field with an approximate activity of 140 millicuries. The source was stabilized with cement and loaded in a 55 gallon drum on 30 Jan 85. The source was shipped for burial to Barnswell, SC, on 31 Jan 85.

4. Area 24C, Pelham Range, was surveyed on 1 Feb 85 with no contamination found. The area was returned to unrestricted use on 1 Feb 85, with the exception of the original restricted area which will be resurveyed at a later date.

Layfield, Robert L.
1971 Letter Amendment 1, to Mr. Allan W. Rehrig, Deputy Chief, PEMA Execution Division, 2 April 1971. C. U.S. Army Chemical School, Fort McClellan, Alabama.

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

APR 2 1971

DML:MB:RLL
(70-372)
SNM-344, Amendment 1

Department of the Army
Office of the Deputy Chief of Staff
for Logistics
ATTN: Mr. Allan W. Rehrig
Deputy Chief
PEMA Execution Division
Washington, D.C. 20310

Gentlemen:

Pursuant to Title 10, Code of Federal Regulations, Part 70, Item 8 of Special Nuclear Material License No. SNM-344, dated April 6, 1970, is hereby amended to read as follows:

8. Authorized Use

For use in accordance with the statements, representations and conditions specified in the licensee's application, dated August 4, 1960, and supplements dated May 11, 1961; March 26, and November 4, 1964; February 13, 1967; June 17, 1969; March 18, 1970; and March 22, 1971.

All other conditions of this license shall remain the same.

FOR THE ATOMIC ENERGY COMMISSION

Robert L. Layfield
Materials Branch
Division of Materials Licensing

601-07

McAlduff, H. J., Jr. **(Appendix D-Licenses Listing)**

1970 Interagency Agreement for Enriched Uranium No. 1003. U.S. Army Chemical School, Fort McClellan, Alabama. This license was amended, renewed and extended for several years through 1973.

United States
Atomic Energy Commission

INTERAGENCY AGREEMENT FOR ENRICHED URANIUM

SNM INTERAGENCY AGREEMENT NO. 1003

THIS INTERAGENCY AGREEMENT (sometimes referred to as the "Agreement"), entered into this 24th day of November, 1970, by and between the UNITED STATES ATOMIC ENERGY COMMISSION (hereinafter called the "Commission") and US Army Chemical Center and School (hereinafter called the "Agency"), an executive department or independent establishment of the Government of the United States of America or a bureau or office thereof;

WHEREAS, the parties hereto desire to establish the terms and conditions applicable to the distribution of special nuclear material to the agency, pursuant to the Atomic Energy Act of 1954, as amended, whether ordered and received directly from a Commission facility or transferred from a lessee of the Commission;

NOW, THEREFORE, the parties hereto do mutually agree as follows:

ARTICLE 1 - DEFINITIONS

As used in this Agreement:

a. The term "Act" means the Atomic Energy Act of 1954, as amended.

b. The term "base charge" means the dollar amount per unit of normal or depleted uranium or special nuclear material in standard form and specification in effect as of the time any particular transaction under this Agreement takes place, as set forth in schedules published by the Commission in the Federal Register from time to time.

c. The term "blending" means the altering of the isotopic composition of a quantity of an element by means other than through the irradiation of a material in a nuclear reactor.

d. The term "Commission" means the United States Atomic Energy Commission or any duly authorized representative thereof.

e. The term "Commission facility" means a laboratory, plant, office, or other establishment operated by or on behalf of the Commission.

f. The term "Commission's established specifications" means the specifications for purity and other physical or chemical properties of normal or depleted uranium or special nuclear material, as published by the Commission in the Federal Register from time to time.

g. The terms "consumed" or "consumption" mean the destruction, burnup, loss or disposition of material in such manner that it cannot be economically recovered for further use, material unaccounted for, or changes in the composition of material due to blending of different assays of material or other alteration of the isotopic ratio resulting in the reduction in value of such material.

h. The term "depleted uranium" means uranium having a weight fraction U-235 of less than 0.00711.

i. The term "established Commission pricing policy" means any applicable price or charge in effect at the time any particular transaction under this Agreement takes place (i) published by the Commission in the Federal Register, or (ii) in the absence of such a published figure, determined in accordance with the Commission's Pricing Policies. A statement of such Pricing Policies will be furnished Agency upon request. The Commission's published prices and charges, as well as its Pricing Policies, may be amended from time to time.

j. The term "lessee" means a person who is a party to a Special Nuclear Material Lease Agreement with the Atomic Energy Commission. For the purposes of this Agreement, the term "lessee" also includes another Government agency which has executed a Special Nuclear Material Interagency Agreement with the Commission.

k. The term "normal uranium" means uranium having 0.00711 weight fraction U-235.

l. The term "persons acting on behalf of the Commission" means employees and contractors of the Commission, and employees of such contractors, who implement or participate in the implementing of this Agreement pursuant to their employment or their contracts with the Commission.

m. The term "source material" means (1) uranium, thorium, or any other material which is determined by the Commission pursuant to the provisions of Section 61 of the Act to be source material; or (2) ores containing one or more of the foregoing materials, in such concentration as the Commission may by regulation determine from time to time.

n. The term "special nuclear material" means (1) uranium-233, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission, pursuant to the provisions of Section 51 of the Act, determines to be special nuclear material, but does not include source material; or (2) any material artifically enriched by any of the foregoing, but does not include source material.

o. The term "standard form" means the chemical form of normal or depleted uranium or special nuclear material, as published by the Commission in the Federal Register from time to time.

p. The term "value" means the dollar amount determined by multiplying the applicable base charge by the number or units, or fractions thereof, or normal or depleted uranium or special nuclear material involved, whether or not such material is in standard form or meets the Commission's established specifications; provided, however, where uranium enriched in the isotope U-235 subject to this Agreement has its isotopic ratio altered by the generation of uranium isotopes U-232 and U-233 during irradiation of the material in a nuclear reactor, the term "value" for the purpose of determining provisional payments for consumption of such material, means the dollar amount determined by multiplying the number of grams of U-235 by the base charge per gram of U-235 calculated from subparagraph 3(a) of the Federal Register Notice entitled "Plutonium and Uranium Enriched in U-233; Guaranteed Purchase Prices," 30 F. R. 3886, March 25, 1965, as the same may be amended from time to time.

ARTICLE 2 - SCOPE

a. Unless otherwise provided herein, or in a written agreement between the Commission and Agency, the terms and conditions contained herein shall apply to special nuclear material and related services furnished to Agency by the Commission on and after the date of execution of this Agreement, and to the material, if any, subject to the Special Nuclear Material Interagency Agreement between the Commission and Agency, as of midnight, December 31, 1970, whether ordered and received directly from a Commission facility or obtained from another lessee of the Commission. Nothing herein shall be deemed to prevent Agency

from shipping material covered by this Agreement to any person duly authorized by the Commission to process and use such material. Agency may be relieved of its obligations under this Agreement for such material only in accordance with the terms of this Agreement. Material received by Agency from any source shall be subject to the provisions of this Agreement only if such material is furnished pursuant to an order accepted by the Commission as provided in paragraphs b. and c. below.

b. Agency shall order material pursuant to this Agreement through the execution and submission of a special nuclear material order form prescribed by the Commission.

c. Acceptance of Agency's order for material by or on behalf of the Commission shall constitute the Commission's commitment to furnish the material specified in such order subject to the terms of this Agreement. When Agency orders material which is to be obtained from a lessee, this Agreement shall not be applicable to such material until such lessee and the Commission have agreed to the transfer of such material to Agency.

d. Nothing herein shall be deemed to obligate Agency to order material or to obligate the Commission to furnish material to Agency, or to provide services for Agency with respect to material.

ARTICLE 3 - TERM OF AGREEMENT, TERMINATION AND CANCELLATION

a. Except as otherwise provided herein, the Agency shall have the right to possess and use the material covered by this Agreement until June 30, 1973; provided that material subject to this Agreement furnished to or received by Agency after December 31, 1970, shall not, unless otherwise authorized in writing by the Commission, be used in the course of activities under a license issued pursuant to section 103 or 104 b. of the Act.

b. Agency may cancel any order for material under this Agreement by notice in writing to the Commission at any time prior to delivery of the material; provided, Agency shall reimburse the Commission for the costs incurred by the Commission in connection with such order, as determined in accordance with established Commission pricing policy in effect at the time such costs are incurred.

c. The Commission may terminate or suspend in whole or in part this Agreement at no cost to the Commission at any time, by written notice to Agency in the event that (1) the right of Agency to possess material subject to this Agreement expires or is suspended or terminated by any authority having power to take such action,

or (2) Agency shall fail to perform its obligations hereunder and shall fail to take corrective action within 30 days of the date of the written notice of such failure to perform as provided above, unless such failure arises out of causes beyond the control and without the fault or negligence of Agency.

ARTICLE 4 - MATERIAL TO BE FURNISHED BY THE COMMISSION

a. Except as otherwise agreed to in writing by the Commission and Agency, special nuclear material subject to this Agreement shall be furnished to Agency in standard form in accordance with the Commission's established specifications.

b. Agency shall pay the Commission's service charges, if any, for withdrawal and packaging, and for any other special service rendered pursuant to Agency's order. Unless such charge or charges are agreed to in the order executed by Agency and the Commission for material, Agency shall pay the Commission its charges for the services rendered pursuant to Agency's order as determined in accordance with established Commission pricing policy in effect at the time such services are rendered. Agency shall also pay the value of material consumed in the rendering of such special services.

c. If the material delivered by the Commission pursuant to an order executed by Agency and the Commission does not conform to the Commission's established specifications (or to the specifications set forth in an order executed by Agency and the Commission), the responsibility and liability of the Commission and persons acting on behalf of the Commission shall be limited solely to correcting such discrepancies by delivery of material which does conform to the applicable specifications. Neither the Commission nor persons acting on its behalf shall have any responsibility or liability for replacing or furnishing material which Agency obtains directly from a lessee of the Commission. The Commission will pay to the carrier the transportation charges for returning any material obtained directly from the Commission which does not conform to applicable specifications, as well as the transportation charges for shipping conforming replacement material. No service charges will be made with respect to such replacement material, and rental charges for Commission-owned containers in which such material shall be shipped will not commence until 30 days after date of shipment.

d. It is recognized that material furnished under this Agreement as enriched uranium (U-235) may be consumed in such manner as to reduce the isotopic ratio thereof to the extent that the leased material is no longer special nuclear material as defined in this Agreement. Except as provided in this paragraph, or in paragraph e. below, the resulting normal or depleted uranium will be and remain subject to the provisions of this Agreement as if the material were special nuclear material. Agency's obligations for consumption of such material shall be computed using the value of the normal or depleted uranium. If, in lieu of returning such material directly to a Commission facility as provided in this Agreement, Agency desires to transfer such material to another person and terminate its obligations with respect thereto, the Commission may, at its option, require Agency to pay the value of such material and transfer full custody and responsibility of such material to Agency.

e. (1) The Commission, upon delivery to Agency of U-233, or uranium enriched in the isotope 233 subject to this Agreement, may direct that such U-233 or uranium enriched in the isotope 233 not be blended with other uranium.

(2) In the case of blending of normal, depleted or enriched uranium subject to this Agreement with privately-owned uranium other than U-233 or uranium enriched in the isotope 233:

(A) If, within one hundred twenty (120) days from the date of completion of the blending, the Commission receives the written agreement of all such parties thereto, and

1. The assay (weight percent U-235) of the blended product is higher than that of the Commission-furnished material used in blending, (a) the Commission shall debit Agency's account with the value of such portion of Agency's share of the blended product as does not exceed the value of Agency's Commission-furnished material used in the blending and credit Agency's account with the value of Agency's Commission-furnished material used in the blending; (b) full custody to and responsibility for the blended product so debited to Agency's account shall be deemed to be transferred to the Commission; and (c) Agency shall

pay to the Commission the amount, if any, by which the value of the credited material exceeds the value of the debited material, or

2. The assay (weight percent U-235) of the blended product is lower than that of the Commission-furnished material used in the blend, (a) the Commission shall debit Agency's account with the value of such portion of Agency's share of the blended product as has a feed component which does not exceed the feed component (assuming uranium having an assay of 0.711 weight percent U-235 was used as a feed material) of Agency's Commission-furnished material used in the blending and credit Agency's account with the value of Agency's Commission-furnished material used in the blending; (b) full custody to and responsibility for the blended product so debited to Agency's account shall be deemed to have been transferred to the Commission; and (c) Agency shall pay to the Commission the amount, if any, by which the value of the credited material exceeds the value of the debited material.

