ATG INC.
ALLIED TECHNOLOGY GROUP

October 19, 2000

U.S. Nuclear Regulatory Commission, Region II
Attn: Orysia Bailey
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Atlanta, GA 30303-3415

Dear Ms. Bailey:

This letter is being sent concerning work performed by Allied Technology Group (ATG) Inc. In Accordance With (IAW) Modification P00004 of Contract No. DAAA09-98-C-0039 (i.e., the final status survey for twelve (12) commodity storage sites at Fort McClellan). Please review the attached draft report and comment as necessary.

ATG appreciates the opportunity to provide this report. Please provide comments by electronic mail at mchughm@atgusa.com or telephone at (865) 425-5011.

Sincerely,

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U.S. ARMY FORT McCLELLAN
FORT McCLELLAN, ALABAMA
HQ, OSC PROJECT NUMBER USA 99-100

Select Commodity Site Areas

FINAL RADIOLOGICAL STATUS REPORT
Revision 0

Prepared by:

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October 2000

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1.0 EXECUTIVE SUMMARY

This report presents the radiological data gathered by Allied Technology Group (ATG) at the U.S. Army Fort McClellan base in Anniston, AL, during the survey and remediation activities conducted from August 1, 2000, through August 18, 2000. Fort McClellan is under the Army Base Realignment And Closure (BRAC) Act as an installation for closure. ATG has been contracted by the U.S. Army Operations Support Command (OSC) under Modification No. P00004 of Contract No. DAAA09-98-C-0039 [assigned ATG Project No. 10036.03] to perform radiological release surveys of select commodity use areas. These areas have been identified through the mechanism of an Historical Records Search as having radiological issues (the storage and/or routine maintenance of Army radioactive commodities). This report is presented as the technical justification for the release of these areas for unrestricted use.

The subject commodity sites at Fort McClellan consist of nine (9) potentially impacted areas (i.e., six (6) buildings and three (3) site areas). The potentially impacted six (6) buildings are: (1) T-810, (2) T-811, (3) T-812, (4) T-837, (5) 3182, and (6) 3185. The three (3) potentially impacted site areas are: (1) the T-836 area; (2) the original Rattlesnake Gulch area; and (3) the Chemical School Radiological Burial Grounds. These areas were surveyed using the guidance in NUREG-1575, "Multi-Agency Radiation Survey and Site Investigation Manual" (MARSSIM), as described herein. A records investigation was also conducted to indicate the radiological status of what were determined to be three (3) non-impacted site areas, providing historical justification for release of these areas. These three (3) site areas are: (1) the Radiological Survey Area 1; (2) the Field Hot Cell area; and (3) Range 25.

2.0 HISTORICAL BACKGROUND

Fort McClellan lies adjacent to the city of Anniston, AL and within Calhoun County. During the Spanish American War (1898), units stationed at Camp Shipp in the Blue Mountain Area used the current site 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 1915, President Woodrow Wilson ordered 1,160 acres in Alabama reserved for military purposes. 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. The Department of the Army established the Army Chemical Training Center at Fort McClellan in 1951 and academic instruction began at the US Army Chemical Corps School in September 1952. The Radiological Safety Support Unit, established in 1953, was an organization element of the Army Chemical Training Center at Fort McClellan. The Rad Unit, as it was commonly known, conducted radiological test, research, and development, which aided in the development of training and tactical doctrine. In 1963 the name of the US Army Chemical School changed to the US Army Chemical Center and School.

Fort McClellan is comprised of three (3) areas: the Main Post; the Choccolocco Corridor; and the Pelham Range. The installation occupies 45,679 acres. The Main Post encompasses 19,000 acres and contains the majority of the facilities. The Army leased the Choccolocco Corridor, which occupies approximately 4,500 acres, from the state of Alabama. It connects the Main Post with the Talladega National Forest to the east. The Pelham Range consists of approximately 22,000 acres west of the Main Post.

Radiological training began at Fort McClellan in 1952. The original Radiological Laboratories were located in Post Area No. 8 and consisted of five (5) buildings: T-810, T-811, T-812, T-836, T-837, and a concrete vault for the storage of radioactive materials, primarily Radium (Ra) and Cobalt-60 (^{60}Co).

In 1952, field training in Radiological Surveys was initiated. The first course area was known as Rattlesnake Gulch and used 48 curies of ^{60}Co in sources of two to four Curies (2-4 Ci) each. Approval was also given to use ten (10) sources of ^{60}Co in the Chemical, Biological, Radiological (CBR) Familiarization Course at the Pelham Range.

In 1953, the Rattlesnake Gulch Survey Area was moved closer to the Summerall Gate road and renamed as Radiological Survey Area #1. A radioactive waste burial ground was established at the site of the new survey area and designated as the Chemical School Radioactive Burial Ground. In later years, both the Radiological Survey Area #1 and burial area were referred to as being part of the Rattlesnake Gulch Area. Radioactive waste from the first Rattlesnake Gulch Area was removed and buried in the new burial area. The Radiological Survey Area #1 was used to dispose of radioactive material at the site from 1953 to 1957. A Field Hot Cell was constructed near Radiological Site #1 and was operated until the completion of the Permanent Hot Cell. Some material in this area was moved to the Pelham Range in 1958. Health Physics Division personnel conducted a cleanup of this area in 1971. Remnants of the Field Hot Cell were discovered buried in the Rattlesnake Gulch Area. The results of this cleanup are detailed in the After Action Report (AAR) which refers to the site as Iron Mountain due to its proximity to this area.

In 1957, the US Atomic Energy Commission began issuing Byproduct Material Licenses to the US Army Chemical School at Fort McClellan for activities at the Pelham Range Area and on the Main Post. In 1958, a second Temporary Hot Cell was constructed in the Radiological Laboratory (Bldg. 3185). It was dismantled in 1958, and minutes of the Isotope Committee Meeting in 1958 state that the area was monitored and found to be free of contamination.

The Army Chemical School then established the Radiological Facilities, which included a Hot Cell Facility (Bldg. 3192), a Radiological Laboratory (Bldg. 3182), a Nuclear Accident Training Facility (Alpha Field behind Bldg. 3165), a Vault Radiological Laboratory (Bldg. 3180), a Radiological Training Facility (Bromine Field), a Personnel Decontamination Center (Bldg. 3185), and an Isotope and Scaler Laboratory (Bldg. 3181). The Hot Cell was connected to an underground drainage system leading to two underground storage tanks. A liquid waste disposal pit was also connected. Training at the Hot Cell included the use of ^{60}Co sources.

Training at the Radiological Laboratory Building (Bldg. 3182) included the use of radioactive sources. Radioactive sources were used at the alpha field. These sources were sealed and leak tested. The US Army Chemical Center and School staff stored radioactive material in the vault Radioactive Laboratory Building (Bldg. 3180). Bldg. 3180 was demolished in 1989. Additional radiological storage was done at the radiological storage vault T-8121/2 (Bldg. 8121/2). Training was conducted at the Bromine Field, which included decontamination of vehicles and equipment with the short-lived isotope, ^{82}Br. Bromine tanks, which were used to store the contaminated water containing ^{82}Br, have been removed from the site. The Personnel Decontamination Facility was located in Bldg. 3185. Radiation sources were routinely present and used in the Isotope and Scaler Laboratory, Bldg. 3181.

The US Army Chemical School closed the Radiological Facilities in 1972, and the radioactive sources were removed. The Chemical Corps School was deactivated in 1973.

The US Army Chemical School returned to Fort McClellan in 1979, and the Edwin R. Bradley Radiological Laboratory (Bldg. 2281) became the focus of radiation training where isotope sources were present. The US Army Chemical School also stored radioactive material in Bldg. 4416. The Radiological Calibration Facility was located in Bldg. 228. Sibert Hall (Bldg. 1081) was the last home to the Nuclear, Biological and Chemical (NBC) mission at Fort McClellan. This building was used until the US Army Chemical School closed and transferred to Fort Leonard Wood, MO, in 1999.

3.0 DESCRIPTION OF SPECIFIC AREAS SURVEYED

3.1 Bldg. 3182

Bldg. 3182 is an 11,696 ft^2 facility built in 1954 for use as an Applied Instruction Building, with one (1) wing having been used by the Fort McClellan Radiological Laboratories in conjunction with the Hot Cell facility. The later served as the Military Police Corps museum. The associated Hot Cell facility was decommissioned in 1995, along with the supporting area of Bldg. 3182. The primary contaminants of concern were ^{137}Cs, from the hot cell, as well as ^{3}H and ^{226}Ra associated with lensatic compasses and luminescent dials/gauges of military devices. The facility was surveyed in November of 1999 as a MARSSIM Class III area. Discrete areas of elevated surface activity were found , causing the conservative reclassification as a MARSSIM Class I area. ATG performed a Class I survey of the floor and lower two (2) meters of the interior walls, and a modified Class II survey of the upper walls and ceiling.

3.2 Bldg. T-810

Bldg. T-810 (originally 811) is an 88' x 26' single story frame structure used historically as a temporary laboratory. The primary contaminants of concern were ^{137}Cs, ^{226}Ra, ^{60}Co, and ^{90}Sr. The facility has a large classroom and men's lavatory with several shower stalls on the west end, with an isolated women's area on the east end. The facility interior was surveyed as a MARSSIM Class III area.

3.3 Bldg. T-811

Bldg. T-811 (originally 812) is an 88' x 26' single story frame structure used historically as a temporary laboratory. The primary contaminants of concern were ^{137}Cs, ^{226}Ra, ^{60}Co, and ^{90}Sr. The facility has two (2) large open classrooms on opposite ends, with a single small (~10' x 10') office in between. The facility interior was surveyed as a MARSSIM Class III area.

3.4 Bldg. T-812

Bldg. T-812 (originally 813) is an 88' x 26' single story frame structure used historically as a temporary laboratory. The primary contaminants of concern were ^{137}Cs, ^{226}Ra, ^{60}Co, and ^{90}Sr. The facility has two (2) large open classrooms on opposite ends, with a single small (~10' x 10') office in between. The facility interior was surveyed as a MARSSIM Class III area.

3.5 Bldg. T-836

Bldg. T-836 has been demolished and removed except for the concrete block support pedestals, the chimney, and an associated rubble pile. The historical structure was an 88' x 26' single story frame structure used as a temporary laboratory. The primary contaminants of concern were ^{137}Cs, ^{226}Ra, ^{60}Co, and ^{90}Sr. The footprint plus a 5' buffer on each dimension, for a total area of 98' x 36', was surveyed as a MARSSIM Class III outdoor area without the disturbance of the existing rubble pile.

3.6 Bldg. T-837

Bldg. T-837 (originally 836A) is an 88' x 26' two-story frame structure used historically as a temporary laboratory. The historical record indicated use of the facility to include isotope preparation. The primary contaminants of concern were ^{137}Cs, ^{226}Ra, ^{60}Co, and ^{90}Sr. The facility has several ~ 12' x 12' cubicles/rooms and lavatories on both elevations. The facility interior was surveyed as a MARSSIM Class II area.

3.7 Bldg. 3185

Bldg. 3185 is a 60' x 136' single story structure used historically as a personnel decontamination center for training purposes. Students used this building to change clothes and to practice decontamination procedures. The primary contaminants of concern were ^{137}Cs, ^{226}Ra, ^{60}Co, and ^{90}Sr. Although ^{82}Br may have also been of concern, its 35-hour half-life excluded the prospect of a residual presence. The facility has several ~ 12' x 12' cubicles/rooms and lavatories on both elevations. The facility interior was surveyed as a MARSSIM Class III area.

3.8 The Original Rattlesnake Gulch Area

The Original Rattlesnake Gulch Area is an outdoor area east of the Anniston (Lemlock) Community Center parking area and is mentioned in historical literature attributed to training drills of the Chemical Corp. The assumed area of concern is a wooded ravine located at a present bike trail on the north side, two (2) concrete markers near the east end at the southern turn in the bike trail, and the grassy bank at the tree line on the west (Community Center/parking area) side. The overall area of concern is 200' wide across the ravine by 400' long. The outdoor area was surveyed for gross gamma using the protocol as a MARSSIM Class III area. No samples were collected, but any areas of detected elevated activity were to be temporarily marked by the shallow placement of wire flags and noted on the survey record. No elevated readings were noted.

Additionally, as a result of an area of elevated readings found with a random μR-meter survey by the State and EPA on April 11, 2000, a single point in-situ gamma spectroscopy analysis was required to be performed at the grassy bank located between the parking area and the west end of the subject Original Rattlesnake Gulch Area, where near surface readings in the range of 32 μR/hr gross over a background of ~ 4 μR/hr were found over an area approximately 20' NW of the bike trail sign and 10' inside the grass line.

The In Situ gamma spectroscopy measurement was performed to serve as a rule-out of Fort McClellan contaminants of concern. If the elevated activity was determined to be due to Naturally Occurring Radioactive Material (NORM), then the Original Rattlesnake Gulch Area was to be surveyed for gross gamma, as a MARSSIM Class III area, as planned. If the gamma spectrometry exercise revealed positive identification of above normal background abundances of contaminants of concern (i.e., ^{60}Co and ^{137}Cs), the OSC was to be notified for evaluation of the area survey strategy. The embankment was surface surveyed for γ emitting activity, and the single-point in-situ gamma spectroscopy analysis was performed at the discrete location of highest surface activity. Samples were then taken of the highest point at four (4) different depths, as well as at two (2) nearby reference locations. The presence of only NORM-like radioactive materials was verified through the subject activities.

3.9 Radiological Survey Area #1

Radiological Survey Area #1 was an open land area developed by Fort McClellan as a replacement for the Rattlesnake Gulch. Reportedly, the site placed ^{233}U plates on the ground for survey training purposes. This area is classified as non-impacted based upon the documentation and discussion provided herein. No radiological survey of this area was performed.

3.10 The Field Hot Cell

The Field Hot Cell is part of the Radiological Survey Area #1. This was reportedly a temporary structure made out of cinder blocks and sand bags within the envelope of Radiological Survey Area #1. This area is classified as non-impacted based upon the documentation and discussion provided herein. No field survey of the Field Hot Cell was performed.

3.11 The Chemical School Radiological Burial Grounds

The Chemical School Radiological Burial Grounds is an outdoor wooded area reportedly used by the installation for radiological burials from 1957-1958. This site includes the northeast corner of the Anniston Community Center property. In the 1958-1959 timeframe, the buried radioactive materials were removed. The site conducted a second cleanup in 1971. The observed area covers an assumed area of concern of approximately 400' x 400' and spans both sides of the chain-link fence and the unimproved Perimeter Road, with the majority of the site within the city-side (NW) of the fence line. The area was surveyed for gross gamma as a MARSSIM Class II area, which was revised from the Statement of Work (SOW)-stated Class III, upon the recommendation of the regulators who were providing oversight. No samples were collected, but any areas of detected elevated activity were to be temporarily marked by the shallow placement of wire flags and noted on the survey record. No elevated readings were noted.

3.12 Range 25

Range 25 is an open area of land on the base which was reportedly used for a six-week period to test prototype source actuators. The specific location of concern is between the 300 and 400-yard line of the range. Only ^{60}Co sources were to have been used. This area is classified as non-impacted based upon the documentation and discussion provided herein. No field survey of Range 25 was performed.

4.0 SAMPLING ANALYSIS PLAN

4.1 General Approach

The guidance in NUREG-1575, Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM), was used as the technical basis for planning, performing, interpreting and documenting the radiological survey of the commodity use areas at Fort McClellan. The MARSSIM process, developed collaboratively by the Nuclear Regulatory Commission, Environmental Protection Agency, Department of Energy, and Department of Defense, emphasizes the use of Data Quality Objectives (DQO) and Data Quality Assessment (DQA) processes, along with a sound Quality Assurance (QA)/Quality Control (QC) program.

The objective of MARSSIM is to describe a consistent approach for performance and assessment of building surface and surface soil final status surveys to meet established dose or risk-based release criteria, while at the same time encouraging an effective use of resources. The "graded approach" concept is also used to ensure the greatest survey efforts in those areas where there is the highest probability for residual contamination or the greatest potential for adverse effects from residual contamination.

Some of the site-specific information and methodologies that were used in design and development of the radiological survey plan are described herein.

4.2 Contaminants and Derived Concentration Guideline Levels

The radionuclides of historical concern include α-γ, β, and β-γ emitters. The primary radionuclides vary for each area and include the following: $^{137}Cs(^{137m}Ba)$; ^{226}Ra and progeny; ^{60}Co; $^{90}Sr(^{90}Y)$; and ^{3}H. These radionuclides existed both in: sealed or contained forms, primarily in storage areas, where there is little potential for contamination; and in loose form, for isotope preparation and/or disposal, for which the potential for residual contamination is increased.

As required in the SOW that was prepared by the OSC, a copy of which has been included in Attachment 2 of Appendix A, the "Sampling and Analysis Plan," the Derived Concentration Guideline (DCGL) values were established in accordance with the residual surface contamination limits specified in the Federal Register / Volume 62, Number 222/ Wednesday, November 18, 1998, pages 64132-64134. These values are listed in Table 4-1. In addition to the aforementioned DCGLs, all surfaces surveyed were also required meet the limits of Table 5-2 of Army Regulation (AR) 11-9, a copy of which has been included in Attachment 3 of Appendix A.

TABLE 4-1: $DCGL_w$ FOR FORT McCLELLAN COMMODITY USE AREAS

Release Criteria Based on 25 mrem/year

Nuclide	Release Criteria (dpm/100 cm^2)	Loose Surface Contamination Guidelines (dpm/100 cm^2)
^{3}H	NA	1.23E+07
^{60}Co	7.04E+03	7.04E+02
^{226}Ra	3.13E+02	3.13E+01
^{90}Sr	8.76E+03	8.76E+02
^{137}Cs	2.80E+04	2.80E+03

Each survey unit was considered to meet the unrestricted release criteria if:

- the residual contamination above background was below the $DCGL_W$; and
- the residual removable contamination was below $DCGL_{rem}$.

In areas other than Class I (i.e., Bldg. 3182), there was no provision to perform a test for Elevated Measurement Comparison (EMC). In Bldg. 3182 the MDC_{Scan} was less than the $DCGL_W$ for each of the isotopes of concern [refer to Appendix B for actual MDC_{Scan} information], thereby requiring no additional samples for the EMC. The parameters upon which these MDC_{Scan} values were based (e.g., background, detector and surface efficiency, etc.) were verified during the performance of the survey, and documented in Appendix B. If in an area, specific locations were identified that required such testing, that area, or a portion of that area, was required to be reclassified as Class I, and the OSC was to be notified immediately. No such areas were identified.

4.3 Area Classification

4.3.1 Impacted Areas

Specific MARSSIM survey classifications have been defined by OSC/Fort McClellan for all areas. Six (6) areas have been classified as Class III (i.e., based upon site operating history, these areas were not expected to contain any residual radioactivity, or were expected to contain levels of residual radioactivity at a very small fraction of the $DCGL_W$). Two (2) areas were classified as Class II (i.e., there is some potential for residual radioactivity, but is not expected to exceed the $DCGL_w$), and one (1) area was classified as Class I, based on the positive findings of discrete areas of elevated activity during the earlier screening survey as a Class III area. In each of the nine (9) areas, if discrepancies were identified during the survey that may warrant reclassification of the area, then the OSC was to be notified immediately. No such areas were identified.

4.3.2 Non-Impacted Areas

A records investigation was also conducted to indicate the radiological status of the Radiological Survey Area 1, the Field Hot Cell area, and Range 25, providing historical justification for classification of these areas as non-impacted as described below.

4.3.2.1 Radiological Survey Area #1 and Field Hot Cell

The areas referred to as Radiological Survey Area #1 and Field Hot Cell were included in the survey performed by the Center for Health Promotion and Preventive Medicine (CHPPM), Industrial Radiation Study 27-MH-0987-R2-97, a copy of which is provided in Appendix C. These surveys indicated no elevated activity levels in the subject areas.

4.3.2.2 Range 25

Range 25 was the site of an actuator test from February 19, 1963, to May 14, 1963. Five (5) actuators were tested and each actuator was placed on a concrete base. Each actuator utilized a fifteen Curie (15 Ci) encapsulated ^{60}Co source belonging to the Chemical School. There is no record of leakage from the sources, as described in a letter describing the test results, a copy of which is provided in Appendix D. This is the only time radioactive material was used at Range 25.

4.4 Survey Units

For the Class III areas, MARSSIM does not place a limit on the size of survey units. For class II areas, MARSSIM recommends a maximum survey unit size of 1,000 m^2 for building floor areas and 10,000 m^2 for land areas. For Class I areas, MARSSIM suggests limiting the survey unit for structures to 100 m^2 of floor area.

The indoor survey units included the floor and the lower two meters (2 m) of each wall in the area. Bldg. 3182 was divided into thirteen (13) of these survey units. Each other area represented one (1) survey unit each.

Except in Bldg. 3182, contamination was not suspected on surfaces above two meters (2 m), but some judgmental samples were collected on exposed flat horizontal surfaces located above two meters (2 m). In Bldg. 3182 the surface area above the lower two meters (2 m) of the walls constituted two (2) Class II survey units.

4.5 Background Reference Area

Background (reference) levels of gross α and gross β emitting surface activity for applicable surfaces (e.g., concrete, brick, wood, or vinyl) were determined in a building of similar construction where there is no record of use or storage of radioactive materials.