(B) If such written agreement has not been so received by the Commission, unless otherwise agreed to in writing by the Commission, lessees, and owners of privately owned uranium,

1. Agency shall be deemed to have acquired the material on its Agency account that was used in the blending and shall pay the Commission for the value of this material so acquired, and

2. Full custody to and responsibility for such material shall be deemed to have transferred from the Commission to Agency upon payment to the Commission of the amount due.

(3) In the case of blending of uranium subject to this Agreement with privately owned U-233 or uranium enriched in the isotope 233, Agency agrees either (A) to secure the Commission's written agreement in advance as to the terms and conditions under which such material may be blended or (B) to accept as conclusive and binding

the Commission's determination in writing as to the consequences of any such blending including the disposition of any blended product and amounts due the Commission and Agency.

(4) As used in subparagraph e. (2), the term "value" refers to value as of the date of completion of the blending. The feed components specified in subparagraph e. (2) (A) 2. shall be derived from the established Commission standard table of enriching services published from time to time by the Commission in the Federal Register and in effect as of the date of completion of blending.

(5) It is hereby agreed that Agency shall be responsible for handling any claims of third parties on account of rights alleged in or in connection with the source material or special nuclear material used in blending.

f. (1) Agency shall maintain and make available to the Commission for examination, upon reasonable notice, complete and adequate records pertaining to its receipt, possession, use, location, movement, and physical inventories of material subject to this Agreement. Such records shall fully reflect physical measurements, consumption, actual inventories, and the transactions relating thereto. Agency will submit such transfer documents and reports reflecting quantities of material received, physically present, consumed and transferred, with respect to material subject to this Agreement as the Commission may prescribe. Agency will make at least one physical inventory of material subject to this Agreement and in the custody of Agency during each twelve months' period of the Agreement and will insure that such inventories are also made of material subject to this Agreement but in the custody of others.

(2) Agency shall afford to the Commission, at all reasonable times, opportunity to inspect the material subject to this Agreement and the premises and facilities where such material is used or stored. Agency shall permit the Commission to perform such audit tests and inventory tests (which may include the taking of a reasonable number of samples for physical or chemical analyses but which does not include sampling and destructive testing of fabricated articles except as agreed to by Agency) as the Commission deems necessary for verification of the accuracy of any reports

submitted by Agency to the Commission. The Commisssion agrees to perform any inventory tests with respect to material subject to this Agreement so as to minimize interference to Agency's processing, delivery schedules, and third-party commitments regarding the material. Agency agrees that no charges for costs or value of any material samples, or for services or equipment, should such be furnished by Agency, provided in connection with the performance of audit tests and inventory tests, shall be made against the Commission; however, the Commission will allow full credit in Agency's account with the Commission for the value of the material included in the samples and the Commission will make no charge against Agency for reconversion of the material samples to standard form. In the event Agency should ship material subject to this Agreement to any other person, or cause such shipment of such material, Agency shall assure that the rights and privileges granted to the Commission under this paragraph shall not be affected by such shipment.

ARTICLE 5 - RETURN OF MATERIAL TO THE COMMISSION; SPECIAL CHARGES FOR COMMISSION SERVICES

a. Agency shall return all material subject to this agreement which has not been consumed upon the expiration or earlier termination of this Agreement, provided, however, that Agency shall have the right to return any such material at any time prior to such date.

b. Except as otherwise provided herein, material returned by Agency will be returned directly to the Commission in the standard form and in accordance with the Commission's established specifications for return of material in effect as of the date the material is returned.

c. Material subject to this Agreement transferred to a lessee of the Commission, regardless of the form or specification of such material, shall be deemed to have been returned to the Commission if such lessee, the Commission, and Agency have executed an order covering the material so transferred.

d. The Commission may at its sole discretion accept material in a form or specification other than as provided in b. above. In such cases, unless the Commission shall determine that acceptance of the material in its existing form is in the best interests of the Government, Agency shall pay a service charge for processing

such returned material so as to enable it to meet the standard form and to satisfy the Commission's established specifications in effect at the time the material is returned. Such charge shall include the Commission's charge for processing, as determined in accordance with the established Commission pricing policy in effect at the time the material is returned and an amount as determined by the Commission, for the value of the material consumed during such processing.

e. Material subject to this Agreement returned directly to the Commission in the form of uranium hexafluoride shall be shipped only in containers of appropriate size as specified by the Commission. The quantity of such material shipped in a container shall not be less than the Commission-established minimum loading for the type of container used.

f. All material returned directly to the Commission shall be delivered by Agency to the Commission facility or location specified by the Commission, f.o.b. commercial conveyance at such facility or location. Unless waived by the Commission, Agency shall give the Commission at least fifteen (15) days' written notice of intent to return material directly to the Commission. The Commission will notify Agency promptly after receipt of Agency's notice of intent to return material as to the Commission facility or location designated for return of the material. Agency, at the time of shipment of material, shall notify the Commission facility or other location to which shipment is made of the date and method of shipment, and expected date of arrival.

ARTICLE 6 - PAYMENT FOR MATERIAL CONSUMED

a. Except as otherwise provided herein, Agency shall be responsible for and shall reimburse the Commission for any consumption of material, whether or not such consumption is due to the fault or negligence of Agency or any other cause occurring from the time of delivery of such material to Agency and until such material has been returned to the Commission as provided herein.

b. Agency shall make reports to the Commission, on forms prescribed by the Commission, to accurately reflect all consumption of material as then known to Agency. In reporting material as consumed, Agency shall make reasonable effort to accurately fix the time of such consumption on the basis of a specific occurrence or in accordance with procedures and methods of calculating consumption accepted by the Commission.

c. Except as otherwise provided herein, the amount due the Commission for material consumed shall be the value of such material computed in accordance with this Agreement as of the time of such consumption. Agency may, and shall when required by the Commission, pay on a provisional basis for material consumed. Full custody to and responsibility for all consumed material, other than material the value of which has been reduced by alteration of its isotopic ratio, shall be deemed transferred from the Commission to Agency upon final payment to the Commission of the amount due.

ARTICLE 7 - OTHER AUTHORITY

Nothing in this Agreement shall be deemed to require Agency to pay the Commission's charges with respect to materials or services subject to this Agreement, or to observe other specific provisions of this Agreement, if the Commission, in accordance with statutory authority or other authority available to it, determines that such charges, or other provisions are not applicable.

ARTICLE 8 - ESTABLISHMENT OF SPECIAL NUCLEAR MATERIAL ACCOUNT

a. The Commission will establish a special nuclear material account for Agency to which will be debited, as provided herein, the amount or amounts equal to the value of the material subject to this Agreement. Such account will be credited, as provided herein, with the amount or amounts equal to the value of the material returned or paid for in accordance with this Agreement. The value of material reflected in this account after credit for the value of material returned and for payments for material consumed shall represent the amount due to the Commission for material not returned or paid for. In the event material paid for provisionally as having been consumed is later re-established in Agency's account, said account shall be debited as of the date of refund (or appropriate setoff) of such payment to Agency as provided in paragraph c. of Article 10 hereof, with the amount or amounts equal to the value of such material at the time of such re-establishment in Agency's account.

b. Except as otherwise provided in this Agreement, Agency's account will be debited for material furnished as of the date material is delivered to Agency, provided that in the case of leased material transferred directly from a lessee of the Commission, the debit will be made as of the effective date specified in the order executed by Agency, the lessee, and the Commission for such material. Except as otherwise agreed to by the Commission, such

effective date shall not precede the date of the Commission's execution of such order by more than 30 days and such date shall also be set forth in the applicable transfer document.

c. Agency's account will be credited for material returned to the Commission or transferred to a lessee only when material is returned or transferred in accordance with Article 5. Except as otherwise provided in this Agreement, Agency's account will be credited for material returned directly to the Commission as of the date the material is delivered to a location specified by the Commission pursuant to this Agreement. Credit for material transferred to a lessee will be made as of the effective date specified in the order executed by the lessee, the Commission, and Agency. Credit for material paid for will be made as of the date payment is received by the Commission.

d. Whenever the Commission changes any applicable base charge as provided in Article 9 below, the value of material recorded in Agency's account will be recomputed at the new base charge, provided, that the value of material consumed as of the effective date of such change shall not be recomputed. Subsequent to the effective date of the change in the applicable base charge, the new base charge will be used in determining the value of material consumed.

e. Agency will be promptly notified of the debits and credits made to its account as the result of shipments, consumption, or transfers of material, and of any changes in the value of material in such account as the result of changes in the applicable base charges. Agency will promptly notify the Commission of any disagreement with, or alleged discrepancies, or errors in such notices.

ARTICLE 9 - CHANGES IN BASE CHARGES AND SPECIFICATIONS

a. The base charges, standard form, and specifications for material furnished pursuant to this Agreement are subject to change by the Commission in accordance with the Act.

b. Any increase in base charges or any changes in the standard form or in the Commission's established specifications shall require at least 180 days' notice to Agency by publication or otherwise.

ARTICLE 10 - PERFORMANCE OF AEC OBLIGATIONS - BILLING

a. The Commission may fulfill its obligations under this Agreement through the operator of any of its facilities. No such operator is authorized to modify the terms of this Agreement, waive any requirement thereof, or settle any claim or dispute arising hereunder.

b. Billings for amounts due the Commission under the Agreement will ordinarily be made

(1) following the performance of any service, and

(2) semiannually for consumption of material.

c. All billings and payments made on a provisional basis are subject to adjustment to recognize actual or calculated amounts, enrichment, isotopic content, and specifications of material involved. Whenever Agency has provisionally paid for material reported as having been consumed and such material is later re-established in Agency's account, the Commission shall refund to Agency (or appropriately setoff against any amounts due the Commission) the amount paid by Agency for such material. The adjustments provided for in this paragraph will not subject Agency or the Commission to liability for interest.

d. All bills rendered by or on behalf of the Commission are due 30 days from the date of invoice.

ARTICLE 11 - TIME OF DELIVERY

The Commission will make reasonable efforts to deliver material at the time or times stated in orders for material subject to this Agreement.

ARTICLE 12 - DELIVERY - F.O.B. POINT

a. Material furnished directly from a Commission facility will be shipped f.o.b. Agency's vehicle or commercial conveyance at such Commission facility. Delivery of material or containers to Agency or its designee or to a carrier for the account of Agency or its designee shall be deemed delivery of such material or containers to Agency for the purposes of this Agreement.

b. Unless Agency furnishes a prepared bill of lading, all shipments by the Commission will be made collect on a commercial bill of lading to be converted at destination.

c. When agency obtains material from a lessee of the Commission pursuant to this Agreement, the Commission shall not be responsible for costs of packaging, shipment, and handling.

ARTICLE 13 - CONTAINERS AND EQUIPMENT -

a. All shipments of material from the Commission to Agency, and from Agency to the Commission, will be made in Agency-furnished containers; provided, however, that in the event the Commission determines that the required containers are not reasonably available from commercial sources, the Commission may furnish Commission-owned containers if such are available. Any Commission-owned containers to be used for shipment of material will be made available to Agency, f.o.b. Agency's vehicle or commercial conveyance, at a Commission facility designated by the Commission, unless otherwise agreed. Agency-furnished containers and equipment shall be delivered to a Commission facility designated by the Commission within a reasonable time specified by the Commission prior to the scheduled delivery of materials to be shipped to Agency in such containers and equipment. Agency-furnished containers or equipment will be used by the Commission only for the shipment of material from the Commission to Agency and for temporary storage of material shipped therein.

b. All containers and equipment, whether Commission-owned or Agency-furnished, must meet Commission regulations, specifications, and practices as to safety, design criteria, cleanliness, and freedom from contamination in effect at the time furnished, utilized, or returned, of which the Commission shall be the sole judge. In the event material is returned by Agency to the Commission in non-Commission-owned containers and other material is to be delivered to Agency, the Commission shall utilize to the extent practicable such non-Commission-owned containers for shipments of material if so desired by Agency. The Commission will promptly return to Agency non-Commission-owned containers and other equipment identified as "Returnable," but will not be responsible for any loss of or damage to such containers or equipment except as may result from its fault or negligence. Such return shipments by the Commission will be made f.o.b. Agency's vehicle or commercial conveyance at the Commission facility to which they were shipped.

c. Agency shall pay such rental charge, for such containers and equipment, as shall be established by the Commission for general application to users of such Commission-owned property. Agency will promptly return Commission-owned containers and equipment to the Commission facility from which received, f.o.b. Agency's vehicle or commercial conveyance at the Commission facility. Agency will not be responsible for any loss or damage to Commission-owned containers or equipment except as may result from the fault or negligence of Agency, its contractors, or agents. Commission-owned containers or equipment will be used only for shipment of material to and from the Commission and for temporary storage of material shipped therein.

d. Whenever material or containers are shipped to the Commission or Commission-owned containers are returned to the Commission, and the Commission elects to decontaminate the containers, railroad cars, trucks, or other shipping vehicles or the Commission's unloading area and machinery, because the containers, or the material or the method of shipment failed to meet the health and safety standards prescribed by the Commission or any other Federal or State agencies having jurisdiction over such matters, Agency shall pay the Commission the full cost of such decontamination as determined by the Commission in accordance with established Commission pricing policy. Any residual quantities of material in containers or equipment returned to the Commission will be deemed to have been consumed by Agency, and Agency shall pay for such material in accordance with this Agreement.