4.6 Survey Methodology

Field survey activities consisted of:

- surface γ scans;
- surface α and β scans;
- measurements of total α and total β emitting surface activity;
- measurements of removable α and β emitting surface activity; and
- measurements of removable ^{3}H activity in selected areas.

4.6.1 Instrumentation and Sampling Techniques

The instrumentation and sampling protocols are briefly described below. See Attachment 4, "Table of Instrumentation for Radiological Surveys," of Appendix A for instrument parameters and detection sensitivities for each type of instrument and its application.

4.6.1.1 Surface γ Scans

Structures: easily accessible areas of the floor surface in the survey unit as well as the lower two (2) meters of any walls, were scanned for γ emitting activity using a Bicron MicroRem Meter. This instrument was held as close to the surface being scanned as conditions allowed. Scanning was performed by moving the detector from side to side in a serpentine motion while progressing across the surface no faster than 0.5 m/s. The percentage of the area covered by the γ scan is listed in Table 4-2.

Outdoor Areas: Outdoor areas were scanned for γ emitting activity using a Bicron MicroRem Meter. This instrument was held at distance no greater than 36" from the ground. Scanning was performed by moving the detector from side to side in a serpentine motion while progressing across the surface no faster than 0.5 m/s. With an investigation level of four (4) μR/hour above a nominal background of eight (8) μR/hour, this survey method ensured adequate detection sensitivity to detect soil concentrations of: 5.2 ρCi/g of ^{60}Co; and 21.5 ρCi/g of ^{137}Cs. Refer to Attachment 5 of Appendix A for supporting calculations. The percentage of the area covered by the γ scan is listed in Table 4-2.

Table 4-2: Survey Requirements

Activities	Area Classification			
	Class I		Class II	Class III
	Survey Unit #5[1]	Other	Bldg. 3182	All
Surface gamma scans	100%	100%	50%	Judgmental
Total alpha and beta scans	100%	100%	50%	Judgmental
Direct measurements for total α and total β emitting activity	175	15	15	15
Measurements of removable α and β emitting surface activity	175	15	15	15
Measurements of removable ^{3}H activity (LSC)	175	15	15	NA

1 Survey unit containing previously identified affected areas.

4.6.1.2 Surface α and β Scans

Easily accessible areas of the floor were surveyed for α and β emitting activity with a large area floor monitor, consisting of a Ludlum Model 43-37 gas-flow proportional detector coupled to a Ludlum Model 2224 rate-meter/scaler, or its equivalent. The lower two (2) meters of any walls in the area, and floor surfaces that were not assessable with large area floor monitor were surveyed with a Ludlum 43-68 detector, coupled with a Ludlum Model 2224 rate-meter/scaler, or its equivalent. The responses of these detector/meters combinations was checked with a National Institute of Standards and Testing (NIST) referenced source, or equivalent, prior to use.

The percentage of the area covered by the α/β scan is listed in Table 4-2. These instruments were held as close to the surface being scanned as conditions allowed. Scanning progressed across the surface no faster than one (1) detector width per second.

4.6.1.3 Measurements of Total α and Total β Emitting Surface Activity

A sampling grid was established in each area, as described in Section 1.7.4. One (1) minute counts were taken with a Ludlum Model 43-68 100 cm^2 gas proportional detector coupled to a Ludlum Model 2224 rate-meter/scaler, or its equivalent, at each node of the survey grid in the area of interest. The response of this detector/meter combination was checked with a NIST referenced source, or equivalent, prior to use.

Replicate measurements were required as part of the DQOs described herein. Two (2) replicate α/β counts were taken in each area. One (1) was collected at a randomly selected sampling location on the floor, and the other from a randomly selected sampling location on a wall.

4.6.1.4 Measurements of Removable α and β Emitting Surface Activity

Refer to Section 1.7.3.3 for the number of samples taken per survey unit. Where removable α/β emitting activity was to be determined, or ruled-out, course swipe media was applied over a 100 cm^2 area. The swipe samples were maintained individually, and appropriately analyzed on-site on a calibrated low background automated proportional counter. QC analysis of 10% of the samples were provided by ATG Richland on a similar counter. The samples were batch shipped along with the chain-of-custody record to Richland. Calibration and QC records for the laboratory instrumentation are provided in Appendix E.

Replicate measurements were required as part of the DQOs described herein. Two (2) replicate α/β smear samples were collected in each area. One (1) smear sample was collected at a randomly selected sampling location on the floor and the other sample was collected from a randomly selected sampling location on a wall.

4.6.1.5 Measurements of Removable ^3H Activity in Selected Areas

Smear samples were collected and placed immediately in liquid scintillation vials and sealed for analysis for ^3H. These smear samples were collected beside the α/β smear samples collected at every direct measurement location in the Bldg. 3182 where ^3H was listed as a radionuclide of concern.

Comparative analysis (i.e., for QC purposes) were performed on 10% of the samples analyzed by ATG per LSC at a qualified third party laboratory (e.g., Barringer Laboratories, Inc.). Of the approximately 544 LSC samples analyzed by ATG Richland, 54 were forwarded for comparison counting at the qualified third party laboratory (i.e., Barringer Laboratories, Inc. of Golden, CO).

Replicate measurements were required as part of the DQOs described herein. Two (2) replicate ^3H smear samples were collected in each area. One (1) ^3H smear sample was collected at a randomly selected sampling location on the floor and the other sample was collected from a randomly selected sampling location on a wall.

ATG-Richland provided Liquid Scintillation Counting (LSC) vials for placement of associated swipe samples for screening of low energy β emitters, specifically ^{3}H. The samples were batch shipped along with the chain-of-custody record to Richland, for analysis by a liquid scintillation counter. Calibration and QC records for the laboratory instrumentation are presented in Appendix E.

4.6.1.6 Isotopic γ Analyses

Qualitative isotopic γ spectroscopy analyses were performed on the spot where elevated μR/hour readings were noted adjacent to the Community Center parking lot near the Rattle Snake Gulch area. This In Situ analysis was performed using an Oxford Instruments portable NaI detector and Multi-Channel Analyzer (MCA). This instrument was energy calibrated immediately prior to use, using ^{60}Co, with characteristic photo-peaks at 1173 and 1332 keV, and $^{137}Cs(^{137m}Ba)$, with a characteristic photo-peak at 661 keV.

For quantitative isotopic analyses, soil samples were taken in the subject location at four (4) depths (i.e., surface, 3", 6", and 8"). Samples were also taken at two (2) nearby reference locations exhibiting normal background radiation levels. These samples were returned to ATG's Oak Ridge facility for analysis using a Canberra HPGe detector and MCA. This instrument was energy and efficiency calibrated to the sample geometry (i.e., a 500 ml Marinelli beaker) using NIST traceable sources.

The resultant analysis records for both qualitative and quantitative analyses are presented in Appendix F.

4.6.2 Data Quality Indicators

As part of the DQO Process, the data quality indicators for Precision, Accuracy, Representativeness, Completeness, and Comparability (PARCC) were established.

- Precision was determined by comparison of replicate values from field measurements and sample analysis; the objective was a relative percent difference of 30% or less at 50% of the criterion value.
- Accuracy is the degree of agreement with the true or known; the objective for this parameter was +/- 20% at 50% of the criterion value.
- Representativeness and Comparability do not have numeric values. Performance for these indicators was assured through the selection and proper implementation of systematic sampling and measurement techniques.
- Completeness refers to the portion of the data that meets acceptance criteria and is therefore useable for statistical testing. The objective was 90% for this project.

4.6.3 Sampling Density

The number of direct measurements in each survey unit was dependent on several parameters, including the desired confidence of the decision criteria (i.e., decision uncertainty), the presence and variation of background interference, some of which are briefly discussed below.

4.6.3.1 Decision Errors

Among the most important parameters affecting survey design and the number of measurements needed to satisfy the DQOs are the acceptable decision errors. The OSC has established the Type I (α) decision error at 0.05; this provides a confidence level of 95% that the statistical tests would not incorrectly determine that a surveyed area satisfies release criteria when, in fact, it does not. Similarly, the OSC has established the Type II (β) decision error at 0.05; this provides a confidence level of 95% that the statistical tests would not incorrectly determine that a surveyed area does not satisfy release criteria when, in fact, it does. The Type II decision error is more restrictive than is usually recommended for such surveys. This more restrictive value typically has a potential consequence of indicating unnecessary remediation; however, considering the public relations consequences of failing to identify residual contamination, the more restrictive level is considered prudent.

4.6.3.2 Variability (σ)

The survey units in the commodity use areas are mostly Class III areas with a few Class II areas. It was anticipated that the measurement variability in these areas would be similar to that in the background reference areas. Except for Survey Unit Number 5 of Bldg. 3182, it was anticipated that the standard deviation of measurements (σ) would be equal to or less than 75% of average surface activity levels.

The standard deviation of measurements (σ) for Bldg. 3182 Survey Unit Number 5 (i.e., the survey unit containing Rooms 14 and 6) was conservatively bounded at 3.17 $(10)^4$ dpm of ^{137}Cs activity. This was based on the maximum activity noted in the immediate area during the previous survey activities as described in "Commodity Site Survey Final Report," ATG, January 2000. As direct measurements were actually performed, the measurement variability was verified to be within these bounds.

4.6.3.3 Number of Samples Indicated

A Type I error rate (α) of 0.05 and a Type II error rate (β) of 0.05 were assumed. The Lower Bound of the Gray Region (LBGR) was set at half the $DCGL_W$. This resulted in a conservatively bounded Relative Shift (Δ/σ) of:

- 0.4 for Survey Unit Number 5 of Bldg. 3182, Room 14; and
- 1.7 for all other survey units.

The resultant number of data points were found for each using MARSSIM Table 5.3:

- 175 for Survey Unit Number 5 of Bldg. 3182; and
- 15 for all other survey units.

These numbers of data points (N) were applied to direct measurements, as well as smears for determining the amount of removable activity.

4.6.4 Selection of Sampling Locations in Survey Units

MARSSIM recommends a triangular sampling pattern with a random starting point to increase the probability of identifying small areas of elevated activity. Figure 4-1 illustrates a triangular sampling pattern. This type pattern was used for the Commodity Use Areas. The spacing (L) between samples on a triangular pattern was determined by:

$$L = [\text{Survey Unit Area}/(0.866)\ (\text{number of samples})]^{1/2}$$

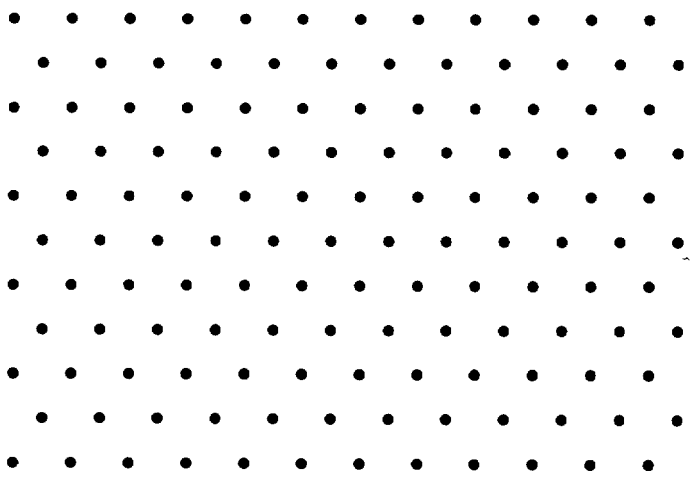


Figure 4-1: Triangular Sampling Pattern

The survey unit breakdown (i.e., room by room) for Bldg. 3182, with the resultant "L" values, is presented in Attachment 1 of Appendix A. All other buildings consisted of a single survey unit with "L" values corresponding to the methodology presented herein.

4.6.5 Reference Background Measurements

No reference background measurements were credited during the performance of the data analysis for the surveys described herein (i.e., gross equals net, with no credit for background).

5.0 FINAL SURVEY AREA RESULTS

5.1 Bldg. 3182

As a Class I impacted indoor area, the lower portion of Bldg. 3182 (i.e., the floor and lower two meters of each wall) was subdivided into thirteen (13) survey units. Each survey unit received a 100 % surface scan, and was sampled on a grid pattern (i.e., established as described in Section 4.6.4) for total and removable α/β emitting and ^{3}H activity. As described in Section 4.6.3.3, each survey unit was sampled at fifteen (15) points, except for Survey Unit 5, for which there were 175 sample points.

The contaminants of concern were ^{137}Cs, ^{3}H, and ^{226}Ra. The maximum activity for each emission type in each survey unit is presented in Table 5-1. The analysis records for the smears taken to measure removable α/β emitting activity are presented in Appendix G. The analysis records for the smears taken to measure removable ^{3}H activity are presented in Appendix H. The actual survey records for the Bldg. 3182, indicating the exact location of grid points, are presented in Appendix I.

Survey Unit 5 also required minor decontamination (decon) efforts. Therefore, both pre-decon and post-decon surveys were performed. The post-decon survey indicated that all residual contamination levels that remained within the structure were less than both the DCGLs and AR 11-9 limits. Since no "as left" contamination measurement exceeded the $DCGL_W$, then further statistical analyses of the results are not required.

5.2 Bldg. T-810

As a Class III impacted indoor area, the lower portion of Bldg. T-810 was considered a single survey unit, which received a 10 % surface scan, and was sampled at fifteen (15) points on a grid pattern for total and removable α/β emitting and ^{3}H activity.

The contaminants of concern were ^{137}Cs, ^{226}Ra, ^{60}Co, and ^{90}Sr. The maximum activity for each emission type in the survey unit is presented in Table 5-2. The actual survey records for Bldg. T-810, indicating the exact location of grid points, are presented in Appendix J. The analysis records for the smears taken to measure removable α/β emitting activity are presented in Appendix G. The analysis records for the smears taken to measure removable ^{3}H activity are presented in Appendix H.

The survey indicated that all residual contamination levels that remained within the structure were less than both the DCGLs and AR 11-9 limits. Since no contamination measurement exceeded the $DCGL_W$ or $DCGL_{Rem}$, as applicable, then further statistical analyses of the results are not required to demonstrate compliance for unconditional release.

Table 5-1: Bldg. 3182 Maximum Activity Results (dpm/100 cm^2)

Survey Unit	α Emitting Activity		β Emitting Activity		^3H Activity
	Total	Removable[1]	Total	Removable[2]	Removable
1	19	<MDA	1,290	<MDA	105
2	23	<MDA	1,196	<MDA	121
3	5	<MDA	1,510	<MDA	62
4	19	<MDA	1,745	<MDA	113
5 (pre-decon)	28	NA	44,861	NA	NA
5 (post-decon)	28	<MDA	3,416	<MDA	667
6	5	<MDA	1,471	<MDA	80
7	28	<MDA	1,584	<MDA	97
8	14	<MDA	1,651	<MDA	128
9	Survey unit numerical designator # 9 was reserved but not used				
10	5	<MDA	945	<MDA	173
11	9	<MDA	1,494	<MDA	64
12	14	<MDA	1,333	<MDA	419
13	9	<MDA	1,247	<MDA	721
14	19	<MDA	1,451	<MDA	339

1 Maximum removable α emitting Minimum Detectable Activity (MDA) of 33.71 dpm

2 Maximum non-^3H removable β emitting MDA of 47.45 dpm

Table 5-2: Activity Results of Buildings other than Bldg. 3182 (dpm/100 cm^2)

Survey Unit	α Emitting Activity		β Emitting Activity		^{3}H Activity
	Total	Removable[1]	Total	Removable[2]	Removable
Bldg. T-810	19	<MDA	1,000	<MDA	48
Bldg. T-811	9	<MDA	753	<MDA	57
Bldg. T-812	19	<MDA	486	<MDA	158
Bldg. T-836	69	NA	1,153	NA	NA
Bldg. T-837	14	<MDA	820	<MDA	62
Bldg. 3185	37	<MDA	2,463	<MDA	101

1 Maximum removable α emitting Minimum Detectable Activity (MDA) of 33.71 dpm

2 Maximum non-^{3}H removable β emitting MDA of 47.45 dpm

5.3 Bldg. T-811

As a Class III impacted indoor area, the lower portion of Bldg. T-811 was considered a single survey unit, which received a 10 % surface scan, and was sampled at fifteen (15) points on a grid pattern for total and removable α/β emitting and ^{3}H activity.

The contaminants of concern were ^{137}Cs, ^{226}Ra, ^{60}Co, and ^{90}Sr. The maximum activity for each emission type in the survey unit is presented in Table 5-2. The actual survey records for Bldg. T-811, indicating the exact location of grid points, are presented in Appendix K. The analysis records for the smears taken to measure removable α/β emitting activity are presented in Appendix G. The analysis records for the smears taken to measure removable ^{3}H activity are presented in Appendix H.

The survey indicated that all residual contamination levels that remained within the structure were less than both the DCGLs and AR 11-9 limits. Since no contamination measurement exceeded the $DCGL_W$ or $DCGL_{Rem}$, as applicable, then further statistical analyses of the results are not required to demonstrate compliance for unconditional release.

5.4 Bldg. T-812

As a Class III impacted indoor area, the lower portion of Bldg. T-812 was considered a single survey unit, which received a 10 % surface scan, and was sampled at fifteen (15) points on a grid pattern for total and removable α/β emitting and ^{3}H activity.

The contaminants of concern were ^{137}Cs, ^{226}Ra, ^{60}Co, and ^{90}Sr. The maximum activity for each emission type in the survey unit is presented in Table 5-2. The actual survey records for Bldg. T-812, indicating the exact location of grid points, are presented in Appendix L. The analysis records for the smears taken to measure removable α/β emitting activity are presented in Appendix G. The analysis records for the smears taken to measure removable ^{3}H activity are presented in Appendix H.

The survey indicated that all residual contamination levels that remained within the structure were less than both the DCGLs and AR 11-9 limits. Since no contamination measurement exceeded the $DCGL_W$ or $DCGL_{Rem}$, as applicable, then further statistical analyses of the results are not required to demonstrate compliance for unconditional release.

5.5 Bldg. T-836

As a Class III impacted outdoor area, the footprint of Bldg. T-836 plus a five foot (5') buffer area was considered a single survey unit. The subject survey unit received a 10 % surface scan and was surveyed at fifteen (15) points on a grid pattern for total surface activity.

The contaminants of concern were ^{137}Cs, ^{226}Ra, ^{60}Co, and ^{90}Sr. The maximum activity for each emission type in the survey unit is presented in Table 5-2. The actual survey record for Bldg. T-836, indicating the exact location of grid points, is presented in Appendix M.

The survey indicated that all residual contamination levels that remained within the structure were less than both the DCGLs and AR 11-9 limits. Since no contamination measurement exceeded the $DCGL_W$ or $DCGL_{Rem}$, as applicable, then further statistical analyses of the results are not required to demonstrate compliance for unconditional release.

5.6 Bldg. T-837

As a Class II impacted indoor area, the lower portion of Bldg. T-837 was considered a single survey unit, which received a 50 % surface scan, and was sampled at fifteen (15) points on a grid pattern for total and removable α/β emitting and ^{3}H activity.

The contaminants of concern were ^{137}Cs, ^{226}Ra, ^{60}Co, and ^{90}Sr. The maximum activity for each emission type in the survey unit is presented in Table 5-2. The actual survey records for Bldg. T-837, indicating the exact location of grid points, are presented in Appendix N. The analysis records for the smears taken to measure removable α/β emitting activity are presented in Appendix G. The analysis records for the smears taken to measure removable ^{3}H activity are presented in Appendix H.

The survey indicated that all residual contamination levels that remained within the structure were less than both the DCGLs and AR 11-9 limits. Since no contamination measurement exceeded the $DCGL_W$ or $DCGL_{Rem}$, as applicable, then further statistical analyses of the results are not required to demonstrate compliance for unconditional release.

5.7 Bldg. 3185

As a Class III impacted indoor area, the lower portion of Bldg. 3185 was considered a single survey unit, which received a 10 % surface scan, and was sampled at fifteen (15) points on a grid pattern for total and removable α/β emitting and ^{3}H activity.

The contaminants of concern were ^{137}Cs, ^{226}Ra, ^{60}Co, and ^{90}Sr. The maximum activity for each emission type in the survey unit is presented in Table 5-2. The actual survey records for Bldg. 3185, indicating the exact location of grid points, are presented in Appendix O. The analysis records for the smears taken to measure removable α/β emitting activity are presented in Appendix G. The analysis records for the smears taken to measure removable ^{3}H activity are presented in Appendix H.

The survey indicated that all residual contamination levels that remained within the structure were less than both the DCGLs and AR 11-9 limits. Since no contamination measurement exceeded the $DCGL_W$ or $DCGL_{Rem}$, as applicable, then further statistical analyses of the results are not required to demonstrate compliance for unconditional release.

5.8 The Original Rattlesnake Gulch Area

As a Class III impacted outdoor area, the Original Rattlesnake Gulch Area was considered a single survey unit, which received a 10 % surface γ scan as described in Section 4.6.1.1. No points of elevated radiation were found except for the single point on the grassy bank between the Rattlesnake Gulch Area and the Community Center parking area, as described in Section 3.8. The actual survey record for the Rattlesnake Gulch Area is presented in Appendix P.

The subject single location was analyzed using an In Situ NaI portable γ spectroscopy system. The resultant spectrum, a copy of which is included in Appendix , indicating the only presence of NORM and NORM progeny isotopes, ruled out the presence of the isotopes of concern (i.e., ^{137}Cs and ^{60}Co), which clearly indicates that the characteristic photo-peaks of the subject isotopes are not present.