ARTICLE 14 - DETERMINATION OF MATERIAL QUANTITIES AND PROPERTIES

a. The Commission will furnish Agency a statement of the quantities and properties, including a statement of the weight of the material subject to this Agreement which is received by Agency directly from a Commission facility or returned directly to a Commission facility. The following provisions and procedures shall apply to the determination of the quantities and properties, including weight of the material:

   1. Commission samples obtained at a Commission facility using the Commission's procedures will be binding upon the Commission and Agency unless the Commission and Agency agree upon the use of other samples, procedures or sampling locations.

2. The weight of the material will be determined prior to delivery of Agency or acceptance of delivery by the Commission, as the case may be, at a Commission facility using the Commission's procedures and facilities. The weight of the material determined by the result of such procedures shall be binding upon the Commission and Agency, unless the Commission and Agency agree upon other procedures or facilities.

b. Agency may, upon request to the Commission, observe the weighing of the material and the taking of samples by the Commission. The dates and places for the weighing and sampling will be established by the Commission and communicated to Agency upon receipt of Agency's request.

ARTICLE 15 - TRANSFER OF MATERIAL

Transfer of material by Agency to a lessee with the approval of the Commission as provided in this Agreement shall not have the effect of relieving Agency of any obligation hereunder, except as to return of or payment for material so transferred.

ARTICLE 16 - OTHER CONTRACTS AND AGREEMENTS

This Agreement contemplates the possibility of separate agreements between Agency and the Commission with respect to materials which are subject to this Agreement, which may provide for suspension, termination, or revision of matters hereunder; and for reimbursement of charges incurred pursuant to this Agreement. Except as provided in such agreements, Agency's obligations under this Agreement for material subject to this Agreement shall continue notwithstanding the existence of such separate agreement or agreements.

ARTICLE 17 - NOTICES

a. Any notices required by this Agreement of Agency shall be submitted in writing to the Commission addressed to:

AEC Materials Leasing Officer
Oak Ridge Operations Office
United States Atomic Energy Commission
Post Office Box E
Oak Ridge, TN. 37830

b. Any notices required by this Agreement of the Commission shall be submitted in writing to Agency addressed to:

Commandant, US Army Chemical Center and School

ATTN: Chief, Health Physics Division

Fort McClellan, AL 36201

IN WITNESS WHEREOF, the parties hereto have executed this Interagency Agreement the day and year first above written.

US Army Chemical Center and School
Agency

BY: R. C. ARBUCKLE, Colonel, CmlC

TITLE: Assistant Commandant

THE UNITED STATES ATOMIC ENERGY COMMISSION

BY: _____
AEC Materials Leasing Officer

H. J. MCALDUFF, JR.

Morgan, G.W. **(Appendix D-Licenses Listing)**
1958 Byproduct Material License No. 01-02861-01, 21 October 1957.
U.S. Army Chemical School, Fort McClellan, Alabama.

U. S. ATOMIC ENERGY COMMISSION

BYPRODUCT MATERIAL LICENSE

This Copy Is For Your Files

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter I, Part 30, Licensing of Byproduct Material, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, own, possess, transfer and import byproduct material listed below; and to use such byproduct material for the purpose (s) and at the place (s) designated below. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, and is subject to all applicable rules, regulations, and orders of the Atomic Energy Commission now or hereafter in effect and to any conditions specified below.

Licensee	
1. Name: Department of the Army U. S. Army Chemical Corps School	Amended in its entirety - see Amendment #2, 2 Dec 58
2. Address: Fort McClellan, Alabama	3. License number: 1-2861-1
	4. Expiration date: October 31, 1958
	5. Reference No.

6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensee may possess at any one time
A. Polonium 210	A. Gold Foil	A. 100 millicuries
(See page 2)	(See page 2)	(See page 2)

9. Authorized use

A. RESEARCH AND DEVELOPMENT as defined in Section 11(q) of the Atomic Energy Act of 1954 and application dated April 10, 1957 and related correspondence.

(See page 2)

CONDITIONS

10. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.

11. Byproduct materials are to be used by, or under the supervision of, individuals designated by the radioisotopes committee; Colonel C. H. Wood, Chairman.

12. Byproduct materials as sealed sources may be transported to and used at military installations as designated by the licensee and under the control of the radioisotope committee, U. S. Army Chemical Corps School, Fort McClellan, Alabama.

13. Byproduct material shall not be used in:
A. or on human beings;
B. products distributed to the public.

14. Leak testing of sealed sources containing beta and/or gamma-emitting byproduct material (except those containing Iridium 192, Tantalum 182, and Gold 196 in discrete metallic form) shall be carried out at intervals of six months and records of the leak test results shall be furnished the Atomic Energy Commission upon request.

(See page 3)

For the U. S. Atomic Energy Commission

Date October 21, 1957

by G. W. Morgan

Director, Isotopes Extension
Division of Civilian Application
Oak Ridge, Tennessee

Encl 1-1

6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensee may possess at any one time	
B. Any byproduct material between Atomic Nos. 3 and 83, inclusive	B. Any	B. 100 millicuries of each byproduct material between Atomic Nos. 3 and 83, inclusive, with the following exceptions:	
		See Attachment #1	40
Strontium 90	Sealed Sources	No source to exceed 5 millicuries: Total ~~100~~ millicuries	A-1 535
Cesium 137	Sealed Sources	20,000 millicuries	A-3
Cobalt 60	Any	6,000,000 millicuries	
Antimony 122	Any	500 millicuries	
Bromine 82	Any	300 millicuries	
Chromium 51	Any	200 millicuries	
Copper 64	Any	500 millicuries	
Gold 198	Any	3,000 millicuries	
Iodine 131	Any	300 millicuries	
Iridium 194	Any	300 millicuries	
Mercury 197	Any	4,500 millicuries	
Mercury 203	Any	600 millicuries	
Osmium 191	Any	300 millicuries	
Palladium 109	Any	3,000 millicuries	
Phosphorous 32	Any	1,000 millicuries	
Potassium 42	Any	400 millicuries	
Rhenium 186	Any	250 millicuries	
Rubidium 86	Any	350 millicuries	
Selenium 75	Any	300 millicuries	
Gross Fission Products	Any	50 millicuries	

9. Authorized use

B. RESEARCH AND DEVELOPMENT as defined in Section 11(q) of the Atomic Energy Act of 1954 and application dated April 10, 1957 and related correspondence.

For the U. S. Atomic Energy Commission

Date October 21, 1957

by G. W. Morgan
Director, Isotopes Extension
Division of Civilian Application
Oak Ridge, Tennessee

Encl 1-2

CONDITIONS (continued)

15. Leak testing of sealed sources containing alpha-emitting byproduct material shall be carried out at intervals of three months and records of leak test results shall be furnished the Atomic Energy Commission upon request.

16. Written administrative instructions covering appropriate radiological protection phases of operational procedures and establishing responsibility for radiological protection, control, and security of the byproduct material shall be supplied individuals using or having responsibility for use of such material.

17. A curie of Ir-192 is defined as that quantity of activity which presents a radiation intensity of 0.55 roentgens per hour at a meter.

18. Each sealed source container (capsule) of licensed material to be used outside of a shielded exposure device or within a restricted field shall be labelled or have permanently attached to it a durable, legible, and visible tag. The label or tag shall be attached directly to the container (capsule), or by the use of a durable chain or leader. The label or tag shall be at least one square inch in area and shall bear a radiation caution symbol in conventional colors, magenta or purple on a yellow background, and a minimum of the following instructions: "Danger - Radioactive Material - Do Not Handle - Notify Military Authorities if Found."

19. Notwithstanding Section 20.203(c)(2), Pelham Range Area need not be equipped with a control device referred to in this section.

20. Statements and representations contained in the following documents submitted by the licensee are incorporated by reference as conditions of this license:

A. Application (Forms AEC-313 and 313b) and enclosures thereto dated January 29, 1957 signed by Colonel C. H. Wood, Chairman, Isotopes Committee.

B. Memorandum No. 5, and Operational Directives No. 1 through No. 9, dated October 9, 1957 concerning radiological safety procedures.

C. Pelham Range radiation area shall be secured by a fence as described in specifications furnished the AEC Representatives on October 5, 1957. Such a fence shall be six feet high (four feet hog wire topped by at least three strands of barbed wire). Further control of access to this range shall be provided by patrol road adjacent to fence. Entrance to area shall be through two gates, both of which are secured against unauthorized entry by padlock or military guard.

— End of License —

For the U. S. Atomic Energy Commission

Date October 21, 1957

by F. W. Morgan

Director, Isotopes Extension
Division of Civilian Application
Oak Ridge, Tennessee

Encl 1-3

Powell, William G., Second Lieutenant, CmlC
1955 Letter to Isotope Committee, Pelham Range Radiological Survey Area, 4 February 1955. Health Physics Group, The Chemical Corps School, Chemical Corps Training Command, Fort McClellan, Alabama.

[redacted]

HEALTH PHYSICS GROUP
THE CHEMICAL CORPS SCHOOL
CHEMICAL CORPS TRAINING COMMAND
FORT McCLELLAN, ALABAMA

4 February 1955

SUBJECT: Pelham Range Radiological Survey Area

TO: Isotope Committee
The Chemical Corps School
Fort McClellan, Alabama

1. Project: To construct a larger and more realistic radiological survey training area at Pelham Range.

2. Work Completed:

a. Approximately 60 source wells have been completed by Training Aids Branch.

b. A shipment of 500 curies of Cobalt-60 was received on 24 December 1954. The cobalt was sealed in 5 shipping capsules.

c. On 3 January 1955 one of the five shipping capsules was emptied, and the contents were encapsulated in 30 source capsules of 2 - 4 curies each. The First Radiological Safety Support Unit supported this operation. Two of the remaining four shipping capsules were placed in the storage well of the radioactive materials vault. The other two shipping capsules were buried in six foot pipes at the School burial ground.

3. Work Pending:

a. Approximately 130 source wells are awaiting hinges and hasps in order to be completed by Training Aids Branch.

b. Four shipping capsules of the cobalt remain to be emptied. The source capsules required are either on hand or are being constructed by Training Aids Branch.

c. 105 holes to accomodate the source wells are to be drilled by Post Signal as soon as their mechanical auger is repaired.

[redacted]

[redacted]

Subject: Pelham Range Radiological Survey Area

d. Engineer support for towing 10 tanks to the new area is still pending. A follow-up has been made.

e. A fence to enclose the new area is being requisitioned.

William G. Powell

William G. Powell
2d Lt, CmlC

[redacted]

Rosell, Fred E. Jr., Major and Egan, Daniel J., Specialist 4
1961 Article, The U.S. Army Chemical Corps Radiological Unit, U.S. Army Chemical Corps Training Command. *Armed Forces Chemical Journal,* January-February 1960. Edgewood, Maryland.

ARMED FORCES CHEMICAL JOURNAL

JANUARY-FEBRUARY 1960

THE U. S. ARMY CHEMICAL CORPS RADIOLOGICAL UNIT

An Army Approach to the Problem of Protection Against Radiation

Soldiers of Ft. McClellan Unit, wearing protective clothing and masks, operate radiac instruments in training exercise to determine the amount of radioactivity, if any, contained in their clothing and equipment following exposure.

By MAJOR FRED E. ROSELL, JR., AND SP4 DANIEL J. EGAN
U.S. Army Chemical Corps Training Command

DURING the field testing of nuclear devices, the protection of personnel against radioactivity is a major undertaking. To cope with the many safety requirements imposed by this activity and to provide systematic protection for personnel and equipment against radioactive contamination during field testing, the U.S. Army Chemical Corps organized in 1953 the U.S. Army First Radiological Safety Support Unit. This unit, which was recently redesignated the U.S. Army Chemical Corps Radiological Unit, is the only one of its type in the Armed Services.

The Rad Unit, as the unit is commonly called, is an organizational element of the U.S. Army Chemical Corps Training Command located at Fort McClellan, Alabama. While the unit is generally designed to provide radiological safety support for Joint Task Forces and the Defense Atomic Support Agency (formerly Armed Forces Special Weapons Project) at nuclear sites in the United States and the mid-Pacific area, it also assists in the radiological tests and other activities which aid in the development of training and tactical doctrine.

Staffed with twelve officers and seventy-five enlisted men, the Rad Unit is organized into a Unit Headquarters and three platoons—service, dosimetry, and operations (see Chart I). The Operations Platoon is further organized into three sections—monitoring, decontamination, and rad-chem laboratory; the Service Platoon is organized into two sections—instrument repair and supply. Because of its single function, the Dosimetry Platoon is not further subdivided. The Dosimetry Platoon and each of the sections of the other two platoons represent important functions in providing radiological

---

Major Rosell was commissioned in the Corps of Engineers in 1942, and served in that branch until 1956 when he was detailed in the Chemical Corps, transferring to that service in 1958. Before his present assignment as Nuclear Advisor, USA Chemical Corps Training Command, he had served with the USA Chemical Corps Field Requirements Agency, and as a Commanding Officer of the USA First Radiological Safety Support Unit, participating in radiological safety activities during the nuclear tests of Operations PLUMBBOB and HARDTACK. He is a graduate of the U.S. Military Academy, the Engineer School, the Airborne School, the Chemical Corps School, and the Command and General Staff College. He received an MS degree in civil engineering at California Institute of Technology and an MS degree in physics at the U.S. Naval Postgraduate School.

Sp4 Daniel J. Egan entered the Army in April 1957. A native of Pennsylvania, he attended the University of Detroit, majoring in Civil Engineering, prior to his entry on active serivce. During his tour of duty as a member of the U.S. Army First Radiological Safety Support Unit, he participated in radiological safety activities during the nuclear tests of Operations PLUMBBOB and HARDTACK.

(Continued on Page 10)

safety services to personnel engaged in nuclear weapons testing or other radiological activities.

Basic to any radiological safety system are the radiological detection instruments. At present, two principal types of these instruments are assigned to the Rad Unit; they are the AN/PDR 27, with probe, and the AN/PDR-39. The "27" meter will detect and compute gamma radiation, and will detect, but not compute, beta emissions. It is used primarily to monitor personnel. The "39" meter will detect, identify, and compute only gamma radiation and is especially designed for surveys of large surfaces, such as land areas, with readings being taken by monitors on foot or in surface transportation.

OTHER items essential to the operation of the Rad Unit are the personnel film badges, used to record individual radiation exposure, and film densitometers used in reading the exposed film badges to determine the specific number of roentgens to which the film and its wearer have been exposed. The latest model densitometers employ computing machines with memory units that record and store data secured from the film badges. The computing units have the capability of providing cumulative exposure data on personnel and units engaged in test operations.

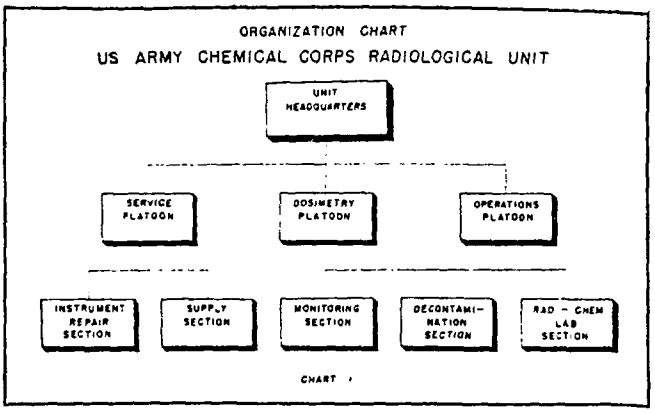
In conducting its operations at a test site, the Rad Unit establishes a standard radiological safety control and processing system applicable to all personnel working in areas subjected to induced radioactivity or appreciable fallout from a nuclear explosion. The system contains five elements: orientation of personnel, issuance of anti-contamination clothing and detection equipment, control of personnel entering and leaving a contaminated area, decontamination, and radiation exposure control.

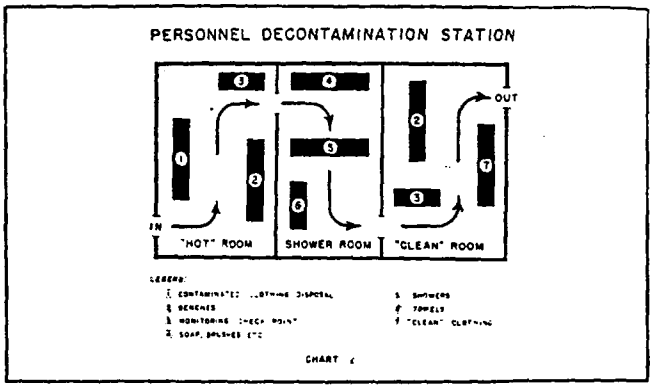
As a first step in this process, all personnel engaged in test work receive a safety orientation conducted by briefing officers of the Monitoring Section. At this orientation, the prevailing radiological situation, as established by aerial and ground surveys, is presented along with data covering the safety restrictions under which personnel must work. Following the orientation, personnel are issued required anti-contamination clothing, respirators, survey instruments, and film badges.

To control the movement of personnel and equipment in a contaminated area, radiation monitors from the Monitoring Platoon maintain check points at points of entry and departure. All personnel are logged in and out of the area, and departing personnel are instructed to report to a personnel decontamination station. At the time of departure, film badges are collected from personnel and sent to the Dosimetry Platoon for developing and analysis.

At the decontamination station (see Chart 2) personnel are required to remove anti-contamination clothing, and place it in containers located in the "hot" room. Personnel are then monitored to determine the extent of contamination, if any, and then shower to remove any radioactive residue. Showering is repeated as necessary until the individual is determined by monitoring to be free from contamination. Personnel are then issued clean clothing and released. In a similar procedure, equipment used in a contaminated area is processed through an equipment decontamination station and returned to normal use if possible.

THE Dosimetry Platoon, staffed with specialists in photographic laboratory procedures and film densitometer operations, are put to work developing the film packets. The film used is of the dental X-ray type,





and will record exposures to gamma radiation ranging from 0 to 600 or 1000 roentgens, depending on the actual type used. By using a densitometer with an automatic computer, several thousand film badges may be processed in a few hours and the results made available for timely exposure control of personnel.

Keeping the radiac survey instruments at an acceptable level of operation is the primary mission of the Instrument Repair section. In accomplishing its mission, this section establishes facilities for testing, repairing, and calibrating these instruments. The Supply Section maintains stocks of anti-contamination clothing, respirators, towels, and all other types of items required by the Rad Unit; in addition, it may operate facilities for laundering contaminated clothing.

The smallest section of the Rad Unit is the Rad-Chem Lab, which is primarily concerned with radioactive analysis of earth and water samples. It is staffed by four U.S. Navy personnel attached to the unit during test operations.

Although the work accomplished by the Rad Unit is demanding, the various nuclear test sites are organized to provide maximum recreation facilities for test personnel. The Pacific test sites—especially Eniwetok and Bikini Atolls—located in the Marshall Islands approximately 2500 miles southwest of Hawaii, have facilities for fishing, skin diving, skeet shooting, swimming, shell hunting, and many other activities, thus bridging the gap between work and recreation.

Though the Rad Unit performs its mission of radiological safety under relatively controlled conditions, the lessons learned by such operations have provided the U.S. Chemical Corps with many answers to the problem of radiological protection on the nuclear battlefield. The experience gained by the Rad Unit is continually subjected to testing and analysis by the U.S. Army Chemical Corps Training Command in its program to provide the combat arms and other services with the latest instruction and doctrine on radiological warfare, radiological defense, and radiological safety.

Schwertner, Larry J., Captain, CmlC
1972 Letter, Renewal of Atomic Energy Commission Byproduct Material Licenses No. 01-02861-01 and 01-02861-02. U.S. Army Chemical School, Fort McClellan, Alabama.

DEPARTMENT OF THE ARMY
U S ARMY CHEMICAL CENTER AND SCHOOL
FORT MC CLELLAN, ALABAMA 36201

COG

ATSCM-H

29 FEB 1972

SUBJECT: Renewal of Atomic Energy Commission Byproduct Material Licenses No. 01-02861-01 and 01-02861-02

THRU: ~~Commanding Officer, US Army School/Training Center, Fort McClellan, Alabama 36201~~
~~Commanding General, Third US Army, ATTN: AJAGL-D-S-S, Fort McPherson, Georgia 30330~~
Commanding General, US Continental Army Command,
ATTN: ATLOG-S/GS, Fort Monroe, Virginia 23351

TO: HQDA (DALO-MAE) WASH DC 20310

1. References:

a. Title 10, Code of Federal Regulations, Part 30.

b. AR 700-52, Licensing and Control of Sources of Ionizing Radiation.

c. AEC Byproduct Material License 01-02861-01, with Amendments 1 through 17.

d. AEC Byproduct Material License 01-02861-02, with Amendments 1 through 4.

2. Request that the licenses in references 1c and 1d be renewed for a three-year period.

3. AEC-313 Forms are attached as Inclosure 1 and 2 showing applicable information pertaining to these licenses. The same safety program and facilities that are presently being utilized under our current license will remain in effect, thus no copies of the Radiation Safety Program are included with this application.

ATSCM-H
SUBJECT: Renewal of Atomic Energy Commission Byproduct Material Licenses No. 01-02861-01 and 01-02861-02

4. Inclosures 3 and 4 contain updated information as requested in Blocks 8, 9 and 10 of AEC Form 313.

FOR THE COMMANDANT:

4 Incl
as

LARRY J. SCHWERTNER
CPT, CmlC
Assistant Secretary

U.S. Army Chemical Center and School
1965 Dedication Ceremony, Rideout Field Radiological Training Area, 2 June 1965. Fisher Library, Fort McClellan, Alabama.

U. S. ARMY CHEMICAL CENTER AND SCHOOL
FORT McCLELLAN, ALABAMA

DEDICATION CEREMONY

RIDEOUT FIELD RADIOLOGICAL TRAINING AREA

1330 HOURS 2 JUNE 1965

COUGHLAN AUDITORIUM

AND

RIDEOUT FIELD

DEDICATION OF RIDEOUT FIELD

Radiological Survey Training Area No. 3, Fort McClellan, Ala., is designated Rideout Field, effective 2 June 1965, in honor of First Lieutenant Percy A. Rideout, Chemical Warfare Service, Distinguished Service Cross, for extraordinary heroism in action at Aerges, France, 5 October 1918. He made an extended reconnaissance in advance of the outposts, fearlessly exposing himself to the enemy and machine gun fire. The information he secured was valuable to the infantry for it gave them knowledge of exact location of machine gun nests. During the action, Lieutenant Rideout directed the laying of the smoke barrage from an exposed position, remained at his station throughout the operation in spite of severe shell and machine gun fire, and continued to display the highest courage until he was killed by shell fire.

Dedication is performed by Miss Gertrude H. Rideout (sister) and Mrs. Helen M. Dodge (widow), 2 June 1965.

U.S. Army Chemical Center and School

1972 Quarterly Historical Report (first page), regarding closing date of Rideout Field as a Training Area, 1 January-31 March 1972. U.S. Army Chemical School, Fort McClellan, Alabama.

QUARTERLY HISTORICAL REPORT

U. S. ARMY CHEMICAL CENTER AND SCHOOL
FORT MCCLELLAN, ALABAMA

Period of Report: 1 Jan - 31 Mar 1972

I. ADMINISTRATION.

A. Changes in Organization, Mission, Responsibility, Operations and Administrative Procedures.

During February, HHC, School Battalion assumed the responsibility of Student Enlisted Company's mess hall and the responsibility for providing mess for all three companies in School Battalion.

B. Acquisition or Disposal of Physical Facilities:

1. Rideout Field was closed as a Training Area effective 1 Mar 72. Removal of the Cobalt 60 sources was started on 1 Mar 72 and completed on 21 Mar 72. The old Radioactive Material Burial Ground was cleared and the High Radiation Area signs were removed from the perimeter fence on 28 Mar 72. Two hundred (200) Cobalt 60 sources were shipped out for disposal on 17 Mar 72, Disposition Instructions for the remaining 820 Cobalt 60 sources were requested on 29 Feb 72.

2. Computer Data Terminal was installed to tie in with General Services Administration Computer Time-Sharing Service, 30 March 1972.