Intrusive sampling was performed at the subject spot at four (4) distinct depths (i.e., surface, 3", 6", and 8"), as well as at two (2) nearby reference locations exhibiting normal background radiation levels. The sample analysis results are summarized in Table 5-3, with the analysis records presented in Appendix F.

5.9 Radiological Survey Area #1

Radiological Survey Area #1 was characterized as non-impacted as described in Section 4.3.2. This area is recommended for final release without additional action.

5.10 The Field Hot Cell

The Field Hot Cell was characterized as non-impacted as described in Section 4.3.2. This area is recommended for final release without additional action.

Table 5-3: Activity Results of Elevated NORM Location and Reference Areas (ρCi/g)

Survey Unit	^{226}Ra Activity			^{228}Ra Activity		
	^{226}Ra	^{214}Bi	^{214}Pb	^{228}Ac	^{212}Bi	^{212}Pb
Surface	7.8	2.9	3.7	9.4	12	12
3"	9.2	3.2	3.9	8.6	9.1	11
6"	8.9	3.2	7.6	8.3	12	9.7
8"	9.9	3.1	4.0	9.7	12	12
Reference 1	4.0	1.2	2.7	2.4	<LLD[1]	3.0
Reference 2	<LLD[2]	0.77	2.3	2.6	2.2	2.0

[1] Lower Limit of Detection (LLD) of 3.0 ρCi/g

[2] LLD of 3.1 ρCi/g

5.11 The Chemical School Radiological Burial Grounds

As a Class II impacted outdoor area, the Chemical School Radiological Burial Grounds were considered a single survey unit, which received a 50 % surface γ scan as described in Section 4.6.1.1. No points of elevated radiation were found. The actual survey record for the Chemical School Radiological Burial Grounds is presented in Appendix Q.

5.12 Range 25

Range 25 was characterized as non-impacted as described in Section 4.3.2. This area is recommended for final release without additional action.

6.0 FINAL RECOMMENDATIONS

The final recommendations are that all of the subject commodity site areas be approved for final release, based upon the data provided in this report. This recommendation does not include the area of elevated NORM concentration that was noted adjacent to the Community Center parking lot near the Rattle Snake Gulch area. No recommendation for action is made regarding this specific area.

APPENDIX A

SAMPLING AND ANALYSIS PLAN

U.S. ARMY FORT McCLELLAN
FORT McCLELLAN, ALABAMA
HQ, OSC PROJECT NUMBER USA 99-100

Release Survey of Ft. McClellan Commodity Storage Sites

SAMPLING AND ANALYSIS PLAN
Revision 1

Prepared by:

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August 2000

U.S. Army Fort McClellan

Release Survey for Commodity Storage Sites

Sampling and Analysis Plan

Approval Page

August 2000

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Concurrence: _____ Date: 080807
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Concurrence: _____ Date: 8/7/00
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RADIOLOGICAL SURVEY FOR UNRESTRICTED RELEASE
COMMODITY SITE AREAS
U.S. ARMY CHEMICAL SCHOOL
FORT McCLELLAN, ALABAMA

1.0 METHODOLOGY

1.1 General Approach

Allied Technology Group (ATG) Inc. has been contracted by the U.S. Army Operations Support Command (OSC) under modification No. P00004 of Contract No. DAAA09-98-C-0039 [assigned ATG Project No. 10036.03] to perform radiological release surveys of designated commodity use areas at the U.S. Army Fort McClellan base in Anniston, AL.

The guidance in NUREG-1575, Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM), shall be used as the technical basis for planning, performing, interpreting and documenting the radiological survey of the commodity use areas at Fort McClellan. The MARSSIM process, developed collaboratively by the Nuclear Regulatory Commission, Environmental Protection Agency, Department of Energy, and Department of Defense, emphasizes the use of Data Quality Objectives (DQO) and Data Quality Assessment (DQA) processes, along with a sound Quality Assurance(QA)/Quality Control (QC) program.

The objective of MARSSIM is to describe a consistent approach for performance and assessment of building surface and surface soil final status surveys to meet established dose or risk-based release criteria, while at the same time encouraging an effective use of resources. The "graded approach" concept is also used to assure that the greatest survey efforts in those areas where there is the highest probability for residual contamination or the greatest potential for adverse effects from residual contamination.

Some of the site-specific information and methodologies that shall be used in design and development of the radiological survey plan are described herein.

1.2 Historical Site Assessment

The Historical Site Assessment (HSA) is an important step in the Radiation Survey and Site Investigation Process, as described in MARSSIM. The subject commodity sites at Fort McClellan consist of six (6) buildings and three (3) site areas. The designated six (6) buildings are: (1) T-810, (2) T-811, (3) T-812, (4) T-837, (5) 3182, and (6) 3185. The three (3) designated site areas are: (1) the T-836 area; (2) the original Rattlesnake Gulch area; and (3) the Chemical School Radiological Burial Grounds. The HSA process has been performed by Fort McClellan and shall be used as the basis for designing the radiological survey and sampling of these areas. A list of all Commodity Site Survey Areas with dimensions, status, RAM usage, suspected isotope, and survey protocol is in Attachment 1, "Description of Survey Areas." A historical investigation and resultant position shall be developed to indicate the status of the Radiological Survey Area 1, Field Hot Cell area, and Range 25, anticipated to result in a rule-out of field survey efforts being necessary. The results of this investigation will be recorded in the Final Survey Report.

1.3 Contaminants and Derived Concentration Guideline Levels

The radionuclides of historical concern include α, β, and β-γ emitters. The primary radionuclides vary for each area and include the following: Ra-226, Sr-90, Co-60, Cs-137, and H-3. These radionuclides existed both in sealed or contained form primarily in storage areas, where there is little potential for contamination, and in loose form for isotope preparation and/or disposal, for which the potential for residual contamination is increased.

As required in the Statement of Work prepared by the OSC, a copy of which has been included as Attachment 2, the Derived Concentration Guideline Values (DCGLs) shall be the residual surface contamination limits specified in the Federal Register / Volume 62, Number 222/ Wednesday, November 18, 1998, pages 64132-64134. These values are listed in Table 1-1. In addition to the aforementioned DCGLs, all surfaces surveyed shall also meet the requirements of Table 5-2 of Army Regulation 11-9, a copy of which has been included as Attachment 3.

TABLE 1-1: $DCGL_w$ FOR FORT McCLELLAN COMMODITY USE AREAS

Release Criteria Based on 25 mrem/y

Nuclide	Release Criteria (dpm/100 cm^2)	Loose Surface Contamination Guidelines (dpm/100 cm^2)
H-3	NA	1.23E+07
Co-60	7.04E+03	7.04E+02
Ra-226	3.13E+02	3.13E+01
Sr-90	8.76E+03	8.76E+02
Cs-137	2.80E+04	2.80E+03

Each survey unit shall be considered as meeting the unrestricted release criteria if:

- the residual contamination above background is below the $DCGL_W$; and
- the residual removable contamination is below $DCGL_{rem}$.

In areas other than Class I (i.e., Bldg. 3182), there is no provision to perform a test for Elevated Measurement Comparison (EMC). In Bldg. 3182 the MDC_{Scan} is anticipated to be less than the $DCGL_W$ for each of the isotopes of concern [see Attachment 4 for anticipated MDC_{Scan} information], thereby requiring no additional samples for the EMC. The parameters upon which these MDC_{Scan} values are based (e.g., background, detector and surface efficiency, etc.) will be verified during the performance of the survey, and documented in the final survey report. If in an area, specific locations are identified that may require such testing, that area, or a portion of that area, shall be reclassified as Class I. In such cases, the OSC shall be notified immediately.

1.4 Area Classification

Specific MARSSIM survey classifications have been defined by OSC/Fort McClellan for all areas. Six (6) areas have been classified as Class III (i.e., based on site operating history, these areas are not expected to contain any residual radioactivity, or are expected to contain levels of residual radioactivity at a very small fraction of the $DCGL_W$). Two (2) areas have been classified as Class II (i.e., there is some potential for residual radioactivity but is not expected to exceed the $DCGL_w$), and one (1) area has been classified as Class I based on the positive findings of discrete areas of elevated activity during the earlier screening survey as a Class III area. In each of the nine (9) areas, if discrepancies are identified during the survey that may warrant reclassification of the area, that OSC shall be notified immediately.

1.5 Survey Units

For the Class III areas, MARSSIM does not place a limit on the size of survey units. For class II areas, MARSSIM recommends a maximum survey unit size of 1,000 m^2 for building floor areas and 10,000 m^2 for land areas. For Class I areas, MARSSIM suggests limiting the survey unit for structures to 100 m^2 of floor area.

The indoor survey units shall include the floor and the lower two (2) meters of each wall in the area. Bldg. 3182 shall be divided into thirteen (13) of these survey units. Each other area shall represent one (1) survey unit each.

Except in Bldg. 3182, contamination is not suspected on surfaces above two (2) meters, but some judgmental samples shall be collected on exposed flat horizontal surfaces located above two (2) meters. In Bldg. 3182 the surface area above the lower two (2) meters of the walls shall constitute two (2) Class II survey units.

1.6 Background Reference Area

Background (reference) levels of gross α and gross β surface activity for applicable surfaces (e.g., concrete, brick, wood, or vinyl) shall be determined in a building of similar construction where there is no record of use or storage of radioactive materials.

1.7 Survey Methodology

Field survey activities shall consist of:

- surface γ scans;
- surface α and β scans;
- measurements of total α and total β surface activity;
- measurements of removable α and β surface activity; and
- measurements of removable H-3 activity in selected areas.

1.7.1 Instrumentation and Sampling Techniques

The instrumentation and sampling protocols are briefly described below. See Attachment 4, "Table of Instrumentation for Radiological Surveys," for instrument parameters and detection sensitivities for each type of instrument and its application.

1.7.1.1 Surface γ Scans

Structures: easily accessible areas of the floor surface in the survey unit as well as the lower two (2) meters of any walls, shall be scanned for γ activity using a Bicron MicroRem Meter. This instrument shall be held as close to the surface being scanned as conditions allow. Scanning shall be performed by moving the detector from side to side in a serpentine motion while progressing across the surface no faster than 0.5 m/s. The percentage of the area to be covered by the γ scan is listed in Table 1-2.

Outdoor Areas: Outdoor areas shall be scanned for γ activity using a Bicron MicroRem Meter. This instrument shall be held at distance no greater than 30" from the ground. Scanning shall be performed by moving the detector from side to side in a serpentine motion while progressing across the surface no faster than 0.5 m/s. With an investigation level of four (4) μR/hour above a nominal background of eight (8) μR/hour, this survey method will ensure adequate detection sensitivity to detect soil concentrations of: 5.2 pCi/g of Co-60; and 21.5 pCi/g of ^{137}Cs. See Attachment 5 for supporting calculations. The percentage of the area to be covered by the γ scan is listed in Table 1-2.

1.7.1.2 Surface α and β Scans

Easily assessable areas of the floor shall be surveyed for α and β activity with a large area floor monitor, consisting of a Ludlum Model 231-1F gas proportional detector coupled to a Ludlum Model 2221 rate-meter/scaler, or its equivalent. The lower two (2) meters of any walls in the area, and floor surfaces that are not assessable with large area floor monitor shall be surveyed with a Ludlum 43-68 detector, coupled with a Ludlum Model 3/12 rate-meter/scaler, or its equivalent. The responses of these detector/meters combinations shall be checked with a National Institute of Standards and Testing (NIST) referenced source, or equivalent, prior to use.

The percentage of the area to be covered by the α/β scan is listed in Table 1-2. These instruments shall be held as close to the surface being scanned as conditions allow. Scanning shall progress across the surface no faster than one detector width per second.

1.7.1.3 Measurements of Total α and Total β Surface Activity

A sampling grid shall be established in each area, as described in Section 1.7.4. One minute counts shall be taken with a Ludlum Model 43-68 100 cm^2 gas proportional detector coupled to a Ludlum Model 3/12 rate-meter/scaler, or its equivalent, at each node of the survey grid in the area of interest. The response of this detector/meter combination shall be checked with a NIST referenced source, or equivalent, prior to use.

Replicate measurements are required as part of the data quality objectives described below. Two (2) replicate α/β counts shall be taken in each area. One (1) shall be collected at a randomly selected sampling location on the floor, and the other from a randomly selected sampling location on a wall.

1.7.1.4 Measurements of Removable α and β Surface Activity

Refer to Section 1.7.3.3 for the number of samples to be taken per survey unit. Where removable α/β activity is to be determined, or ruled-out, course swipe media shall be applied over a 100 cm^2 area. The swipe samples shall be maintained individually, and appropriately analyzed on-site on a calibrated low background automated proportional counter. Quality Control analysis of 10% of the samples shall be provided by ATG Richland on a similar counter. The samples shall be batch shipped along with the chain-of-custody record to Richland. Calibration and QC data for the laboratory instrumentation shall be archived along with sample analytical results for the pending report.

Replicate measurements are required as part of the data quality objectives described below. Two (2) replicate α/β smear samples shall be collected in each area. One (1) smear sample shall be collected at a randomly selected sampling location on the floor and the other sample shall be collected from a randomly selected sampling location on a wall.

1.7.1.5 Measurements of Removable H-3 Activity in Selected Areas

Smear samples shall be collected and placed immediately in liquid scintillation vials and sealed for analysis for H-3. These smear samples shall be collected beside the α/β smear samples collected at every direct measurement location in the Bldg. 3182 where H-3 is listed as a radionuclide of concern.

Comparative analysis (QC) shall be performed on 10% of the samples analyzed by ATG per LSC at a qualified third party laboratory (e.g., Barringer Laboratories, Inc.). Of the approximately 460 gross α/β samples to be analyzed by ATG on-site, 46 shall be additionally analyzed at ATG Richland. Of the approximately 225 LSC samples analyzed by ATG Richland, 23 shall be forwarded for comparison counting at the qualified third party laboratory. Third party turn-around of analytical results from the date of sample receipt is estimated to be the routine analysis turn-around of 20 work days.

Replicate measurements are required as part of the data quality objectives described below. Two (2) replicate α/β smear samples shall be collected in each area. One (1) tritium smear sample shall be collected at a randomly selected sampling location on the floor and the other sample shall be collected from a randomly selected sampling location on a wall.

ATG-Richland will additionally provide Liquid Scintillation Counting (LSC) vials for placement of associated swipe samples for screening of low energy β emitters, specifically tritium H-3. The samples shall be batch shipped along with the chain-of-custody record to Richland, for analysis by a liquid scintillation counter. Calibration and QC data for the laboratory instrumentation shall be archived along with sample analytical results for the pending report.

1.7.1.6 In Situ Isotopic γ Qualitative Measurements

In those outdoor areas that have been identified to be above the action level, In Situ γ spectrometry measurements shall be taken to determine the isotopes present. ^{60}Co will be identified by the characteristic photo-peaks at 1173 and 1332 keV. ^{137}Cs will be identified by the characteristic photo-peak of its ^{137m}Ba daughter at 661 keV. The subject γ spectrometry equipment shall be energy calibrated to NIST referenced source(s), or equivalent, prior to use.

1.7.2 Data Quality Indicators

As part of the DQO Process, the data quality indicators for Precision, Accuracy, Representativeness, Completeness, and Comparability (PARCC) shall be established.

- Precision shall be determined by comparison of replicate values from field measurements and sample analysis; the objective shall be a relative percent difference of 30% or less at 50% of the criterion value.
- Accuracy is the degree of agreement with the true or known; the objective for this parameter shall be +/- 20% at 50% of the criterion value.
- Representativeness and Comparability do not have numeric values. Performance for these indicators is assured through the selection and proper implementation of systematic sampling and measurement techniques.
- Completeness refers to the portion of the data that meets acceptance criteria and is therefore useable for statistical testing. The objective is 90% for this project.

1.7.3 Sampling Density

The number of direct measurements in each survey unit is dependent on several parameters, including the desired confidence of the decision criteria (i.e., decision uncertainty), the presence and variation of background interference, some of which are briefly discussed below.

1.7.3.1 Decision Errors

Among the most important parameters affecting survey design and the number of measurements needed to satisfy the Data Quality Objectives are the acceptable decision errors. The OSC has established the Type I (α) decision error at 0.05; this provides a confidence level of 95% that the statistical tests will not incorrectly determine that a surveyed area satisfies release criteria when, in fact, it does not. Similarly, the OSC has established the Type II (β) decision error at 0.05; this provides a confidence level of 95% that the statistical tests will not incorrectly determine that a surveyed area does not satisfy release criteria when, in fact, it does. The Type II decision error is more restrictive than is usually recommended for such surveys. This more restrictive value typically has a potential consequence of indicating unnecessary remediation; however, considering the public relations consequences of failing to identify residual contamination, the more restrictive level is considered prudent.

1.7.3.2 Variability (σ)

The survey units in the commodity use areas are mostly Class III areas with a few Class II areas. It is anticipated that the measurement variability in these areas will be similar to that in the background reference areas. Except for the specific survey units of Bldg. 3182 described herein, it is anticipated that the standard deviation of measurements (σ) will be equal to or less than 75% of average surface activity levels.

The standard deviation of measurements (σ) for the Bldg. 3182 survey unit containing Rooms 14 and 6 can be conservatively bounded at 3.17 $(10)^4$ dpm of ^{137}Cs activity. This is based on the maximum activity noted in the immediate area during the previous survey activities as described in "Commodity Site Survey Final Report," ATG, January 2000.

Once the direct measurements are actually performed, measurement variability shall be monitored and if it is significantly larger than the assumed values, appropriate corrections shall be made and the total number of measurements for the survey unit shall be revised, accordingly.

1.7.3.3 Number of Samples Indicated

A Type I error rate (α) of 0.05 and a Type II error rate (β) of 0.05 are assumed. The Lower Bound of the Gray Region (LBGR) is set at half the $DCGL_w$. This results in a conservatively bounded Relative Shift (Δ/σ) of:

- 0.4 for the previously identified affected survey unit of Bldg. 3182, Room 14, except ^3H; and
- 1.7 for the above survey units for ^3H and all other survey units.

The resultant number of data points can be found for each using MARSSIM Table 5.3:

- 175 for the previously identified affected survey unit of Bldg. 3182, Room 14, except LSC and
- 15 for the above survey units for LSC and all other survey units.

These numbers of data points (N) apply to direct measurements as well as smears for determining the amount of removable activity.

Table 1-2: Survey Requirements

Activities*	Area Classification				
	Class I		Class II		Class III
	Survey Unit with Room 14[1]	Other	Bldg. 3182	Other	All
Surface gamma scans	100%	100%	50%	50%	Judgmental**
Total alpha and beta scans	100%	100%	50%	50%	Judgmental**
Direct measurements for total alpha and total beta activity	175	15	15	15	15
Measurements of removable alpha and beta surface activity	175	15	15	15	15
Measurements of removable H-3 activity (LSC)	15	15	15	NA	NA

1 Survey unit containing previously identified affected areas.

1.7.4 Selection of Sampling Locations in Survey Units

MARSSIM recommends a triangular sampling pattern with a random starting point to increase the probability of identifying small areas of elevated activity (Figure 1 illustrates a triangular sampling pattern). This type pattern shall be used for the Commodity Use Areas, except where a triangular pattern is not practical, because of the size and shape of a specific area to be sampled; for such situations, a square sampling pattern may be used. For example a square pattern is more practical to install and implement than a triangular pattern for survey areas having one dimension less than the calculated average spacing between samples. The spacing (L) between samples on a triangular pattern is determined by:

$$L = [\text{Survey Unit Area}/(0.866)\ (\text{number of samples})]^{1/2}$$

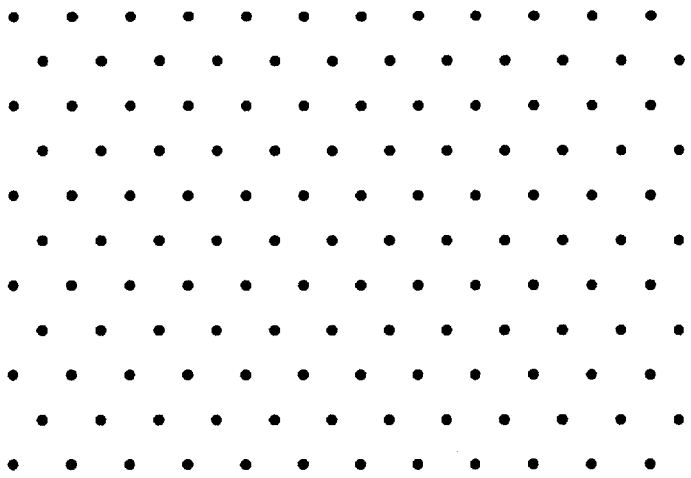


Figure 1-1: Triangular Sampling Pattern

For a Class II survey unit area of 120 m^2 and 15 samples, the area represented by each sample is approximately 8 m^2. The spacing between samples on a triangular pattern for this area is about 3 m. If unusual survey unit dimensions and surface features prevent collection of an adequate number of systematic data points for statistical testing, additional points may be obtained from randomly selected locations within the survey unit.

A hypothetical Class II survey unit in a building with an area of 120 m^2 (including the walls) and walls running north-south and east west is used to demonstrate how a survey grid with a triangular pattern may be established. Select a random starting point in the southwest corner of the survey unit. Next, lay out an east-west line of samples separated by 3-m intervals until the end of the survey unit is reached. Then set up the next line in the grid by locating a point 2.6 m north (or south) and 1.5 m east (or west) of one of these locations, and lay out a second, parallel, east-west line of samples separated by 3-m intervals until the end of the survey unit is reached. Repeat this process until the survey entire area (including the walls up to 2 m) is covered by the triangular pattern.