3. The Office of Logistics terminated buildings 1898 and T1998, 12 Jan 72; building 3209, 7 Feb72; buildings 3206, 3242, 3279 and 3292, 15 Mar 72; buildings 3236, 3237 and 3238, 27 Mar 72.

4. Military Art Department lost office space - room 28, required reallocation and consolidation of space in General Subjects Division.

5. The training facility, Rideout Field, has been phased out, and the equipment has been or will be returned to Center.

U.S. Environmental Health Laboratories

1957 Progress Report on Summary of Action on Recommendation, Report of Radiation Protection Survey Number 2672R75057, 27-28 May 1957. Army Chemical Center, Maryland.

PROGRESS REPORT ON SUMMARY OF ACTION ON RECOMMENDATION MADE IN REPORT OF RADIATION PROTECTION SURVEY NR 2672R75057, 27-28 MAY 1957, BY INSPECTING TEAM, US ARMY ENVIRONMENTAL HEALTH LABORATORIES, ARMY CHEMICAL CENTER, MARYLAND

Para 5a,b&c: Arrangements are being made to acquire tags from commercial sources. Metal tags with the necessary information are to be attached to the radioactive sources with a metal fastener. Identifying, labeling and inventory of the sources are to be accomplished at the same time. This procedure will prevent rehandling of the radioactive material for each task, thus reducing the dosage received by personnel performing the operations.

Inventory is maintained as to location and quantity. As soon as the above tags are received this inventory will list individual sources by tag number.

An inventory of Pelham Range field sources has been accomplished according to the requirements set up by Mr. Hitch, AEC, during the conference held with him on 7 August 1957.

Para 5d: Accomplished. See reference 1a, 3d Ind.

Para 5e: Use of present "hot cell" has been discontinued.

Para 5f: Accomplished. See reference 1a, 3d Ind.

Para 5g: Accomplished. See reference 1a, 3d Ind.

Para 5h: A request for a 6 foot fence consisting of a 4 foot hog wire fence, topped by 3 strands of barbed wire, has been submitted to Third Army for budgeting. Fence will be erected by post personnel when funds are made available.

Para 5i: According to the requirements set up by Mr. Hitch, AEC, on 7 August for leakage tests, 20 randomly selected Pelham Range field sources have been tested for leakage. No leakage was found.

Para 5k: See reference 1a, 3d Ind.

Para 5l: The old burial ground presently is fenced with 3 strands of barbed wire and adequately posted. On 25 September 1957 work will be started on the construction of a 6 foot fence consisting of 4 foot hog wire, topped by 3 strands of barbed wire, around the old burial ground. The necessary supplies are on hand for this job.

Para 5m: See reference 1a, 3d Ind.

Para 5o: Use of the new burial ground has been discontinued. Future waste will be disposed of in accordance with the provisions of AR 755-380.

PROGRESS REPT ON RADIATION PROTECTION SURVEY NR 26728T5-27 (Cont'd) :

Para 5g: Arrangements have been made with Lexington Signal Depot for conducting accuracy tests. A test as outlined in references 1a, 3d Ind is currently being conducted and will be completed on 30 September 1957.

The US Army Chemical Corps School SOP for handling radioactive material is completed in draft form. The SOP has been staffed through AEC By-Product Licensing Isotope Extension Division of Civilian Applications. All suggestions and recommendations made by them have been incorporated in the present Standing Operating Procedures.

U.S. Army Toxic and Hazardous Materials Agency.
1977 Installation Assessment of Fort McClellan. April 1977. Defense Technical Information Center, Fort Belvoir, Virginia.

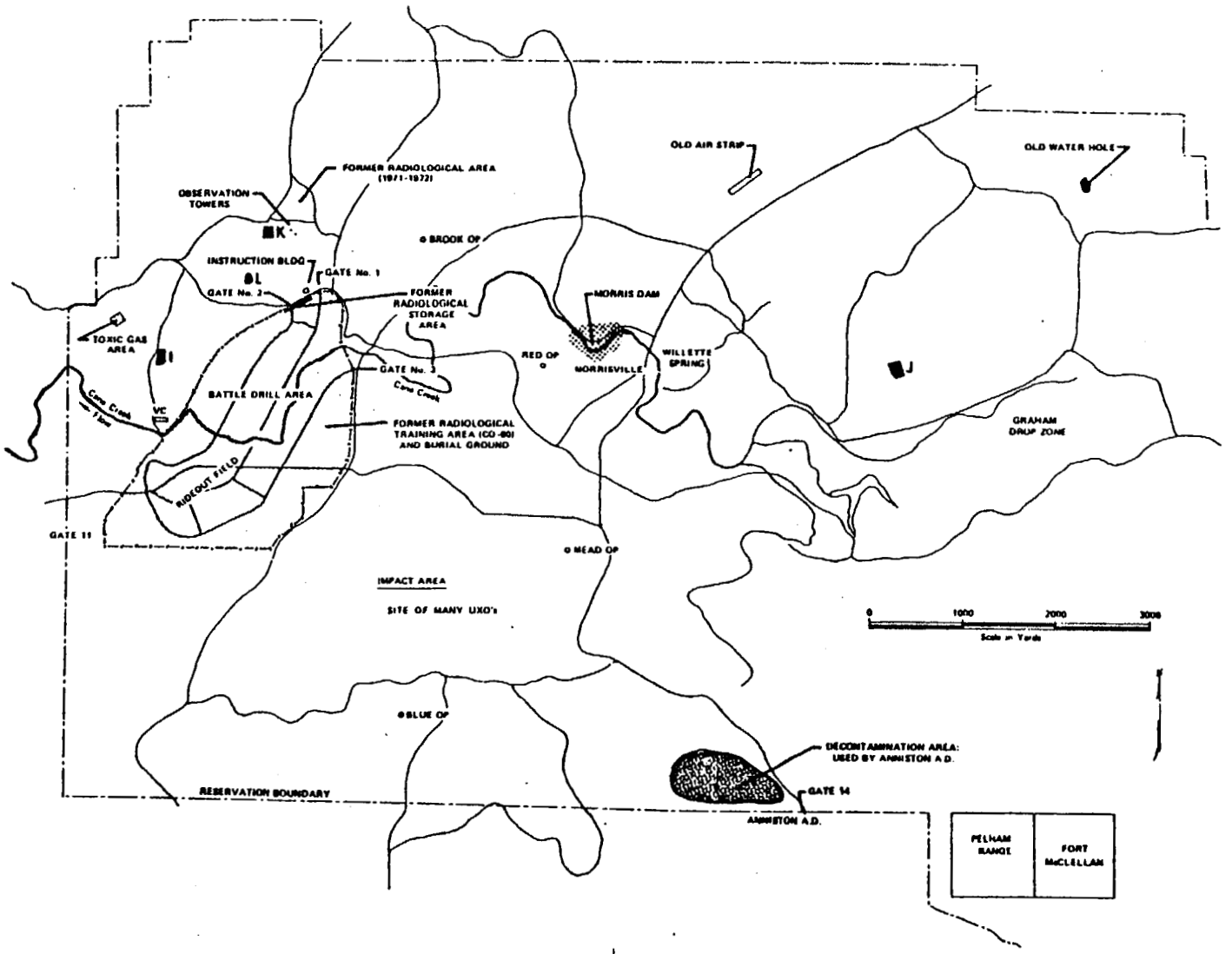


Figure II-12. Approximate Areas of Contamination: Pelham Range

simulants is not considered a contributing factor. Figure II-12 maps the approximate locations of these ranges; areas are not drawn to scale. More exact locations for the three sites I, J, and K may be found in Appendix H. Site L location data was not included in the reference. Figures II-13 and II-14 are 1973 photographs of Sites I and J, respectively; similar photographs were not available for Sites K and L.

Other areas on Pelham Range thought to be contaminated include a Toxic Gas Area northwest of Site I; Figure II-15 is a 1977 photograph taken in this area. The Team was unable to find an "Old Water Hole," said to be located in the vicinity of the northeast corner of Pelham, and thought to be a disposal site for just about everything, including live conventional and chemical ammunition, etc. A decontamination area on Pelham Range near Gate No. 14 is currently used by adjoining Anniston Army Depot. An old demilitarized mustard (H) round and decontamination material was found in the former Radiological Area north of Pelham K. The Pelham Impact Area contains numerous rounds of unexploded ordnance (UXO). An indication of current activity that could add to the number of UXO on other ranges is provided by Table II-7 which lists explosives and rounds of ammunition fired during the month 20 August through 18 September 1976.

b. Radiological Contamination on Pelham Range. Rideout Field was the former Chemical School's Radiological Survey Training Facility and burial site on Pelham Range (see Figure II-12). This facility consisted of Rideout Field; Rideout Hall, which housed an operating console for the Field; a classroom; and a helicopter landing pad (see Figure II-16). This facility was used from 2 June 1965 until 1 March 1972 to train students in the techniques of conducting ground and aerial radiological surveys. At one time, one thousand high-intensity radioactive cobalt-60 sources were mounted in the center of an inclosed area two miles long and one mile wide. The radiation emitted by the sources could be used to simulate the fallout pattern that might be produced by the detonation of a 0.5 kiloton nuclear weapon.* Upon closeout of the Chemical School, all of the radioactive sources containing Co-60 were removed from the facility. A backhoe was used to dig up buried wastes, and Rideout Field was subsequently certified clean by the AEC. However, in view of the random manner used to bury radioactive wastes, it is felt that there is a possibility that all of this material was not recovered.

B. Installation Land Use Factors

*Fact Sheet, US Army Chemical School's Rideout Field Radiological Survey Training Facility (inclosure to DF, Health Physics Division, Fort McClellan, ATSCM-H, subject: Disposal of Rideout Field, dated 18 March 1972).

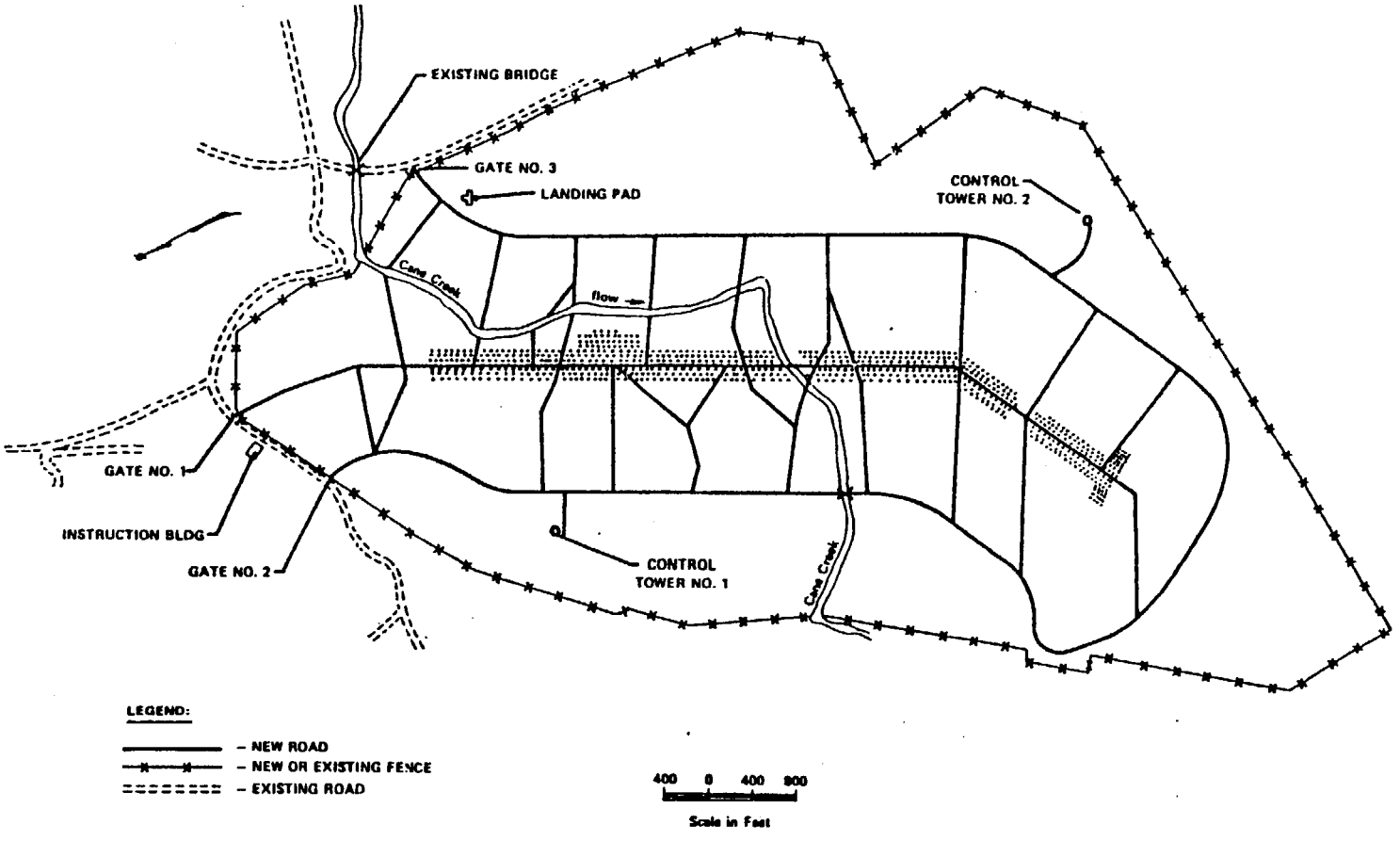


Figure II-16. Rideout Facility

Wood, C.H., Colonel, CmlC.

1955 Letter to Chemical Corps Training Command, Fort McClellan, Final Disposition of Radioactive Tantalum and Container, 23 November 1955. Record Group 175, Box 7, Entry: Chemical Corps School. National Archives II, College Park, Maryland.

CMLTC-S-8 400.2

23 NOV 1955

SUBJECT: Final Disposition of Radioactive Tantalum and Container

TO: Commanding Officer
Chemical Corps Training Command
Fort McClellan, Alabama
ATTN: Director of Logistics

1. References: Ltr CMLTC-S-8, Subject: Disposition of Radioactive Tantalum and Container, To: CO, CMLCTNGCOM, dtd 29 Dec 54.

2. The First Radiological Safety Support Unit, supervised by the Health Physics Group, disposed of the radioactive tantalum on 18 October 1955. The material was buried in sealed cans in The Chemical Corps School Radioactive Materials Burial Ground.

3. The tantalum container has been salvaged for use by the Radiological Branch, The Chemical Corps School.

4. All prescribed radiological safety measures have been observed.

C. H. Wood

C. H. WOOD
Col, CmlC
Chairman, Isotope Committee
APPROVED:
Chief, Health Physics Group CSB
Chairman, Isotope Committee CHW

MEMO FOR RECORD:
Letter from CMLCTNGCOM, dtd 10 Jan 55, authorizes disposition of tantalum and container by The Chemical Corps School, and requests notification of final disposition.

P701

1100.2

FILE. NOV 30 1955

APPENDIX C

Photo Documentation Log
Original Photographs of the Site
And Pertinent Site Features

Figure #1
Fenced area at Range "I".

Figure #2
Concrete marker inside fence at Range "I".
"REF Base I, August 1973"

Figure #3
One of five posts located south of Range "I" fenced area.

Figure #4
Photo of another post located in same area.

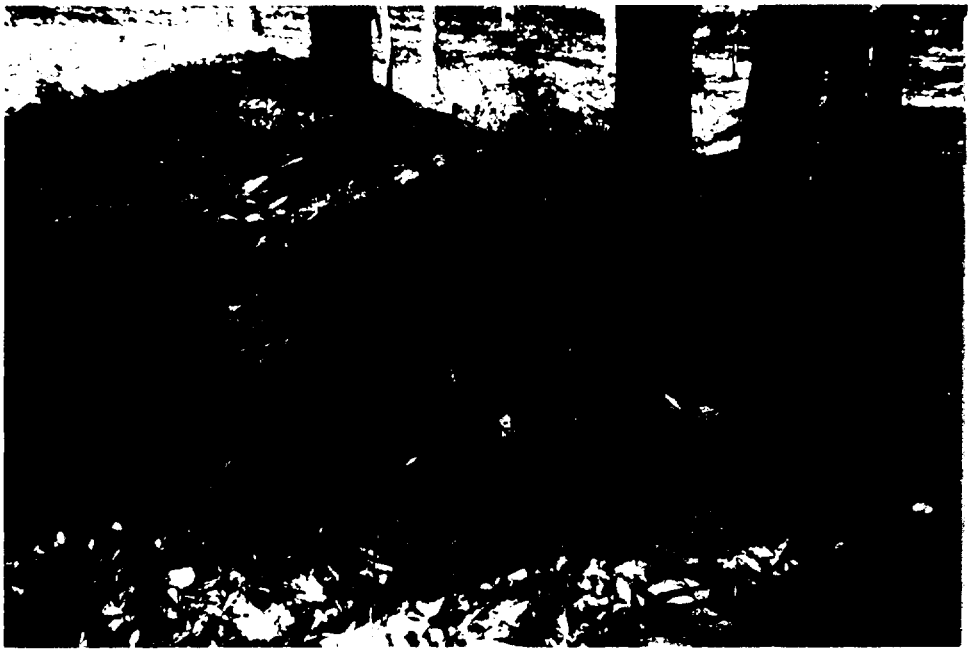


Figure #5
Metal Post found in Radiological Area on Main Post.
(For Comparison)

Figure #6
Corner post for the old fence at the Pelham Range Burial Area.

Figure #7
Knocked down corner post for the old fence at the Pelham Range Burial Area.

APPENDIX D

Licenses Listing

APPENDIX D - LICENSES LISTING

Byproduct Material License No. 01-02861-01

1957 Initial issue date of license was in 1957, twenty-two amendments apply dating thru 26 July 1973. The following amendments were located (sixteen), and are currently on file in the St. Louis District Office, Corps of Engineers: 2, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22. This license allowed for use of the following items:

Polonium^{210}

Any byproduct material between Atomic numbers 3 and 83, inclusive, with a maximum of 100 millicuries with the following exceptions:

Stronium^{90}
Cesium^{137}
Cobalt^{60}
Antimony^{122}
Bromine^{82}
Chromium^{51}
Copper^{64}
Gold^{198}
Iodine^{131}
Iridium^{194}
Mercury^{197}
Mercury^{203}
Osmium^{191}
Palladium^{109}
Phosphorous^{32}
Potassium^{42}
Rhenium^{186}
Rubidium^{86}
Selenium^{75}
Gross Fission Products

Special Nuclear Material License No. SNM-344

1959 Initial issue date of license was in 1959, maximum quantities of 25 milligrams of U-233 and 315 micrograms of plutonium.

Byproduct Material License No. 012-02861-02

1966 Initial issue date of license was in 1966, four amendments apply. These were all located and are on file in the St. Louis District Office, Corps of Engineers. For use in the 11F3A Radiological Trainer Device on main post:

Bromine^{82}
Bromine^{80}
Potassium^{42}
Sodium^{24}

Interagency Agreement for Enriched Uranium No. 1003

1971 Initial issue date of license was in 1971. Includes three letter supplements to the agreement, dated 18 May 1967 thru 21 March 1968.

Interagency Agreement for Plutonium No. 3039

1971 Initial issue date of license was in 1971. Includes one letter supplement to the agreement, 2 May 1973 (two copies).

Materials License No. 01-02861-04

1996 Expiration date of license was 30 September 1996. For possession of residual surface contamination in the Hot Cell and to perform decontamination and decommissioning activities at the Hot Cell facility and surrounding grounds. Attachment is the Draft Regulatory Guide DG-0005, Applications for Licenses of Broad Scope, October 1994.

U.S. Nuclear Regulatory Commission License 01-02861-03

1973 Initial issue date of license was 26 July 1973, and it was obtained to cover radioactively contaminated facilities remaining on Fort McClellan after the Chemical School departed.

NOTE: This license is only listed in this report for reference information. It was cited in another document that is on file, Report Documentation No. DRXTH-ES-IA-77110, April 1977.

U.S. Atomic Energy Commission (AEC) Nuclear Material Transaction Report

Instructions to AEC and agreement state licensees for reporting nuclear material transfers on Form AED-741-Nuclear Material Transaction Report.

APPENDIX E

Site Visits

CELMS-ED-P (200-1c) 3 Jun 1999

MEMORANDUM FOR RECORD

SUBJECT: Site Visit & Radiological Findings to date

1. During 24-26 May the following radiological sites were visited:

   a. The area shown on the June 1967 Range Map as T-15 (USACMLS Area 15), negative results.

   b. The area shown on the June 1967 Range Map as B-1, negative results.

   c. Naylor Field (T-6), the old goat pen was found, no signs of radiological burials.

   d. Range 25, fencing used for testing of prototype actuators has been removed.

   e. Area behind the Anniston Community Center (FUDS), military pickets marking a path up a ravine. This may have been the first Rattlesnake Gulch radiological field survey area.

   f. Lima Pond Area, Range L, the two military tanks on the hill to the east were inspected. There is a sign on the ground "Contaminated, Keep Off." The crater area is fenced and was not entered.

   g. Range K Area, the old fenced area was walked as were areas outside the fence. Numerous pieces of ordnance, which had been vented, using shape charges were found. Along with partially buried bleach cans.

   h. Range I Area, original fenced area still exists. There is a small concrete marker just inside the gate and a man made mound in the rear. Out side the fence to the south were 5 metal posts space approximately 75' apart in a row. This may have been the Radiological Survey Area, which was part of the Chemical Officer Field Familiarization Course.

   i. Radiological Burial Area (north end of Battle Drill Area). This is the old Pelham Range Radiological burial ground. Two of the corner fence posts were still present. This area originally had a fence with a perimeter of 400 yards.

MEMORANDUM FOR RECORD 3 Jun 1999

SUBJECT: Site Visit & Radiological Findings to date

2. Findings to date for Main Post:

a. Hot Cell (Bldg. 3192): Building used from 1950's to 1973. Documented in the EBS. Initial decontamination of building in 1973. In 1995 additional soil removed and cleaned up. Building is locked and fenced.

b. Liquid Waste Disposal Pit: Located between Bldgs. 3192 and 3180. Use is from the 1950's to 1973. Documented in the EBS.

c. Storage Vault (Bldg. 3180): Used from the early 1950's to 1973. Documented in the EBS. Demolished in 1987. Debris removed. The site was scheduled for release in 1996.

d. Rad Lab (Bldg. 3182): Used from the early 1950's to 1973. Documented in the EBS. Tiles removed from floor 1995. Scheduled for release 1995.

e. Scaler Lab T (Bldg. 3181): Used from the early 1950's to 1973. Documented in the EBS. Scheduled for cleanup 1995-96. Some hot areas.

f. Isotope Lab (Bldg. 3181) Used from the early 1950's to 1973. Documented in the EBS. Scheduled for cleanup 1995-96. Some hot areas.

g. Isotope Lab Vault (Bldg. 3181) Used from the early 1950's to 1973. Documented in the EBS. Scheduled for cleanup 1995-96. Some hot areas.

h. Alpha Field: Located southeast of Bldg. 3192, site was used for Alpha surveys from around 1960 to 1972. Documented in the EBS. No leaks or contamination. Released for unrestricted use.

i. Bromine Field: located south of Bldg. 3192, used during the 1960's to train navy personnel. Documented in the EBS. No termination or closeout survey on file. No further action planned.

j. Bromine Tanks: Located next to the Bromine Field and used to hold contaminated, waste water until safe to drain. Documented in the EBS. Tanks now full of rusty water. No further action planned.

k. Building 228: Used as a radiological calibration facility for TMDE from the 1950's to the 1980's. Used from the early 1950's to 1973. Documented in the EBS. No indication of spills or releases. No further action planned.

l. Building T-812-1/2: Used as a Radium 226 storage vault from the early 1960's to 1973. Used from the early 1950's to 1973. Documented in the EBS. Results of 1995 wipe tests were clean. Unrestricted use.

m. Building 1081: Sibert Hall, current radiological lab. Used from the early 1950's to 1973. Documented in the EBS. Needs to be surveyed. No known releases or problems.

n. Building 2281: Reported used for the storage of radiological materials (Weston 1990). The EBS found no other documentation. Released by NRC for unrestricted use.

o. Building 4416: Reported used for the storage of radiological materials (Weston 1990). The EBS found no other documentation. Wipe tested clean. No record of release or problems.

p. Personnel Decontamination Center (Bldg. 3185): This building was used by students using the Bromine Pad. Students changed clothes here and after the exercise went through personal decontamination procedures in the various rooms of the building. Potential release of chlorine.

q. Old Rattlesnake Gulch Radiological Survey Area: Original Radiological Survey Area built in 1952 and moved in 1953. The area is believed to be just east of the community center in a small ravine.

r. New Rattlesnake Gulch Radiological Survey Area (Rad. Survey Area #1): This area replace the original Rattlesnake Gulch Radiological Survey Area. The area is believed to be close to the south side of Summerall Gate Road, between the old Chemical Demonstration Area and the Biological Warfare Area (T2).

s. Old Rattlesnake Gulch Burial Area: This is the original burial area associated with the Rattlesnake Gulch Radiological Survey Area. Minutes from the 1953 Isotope Committee indicate that all materials were removed and buried in a new burial ground.

t. New Rattlesnake Gulch Burial Area? Minutes from the 1953 Isotope Committee indicate that all materials were removed from the original Rattlesnake Gulch burial site. In 1959 a fence is placed around the area as certain materials are buried here.

u. School Radiological Burial Grounds (Iron Mountain?) This area was used for burials until 1959. Documents indicate that a granite marker may have been placed at the burial site. The 1995 CHPPM survey showed site is clean.

v. Range 25: On post area for testing of prototype actuators to be used at the new Radiological Survey Area at Pelham Range. Five prototypes were tested for a period of six weeks. Fencing was installed between the 300-yard and 400-yard firing lines.