Alternatively, the grid spacing of the smallest survey unit can be determined, and this grid spacing can be applied to all Class II or Class III survey units. This will result in more grid nodes than is required, and a subset of 15 grid locations can be sampled.

For irregular shaped survey units, where use of east west and north-south grid lines may be inconvenient, the baseline for the sampling pattern may follow the long axis of the survey unit to facilitate implementation.

1.7.5 Selection of Sampling Locations in Background Locations

Samples of background areas do not have to be collected from a designated grid prior to sampling. It is sufficient to collect background samples from separate locations within the background area and record their approximate location.

2.0 MOBILIZATION AND SURVEY EXECUTION

Instrument calibration and personnel mobilization will be closely coordinated with distribution of the Plans and base location access. The initial mobilization event will target instrument set-up, representative background measurements, followed by initiating surveys of indoor areas, and finally of the outdoor areas. The project instrumentation will be dedicated to the effort, and secure storage on-site is expected to be afforded by base personnel.

Custodial records (Department of the Army Radiation Permits –DARP) shall be completed for radioactive calibration and/or check sources brought on-site. Security shall be ensured through locked storage containers and designated facility areas. MSDS forms shall accompany the project material (e.g., P-10 gas for detectors).

The initial mobilization /survey campaign will include the participation of the Project Manager, the Project Certified Health Physicist, and four (4) health physics survey technicians. Targeted vacant commodity sites shall be surveyed by the team to standardize the survey technique, record collection, sample acquisition, quality control, and sample shipment. Future surveys shall include the on-site efforts of the four (4) health physics survey technicians, with off-site data review/reduction, sample analysis, and third party QC analysis.

3.0 PROJECT SCHEDULE

The schedule for the comprehensive survey effort is enclosed as Attachment 6. The brief synopsis includes the investigation of nine (9) areas with varying degrees of investigation for the Class I, Class II and Class III sites. A total of some 1,346 hours is budgeted for the on-site survey effort to ensure defensible and appropriately documented evidence for the release survey, which equates to twenty-two work days for a six (6) person crew, working up to ten (10) hours/day.

4.0 DATA EVALUATION

All survey data shall be carefully screened and reviewed by the Project Lead Evaluator, the Project Manager, and the Project Health Physicist. The scan surveys and sample results shall be evaluated against the unrestricted release criteria to ensure that the area meets the release criteria. This unrestricted release criteria is:

a) the residual contamination above background is below the $DCGL_w$; and

b) the residual removable contamination is below $DCGL_{rem}$.

If any area is at or exceeds the unrestricted release criteria, the OSC shall be immediately notified. An evaluation shall then be conducted by the Project Lead Evaluator, the Project Manager, and the Project Health Physicist on whether the area may need to be reclassified and/or additional surveys and samples taken and evaluated. If reclassification is required, a Change to the Scope of Work shall be required and an amendment to the work plan shall be authored and submitted for approval.

5.0 FINAL REPORT

The final project survey report shall document the comprehensive investigation effort, including the substantiation of discreet area classifications. The MARSSIM protocol shall be adhered to in data analysis and statistical testing of results for determination of suitability for unconditional release or the necessity for subsequent action. The final report shall document all surveys and samples including associated QA documentation for these reports. Instrument calibrations shall also be included along with source checks and source pedigrees to legitimize the associated surveys.

6.0 ATTACHMENTS

- Attachment 1: Description of Survey Areas
- Attachment 2: Description of Work
- Attachment 3: AR 11-9, Table 5-2, Surface Radioactivity Values
- Attachment 4: Table of Instrumentation for Radiological Surveys
- Attachment 5: γ Scan Screening Level Calculations
- Attachment 6: Project Schedule
- Attachment 7: Health & Safety Plan
- Attachment 8: Quality Assurance Plan

ATTACHMENT 1

DESCRIPTION OF SURVEY AREAS

Building 3182

Building 3182 is an 11,696 ft^2 facility built in 1954 for use as an Applied Instruction Building, with one wing having been used by the Fort McClellan Radiological Laboratories in conjunction with the Hot Cell facility. The later served as the Military Police Corps museum. The associated Hot Cell facility was decommissioned in 1995, along with the supporting area of Building 3182. The primary contaminants of concern are Cs-137, from the hot cell, as well as H-3 and Ra-226 associated with lensatic compasses and luminescent dials/gauges of military devices. The facility was surveyed in 11/99 as a MARSSIM Class III area. Discrete areas of elevated surface activity were found which have caused the conservative reclassification as a MARSSIM Class I area. ATG shall perform a Class I survey of the floor and lower two (2) meters of the interior walls, and a modified Class II survey of the upper walls and ceiling.

Building T-810

Building T-810 (originally 811) is an 88' x 26' single story frame structure used historically as a temporary laboratory. The primary contaminants of concern are Cs-137, Ra-226, Co-60, and Sr-90. The facility has a large classroom and men's lavatory with several shower stalls on the west end, with an isolated women's area on the east end. The facility interior shall be surveyed as a MARSSIM Class III area.

Building T-811

Building T-811 (originally 812) is an 88' x 26' single story frame structure used historically as a temporary laboratory. The primary contaminants of concern are Cs-137, Ra-226, Co-60, and Sr-90. The facility was inaccessible during the tour and the contractor was directed by base staff to assume that is of similar layout as Building T-812, having two (2) large open classrooms on opposite ends, with a single small (~10' x 10') office in between. The facility interior shall be surveyed as a MARSSIM Class III area.

Building T-812

Building T-812 (originally 813) is an 88' x 26' single story frame structure used historically as a temporary laboratory. The primary contaminants of concern are Cs-137, Ra-226, Co-60, and Sr-90. The facility has two large open classrooms on opposite ends, with a single small (~10' x 10') office in between. The facility interior shall be surveyed as a MARSSIM Class III area.

Building T-836

Building T-836 has been demolished and removed accept for the concrete block support pedestals, the chimney, and an associated rubble pile. The historical structure was an 88' x 26' single story frame structure used as a temporary laboratory. The primary contaminants of concern are Cs-137, Ra-226, Co-60, and Sr-90. The footprint plus a 5' buffer on each dimension, for a total area of 98' x 36', shall be surveyed as a MARSSIM Class III outdoor area without the disturbance of the existing rubble pile.

Building T-837

Building T-837 (originally 836A) is an 88' x 26' two-story frame structure used historically as a temporary laboratory. The historical record indicated use of the facility to include isotope preparation. The primary contaminants of concern are Cs-137, Ra-226, Co-60, and Sr-90. The facility has several ~ 12' x 12' cubicles/rooms and lavatories on both elevations. The facility interior shall be surveyed as a MARSSIM Class II area.

Building 3185

Building 3185 is a 60' x 136' single story structure used historically as a personnel decontamination center for training purposes. Students used this building to change clothes and to practice decontamination procedures. The primary contaminants of concern are Cs-137, Ra-226, Co-60, and Sr-90. Although Br-82 may have also been of concern, its 35-hour half-life excludes the prospect of residual presence. The facility has several ~ 12' x 12' cubicles/rooms and lavatories on both elevations. The facility interior shall be surveyed as a MARSSIM Class III area under the coordinated observance/participation of the regional EPA representative. A three (3) week advance notification to alert of the tentative start date shall be included in the schedule.

The Original Rattlesnake Gulch Area

The Original Rattlesnake Gulch Area is an outdoor area east of the Anniston (Lemlock) Community Center parking area and is mentioned in historical literature attributed to training drills of the Chemical Corp. The assumed area of concern is a wooded ravine located at a present bike trail on the north side, two concrete markers near the east end at the southern turn in the bike trail, and the grassy bank at the tree line on the west (Community Center/parking area) side. The overall area of concern is 200' wide across the ravine by 400' long. The outdoor area shall be surveyed for gross gamma using the protocol as a MARSSIM Class III area. No samples shall be collected, but any areas of detected elevated activity will be temporarily marked by the shallow placement of wire flags and noted on the survey record.

Additionally, as a result of an area of elevated readings found with a random μR-meter survey by the State and EPA on April 11, 2000, a single point in-situ gamma spectroscopy analysis shall be performed early at the grassy bank located between the parking area and the west end of the subject Original Rattlesnake Gulch Area. Near surface readings in the range of 32 μR/hr gross over a background of ~ 4 μR/hr were found over an area approximately 20' NW of the bike trail sign and 10' inside the grass line (w.). A gamma spectrometry measurement shall be performed prior to the scheduled survey of the Original Rattlesnake Gulch Area to serve as a rule-out of Fort McClellan contaminants of concern. If the elevated activity is determined to be NORM-like, then the Original Rattlesnake Gulch Area shall be surveyed for gross gamma as a MARSSIM Class III area as planned. If the gamma spec exercise reveal positive identification of the above normal background abundances of contaminants of concern (i.e., ^{60}Co and ^{137}Cs), the OSC will be notified for evaluation of the area survey strategy. The embankment will be surface surveyed for gamma activity, and the single-point in-situ gamma spectroscopy analysis shall be performed at the discrete location of highest surface activity.

Radiological Survey Area #1

Radiological Survey Area #1 was an open land area developed by Fort McClellan as a replacement for the Rattlesnake Gulch. Reportedly, the site placed ^{233}U plates on the ground for survey training purposes. A rule-out of the concern attributed to this area shall be included in the pending report with archived data verifying the removal and appropriate disposition of the ^{233}U plates to be provided by others. No radiological survey of this area shall be performed.

The Field Hot Cell

The Field Hot Cell is part of the Radiological Survey Area #1. This was reportedly a temporary structure made out of cinder blocks and sand bags within the envelope of Radiological Survey Area #1. The base is to provide historical verification literature to be imported into the pending report to serve as rule-out for the need to perform a survey of this area. No field survey of the Field Hot Cell shall be performed.

The Chemical School Radiological Burial Grounds

The Chemical School Radiological Burial Grounds is an outdoor wooded area reportedly used by the installation for radiological burials from 1957-1958. This site includes the northeast corner of the Anniston Community Center property. In the 1958-1959 timeframe, the buried radioactive materials were removed. The site conducted a second cleanup in 1971. The observed area covers an assumed area of concern of approximately 400' x 400' and spans both sides of the chain-link fence and the unimproved Perimeter Road, with the majority of the site within the city-side (NW) of the fence line. The area shall be surveyed for gross gamma as a MARSSIM Class II area (revised per Regulator in-put from the SOW-stated Class III). No samples shall be collected, but any areas of detected elevated activity will be temporarily marked by the shallow placement of wire flags and noted on the survey record. Intrusive sampling requires the presence of UXO/EOD personnel provided by others, and neither sampling nor associated analysis shall be performed.

Range 25

Range 25 is an open area of land on the base which was reportedly used for a six-week period to test prototype source actuators. The specific location of concern is between the 300 and 400-yard line of the range. Only Co-60 sources were to have been used. The pending report shall include the verification literature to be provided by others which proves that the subject sources were appropriately leak tested before/after this application period, and their ultimate appropriate disposition. No field survey of Range 25 shall be performed.

U.S. Army Fort McClellan HQ. OSC Project Number USA 99-100 Commodity Site Survey Phase II
ATG Project No. 10036.03
OSC Contract No. DAAA09-98-C-0039 Modification No. P00004

Item	Facility	Location		Dimensions Length (Ft)	Dimensions Width (Ft)	Floor or Ceiling Area (Ft^2)	Survey Area (Ft^2)	Survey Area (M^2)	Status	RAM Useage	Suspect Isotopes	Survey Protocol	Sample Frequency	Sample Quantity Units	ATG α/β	ATG LSC	Analysis 3rd Party α/β	Analysis 3rd Party LSC	Survey Effort man-hrs
1	Bldg 3182	Bottom	114	58	58	3364	4756	442	Vacant	Rad Labs	Ra-226,Cs-137, H-3	Class I	100%	0	0	0	0	0	64.00
	$100m^2$ Units		112	58	58	3364	4756	442		MP Artifacts	Ra-226,Cs-137, H-3	Class I	100%	0	0	0	0	0	64.00
	50 samples per		104	25	22	550	1114	103			Ra-226,Cs-137, H-3	Class I	100%	0	0	0	0	0	25.00
			102	14	12	168	480	45			Ra-226,Cs-137, H-3	Class I	100%	0.0	0	0	0	0	14.00
			103	17	12	204	552	51			Ra-226,Cs-137, H-3	Class I	100%	0.0	0	0	0	0	14.00
		front		24	14	336	792	74			Ra-226,Cs-137, H-3	Class I	100%	0	0	0	0	0	14.00
			101	20	14	280	688	64			Ra-226,Cs-137, H-3	Class I	100%	0.0	0	0	0	0	14.00
			100	92	7	644	1832	170			Ra-226,Cs-137, H-3	Class I	100%	0	0	0	0	0	38.00
			105	14	11	154	454	42			Ra-226,Cs-137, H-3	Class I	100%	0.0	0	0	0	0	14.00
			106	35	22	770	1454	135			Ra-226,Cs-137, H-3	Class I	100%	0	0	0	0	0	31.00
		other		34	23	782	1466	136			Ra-226,Cs-137, H-3	Class I	100%	0	0	0	0	0	31.00
						Total	18344	1704					Totals	13	355	195	36	20	323.00
	Bldg 3182	Top	114	58	58	3364	4060	377	Vacant	Rad Labs	Ra-226,Cs-137, H-3	Class II	50%	0.4	0	0	0	0	32.29
	$1000m^2$ Units		112	58	58	3364	4060	377		MP Artifacts	Ra-226,Cs-137, H-3	Class II	50%	0.4	0	0	0	0	41.72
	15 samples per		104	25	22	550	832	77			Ra-226,Cs-137, H-3	Class II	50%	0.1	0	0	0	0	11.73
			102	14	12	168	324	30			Ra-226,Cs-137, H-3	Class II	50%	0.0	0	0	0	0	7.01
			103	17	12	204	378	35			Ra-226,Cs-137, H-3	Class II	50%	0.0	0	0	0	0	7.51
		front		24	14	336	564	52			Ra-226,Cs-137, H-3	Class II	50%	0.1	0	0	0	0	9.24
			101	20	14	280	484	45			Ra-226,Cs-137, H-3	Class II	50%	0.0	0	0	0	0	8.50
			100	92	7	644	1238	115			Ra-226,Cs-137, H-3	Class II	50%	0.1	0	0	0	0	15.50
			105	14	11	154	304	28			Ra-226,Cs-137, H-3	Class II	50%	0.0	0	0	0	0	6.82
			106	35	22	770	1112	103			Ra-226,Cs-137, H-3	Class II	50%	0.1	0	0	0	0	14.33
		other		34	23	782	1124	104			Ra-226,Cs-137, H-3	Class II	50%	0.1	0	0	0	0	14.44
						Total	14480	1345					Totals	2.0	30	30	3	3	169.09
2	T-810	Entirety	main walls	88	26	2288	3656	340	Vacant	Temp Lab	Cs-137,Ra-226,Co-60,Sr-90	Class III	10%	34	15	0	2	0	10.79
	(originally 811)		showers	2	2	0	672	62			Cs-137,Ra-226,Co-60,Sr-90	Class III	10%	6	0	0	0	0	5.25
			internal wal	22	8	0	720	67			Cs-137,Ra-226,Co-60,Sr-90	Class III	10%	7	0	0	0	0	5.34
						Total	5048	469					Totals	47	15	0	2	0	21
3	T-811	Entirety	main walls	88	26	2288	3656	340	Vacant	Temp Lab	Cs-137,Ra-226,Co-60,Sr-90	Class III	10%	34	15	0	2	0	10.79
	(originally 812)		showers	0	0	0	0	0			Cs-137,Ra-226,Co-60,Sr-90	Class III	10%	0	0	0	0	0	4.00
			internal wal	22	8	0	720	67			Cs-137,Ra-226,Co-60,Sr-90	Class III	10%	7	0	0	0	0	5.34
						Total	4376	407					Totals	41	15	0	2	0	20
4	T-812	Entirety	main walls	88	26	2288	3656	340	Vacant	Temp Lab	Cs-137,Ra-226,Co-60,Sr-90	Class III	10%	34	15	0	2	0	10.79
	(originally 813)		showers	0	0	0	0	0			Cs-137,Ra-226,Co-60,Sr-90	Class III	10%	0	0	0	0	0	4.00
			internal wal	22	8	0	720	67			Cs-137,Ra-226,Co-60,Sr-90	Class III	10%	7	0	0	0	0	5.34
						Total	4376	407					Totals	41	15	0	2	0	20
5	T-836	Demolished soil		98	36	3528	3528	328	Vacant	Foot Print of	Cs-137,Ra-226,Co-60,Sr-90	Class III	10%	33	0	0	0	0	10.56
		Foot print plus 5' each direction				Total	3528	328		Temp Lab			Totals	33	0	0	0	0	11
7	T-837	Entirety	main walls	88	26	2288	12800	1189	Vacant	Temp Lab	Cs-137,Ra-226,Co-60,Sr-90	Class II	50%	595	15	0	2	0	126.91
	(originally 836A)		cubes	12	12	0	4032	375		(Isotope Prep)	Cs-137,Ra-226,Co-60,Sr-90	Class II	50%	187	0	0	0	0	45.46
	Two Story		internal wal	22	8	0	1920	178			Cs-137,Ra-226,Co-60,Sr-90	Class II	50%	89	0	0	0	0	25.84
						Total	18752	1742					Totals	871	15	0	2	0	198
8	BLDG 3185	Entirety	floor	60	136	8160	8160	758	Vacant	Personnel Decon	Cs-137,Ra-226,Co-60,Sr-90	Class III	10%	76	15	0	2	0	19.16
			rooms	10	12	0	3696	343		Center	Cs-137,Ra-226,Co-60,Sr-90	Class III	10%	34	0	0	0	0	10.87
			halls	5	108	0	1356	126			Cs-137,Ra-226,Co-60,Sr-90	Class III	10%	13	0	0	0	0	6.52
			room 1	30	60	0	1080	100			Cs-137,Ra-226,Co-60,Sr-90	Class III	10%	10	0	0	0	0	6.01

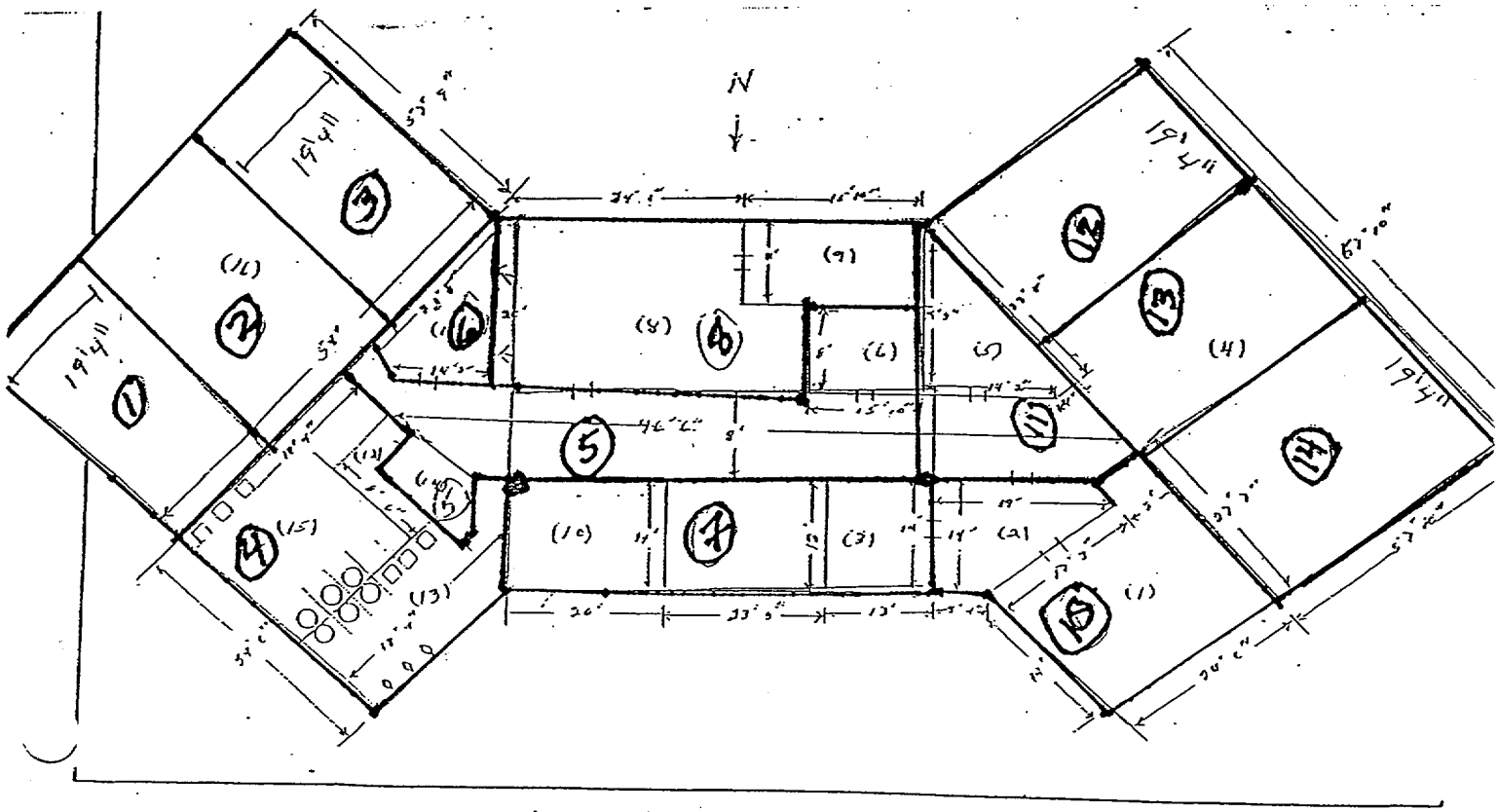
U.S. Army Fort McClellan HQ. OSC Project Number USA 99-100 Commodity Site Survey Phase II
ATG Project No. 10036.03
OSC Contract No. DAAA09-98-C-0039 Modification No. P00004

Item	Facility	Location		Dimensions Length (Ft)	Dimensions Width (Ft)	Floor or Ceiling Area (Ft^2)	Survey Area (Ft^2)	Survey Area (M^2)	Status	RAM Useage	Suspect Isotopes	Survey Protocol	Sample Frequency	Sample Quantity	ATG α/β	ATG LSC	Analysis 3rd Party α/β	Analysis 3rd Party LSC	Survey Effort man-hrs
			room 2	30	60	0	1080	100			Cs-137,Ra-226,Co-60,Sr-90	Class III	10%	10	0	0	0	0	6.01
			extra	100	0	0	1200	111			Cs-137,Ra-226,Co-60,Sr-90	Class III	10%	11	0	0	0	0	6.23
			left room	30	60	0	1080	100			Cs-137,Ra-226,Co-60,Sr-90	Class III	10%	10	0	0	0	0	6.01
			extra	109	34	0	1716	159			Cs-137,Ra-226,Co-60,Sr-90	Class III	10%	16	0	0	0	0	7.19
						Total	19368	1799					Totals	180	15	0	2	0	68
9	Orig. Rattlesnake Gulch Area	soil area + single-point gamma spec		400	200	80000	80000	7432	Vacant	Historical Training Site	gross gamma	Class III	10%	743	0	0	0	0	78
							Total	7432					Totals	743	0	0	0	0	78
10	Radiological Survey Area 1 Paper work investigation											Paperwork							
11	Field Hot Cell Paper work investigation											Paperwork							
12	Chemical School Radiological Burial Ground	soil		400	400	160000	160000	14864	Vacant	Historical Disposal Site	gross gamma	Class II	50%	7432	0	0	0	0	153
							Total	14864					Totals	7432	0	0	0	0	153
13	Range 25 Paper work investigation											Paperwork							
	Subtotals														460	225	47	23	1061
																		Man-days	106
																		Work Days	27

Bldg 3182

Class I Survey Units
Attachment to FC-02

Unit	Rooms
1	Left 19'4" of Room 16
2	Center 19'4" of Room 16
3	Right 19'4" of Room 16
4	Rooms 12, 13 & 15
5	Rooms 6, 14 & portion of Hall
6	Room 11
7	Rooms 3, 10, and Foyer
8	Rooms 8 & 9
9	Not used
10	Rooms 1 & 2
11	Room 5 and portion of Hall
12	Left 19'4" of Room 4
13	Center 19'2" of Room 4
14	Right 19'4" of Room 4



Bldg. 3182 Survey Unit Description

The attached figure establishes thirteen (13) Class I survey units for the floors and lower six feet (6') of the walls in Bldg. 3182. The upper portion of the building (i.e., the ceilings and walls greater than six feet (6') off the floor) will remain two (2) Class II survey units, as described in the SAP. The number of fixed α/β counts, α/β smears, and ^3H smears are listed below, along with the distance "L" between each sample point for the subject survey unit and sample type.

Unit	Fixed α/β Counts and α/β Smears		^3H Smears	
	Number	L	Number	L
1	15	11'8"	15	11'8"
2	15	10'3"	15	10'3"
3	15	11'8"	15	11'8"
4	15	11'11"	15	11'11"
5	175	3'10"	15	13'1"
6	15	6'5"	15	6'5"
7	15	11'7"	15	11'7"
8	15	13'6"	15	13'6"
9	Not Used			
10	15	10'3"	15	10'3"
11	15	6'5"	15	6'5"
12	15	11'8"	15	11'8"
13	15	10'3"	15	10'3"
14	15	11'8"	15	11'8"

All Class I survey units shall receive a 100% scan.

ATTACHMENT 2

DESCRIPTION OF WORK

DESCRIPTION OF WORK
DEPARTMENT OF THE ARMY
U.S. ARMY CHEMICAL SCHOOL
FORT McCLELLAN, ALABAMA
RADIOLOGICAL SURVEYS FOR COMMODITY USE AREAS
USA 99-100, PHASE II

Fort McClellan is comprised of two parts, the Main Post and Pelham Range. The installation occupies approximately 41,000 acres adjacent to Anniston, AL. The Main Post encompasses 19,000 acres and contains the majority of the facilities. The Pelham Range is approximately 22,000 acres west of the Main Post.

The Army Base Closure and Realignment Committee (BRAC) has identified Fort McClellan as an installation for closure. The Army must resolve several radiological issues before closing the installation. This scope of work is for the buildings and areas that Fort McClellan used for the storage and routine maintenance on Army radioactive commodities.

The contractor shall develop a radiological survey plan describing the survey methodologies and techniques that they will follow for release of the identified structures. This scope does not address decontamination or decommissioning waste. The contractor shall use the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM), NUREG-1575, for designing the final release survey. We will address future remedial actions and or disposal activities under a separate scope of work.

The contractor shall participate in a 1-day site walk down and regulatory session before starting this effort. We suggest the contractor wait to submit their cost and technical proposal until after the 1-2 day site meeting. We hope to complete the walk down on 11-12 April 2000.

All operations must comply with all applicable federal, state, and municipal laws, rules and regulations including the Defense Appropriations Act as it pertains to the use of ozone depleting substances.

SCOPE OF WORK

FORT McCLELLAN, ALABAMA
RADIOLOGICAL SURVEYS FOR COMMODITY USE AREAS
USA 99-100, PHASE II

1. COORDINATION. The contractor shall coordinate project activities with the installation environmental point of contact, Ms. Lisa Kingsbury and the HQ, OSC Project Officer, Mr. Mike Styvaert at:

U.S. Army Garrison,
Building 215, 15th Street
ATTN: (Ms. Lisa Kingsbury),
Fort McClellan, AL 36205-5020
Telephone (205) 848-7455
E-mail: kingsburyl@mcclellan-emh2.army.mil

U.S. Army Operations Support Command
ATTN: AMSOS-SF (Mr. Mike Styvaert)
1 Rock Island Arsenal
Bldg 390, 4th flr, SE
Rock Island, IL 61299-6000
Telephone (309) 782-0880
FAX: (309) 782-2988
E-mail: styvaertm@ioc.army.mil

2. REGULATORY CONCERNS. The contractor shall use the surface release limits in "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses, By-product, Source, or Special Nuclear Materials, (NRC 1987)."

2.1. The contractor shall obtain required permits, licenses and authorizations from federal, state, and municipal agencies necessary to complete this effort.

2.2. The contractor shall obtain a Department of Army Radiation Permit (DARP) IAW Army Regulation (AR) 385-11 for radioactive material brought on-site for more than 15 days. This includes check sources. The contractor may obtain copies of the DARP application form (DA 3777) from the Army POC listed in paragraph 1.

2.3. In accordance with the Defense Appropriations Act, the contractor, in performing the efforts as defined by this scope of work, shall in no way construe the government direction as supporting, suggesting, or directing the use of ozone depleting substances. The contractor shall specifically bid and perform all contractual efforts in compliance with this Act.

3. FACILITIES, EQUIPMENT AND SUPPLIES. The installation will provide limited office space, restroom facilities, facsimile equipment and access to a copy machine. The contractor shall supply all other services (including cell phone coverage), facilities, supplies and equipment necessary to complete this scope of work.

4. WORK PLANS AND HEALTH AND SAFETY PLAN. The contractor shall, as a deliverable item, prepare a Radiological Work Plan that details the proposed final status survey methodology. The contractor shall submit the Plan and receive approval by the OSC, Fort McClellan, the Environmental Protection Agency (EPA), the Nuclear Regulatory Commission (NRC) and the State of Alabama before the field work begins. After completion of the field work and survey effort, the contractor shall prepare a Final Report, which is a deliverable item and considered complete once the OSC, Fort McClellan and the regulatory agencies have reviewed and accepted it.

4.1. Survey Plan. The Survey Plan shall address the safety procedures for on-site work, survey and sampling procedures and criteria, and the radiation protection procedures to minimize potential exposures. The Plan shall address the overall technical approach, sampling and analysis and Quality Assurance/Quality Control (QA/QC). The contractor shall follow the survey design guidance prescribed in MARSSIM, NUREG-1575.

4.1.1. MARSSIM Parameters.

a. Derived Concentration Guideline Values (DCGLs). For surfaces, the contractor shall use (as the DCGLs) the residual surface contamination limits specified in the Federal Register/Volume 62, Number 222/Wednesday, November 18, 1998, pages 64132-64134. The contractor shall also reference the surface limits prescribed in Army Regulation 11-9, *Radiation Safety Program*, and apply the most conservative limit.

b. Decision Errors. The contractor shall assume Type I and Type II decision errors of 0.05 for the initial survey design. The values are subject to change after review by the NRC and other applicable regulatory agencies.

c. Sample Variability. Direct measurement frequency is directly related to the assumed final status survey sample variability. The contractor shall identify the proposed methodology for estimating sample variability and the plan for correcting the survey if the actual sample variability exceeds the assumed value.

d. Scan Minimal Detectable Concentration (MDC). The instrumentation scanning MDC may impact the sample frequency for the final status survey. The contractor shall prepare the survey

work plan to include a discussion and the rationale for their scanning instrumentation selection.

e. Area Factors. The contractor survey design shall incorporate the MARSSIM area factor provisions for small-elevated areas of contamination that exceed the DCGL.

f. Area Classifications. We have defined the specific MARSSIM survey classifications in section 5 of this scope of work. If the contractor finds discrepancies with our assumptions during the actual survey work, they shall immediately notify the installation and OSC. We will then investigate the possibility of revising the area classification.

4.2. Health and Safety Plan. The contractor shall develop a Health and Safety Plan (HASP) specific to this project. Radiation protection standards of 10 CFR 20 and OSHA standards of 29 CFR 1910.120 apply for worker and public protection and shall be incorporated into the HASP. The contractor shall provide operational health physics procedures for all tasks to ensure personnel exposures, environmental releases and contamination are controlled to ALARA (as low as reasonable achievable).

4.2.1. The HASP shall address procedures to reduce hazards and protect workers. Existing site hazards include heavy equipment operations, noise hazards, and unstable building structures. Surveyors shall coordinate each day for access to survey areas, and will notify area supervisors of their actions. Contractor personnel shall use safety equipment such as goggles and hearing protection as appropriate. Examples of expected procedures are:

4.2.1.1. Prior to a new action occurring, the work is analyzed to determine what possible hazards, safety and radiation, might exist. Once done, procedures are implemented to reduce the risk of these hazards. A certified Health Physicist shall review these procedures.

4.2.1.2. All contractor personnel shall receive, as a minimum, a briefing on the hazards of the work area, the expected dose, and possible biological effects from receiving that exposure. All contractor personnel working in a restricted area shall wear personal monitoring devices.

4.2.1.3. The environment in all buildings and surrounding areas is expected to be very low dose rate, and the greatest danger from a radiation safety viewpoint is potential contamination. For most of the operations, only disposable anti-contamination clothing is required. For operations where a possible inhalation hazard exists, contractor personnel shall use NIOSH approved respirators with HEPA filters.

4.2.1.4. The contractor shall establish control areas at the boundary to areas where the spread of contamination is possible. Using appropriate instrumentation, they shall monitor material or equipment leaving the controlled area for contamination.

4.2.1.5. The contractor may encounter hazardous materials other than radioactive materials during the survey effort. These materials are likely to include as a minimum, lead based paint, PCBs (including that in light fixture ballasts), mercury (potentially in switches, controls and light tubes and fixtures) and asbestos. The contractor shall identify procedures for the safe handling of such materials in the HASP.

4.3. Quality Assurance/Quality Control (QA/QC) Plan. The contractor shall describe their proposed QA/QC procedures and protocols. Laboratory analyses shall conform to SW-846. If the contractor proposes to use an in-house laboratory for sample analysis then, as a minimum, they shall duplicate 10% of the samples and have analyzed by an independent third party laboratory. The contractor shall verify instrument operation each day with a check source before use.

5. SITE SPECIFICS. The contractor shall develop and conduct radiological release surveys for the following buildings and outdoor areas at Fort McClellan. The contractor shall design the survey protocol to bias sample locations towards areas with the greatest contamination potential (i.e., rough-cracked surfaces, joints, corners, drain traps, change rooms, utility access points, etc.). The contractor may see each area and building during a 1-day pre-proposal site visit. We plan to set up the site walk down no later than mid-April. The Army will provide drawings and maps as appropriate and available.

(1) Building 3182. Status - Vacant. OSC will check for availability of floor plans. Built in 1954 originally as an Applied Instruction Building, the Fort McClellan Radiological Laboratories used one wing in conjunction with the Hot Cell facility. The building served as the Military Police Corps museum. Total square footage is 11,696. Based on findings of residual activity from the previous survey effort, the contractor shall re-survey the building as a MARSSIM Class I area. The primary radionuclides of concern are H3, Cs137 and Ra226.

(2) Bldg T-810. Status - Vacant. The installation used this structure as a temporary laboratory. The contractor shall survey the building as a MARSSIM Class III area. The primary radionuclides of concern are Cs137, Ra226, Co60 and Sr90.

(3) Bldg T-811. Status - Vacant. The installation used this structure as a temporary laboratory. The contractor shall survey the building as a MARSSIM Class III area. The primary radionuclides of concern are Cs137, Ra226, Co60 and Sr90.

(4) Bldg T-812. Status - Vacant. The installation used this structure as a temporary laboratory. The contractor shall survey the building as a MARSSIM Class III area. The primary radionuclides of concern are Cs137, Ra226, Co60 and Sr90.

(5) Bldg T-836. Status - Demolished. The installation used this structure as a temporary laboratory. The contractor shall survey the building footprint as a MARSSIM Class III area. The primary radionuclides of concern are Cs137, Ra226, Co60 and Sr90.

(6) Bldg T-836A. Status - Vacant. The installation used this structure as a temporary laboratory. The contractor shall survey the building as a MARSSIM Class III area. The primary radionuclides of concern are Cs137, Ra226, Co60 and Sr90.

(7) Bldg T-837. Status - Vacant. The installation used this structure as a temporary laboratory. The contractor shall survey the building as a MARSSIM Class III area. The primary radionuclides of concern are Cs137, Ra226, Co60 and Sr90.

(8) Building 3185, Status - Vacant. The installation used this structure as a personnel decontamination center for training purposes. Students used this building to change clothes and to practice personal decontamination procedures. The contractor shall survey the building as a MARSSIM Class III area. The primary radionuclides of concern are Cs137, Ra226, Co60 and Sr90.

(9) Original Rattlesnake Gulch Area. Status - land area, east of the Anniston Community Center parking lot. The installation will provide a map of the area. The contractor shall conduct a gross gamma/gross beta survey of the area in accordance with MARSSIM class III protocol.

(10) Radiological Survey Area #1. Status - open land area. Fort McClellan developed this area as a replacement for the Rattle Snake Gulch. We believe that the site placed uranium-233 plates on the ground for training purposes. The contractor shall conduct a gross gamma/gross beta survey of the area in accordance with MARSSIM class III protocol.

(11) Field Hot Cell. Status - part of Radiological Survey Area #1. Reported this was a temporary structure made out of cinder blocks and sand bags. It is within the envelope of Radiological Survey Area #1. The contractor shall conduct a gross gamma/gross beta survey of the area in accordance with MARSSIM class III protocol.

(12) Chemical School Radiological Burial Grounds. Status - open land area. Reportedly the installation used this site for radiological burials from 1957-1958. This site includes the Northeast corner of the Anniston Community Center. In the 1958-1959 timeframe the buried radioactive materials were removed. The

site conducted a second cleanup in 1971. The contractor shall conduct a gross gamma/gross beta survey of the area in accordance with MARSSIM class III protocol.

(13) Range 25. Status - open land area. The site used this area for a six week period to test prototype source actuators. The radionuclides of concern are Co60 and Cs137. The contractor shall conduct a gross gamma/gross beta survey of the area in accordance with MARSSIM class III protocol.

6. SCHEDULE. The contractor shall prepare to mobilize within 10 working days after contract award. The contractor shall respond to survey scheduling changes with as little as a 5 working day notification.

7. PERSONNEL. The contractor shall propose a project manager with a minimum of 3-years experience in conducting environmental remediation/restoration efforts, primarily with radioactive material.

7.1. The contractor shall provide resumes of technical personnel with the project proposal.

7.2. On-site personnel must have the training mandated by 29 CFR 1910.120 (40 hours plus 3 days on-site experience). Supervisors shall have 8 hours of additional supervisory training. The contractor shall provide written evidence of current Occupational Safety and Health Administration training for each person performing work and a Corporate certification that each person is medically capable of working on a hazardous waste site.

7.3. Contractor personnel shall receive and document a briefing on the hazards of the work area, the expected dose, and possible biological effects from receiving that exposure.

8. FINAL REPORT. The contractor shall provide as a deliverable item 6 hard copies of a preliminary draft final report within 30 days after completion of the on-site activities. The contractor shall incorporate Army comments within 30 days of receipt.

8.1. The contractor shall provide as a deliverable item 13 hard copies of the draft final report within 15 days after receipt of the Army comments.

8.2. The contractor shall incorporate regulatory agency comments within 15 working days of receipt. After incorporating regulatory comments, the contractor shall provide as a deliverable item 13 hard copies and 2 compact disc (CD) copies of a comprehensive final report detailing all radiological release surveys. The final report for the Fort McClellan commodity sites shall detail the survey procedures, instrumentation used, findings, results, suggestions, and QA/QC practices and documentation. The report shall address, in detail, the methodology used for the detection,

removal, and packaging of radioactive contamination recovered as a result of the effort. The report shall address residual radioactive contamination that was not remediated during the survey effort, as well as hazardous materials and/or wastes identified during the on-site effort.

8.3. The report shall address the contractor's QA program, including calibration dates and certificates and details (including records) on how they calibrated and field checked portable instruments.

8.4. The contractor shall describe (in terms of MARSSIM, NUREG-1575 requirements) the final survey design and how the results meet the MARSSIM statistical tests.

8.5. The contractor-prepared plans and reports developed under this effort will become the property of the U.S. Army. The Army reserves the right to distribute the documents without restriction.

8.6. The contractor shall coordinate final report activities with Mr. Styvaert.

9. REFERENCES.

a. NUREG-1575, Multi-Agency Radiation Survey and Site Investigation Manual, MARSSIM, December 1997.

b. NUREG-1500, Working Draft Regulatory Guide on Release Criteria for Decommissioning: NRC Staff s Draft for Comment.

c. Memorandum, Subject: DA-Wide Policy on Radiological Surveys at BRAC Commodity Sites, dated January 20, 1998.

d. Radiological Historical Assessment, Main Post, Ft. McClellan, AL, U.S. Army Corps of Engineers, St. Louis Engineer District, November 1999.

e. Radiological Historical Assessment, Pelham Range, Ft. McClellan, AL, U.S. Army Corps of Engineers, St. Louis Engineer District, November 1999.

Mark McHugh

From: "Styvaert, Mike" <StyvaertM@osc.army.mil>
To: "'Kingsbury, Lisa'" <kingsburyl@mcclellan.army.mil>; <Leeyoungtn@aol.com>; "Styvaert, Mike" <StyvaertM@osc.army.mil>
Sent: Tuesday, July 25, 2000 11:32 PM
Subject: RE: Comments on Sampling and Analysis plan

Lisa/Lee - I'll revise it and forward a clean copy in the next few days, but here are the changes you sent me following the site visit.

Changes to SOW are as follows:
Section 5
(6) Delete all of Bldg T-836A
(7) Change to Class II
(9) 3rd sentence should read "The contactor shall conduct a gross gamma survey of the area and gamma spectrum analysis of 1 hot spot in accordance with MARSSIM class III protocol."