MEMORANDUM FOR RECORD 3 Jun 1999

SUBJECT: Site Visit & Radiological Findings to date

3. Findings to date for Pelham Range:

a. CBR Field Familiarization Course (Rad. Survey Area #2?) This area is currently marked as Range I. Based upon previous investigations. Range I may be immediately to the north in what is now a large grassy field. Old reports indicate that up to 2 feet of topsoil was removed from the range, yet the entire fence and area is still at original grade. Five steel posts were found south of the fenced area, running in a generally straight line with about 75' between each post. These posts may have been used to support radiological sources during CBR field training in the 1950's.

b. CBR Tactical Training Course (Lima Pond): Much of Area 10B was used for the CBR Tactical Training Exercise course. The site known as Lima Pond was actually Station No. 5 (A-Bomb). Radiological sources were placed in the crater. Students had to monitor the radiation, take appropriate actions and continue on with the exercise. In the late 50's or early 60's the tactical exercise was discontinued and radiological sources removed. The crater may have been used to dispose of expended ordnance and other military materiel from other stations.

c. Old Radiological Survey Area (Rad. Survey Area #3): This is the first version of the large Radiological Survey Area at Pelham Range. The area contained 300 source wells, which were raised by use of a pulley system. The field was entirely north of Cane Creek.

d. New Radiological Survey Area: This is second version of the large Radiological Survey Area at Pelham Range. The field contained some 1,000-source wells, which were remotely controlled. The field was on the north and south side of Cane Creek.

e. Pelham Range Radiological Burial Ground: This area is on the north end of the Battle Drill area. Burials may include Cobalt 60 and other radiological waste.

/s/
THOMAS E. MURRELL, P.M.P.

Project Manager

CELMS-ED-P (200-1c) 27 Sep 1999

MEMORANDUM FOR RECORD

SUBJECT: Site Visit Fort McClellan, Main Post & Pelham Range

1. During 20-23 Sep the following radiological sites were visited:

   a. Radiological Survey Area #1. One possible storage container for a 3.5" Rocket was found. All debris related to radiological survey training has been removed.

   b. T4. The biological training area was partially walked. One expended can of BG Simulant was found.

   c. The flat area just north of the top Iron Mountain was walked. Pin flags from the 1995 Radiological Survey were found. Evidence of radiological burial were not found.

   d. Part of the Anniston Community Center complex was walked. Two possible survey lanes were walked. At the end of the survey lanes approximately eight 4" pipes were found. Some of these were in a debris pile, which had been pushed up by a bulldozer.

   e. The area south of Range I was re-walked. No other signs of training other than the five 4" pipes were found.

   f. The road between Lima Pond and Range K was walked. Training aids such as expended smoke grenades and slap flares were found.

   g. The restricted area in area 9A was walked. No evidence of military use was found.

   h. The area in 2A near Peaceburg, where the 1953 Chemical Exercise partially took place was inspected. Two 3' triangles atop 20' phone poles were found. These may have been associated with the 1953 exercise or part of the Squad Attack Course which operated around 1960.

   i. Range J was inspected. This is the general location of two of the sites used in the 1953 Chemical Exercise. The fencing is around debris left from the exercise. More debris may be present along the wood line of the large open area. It was noted that no trees have grown in the large open area.

   j. Area 8E was inspected for possible use by Anniston Depot for shell tapping. No large open areas were found. If shell tapping did occur it was limited in scope.

/s/
THOMAS E. MURRELL, P.M.P.

Project Manager

CELMS-ED-P (200-1c) 10 Nov 1999

MEMORANDUM FOR RECORD

SUBJECT: Site Visit Fort McClellan, Main Post & Pelham Range

1. During 1-4 Nov 1999 the following radiological sites were visited:

   a. T4. The west side of the biological training area was extensively walked. Two expended cans of BG Simulant were found. Numerous metal rods with station numbers were found. These rods were ½" in diameter and had a shelf for contaminates.

   b. The northeast corner of the Anniston Community Center complex was extensively walked. Two possible survey lanes were walked. At the end of the survey lanes numerous 4" pipes were found. Three debris piles were found with more 4" pipes sticking out of the pile. Two of the debris piles also had hog wire and barb fencing exposed. Site dynamics suggest that a bulldozer pushed up these piles.

   c. The area north of the grassy area at Range I was walked. Three more 4" pipes were found in a general east-west line. Two of the pipes were erect and one was near the edge of the road, on the west side of Range I.

   d. The eastern portion of Area 10B was walked. Some expended slap flares were discovered in the area.

   e. A Toxic Gas sign was discovered nailed to a tree on the north end of the western edge of Area 10A. The immediate area was walked, on evidence of CWM use was discovered.

   f. The service road between the Toxic Area (10A) and the Rideout Field (Area 24C) was inspected. All signage warning of Toxic Dangers or Radiological Dangers have been removed.

   g. The western end of Graham Drop Zone (Area 21) was inspected. On the northwest corner there is a checkered range limit marker still standing. This limit marker was either for the WWII tank range or the 1950's sub-caliber tank range. The general area that was the site of the WWII Jap Village was also inspected with negative results. On the southeast corner of Graham drop zone a cannibalization yard was inspected. M48 tank turrets and M151 jeeps are present in this area.

   h. Part of Area 5B where the 1953 Chemical Exercise took place was walked with negative results.

   i. The area west of the old landing field in Area 4C was inspected. This area was used as a firing line for a field range in WWII. The actually firing line was not found.

MEMORANDUM FOR RECORD 3 Jun 1999

SUBJECT: Site Visit & Radiological Findings to date

SUBJECT: Site Visit Fort McClellan, Main Post & Pelham Range

j. The area around the old water hole in Area 5C was walked. Training devices such as expended slap flares were discovered. Evidence of the disposal of CWM munitions being disposed of in the water hole could not be confirmed by the visual inspection.

k. Bivouac site B54 was inspected. Training aids such as expended rifle blanks were found.

l. Area 1A was walked for evidence of cratering from explosive ordnance with negative results.

/s/
THOMAS E. MURRELL, P.M.P.

Project Manager

APPENDIX F

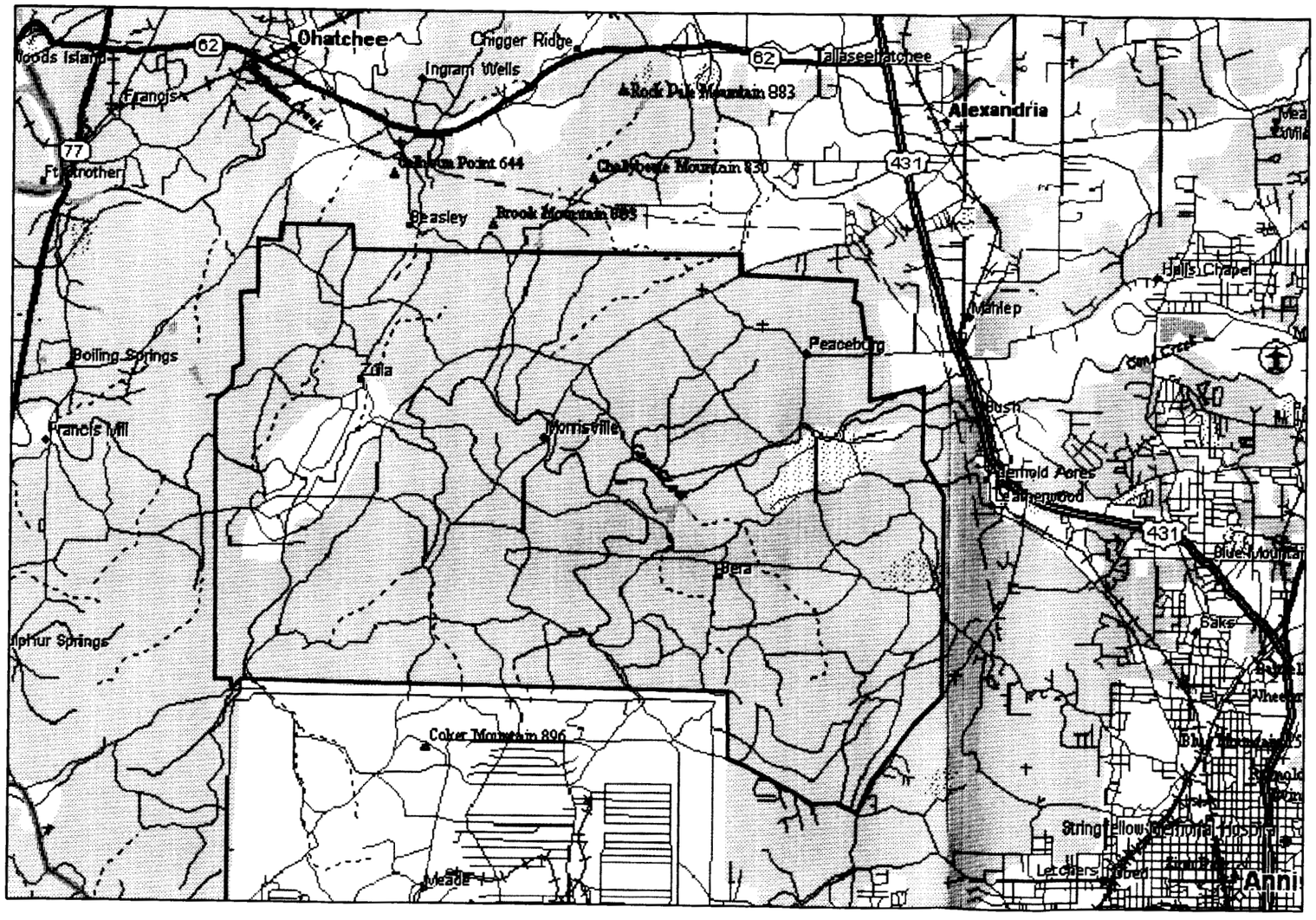
Report Distribution List

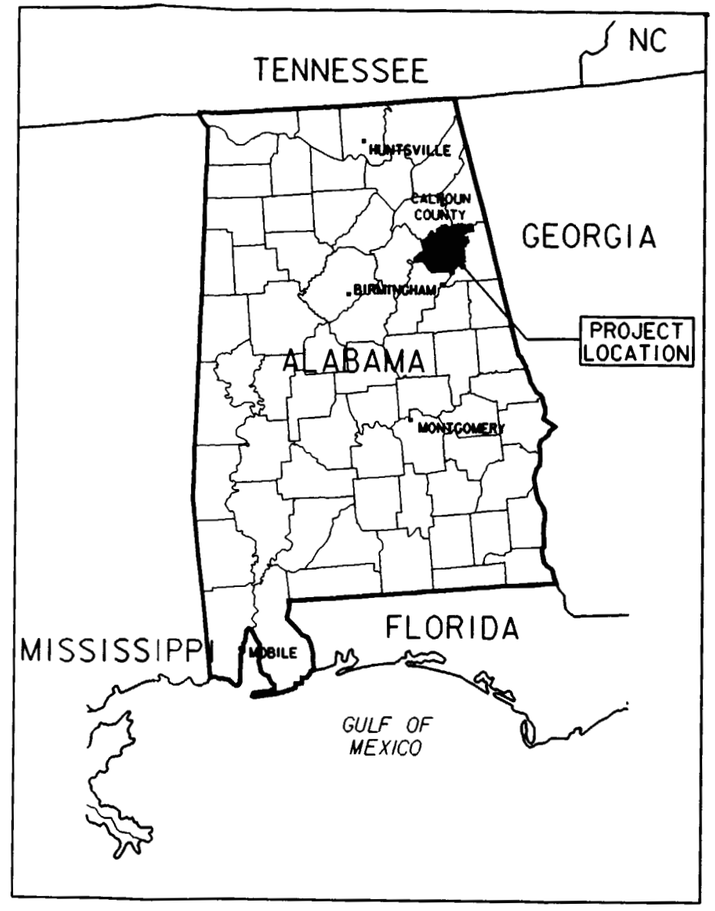
APPENDIX F

FINAL DISTRIBUTION LIST

Addressee	Copies
U.S. Army Garrison ATTN: ATZN-ENV Building 215, 15th Street Fort McClellan, Alabama 36205	13
Alabama Department of Environmental Management Hazardous Waste Branch, Land Division P.O. Box 301463 Montgomery, Alabama 36130-1463	1
Environmental Protection Agency Atlanta Federal Center 61 Forsyth Street, S.W. Atlanta, Georgia 30303-3104	1
U.S. Army Chemical School Health Physics Office ATTN: ATSC-CMA-HP 401 Engineer Loop, Suite 1843 Fort Leonard Wood, Missouri 65473-8926	1
U.S. Army Headquarters, Industrial Operations Command ATTN: AMSIO-DMW Rock Island, Illinois 61299	1
U.S. Nuclear Regulatory Commission Region II Radiation Specialist 61 Forsyth Street, S.W., Suite 23T85 Atlanta, Georgia 30303-3415	1
U.S. Environmental Protection Agency Radiation Specialist Atlanta Federal Center 61 Forsyth Street, S.W. Atlanta, Georgia 30303-3104	1
State of Alabama Department of Public Health Division of Radiation Control The RSA Tower 201 Monroe Street, Suite 700 Montgomery, Alabama 36130-3017	1