(12) Change to Class II
I believe the cost increase is due to the Class IIs we added.
Thanks.....Lisa

mss

-----Original Message-----
From: Kingsbury, Lisa [mailto:kingsburyl@mcclellan.army.mil]
Sent: Tuesday, July 25, 2000 8:46 AM
To: Leeyoungtn@aol.com; Mike Styvaert
Subject: RE: Comments on Sampling and Analysis plan

Mike,
Did you revise the scope of work? Need you to send it to Lee so he can put it in the workplan.
Thanks.....Lisa

J.M. Waller Associates, Inc.
Providing BRAC Environmental Program Management to
U.S. Army Garrison, Environmental Office, Fort McClellan, AL
Phone: (256)848-7455
Fax: (256)848-5517

-----Original Message-----
From: Leeyoungtn@aol.com [mailto:Leeyoungtn@aol.com <mailto:Leeyoungtn@aol.com>]
Sent: Tuesday, July 25, 2000 8:21 AM
To: Kingsbury, Lisa; mchughm@atgusa.com

ATTACHMENT 3

AR 11-9, TABLE 5-2, SURFACE RADIOACTIVITY VALUES

Table 5-2.
Surface Radioactivity Values in dpm/100 cm^2

Nuclide[a]	Removable[b, c]	Total (Fixed + Removable[b, d]
^{nat}U, ^{235}U, ^{238}U, and associated decay products	1,000	5,000
Transuranics, ^{226}Ra, ^{228}Ra, ^{230}Th, ^{228}Th, ^{231}Pa, ^{227}Ac, ^{125}I, ^{129}I	20	500
^{nat}Th, ^{232}Th, ^{90}Sr, ^{223}Ra, ^{224}Ra, ^{232}U, ^{126}I, ^{131}I, ^{133}I	200	1,000
Beta-gamma emitters (nuclides with decay modes other than alpha emission or spo n-taneous fission) except ^{90}Sr and others noted above[e]	1,000	5,000
Tritium and tritiated compounds[f]	10,000	NA

a. See para 5-3 for applicability of this table. This table is extracted from 10 CFR 835, appendix D. The values in this table apply to radioactive contamination deposited on, but not incorporated into the interior of, the contaminated item. Where surface contamination by both alpha- and beta-gamma-emitting nuclides exists, apply the limits established for alpha- and beta-gamma-emitting nuclides independently.

b. As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute observed by an appropriate detector for background, efficiency, and geometric factors associated with the instru mentation.

c. The amount of removable radioactive material per 100 cm^2 of surface area should be determined by swiping the area with dry filter or soft absorbent paper, applying moderate pressure, and then assessing the amount of radioactive material on the swipe with an appropriate instrument of known efficiency. (Note: The use of dry material may not be appropriate for tritium.) When remo v-able contamination on objects of surface area less than 100 cm^2 is determined, the activity per unit area should be based on the actual area and the entire surface should be wiped. Except for transuranics and ^{228}Ra, ^{227}Ac, ^{228}Th, ^{230}Th, ^{231}Pa and alpha emitters, it is not necessary to use swiping techniques to measure removable contamination levels if direct scan surveys indicate that the total residual surface contamination levels are within the limits for removable contamin ation.

d. The levels may be averaged over one square meter provided th e maximum surface activity in any area of 100 cm^2 is less than three times the value specified. For purposes of averaging, any square meter of surface shall be considered to be above the activity guide G if: (1) From measurements of a representative number n of sections it is determined that $\frac{1}{n}\sum_{i=1}^{n} S_i \geq 3G$, where $S_i \geq G$ is the dpm/100 cm^2 determined from measurement of section i, or (2) it is determined that the sum of the activity of all isolated spots or particles in any 100 cm^2 area exceeds 3 G.

e. This category of radionuclides includes mixed fission products, including the ^{90}Sr which is present in them. It does not apply to ^{90}Sr which has been separated from the other fission products or mixtures where the ^{90}Sr has been enriched.

f. Tritium contamina tion may diffuse into the volume or matrix of materials. Evaluation of surface contamination shall consider the extent to which such contamination may migrate to the surface in order to ensure the surface radioactivity value provided in this table is not exceeded. Once this contamination migrates to the surface, it may be removable, not fixed; therefore a "Total" value does not apply.

ATTACHMENT 4

TABLE OF INSTRUMENTATION FOR RADIOLOGICAL SURVEYS

INSTRUMENTATION FOR RADIOLOGICAL SURVEY

This table illustrates the radiological detection and measurement instrumentation to be employed for the survey activities, along with typical parameters and detection sensitivities for the type of instrument and its application.

Type of Measurement	Instrumentation		Background Rate	4π Efficiency	Detector Sensitivity
	Detector	Meter			
Surface Scan (beta-gamma)	Gas Proportional Ludlum 43-68	Ratemeter Ludlum Model 3, Model 18 or Equivalent	400 cpm	0.15	980 DPM/100cm²
Surface Activity (alpha)	Gas Proportional Ludlum 43-68	Scaler Ludlum Model 3, Model 18 or Equivalent	5 cpm	0.15	110 DPM/100cm²
Exposure Rates (beta-gamma)	Tissue Equivalent Detector	Bicron Micro R Meter	-	-	< 1 μR/hr
Accessibility Surface Scan Dose Rates	Gas Proportional Ludlum Model 239-1F	Rate Meter Ludlum Model 2221 or Equivalent	10 cpm α	.17	23 DPM / Probe Area
			400 cpm βγ	.25	98 DPM / Probe Area

Scan Sensitivity based on:

$$\text{MDA (DPM/100cm}^2) = 4.65 \sqrt{\frac{\text{Background (cpm)}}{2 \times \text{Tc (min)}}} \Big/ \text{Efficiency} \times A/100$$

Surface Measurement Sensitivity based on:

$$\text{MDA (DPM/100cm}^2) = 2.71 + 4.65 \sqrt{\frac{\text{Background (cpm)} \times \text{Tc (min)}}{\text{Efficiency} \times A/100}}$$

ATTACHMENT 5

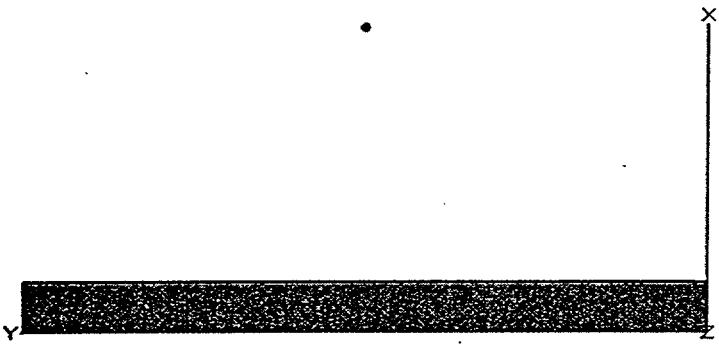
γ SCAN SCREENING LEVEL CALCULATIONS

MicroShield v5.01 (5.01-01003)
Allied Technology Group, Inc.

Page : 1
DOS File : CSSOIL.MS5
Run Date: July 17, 2000
Run Time: 11:13:20 AM
Duration : 00:00:15

File Ref: N/A
Date: 000713
By: ZT
Checked:

Case Title: Cs-137 @ 21.5 pCi/g
Description: 2mx2mx6" thick slab of Cs-137 Contaminated Soil @ 21.5 pCi/g
Geometry: 13 - Rectangular Volume



Source Dimensions

Length	15.24 cm	6.0 in
Width	203.2 cm	6 ft 8.0 in
Height	203.2 cm	6 ft 8.0 in

Dose Points

	X	Y	Z
# 1	91.44 cm	101.6 cm	101.6 cm
	3 ft	3 ft 4.0 in	3 ft 4.0 in

Shields

Shield Name	Dimension	Material	Density
Source	3.84e+04 in³	Concrete	1.6
Air Gap		Air	0.00122

Source Input
Grouping Method : Standard Indices
Number of Groups : 4
Lower Energy Cutoff : 0.015
Photons < 0.015 : Excluded
Library : Grove

Nuclide	curies	becquerels	µCi/cm³	Bq/cm³
Ba-137m	2.0478e-005	7.5768e+005	3.2542e-005	1.2041e+000
Cs-137	2.1647e-005	8.0093e+005	3.4400e-005	1.2728e+000

Buildup
The material reference is : Source

Integration Parameters

X Direction	25
Y Direction	25
Z Direction	25

Results

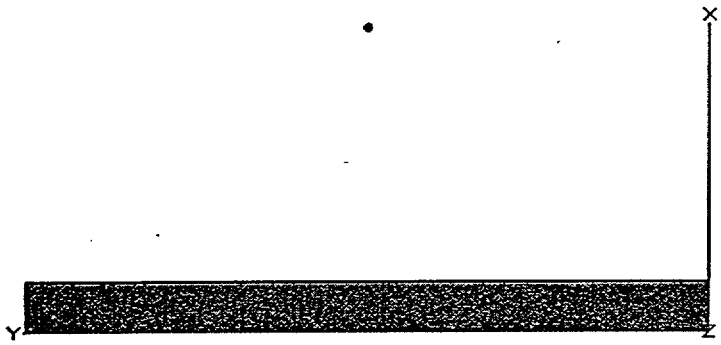
Energy MeV	Activity photons/sec	Fluence Rate MeV/cm²/sec No Buildup	Fluence Rate MeV/cm²/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup
0.0318	1.569e+04	1.072e-04	1.306e-04	8.931e-07	1.088e-06
0.0322	2.894e+04	2.063e-04	2.528e-04	1.661e-06	2.035e-06
0.0364	1.053e+04	1.151e-04	1.514e-04	6.539e-07	8.601e-07
0.6616	6.818e+05	1.101e+00	2.063e+00	2.135e-03	3.999e-03
TOTALS:	7.369e+05	1.102e+00	2.063e+00	2.138e-03	4.003e-03

MicroShield v5.01 (5.01-01003)
Allied Technology Group, Inc.

Page : 1
DOS File : COSOIL.MS5
Run Date: July 17, 2000
Time: 11:19:08 AM
Duration : 00:00:12

File Ref: NA
Date: 8/8/7/17
By: TT
Checked:

Case Title: Co-60 @ 5.2 pCi/g
Description: 2mx2mx6" thick slab of Co-60 Contaminated Soil @ 5.2 pCi/g
Geometry: 13 - Rectangular Volume



Source Dimensions

Length	15.24 cm	6.0 in
Width	203.2 cm	6 ft 8.0 in
Height	203.2 cm	6 ft 8.0 in

Dose Points

	X	Y	Z
# 1	91.44 cm	101.6 cm	101.6 cm
	3 ft	3 ft 4.0 in	3 ft 4.0 in

Shields

Shield Name	Dimension	Material	Density
Source	3.84e+04 in³	Concrete	1.6
Air Gap		Air	0.00122

Source Input
Grouping Method : Standard Indices
Number of Groups : 3
Lower Energy Cutoff : 0.015
Photons < 0.015 : Excluded
Library : Grove

Nuclide	curies	becquerels	µCi/cm³	Bq/cm³
Co-60	5.2229e-006	1.9325e+005	8.3000e-006	3.0710e-001

Buildup
The material reference is : Source

Integration Parameters

X Direction	25
Y Direction	25
Z Direction	25

Results

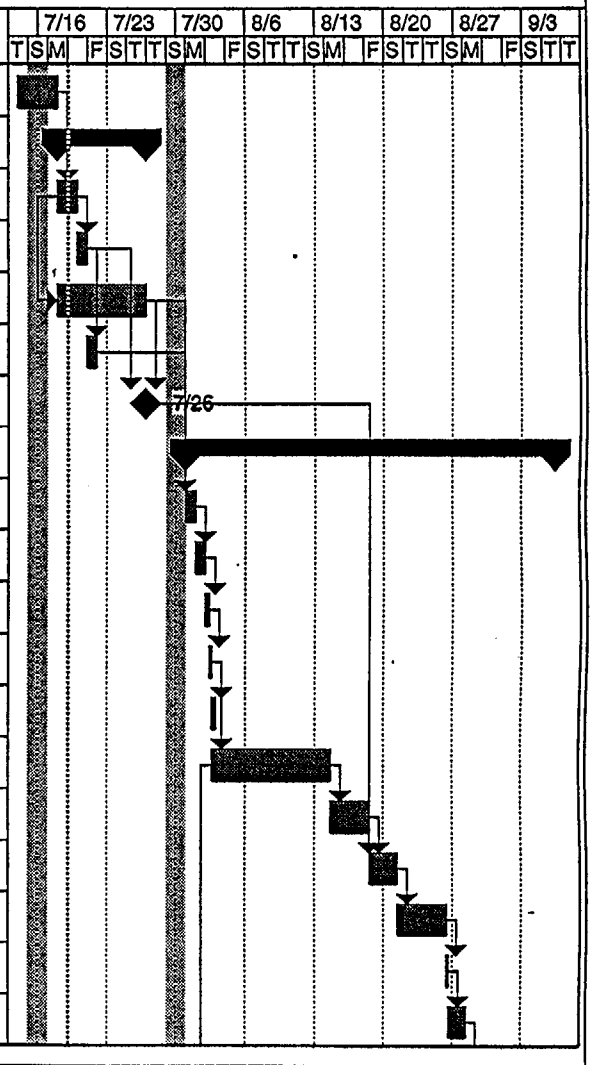
Energy MeV	Activity photons/sec	Fluence Rate MeV/cm²/sec No Buildup	Fluence Rate MeV/cm²/sec With Buildup	Exposure Rate mR/hr No Buildup	Exposure Rate mR/hr With Buildup
0.6938	3.152e+01	5.424e-05	1.001e-04	1.047e-07	1.932e-07
1.1732	1.932e+05	6.682e-01	1.057e+00	1.194e-03	1.889e-03
1.3325	1.932e+05	7.902e-01	1.208e+00	1.371e-03	2.096e-03
TOTALS:	3.865e+05	1.458e+00	2.265e+00	2.565e-03	3.985e-03

ATTACHMENT 6

PROJECT SCHEDULE

U.S Army Fort McClellan Commodity Storage Sites Suvey
OSC Project Number USA 99-100, Phase II
Contract DAAA09-98-C-0039, Mod. P00004 ATG, Inc.

ID	WBS	Task Name	Duration	Start	Finish	Predecessors
1	1	Contract Mod. Issue	2 days	Fri 7/14/00	Mon 7/17/00	
2	2	**Phase I - Planning**	**7 days**	**Tue 7/18/00**	**Wed 7/26/00**	
3	2.1	Develop SAP	2 days	Tue 7/18/00	Wed 7/19/00	1
4	2.2	Submit SAP - FYI	1 day	Thu 7/20/00	Thu 7/20/00	3
5	2.3	Calibrate Instrumentation	7 days	Tue 7/18/00	Wed 7/26/00	3SS
6	2.4	Consensus Plan Review	1 day	Fri 7/21/00	Fri 7/21/00	4
7	2.5	Notify Regulators of Bldg 3185 Sched.	0 days	Wed 7/26/00	Wed 7/26/00	4,5,6
8	3	**Phase II - Site Surveys**	**31.5 days**	**Mon 7/31/00**	**Wed 9/6/00**	
9	3.1	Mobilization / Travel	1 day	Mon 7/31/00	Mon 7/31/00	5,6,7FS+2 days
10	3.2	Instrumentation Set-up	1 day	Tue 8/1/00	Tue 8/1/00	9
11	3.3	Training to SAP	0.25 days	Wed 8/2/00	Wed 8/2/00	10
12	3.4	Task Overview / Tour	0.5 days	Wed 8/2/00	Wed 8/2/00	11
13	3.5	Gamma Spec Near RSG	0.25 days	Wed 8/2/00	Wed 8/2/00	12
14	3.6	Bldg. 3182 Class I Survey	10 days	Wed 8/2/00	Mon 8/14/00	12
15	3.7	Bldg. 3182 Class II Survey	4 days	Mon 8/14/00	Fri 8/18/00	14
16	3.8	Bldg. 3185 Class III Survey	1.5 days	Fri 8/18/00	Mon 8/21/00	15,7
17	3.9	Bldg. T-837 Class II Survey	5 days	Mon 8/21/00	Sat 8/26/00	16
18	3.10	Bldg. T-810 Class III Survey	0.5 days	Sat 8/26/00	Sat 8/26/00	17
19	3.11	Bldg. T-811 Class III Survey	0.5 days	Sat 8/26/00	Mon 8/28/00	18

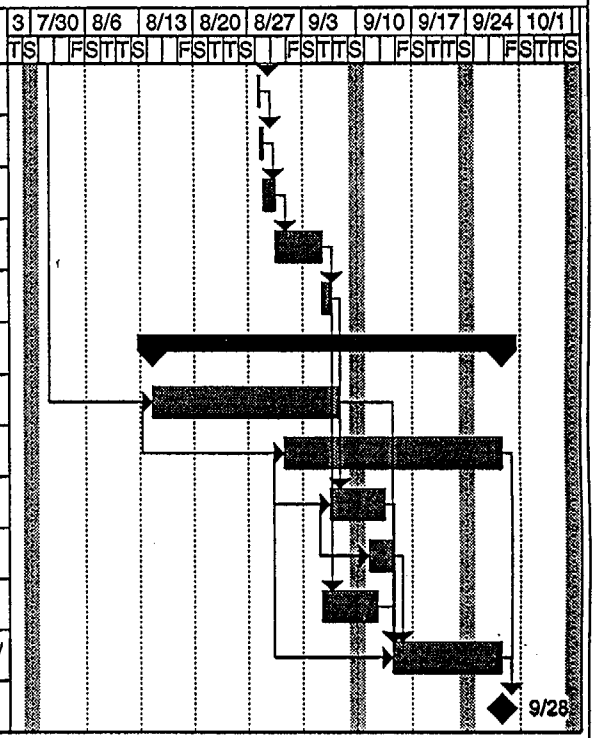


Project: No. 10036.03
Date: Wed 7/19/00

Task
Split
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Split
Rolled Up Milestone
Rolled Up Progress
External Tasks
Project Summary

U.S Army Fort McClellan Commodity Storage Sites Suvey
OSC Project Number USA 99-100, Phase II
Contract DAAA09-98-C-0039, Mod. P00004 ATG, Inc.

ID	WBS	Task Name	Duration	Start	Finish	Predecessors
20	3.12	Bldg. T-812 Class III Survey	0.5 days	Mon 8/28/00	Mon 8/28/00	19
21	3.13	Area of Bldg. T-836 Class III	0.25 days	Mon 8/28/00	Mon 8/28/00	20
22	3.14	Old Rattlesnake Gulch Class III	1.5 days	Tue 8/29/00	Wed 8/30/00	21
23	3.15	Chem. Schl. Rad. Burial Grnd. Class II	4 days	Wed 8/30/00	Tue 9/5/00	22
24	3.16	Demobilization / Travel	1 day	Tue 9/5/00	Wed 9/6/00	23
25	4	**Phase III - Report**	**35 days**	**Mon 8/14/00**	**Thu 9/28/00**	
26	4.1	In-house Sample Analysis	20 days	Mon 8/14/00	Thu 9/7/00	14SS+10 days
27	4.2	Third Party QC Analysis	20 days	Thu 8/31/00	Thu 9/28/00	26SS+15 days
28	4.3	Data Review	5 days	Wed 9/6/00	Wed 9/13/00	27SS,24
29	4.4	Data Assembly	3 days	Mon 9/11/00	Thu 9/14/00	28SS+3 days
30	4.5	Survey Evaluation	5 days	Tue 9/5/00	Tue 9/12/00	23
31	4.6	Report Summary	10 days	Thu 9/14/00	Thu 9/28/00	30,26,27SS+3 day
32	4.7	Submit Report	0 days	Thu 9/28/00	Thu 9/28/00	31,27



Project: No. 10036.03
Date: Wed 7/19/00

Task
Split
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Split
Rolled Up Milestone
Rolled Up Progress
External Tasks
Project Summary

ATTACHMENT 7

HEALTH & SAFETY PLAN

U.S. ARMY FORT McCLELLAN
FORT McCLELLAN, ALABAMA
HQ, OSC PROJECT NUMBER USA 99-100

Release Survey of Ft. McClellan Commodity Storage Sites

HEALTH AND SAFETY PLAN

Prepared by:

Allied Technology Group Inc.
669 Emory Valley Road
Oak Ridge, TN 37830

July 2000

U.S. Army Fort McClellan

Release Survey for Commodity Storage Sites

Project Health and Safety Plan

Approval Page

July 2000

Concurrence: Lee a. Young Date: 7/19/00
Lee Young, ATG Project Manager

Concurrence: Date: 000719
Mark McHugh, ATG Project Health Physicist

Concurrence: Date: 7/19/00
Arthur Palmer, ATG Corporate RSO

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1.0 INTRODUCTION

The Project Health and Safety Plan incorporates the health and safety procedures and practices to be followed during the activities specified in the Fort McClellan'Commodity Storage Sites' Sampling and Analysis Plan (SAP). This Project Health and Safety Plan will be used to support the work activities and will be verified with the guidelines specified in the Allied Technology Group, Inc. (ATG) Corporate Health and Safety Plan. This Project Health and Safety Plan includes radiological, industrial, environmental, and biological health and safety concerns and considerations.

The radiological surveys of the 'Commodity Sites' at Fort McClellan are to be performed by ATG under contract number DAAA09-98-C-0039 Modification number P00003; internally tracked as ATG project number 10036.02.

2.0 SCOPE OF WORK

The fifteen (15) buildings and two (2) outdoor sites which comprise the 'Commodity Storage Sites' at Fort McClellan near Anniston, Alabama will be radiologically surveyed by ATG personnel following the guidelines specified in the project-specific Sampling and Analysis Plan. The verification surveys are to achieve unconditional release using the protocols of the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM, NUREG-1575) for the historical general license use areas.

No adverse impacts are expected during the performance of this contract. There will be no expected air emissions, liquid releases, personnel exposures or environmental impacts during the Class 2 and 3 area surveys. The work tasks will be performed by trained and qualified personnel. Project oversight and monitoring will additionally be performed by trained and qualified personnel in accordance with the Health and Safety Plan procedures.

3.0 HAZARD ASSESSMENT

Hazard assessment will be evaluated in eight categories; radiological hazards, industrial hazards, environmental hazards, bloodborne pathogens, lead hazards, polychlorinated biphenyls (PCBs), asbestos and mercury hazards. Appropriate personnal protective equipment, monitoring devices and data acquisition will be applied for existing potential and actual hazards.

3.1 Radiological Hazards

It is expected that an individual performing work on this project will receive an external occupational exposure of less than 10 millirem (mRem), which is the sensitivity limit of the TLD vendor. Existant conditions yield essentially

'background' radiation levels, and only a rule-out of elevated surface contamination is anticipated. However, the suspected potentially present radionuclides of concern in the buildings are Pu-239, Ni-63, Sr-90, H-3, Ra-226, Am-241, Th-232, Co-60, Mn-54, Cs-137, Au-198, Na-22, and P-32. The ATG crew is entirely comprised of appropriately trained and qualified health physics technicians, and both corporate and project oversight is provided by Certified Health Physicists. There is little potential for loose contamination, if it exists, to be suspended by project activities such that airborne contamination attributes to an internal dose concern. Project tasks entail surveying into facilities for discernment of the gross radiological characterization, and the structures/areas will be otherwise uninhabited by base occupants during the surveys.

In the event that residual contamination is found to warrant area re-classification up to and including ultimate decontamination and subsequent verification surveys, the airborne concentration will be maintained below the the acceptable airborne concentration limit of 10% of DAC for the isotope of interest or respiratory protection will be worn in order to ensure that there will not be an internal radiological hazard.

Additional exposure to radiation will come from the reference sources used in performance tests of the radiation detection equipment and from the samples taken to assess the potential hazards. The reference sources will be used by the radiation protection technicians and will be maintained in a labeled and locked container. Samples taken to monitor the potential hazards will be sealed and handled appropriately and in as short amount of time as possible. The radiation protection technicians will screen and package the samples employing the appropriate precautions to prohibit personal cross-contamination and limit external exposure.

3.2 Industrial Hazards

Industrial hazards for this project should be limited to mechanical failures, possible heavy loads (moving residual materials to access survey areas), suspended loads, physical stress (climbing, lifting, reaching) and extreme temperature exposure. Lifting, suspending, moving and packaging of materials could cause wear and tear on the equipment or fatigue to the workers. Mechanical failure will be reduced by using equipment in near new condition and not over-loading the equipment. Equipment will be visually inspected prior to each use to reduce the potential for failure. Personnel safety equipment shall be required for field work on this project. Safety shoes, hard hats, and safety glasses will be required for personnel at the discretion of the Project Manager or designated alternate.

Physical stress could occur if an individual tries to lift items that are too heavy or

oversized. Individual lifting limits will be 50 lbs. Items that are odd shaped or bulky will be lifted by more than one individual or by a mechanical means.

Accidents will be handled on a case by case basis and will be evaluated by theProject Manager or designated alternate to determine if preventive measures can be applied to preclude the accident from recurring.

Complications from high temperature exposure, such as heat stress, will be handled with medical treatment as deemed necessary by the Project Manager or designated alternate. The timing of the project reduces the concern for heat stress and raises the alternative cold weather issue to some extent. Under either cold or high temperature scenarios, the first round of treatment is prevention through appropriate training, monitoring, and regimented practices.

3.3 Environmental Hazards

Hazards from the environment could most likely occur from abnormal weather, an accident or from carelessness while performing the work tasks. Controlling the amount of unsealed material, at any given time, will reduce the extent of an environmental impact. Affected materials, as suspected prior to screening and as verified by subsequent radiological monitoring, will be addressed as soon as practical. Immediate project action regarding discovered elevated surface contamination will include prominant posting and notification of site (base) and client (IOC) representatives.

Other environmental hazards which may be encountered and for which precautions should be extended for avoidance in the static areas may be lighting constraints, insects (bees, ticks, spiders), snakes, rodent and bird infestation and/or droppings, high wind and precipitation.

3.4 Bloodborne Pathogens

Bloodborne pathogens are micro-organisms in human blood that can cause disease. Although health care workers have long worked with the threat of exposure to bloodborne pathogens, exposure was viewed in a different light once AIDS was recognized.

Because the virus that causes AIDS is said to always be fatal, there has been increased concern about bloodborne pathogens in the last 15 years. AIDS, however, is not the only source of concern; other diseases caused by micro-organisms include malaria, syphilis and hepatitis-B virus (HBV).

The purpose of this plan is to establish requirements with the intent to protect those employees who have a significant potential of exposure to Bloodborne Pathogens which may cause such disease as Human Immunodeficiency Virus and Hepatitis-B Virus. Principally at risk are those designated to be first-aid providers/first-responders. Specific information is found in section 4.2.6.

3.5 Lead

Lead-based paint is expected to be present or an issue of concern at the project site. Either chipping paint or lead-based paint material having already fallen to the ground due to deterioration of a facility and lack of upkeep may be prevelant. Proper PPE and training guidelines will be followed in accordance with 29 CFR 1926.62. These areas will be avoided by all employees if at all possible. As applicable to the scope of the survey effort, identification of the potential for the presence of lead and avoidance (PPE or literal occupancy) is the matter of course.

3.6 Polychlorinated Biphenyls (PCBs)

It is possible that PCBs could be encountered during work activities on this project (i.e. light fixture ballasts). Should this be the case, the PCB containing materials will be handled, if necessary, with radiological controls in place. Proper PPE and training will be performed in accordance with the guidelines set forth in 40 CFR 761, 40 CFR 302, 40 CFR 116, and 40 CFR 117. These items will be avoided by all employees under routine project tasking.

3.7 Asbestos

Asbestos could be encountered during work activities on this project. Proper PPE and training guidelines will be followed in accordance to 29 CFR 1101, 40 CFR 61, and 40 CFR 763. Proper precautions will be taken to prevent any airborne releases. Suspected Asbestos Containing Material (ACM) will be covered, if necessary, and avoided by all employees.

3.8 Mercury

Mercury is potentially a concern at the site and may be present in such items as switches, controls and light tubes, and fixtures. Proper PPE and training guidelines will be followed in accordance with 29 CFR 1910.95 and 29 CFR 1910.252. Proper precautions will be taken to prevent any release to the workers or to members of the public. These materials will be covered if necessary and avoided by all employees.

4.0 WORKER PROTECTION

4.1 Personnel Protection

The field work on the surveying of the 'Commodity Storage Sites' involves the hazards typically present during radiation work, in addition to the dynamic conditions from unstable building structures . In general, ATG work procedures are in effect for safety of our workers and others. However, the following points are to be emphasized.

4.1.1 Contamination Control

ATG will conduct all work activities with radiological controls in place, using qualified and appropriately trained personnel. Proper PPE will be worn when entering the controlled areas and will be discarded appropriately upon exiting. The activity on this project does not represent a significant hazard but should not be allowed to be distributed outside of the controlled area in order to maintain doses to personnel ALARA.

4.1.2 Industrial Safety

Industrial safety is an important consideration on this job. There are several existing hazards that are of concern on this job site. These hazards include heavy equipment operations, noise hazards, and unstable building structures.

4.1.2.1 Heavy equipment operations exist throughout the site. All personnel will receive a pre-job briefing on all existing job-site hazards. Personnel will be made aware of areas in which heavy machinery is being used. The buddy system will be employed on this contract, thus providing a spotter for each other. Personnel will notify the operator(s) if they are to be performing work in proximity where equipment operations are taking place.

4.1.2.2 Noise hazards are a concern with the work being performed on site. Existing conditions in the area will be monitored and noise-suppression will be used if necessary. If noise levels in the work area reach or exceed 85 dBA, hearing protection will be required. The hearing protection provided must be able to lower noise levels below 85dBA when worn.

4.1.2.3 Unstable building structures are a concern with some of the buildings on-site. A pre-job briefing will be performed with all the

employees before work begins to highten their awareness concerning these areas. If possible, these areas will be barricaded off to prevent any unauthorized access.

4.1.2.4 All personnel will be required to wear safety glasses, steel toe shoes, and hard hats while in any work area during operations. These requirements may be altered at the discretion of the Project Manager or designee.

4.1.3 Procedures

4.1.3.1 Site Control

The work site will be clearly marked and access will be limited to ATG personnel and authorized visitors. Walkways and paths will be rerouted as necessary to limit access to the area. Postings will be in place to notify people of restricted access, hazards associated, and PPE required.

4.1.3.2 Confined Space Entry

A confined space is any space that has a limited means of egress and is subject to an accumulation of toxic or flammable contaminants or has an oxygen-deficient atmosphere. Confined spaces include, but are not limited to, storage tanks, process vessels, bins, boilers, ventilation, or exhaust ducts, sewers, underground utility vaults, tunnels, pipelines, and open-top spaces more than four feet in depth such as pits, tubs, vaults, and vessels.

A confined space will not be entered until atmospheric conditions are monitored and the area is verified safe. A valid "Confined Space Entry Permit" must be posted, reviewed, and in effect prior to entry. Fuel operated equipment will not be used in or near the opening or air intake for a confined space due to the potential for carbon monoxide build up. Confined space blowers will be used if necessary to ventilate the area and refresh the air. All entrants and spotters must review the rescue procedures before entry. All personnel entering the confined space must wear a safety harness with a secured lifeline in the event they need to be pulled out of the area.

A spotter will remain in continuous visual and voice contact with

personnel in the confined space. The spotter must account for all entrants and will not leave the post unless relieved by a competent person. The area will be continuously monitored while personnel are in the confined space due to the potential of changing atmospheric conditions.

4.1.3.3 Hazardous Energy Control

All personnel that work on or near energy sources should have completed and documented Site Training which covered this subject. Danger tags are used only to prevent operation of a switch, valve, or piece of equipment in cases where someone may get hurt or equipment may be damaged. Lockout/Tagout procedures will be used to prevent energy sources from becoming energized while personnel or equipment are in the area. The personnel working in the hazardous energy area must personally lock and tag the energy source out. A signed and dated tag will be placed on the system after it is locked out.

The system must be tested after locking to ensure it is de-energized prior to starting work. Prior approval must be obtained before de-energizing a system. Only the person that placed the lockout/tagout on a system can remove it and only after all personnel are clear from the work area. All personnel that are working in the area must have their own lockout / tagout in place on the system. Personnel cannot remove a lockout/tagout that was put in place by someone else. Once a tag is removed it must be destroyed and a new one used each time a system is locked out.

All electrical components will be treated as if they are energized regardless if lockout/tagout procedures are in place. Personal protective equipment will be inspected and worn when working on energy systems. Test equipment will be used to ensure systems are de-energized. Grounding equipment will be applied after the system has been de-energized. Caution must be used when removing enclosure covers, panels, or opening doors to expose electrical systems.

Work on or near electrical circuits will only be performed by qualified personnel who have been authorized to do the work.

Non-metal frame safety glasses are required when performing

electrical work. Other conductive items such as metal hard hats, rings, watches, necklaces, earrings, etc. will not be worn when working on or near electrical systems. Electrical rated rubber gloves must be inspected for cracks, punctures, tears, etc. prior to wearing them.

Hand tools and power tools rated and insulated for electrical work will be used on or near power sources. Drills and penetrating equipment must be grounded so that accidental contact with an unexpected energized electrical source will be cleared quickly by the circuit protective device. Double insulated equipment cannot be relied on to provide protection when accidental contact is made with energized circuits.

4.1.3.4 Tools

Equipment and tools will be used for their specific design and not rigged for purposes other than those specified by the manufacturer. Tools will not be used beyond their designed capacity. Tools will be inspected prior to each use. Damaged or worn tools will not be used and will be taken out of service. Tools taken out of service will be marked with a "Do Not Use" tag or sticker until they can be properly disposed of or repaired. Tool subject to impact will be dressed to prevent flying steel fragments. Tools cannot be brought into or out of a radiological area without prior approval from a health physics technician.

4.1.3.5 Ladders

Ladders will be inspected prior to each use. Ladders will not be painted except to be marked with an identifier. If ladders must be placed in a doorway, the door will be barricaded and warning signs will be posted. If the doorway is a marked exit, then the door cannot be barricaded and a spotter must be used. A hand line will be used to raise or lower tools or materials so personnel do not carry anything in their hands when ascending or descending a ladder. The ladder position will be changed as often as necessary to prevent excessive leaning or stretching on a ladder. When working from a ladder, both feet will be kept on the rungs and the person will be facing the ladder. If it is necessary to work backwards from a ladder, then the person must wear a safety belt and be tied off to a secure area and not to the ladder. Only one person is allowed on a ladder

at one time unless "two-man" stepladders are being used. Metal ladders will not be used for electric welding or near any electrical lines or services. Ladders may be used on scaffolds only if secured and the user is tied off with a safety belt. If a ladder must be built to use on-site, it must conform with established OSHA standards and be approved by the Health and Safety Representative or designated alternate. Areas around the top and base of the ladder must be cleared of tripping hazards. Ladders will not be placed against moving objects. Broken or damaged ladders will not be used. Ladders to be repaired must be tagged out and taken out of service. Step off distance from ladders must not exceed one foot.

4.1.3.6 Straight and Extension Ladders

Straight and extension ladders must be placed using a 4:1 ratio (for every 4 feet in height from the ground to the point of contact on the supporting surface, the ladder base must be placed 1 foot away from the supporting surface). Ladders must extend at least 3 feet beyond the supporting object. The ladder must have non-skid safety feet and be secured. When the extension ladder is raised to the desired height, the safety dogs or latches must be engaged and the extension rope secured to a rung on the base section of the ladder. Extension ladders must overlap a minimum of three rungs.

4.1.3.7 Stepladders

Stepladders must have all four feet on a level surface. The spreaders must be locked in place. Stepladders will not be used as a straight ladder. Tools or materials will not be placed on steps or the platform. The maximum height for stepladders without a safety platform is 12 feet and with a safety platform is 16 feet. If a ladder is over eight feet in height, it will be tied off.

4.1.3.8 Weather Conditions

The weather conditions may include possible thundershowers during the anticipated work schedule. If the potential for lightening is present, work will be stopped and personnel will move to a safe sheltered area until weather conditions improve. Any other severe or adverse weather conditions may require work to be stopped and personnel to move to a sheltered area.

4.1.3.9 Inadequate Lighting

Work performed on-site must have adequate lighting. If daylight does not provide the adequate 5-foot candle requirement (29 CFR 1910.120) then artificial light must be provided or all work must stop in time for personnel to exit the area during adequate daylight.

4.1.3.10 Good Housekeeping

Personnel will be expected to maintain good housekeeping within and around the work site. Materials or equipment that could be potential trip hazards will be moved out of walkways. Uneven walkways will be cleared or have restricted access. Materials will not be stacked in such a way that they may fall on personnel or equipment. Open pits will be roped off and labeled to prevent falls.

4.1.3.11 Electrical

Only power sources rated to handle the load required for equipment on-site will be used. Power sources will be required to have ground fault circuit interrupters unless the equipment has built in ground faults. Ground faults will be tested daily prior to using electrical equipment. Electrical equipment, plugs, and extension cords will be used and stored away from water sources. Electrical equipment that is not properly grounded, damaged, insulated, or have exposed wiring will be taken out of service and marked "Do Not Use". Extension cords with frays, exposed wire, damaged or missing prongs, or not insulated will be taken out of service and marked "Do Not Use". Electrical equipment cords and extension cords can not be taped to cover damaged areas or for any other reasons. Metal or conductive ladders will not be used near energized electrical lines or equipment.

4.1.3.12 Dust

Work operations will be designed as to generate little or no dust. Airborne concentrations will be monitored. Personnel will wear the proper PPE in accordance with RWP requirements if dust is generated.

4.1.3.13 Noise

Heavy equipment used on-site may generate elevated noise levels and will require hearing protection. Noise levels will be monitored and noise-suppression will be used when possible. If noise levels reach or exceed 85 dBA, hearing protection will be required and the area should be posted "Hearing Protection Required". The hearing protection provided must be able to lower noise levels below 85 dBA when worn.

4.1.3.14 Motor Vehicles

ATG personnel will abide by all traffic laws on base as well as pedestrian right-of-ways. Speed limits will be adhered to and seat belts will be worn by all passengers in the vehicle. Drivers will have a current drivers license and will not drive under the influence of drugs or alcohol. Special precautions will be taken in the event that road conditions become hazardous.

4.1.3.15 Hazardous Material Storage

No more than 10 gallons of flammable/combustible materials will be stored on-site unless these materials are stored in an approved flammable storage cabinet or tank. Chemicals stored together must be compatible. Containers must be stored in an area that has limited traffic and little chance for containers to be broken, toppled, or spilled. A spill kit will be kept on-site in the unlikely event that a spill were to occur. Appropriate personnel at Fort McClellan will be notified immediately in the event of a spill. Containers should be placed in a designated posted area. The storage area should be diked if possible. The fire department must be aware of where the storage area is located and what it contains. Flammable and/or combustible materials must be stored away from ignition sources. All containers must be properly labeled and an MSDS must be on-site for the material. Gas cylinders must be secured in an upright position with a cap over the valve when not in use.

4.1.3.16 Fire Awareness

Fire extinguishers will be on-site in a designated area readily accessible to personnel. Combination ABC fire extinguishers will be provided and inspected by a qualified person on a monthly basis or as needed. Personnel will be trained in the proper use of a fire extinguisher. Exits will be clearly marked to the containment tent in the event of a fire. Directional arrows will be placed around the lower portion of the tent to guide personnel to the closest exit. The fire department will be notified immediately in the event of a fire.

4.1.3.17 First Aid

A first aid kit will be on-site in a designated area clearly identified by a "First Aid" sign. The first aid kit will be readily accessible to personnel and visitors to the site. A minimum of two personnel trained in first aid/CPR will be present at the site at all times work is being performed.

4.1.4 Respiratory Protection

Respiratory protection may be required during certain operations. All personnel assigned respiratory protection must be medically qualified, trained on the use of the equipment, and when appropriate, have qualitative fit testing. All personnel in respirators must be clean shaven. All respirators must be cleaned and checked daily. Engineering practices may be employed to reduce airborne contamination. Respiratory protection will be mandated for area workers when the concentration of airborne contamination is found to $\geq$ 10% of the DAC for the specific isotope of interest.

4.1.5 Personnel Dose

The commodity site areas typically have no history of the use/handling of loose radioactive materials. Direct surface measurements will be obtained for comparison with background radiation levels in close proximity. Any finding of significant contamination will require re-classification of the area and deferred actions. External dosimetry is not required by regulation. However, as a conservative measure, ATG will require dosimetry for all project personnel.

4.1.6 Radiation Work Permit

The routine verification surveys to be performed of the commodity sites DO NOT warrant the adoption of an RWP. Should widespread elevated contamination be discovered, area re-classification will be planned and subsequent action which involves the increased potential for personal exposures will require implementation under a completed RWP.

Should site conditions and an expanded contractual scope of work issuance of a Radiation Work Permit (RWP), all personnel working at the Fort McClellan project will be assigned to a specific Radiation Work Permit, (ATGF-002 - Previously ATG Form 113), applicable to the job being performed (see note in section 4.1.6). A Radiation Work Permit Sign In Sheet (ATGF-023) will be attached to each Radiation Work Permit if deemed necessary by the Project Manager or designee. All personnel assigned to a job, requiring a Radiation Work Permit, shall sign the RWP Sign In Sheet.

4.1.7 ALARA (As Low As Reasonably Achievable)

It is the intent of all radiological work practices that the efforts performed will be done in such a manner as to subject the individual to the lowest possible dose. Practices that will ensure these are compliant to the project Sampling and Analysis Plan, Health and Safety Plan, and Quality Assurance Plan. Also, activities will be in compliance to procedural practices detailed in ATG Field Procedure, AD-004, 'Administrative/Regulatory/ALARA Compliance - Policy and Procedure' and ATG Field Procedures. All radiological work activities will be performed under radiation work permits (see note in section 4.1.6). Morning 'tailgate meetings' will be held to discuss safety issues and brief all personnel on the daily scheduled work activities and the performance of assigned tasks. These tailgate meetings will be documented and signed by all individuals in attendance on ATG Form ATGF-027, 'Daily Training Record'. All equipment will be tested before being used in the field. All individuals involved in the performance of the work have 'stop work authority'. If for any reason a job is not being performed safely or correctly, the job may be stopped and management notified until the situation may be remedied.

4.2 Personnel Monitoring

Occupational exposure will be continually monitored for all personnel on this ATG project. Personnel monitoring for this project will be supplied by Allied Technology Group using the following procedure.

4.2.1 Occupational Exposure Guides

Allied Technology Group Administrative Control Levels per calendar year;

4.2.1.1	Whole Body	1.0 Rem
4.2.1.2	Extremities	5.0 Rem
4.2.1.3	Skin	5.0 Rem

The ATG Corporate Health Physicist shall approve any authorization for exposure above the annual control levels. This approval will only be given if the dose is necessary and shown to maintain collective dose on the project ALARA.

4.2.2 Site Registration Form

All personnel assigned to work on the project must complete a Site Registration Form, ATG Form 109, prior to starting work. Completed Site Registration Forms will be retained with the personnel exposure files.

4.2.3 Occupational Radiation Exposure History

Before an individual will be permitted to work in a controlled area, a U.S. Nuclear Regulatory Commission Form 4 must be completed and reviewed by the Project Manager or designee.. Exposure results shall be listed on the NRC Form 4.

An Occupational Radiation Exposure History Letter, (ATGF Form 047) will be completed for all personnel assigned to the job. Copies of this letter are sent to the individual and the Allied Technology Group office in Oak Ridge, TN., within 30 days of obtaining the monitoring results.