REPORT PLATES





LEGEND

SITE LOCATION

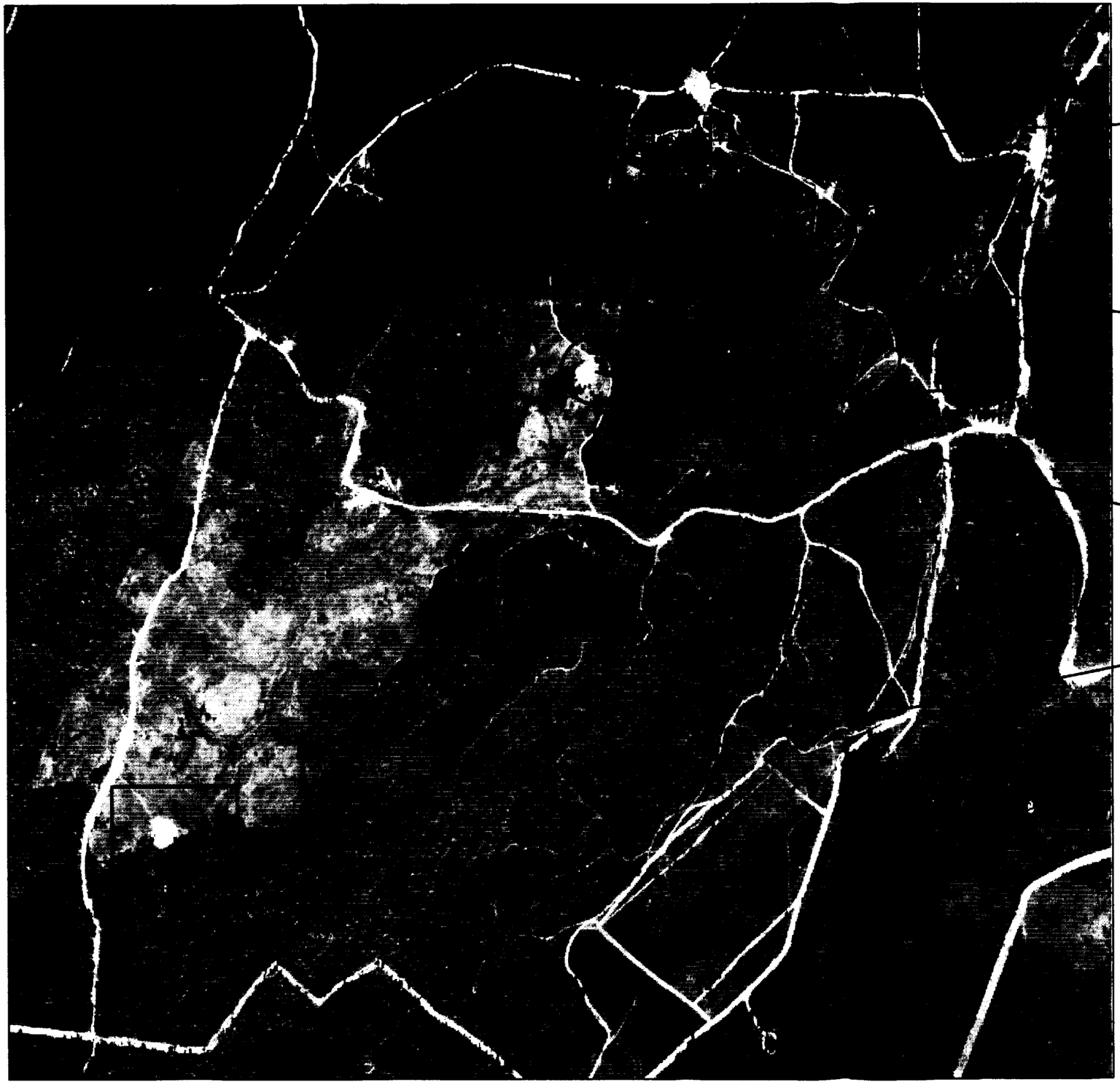
N

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

PELHAM RANGE
CALHOUN COUNTY
ANNISTON, ALABAMA

VICINITY LOCATION MAP

PROJ. DATE: SEPT 1999	DATE OF MAP: 1999	PLATE NO. 1
10-NOV-1999 15:05	rstpelhamplate1.dgn	



RANGE "K"

POSSBILE GRID AREA

"A" BOMB CRATER
(LIMA POND)

RANGE "I"

0 700 1400

APPROXIMATE SCALE IN FEET

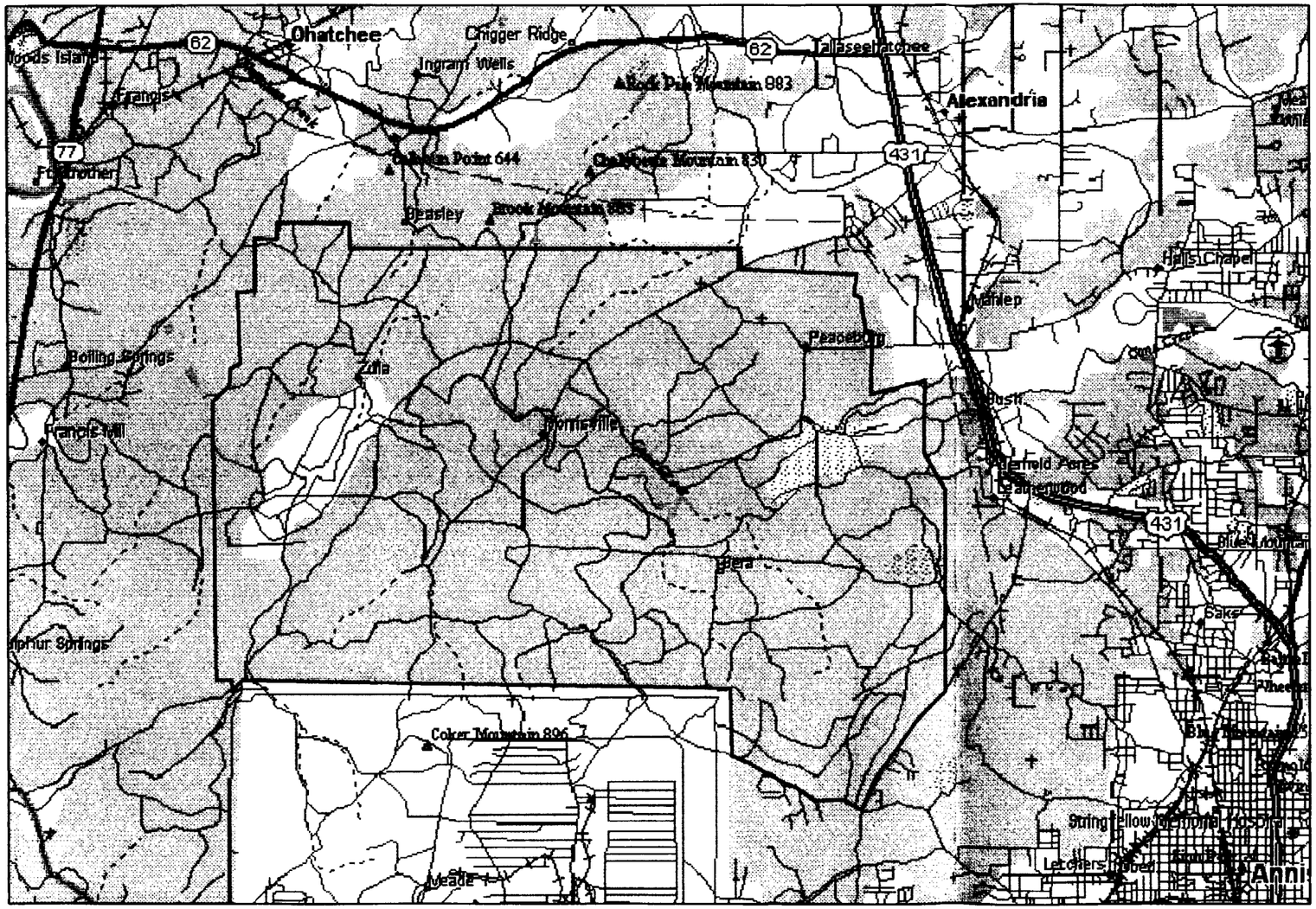
N

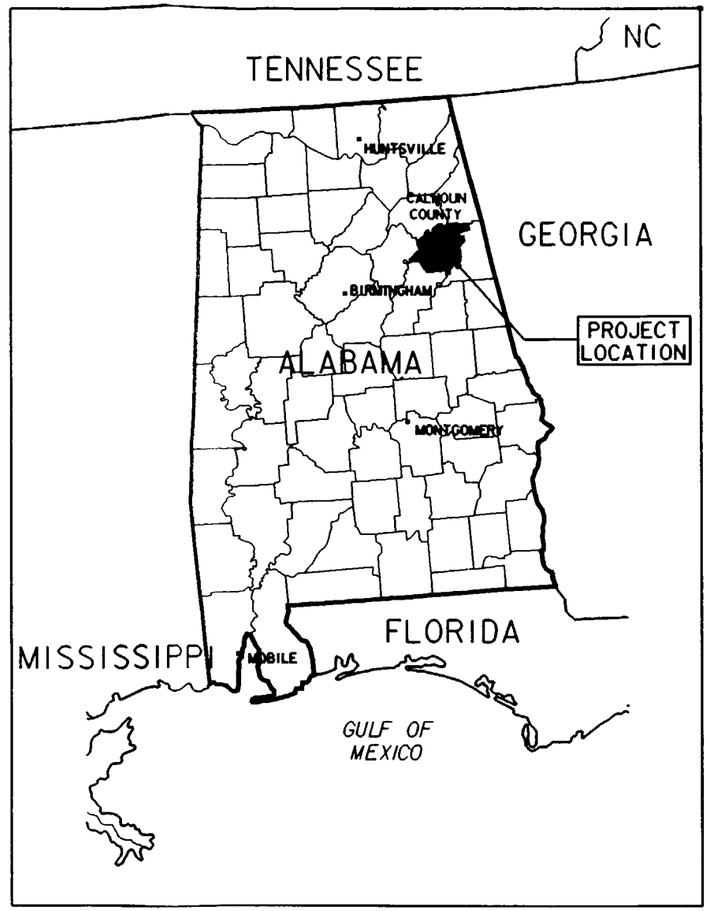
U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

PELHAM RANGE
CALHOUN COUNTY
ANNISTON, ALABAMA

AERIAL PHOTO PLATE 1954

PROJ. DATE: SEPT 1999	DATE OF PHOTO: 1954	PLATE NO. 1
01-DEC-1999 13:47	rs\pelham\phoplt1.dgn	





LEGEND

SITE LOCATION

N

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

PELHAM RANGE
CALHOUN COUNTY
ANNISTON, ALABAMA

VICINITY LOCATION MAP

PROJ. DATE: SEPT 1999	DATE OF MAP: 1999	PLATE NO. 1
11-DEC-2000 08:39	f:\pelham\PLATE1.DGN	