4.2.4 Thermoluminecent Dosimetry

TLDs shall be the permanent record of an individual's occupational radiation exposure. The TLDs used by Allied Technology Group are supplied and

evaluated by a NVLAP approved vendor. All personnel assigned to the project will be issued a TLD for the job or on a monthly basis as the work requires.

The individual's name, social security number, issue date, and a date of return are to be recorded on the TLD Issue Log, (ATG Form 111a). In the event of a lost TLD, immediate notification to the Project Manager or designee. is required. A Lost TLD Report (ATG Form 111), will be completed and filed in the individual's exposure file. TLD results will be documented. The NRC Form 4 will be updated when the TLD results are received and will be maintained in the individual's exposure file.

4.2.5 Bioassays

Routine bioassay sampling and analysis is not required for the base survey activities, unless elevated contamination is found AND subsequent action is contractually committed. In which case, entry bioassay samples will be collected to provide a baseline, and exit bioassay samples will be submitted at project completion. The samples (urine) will be analyzed per third party gamma spectroscopy to determine the extent of uptake and to calculate the attributing dose, if any, as warranted. Dependant upon the discrete work areas involved and the identity of suspected radioisotopes relevant to the location, additional analytical parameters may be required.

4.2.6 Bloodborne Pathogens

The purpose of this notice is to establish requirements with the intent to protect those employees who have a significant potential of exposure to Bloodborne Pathogens which may cause such disease's as Human Immunodeficiency Virus and Hepatitis-B Virus.

Key Definitions:

Bloodborne Pathogens: Micro-organisms present in human blood that can cause disease in humans include, but are not limited to, Hepatitis-B virus (HBV) and Human Immunodeficiency Virus (HIV).

Exposure Incidents: A specific eye, mouth, other mucous membrane, non-intact skin or penetrable contact with blood or other potentially infectious materials that results from performing required tasks.

Occupational Exposure: A reasonably anticipated skin, eye, mucous

membrane or other penetrable contact with blood or other potentially infectious material that might result from performing required tasks.

Penetrable Contact: A piercing of mucous membranes or the skin barrier by means of a needle stick, human bite, cut and/or abrasion.

Potentially Infectious Materials: Materials that might be present in a first-aid emergency, including blood, vomit, urine or other body fluids.

4.2.7 ATG Field Project Potential

ATG has conducted a thorough evaluation of the processes and tasks which are performed in relation to Contractual Field Projects and has determined the potential for employee exposure to be minimal. However, because of the potential for accidents and injuries resulting in the possible contact of body fluids, ATG shall require additional training. Although the likelihood of accidental exposure is minimal, the following information shall be discussed with assigned site personnel prior to work activity.

4.2.8 The following is the ATG policy for field operations.

Training: All ATG personnel who receive Basic First-Aid training and are designated as Emergency Medical Response personnel shall receive additional training in Occupational Bloodborne Pathogen awareness.

Vaccinations: All ATG personnel trained in Basic First-Aid shall be offered the Hepatitis-B series of inoculations at no cost to the individual. This shall be offered on a voluntary basis and because the risk is minimal and First-Aid treatment of others is voluntary, no statement of refusal of the vaccine shall be required. All ATG personnel who are designated and certified as Emergency Medical Technicians shall be required to receive the Hepatitis-B inoculations. This shall be at no cost to the individual.

Handling of Sharps: All ATG personnel who handle materials containing sharps shall be required to wear puncture resistant gloves. Any injuries received while working with such materials shall be reported to their immediate supervisor. In addition, personnel exposed to blood or other body fluids while aiding an injured individual, no matter how minor, shall report to their immediate supervisor. The supervisor shall then promptly log and report the incident to the Project Manager.

Protective Equipment: Protective Equipment such as gloves, masks and

respiratory barriers are provided in each first-aid kit. All personnel responding to a first-aid situation in which there is a potential for exposure to blood or other body fluids are expected to use these devices for protection of both themselves and the personnel they are aiding.

4.3 Training

Individuals assigned to this project will be trained and qualified radiation workers. Training records will be supplied as part of the Project Quality Assurance Plan. Training specific to the project will be performed prior to the start of work by the Project Lead Investigator and recorded on the Training Record, (ATGF Form 027 - Previous ATG Form 102). Requirements of the Project Decommissioning Plan, Project Quality Assurance Plan and the Project Health and Safety Plan will be covered in the on-site training.

4.4 Decontamination

Contamination control barriers will be established and personal protective equipment will be required to minimize the potential for areas or personnel to become contaminated. In the event that personnel contamination is detected, the following procedure will be used to remove or contain the contamination.

4.4.1 Explanation

This section is a follow-up to ATG Field Procedure, HP-OP-0 1 3, Personnel Decontamination which describes how a radiation worker detects personal contamination. Once detected, this procedure will explain where and how to decontaminate to acceptable levels. It further provides for ongoing documentation to assure adequate review and improvement of existing procedures.

4.4.2 Decontamination Methods

4.4.2.1 Personnel Decontamination

When contamination is found on the worker, the worker shall notify a Health Physics Technician and the Project Manager or designee. immediately that he/she has become contaminated. The worker will indicate where he/she believes the contamination occurred, and the route taken to where the surface contamination was detected. This information will assist the Health Physics Technician in determining which areas to survey to avoid the contamination of

other personnel. After notifying the Health Physics Technician, the individual who is contaminated shall, if possible, isolate the contaminated item or items by the use of clean plastic bags and remain in the personnel survey area. Any method of decontamination used will require monitoring and documentation of the results for each step in the procedure. All liquids used for decontamination purposes, will be considered contaminated and handled as radioactive waste. A spray solution of RadiacWash or equivalent mild detergent solution should be used as the primary agent to remove skin contamination. RadiacWash foam will be sprayed on the contaminated area, allowed to soak for a few minutes, then wiped clean. Radiation surveys will be performed between each wash.

NOTE: UNDER NO CIRCUMSTANCES WILL THE SKIN BE ABRADED WITHOUT DIRECT MEDICAL SURVEILLANCE. NOTIFY THE ATG RADIATION SAFETY OFFICER AND THE CORPORATE RADIATION SAFETY OFFICER SHOULD THIS BE RECOMMENDED.

Additional washing may be required if the affected area contamination levels are not reduced to below acceptable limits. If needed, lava soap, a soft brush and small amounts of water can be used with light pressure to produce a heavy lather. Only wash 3 times for about 2 minutes each. Rinse and monitor. Use care not to scratch or erode the skin. Apply lanolin or hand cream to prevent chapping. Continued washing will abrade the skin. Any additional decontamination techniques shall be approved by the Radiation Safety Officer on a case by case basis.

4.4.2.2 Clothing Decontamination

When contamination is found on clothing, the worker shall immediately notify a Health Physics Technician and inform him/her of the situation, including where the worker believes the contamination occurred and the route taken to where the contamination was detected. This information will assist the Health Physics Technician in determining which areas to survey to avoid the contamination of other personnel. The contaminated clothing shall be removed, taking special care not to further contaminate additional clothing or personnel. The item(s) shall be surveyed to determine the degree of contamination. Depending on the source of

contamination, decontamination methods such as using tape to adhere the contamination to or scraping a shoe with a knife may be used. If the contaminated item cannot be easily decontaminated without using soap and water methods, the item shall be disposed of as radioactive waste.

4.4.3 Documentation

In order to fully assess the degree of contamination, the skin dose to personnel and to critique the incidents to improve future procedures, documentation is necessary. Documentation of the event should start and continue from the initial detection of contamination to the final release. Personnel contamination that requires decontamination will be classified in two categories, skin and clothing. A separate form shall be used for each, along with a Contamination Report Index, (ATG Form 116) to chronologically categorize all personnel contamination.

A Personnel Contamination Report, (ATG Form 117), and a Clothing Contamination Report, (ATG Form 118) shall be completed by the individual performing the decontamination and submitted to the Project Manager for evaluation and filing. The Contamination Report Index shall be maintained by the Project Manager. The contamination reports shall be maintained in the individual's exposure file.

5.0 SAFETY RULES

5.1 Purpose

The purpose of the safety rules section is to provide a code of conduct which will allow for a smooth operation of the job site with as little time loss as possible due to violation of Safety Rules and Regulations. The safety rules apply to both the workers assigned to the project and visitors.

5.2 General Requirements

Compliance with the Safety Rules is considered a condition of employment, and as such, disciplinary action may be taken for violations as necessary. Safety rule violation and disciplinary action will be determined by ATG management. All workers have the responsibility to report safety violations to their supervisor.

5.3 Safety Rules

The following safety rules have been compiled and reviewed by ATG management and will be accepted by all employees prior to employment. A copy of the Safety Rules and Regulations will be available at the job site and will be made available to any employee requesting a personal copy.

5.3.1 Employees must be in working clothes and ready for work at the designated starting time.

5.3.2 Employees may take lunch breaks only during designated times and must eat in the assigned area while on the job site. There will be no smoking, eating or drinking while handling any hazardous materials or within the work site.

5.3.3 Personnel will not quit work before the time designated for the conclusion of the work shift. There will be sufficient time allocated for removal of protective clothing or work clothes.

5.3.4 Employees must report to work each regularly scheduled work day. One hour call in time will be allowed to notify your superior of an absence. Excessive absentees will not be tolerated.

5.3.5 No employee will report to work under the influence of alcohol or drugs. Likewise, it is forbidden to carry or use alcohol or drugs on the job site or company property.

5.3.6 Personnel must comply with both verbal and written instructions from the Project Manager or designee..

5.3.7 All personal work injuries must be reported to the Project Manager or designee. or Health and Safety Representative (or designated alternate).

5.3.8 All unsafe conditions, or unsafe acts must be reported to the Project Manager or designee..

5.3.9 Any required personal protective devices and clothing must be properly worn by all personnel while on the job site.

5.3.10 Radiological monitoring equipment such as air samplers must not be tampered with or altered.

5.3.11 Good housekeeping by all personnel is considered mandatory.

5.3.12 Employees will not engage in malicious horse play, practical jokes or mischief while on the job site.

5.3.13 Fighting or attempting bodily injury to another employee while on the job site is not permitted.

5.3.14 Carrying a concealed weapon on the job site is expressly forbidden.

5.3.15 Falsifying company records or falsifying data will not be tolerated and will result in disciplinary action.

5.3.16 Equipment marked "Out Of Service" or "Do Not Use" shall not be used.

5.4 Disciplinary Actions

The following steps will be administered in a fair and nondiscriminatory manner:

5.4.1 All Disciplinary actions will be documented and maintained in the employee's personnel file.

5.4.2 Supervisory personnel are responsible for giving appropriate and specific safety instructions and are responsible for assuring that the instructions are clearly understood.

5.4.3 A violation of the safety rules will be promptly corrected. The violations will be documented by the supervisor and the employee will be given a copy of the written violation report.

5.4.4 Individual safety rule violations will be assessed on their merit with appropriate consideration given to the seriousness of the violation, the effect on the other employees, the employee's prior work record and previous safety violations. Any disciplinary action to be taken will be approved by the Project Manager or designee..

5.4.5 There may be some situations where the safety rule violation is so serious that modification or total disregard of the steps may be warranted. In these situations the employee may be suspended or terminated. It is suggested that in cases of this type, the employee be suspended pending the outcome of a full investigation of the incident and the employee's previous safety history. When this method is followed, the results of the investigation should

determine the severity of the discipline to be administered.

6.0 STOP WORK CONDITIONS

During the performance of this contract, certain conditions may be encountered that will require specific work tasks to be immediately halted. Conditions such as; discovery of explosive materials, excessive contamination levels in an uncontrolled environment, high wind speeds, extreme high or low temperatures, severe storms or flash floods. Depending on the specific work task that is being performed at the time on such an adverse condition, work may be halted until a safe condition exists to restart the task.

If time permits, the Project Manager or designated alternate will communicate with the Government representative to determine the appropriate action to be taken at a given time. The following guidelines will be used to aid in determining stop work conditions.

6.1 Excessive Contamination Levels in non-controlled areas means that contamination levels in excess of 1000 dpm/100 cm^2 have been detected in non contamination controlled areas. All work tasks will immediately be halted and a concerted effort will be made to clean the affected area. The Radiation Safety Officer will be immediately notified of such conditions and work will not restart without his approval. This activity will be documented in the Daily work log and by survey documentation.

6.2 The guidance for the determination of working conditions for heat stress will be determined per the guidance given in the American Conference of Governmental and Industrial Hygienists (ACGIH), "Threshold limit values for Chemical Substances and Physical Agents and Biological Exposure Indices" under the Heat Stress Section. Working conditions will be explained to the workers each day by the Health and Safety Representative or designated alternate during the safety meetings and documented in the Final Report.

Extreme High Temperatures means in excess of 105 degrees. Heat stress to the workers may occur. When high temperatures are occurring, specific work tasks that are hampered will be halted. Work tasks that require physical work or work tasks that protective clothing is required may be affected. The Project Manager or designated alternate will evaluate the conditions and determine if work tasks will be halted.

6.3 Extreme Low Temperatures means less than 10 degrees. When low temperatures are occurring, specific work tasks that are hampered will be halted. The Project Manager or designated alternate will evaluate the conditions and determine if work tasks will be halted

6.4 High Wind Speed means a steady wind speed in excess of 25 mph or wind gusts of 40 mph that seem to be ongoing throughout the day. Unsealed sources of radioactive material may be spread to uncontrolled areas if wind speeds are excessive. During high wind speeds the soil packaging activity will be performed inside a sheltered area but may still be affected by steady winds or wind gusts. If excessive winds are encountered, the soil packaging activity will cease and the soil containers will be sealed and the remaining soil covered with plastic. Other work activities may be halted at the discretion of the Site Coordinator..

6.5 Severe Storms or Flash Floods could cause all work tasks to be halted. Water damage to the controlled areas and wind barriers will cause all work tasks to be halted until the areas can be repaired. Should these type of conditions occur, the equipment and areas will be secured and evacuated. Prior to the restart of work, the Site Coordinator will receive approval from the contract administrator or the Radiation Safety Officer..

6.6 Natural Disasters will be handled on a case by case basis. Depending on the type and magnitude of the disaster, work operations will be determined by the Site Coordinator.

6.7 Discovery of unidentified underground utilities could cause all work tasks to be halted until the utilities are identified and disconnected by the proper authorities.

6.8 Unauthorized person(s) entering the exclusion zone would constitute work to be stopped and the proper authorities notified. The incident would be properly documented.

7.0 ACCIDENT REPORTING

NOTE: **All accidents, injuries, fires, or any emergency incidents will be reported following the guidance of the Section 10.0 of this procedure, the EMERGENCY PLAN, under part 10.3 'Radiological Incident'.**

7.1 Insurance

ATG's Worker Compensation Carrier has the responsibility for the following:

7.1.1 Making sure that every claimant is entitled to a fair investigation of his/her claim and a prompt decision as to its merit.

7.1.2 Determining how much a particular liability case is worth and negotiating a settlement within that range.

7.1.3 Making sure that cases of no liability, tenuous liability or those tainted by fraud are vigorously resisted.

7.1.4 Consulting with the company's Controller on all claims requiring settlement in excess of $5,000.00.

7.1.5 Consulting with the company's President or Vice President on all claims requiring settlement in excess of $10,000.00.

7.1.6 Maintaining the risk management reporting system, the risk detail report and forwarding monthly report updates to the company's President or Vice President.

7.2 Accident or Injury Reporting Requirements

All injuries shall be promptly reported to the ATGProject Manager or designee., and the Fort McClellan Safety Office.

To make sure that each incident is properly and appropriately reported and recorded, the Foreman's Report of Injury or Illness (ATG Form 133) is required. The Foreman's Report of Injury or Illness will provide all of the information to generate the employees first report of an injury. It can also be used as the company's medical authorization. The Foreman's Report of Injury or Illness must be completed in detail for every accident, injury or illness which occurs to an ATG employee, visitor or subcontractor either in connection with or on company property or on a contracted job site. Every effort should be made to complete this form as quickly as possible following notification of the incident. The injured worker's foreman is responsible for completing this form. Once completed, the form should be reviewed and signed by the Health and Safety Representative or designated alternate and a copy forwarded to the insurance carrier. Copies shall be provided to U.S. Army Industrial Operations Command.

Accidents resulting in any fatality, lost-time injury or illness, hospitalization of 3 or more personnel, or property damage to government or contractor property (which occurred during performance of the contract) equal to or exceeding $2000.00 must be telephonically reported to USA, IOC as soon as possible, but not later than 2 hours after occurrence and reported in writing within 5 days of occurrence on DA Form-285. All other accidents/incidents must be reported by telephone to USA, IOC, (309) 782-0880, within 8 hours of occurrence.

7.3 Employee's First Report of Injury

Each state within the United States has either developed its own Employer's First Report of Injury Form or has indicated a willingness to accept a suitable substitute. Generally where a state does not have its own form, the substitute is that form used by the employer's Workman's Compensation Carrier. Every state requires some type of injury notification.

The Project Manager or his/her designee shall report immediately by telephone, or in writing, to the nearest District Office of the Division of Occupational Safety and Health any serious injury, accident or death of an employee. "Immediately" is defined for this purpose to mean as soon as practical but no longer than twenty four hours after the employer knows of or should have known of the death, illness or serious injury. The Project Manager will notify the nearest office of the Division of Occupational Safety and Health whenever a State, County, or Local Fire or Police Agency is called to an accident involving an employee that has suffered a serious injury, illness or death.

7.4 OSHA Forms

The OSHA Form 200 Log and Summary of Occupational Injury and Illness along with the OSHA Form 101, Supplementary Record, will be completed and maintained at the ATG Corporate office in Fremont, California.

The corporate office has the responsibility to record and report OSHA reportable incidents. All forms are available on request.

8.0 HAZARD COMMUNICATION PROGRAM

8.1 Purpose

The purpose of this written Hazard Communication Program is to comply with the requirements of the Code of Federal Regulations, Title 29, Part 1910.1200, "Hazard Communication". This program is site specific.

8.2 Policy

ATG as an employer engaged in a business within the Standard Industrial Classification, Codes 20 through 39, where chemicals or hazardous materials are either used or are produced for use. This program will assure that the hazards of all chemicals found in the work place will be evaluated and that information concerning their hazard will be transmitted to all affected employees.

The known hazard that will be handled on this project will be radioactive material and potential biological hazards. The hazards have been evaluated in this Project Health and Safety Plan. Communication to the employees will be handled in the project training and verified through the Project Quality Assurance Plan. Identification of the radiological hazard is required by posting radiological controlled areas and labeling containers or items that contain radioactive material in accordance with 10 CFR 20. All potential biological hazards will be properly labeled and the work site will have the proper postings.

Any currently unknown hazards will be handled in the same manner when they are encountered. The Project Manager or designated alternate will be responsible for conducting the evaluation, communication and identification.

Material Safety Data Sheets (MSDS) will be provided for all materials brought onto the site. All MSDS's will be placed alphabetically in a labeled notebook and in a designated highly visible area that is readily accessible for personnel and visitors. A copy of all MSDS's for the materials on-site will be provided to the fire department. The fire department will also be notified of the quantity of the material and the storage location. All personnel will be briefed on the materials on-site, the location of the MSDS's, and the proper way to use the MSDS's.

9.0 PROJECT ROLES AND RESPONSIBILITIES

ATG Project Manager

The Project Manager or his/her designee is responsible for the overall project. He/she is to assure the project meets the objectives and contracted commitments. He/she has the direct management responsibility and authority for cost, schedule, quality and technical performances of all activities in support of the project. He/she is ultimately responsible for the implementation of all quality related activities. Other responsibilities include: selecting project staff and assigning duties, budgets and schedules, and identifying and resolving project specific problems. The Project Manager will assure the tasks are completed in a professional, efficient, and safe manner.

ATG Project Lead Investigator

The ATG Project Lead Investigator or his designated alternate will have overall responsibility for ATG's on-site conduct of the project and will report to the Project Manager for oversight and management control. He/she will be the primary point of contact. He/she is responsible for implementing and monitoring compliance with the operations plan and implementing corrective actions.

ATG Field Personnel

ATG Field Personnel will take all reasonable precautions to prevent injury to themselves and to their fellow workers by remaining alert to potential harmful situations. All tasks must be performed in accordance with the Project Sample Analysis Plan and the Health and Safety Plan. Any unsafe conditions must be reported immediately to the Project Manager or designated alternate. Personnel must report any medical conditions that may be affected by the work environment. All injuries must be reported - no matter how minor. The Field Personnel must read and comply with all postings and rules at the work site. Spilling and splashing of materials must be kept to a minimum. Good housekeeping must be maintained within and around the work area.

10.0 EMERGENCY PLAN

The objective of emergency response actions is to minimize adverse health risks to site workers, the environment, and local community. The Project Manager or designee. will be the site emergency coordinator.

The following is a course of action for any accidents or emergencies that may occur during this project and the immediate actions to be pursued. In any situation outside the scope of the work identified in this work plan, the actions taken should be to stabilize the area, notify appropriate personnel, contain the area and prevent unauthorized personnel from entering the area (thus minimizing their exposure and contact), surveying the area for all hazards, and then formulating a plan for recovery from the accident or situation. The following will be performed prior to work on site:

a. Locate the nearest telephone.

b. Confirm and post emergency telephone numbers.

c. Post site map of work areas marked with evacuation routes.

d. Inventory and check site emergency equipment and supplies.

e. If a radio is supplied, ensure it is charged and in good working condition.

Work is expected to be performed by ATG personnel over weekend periods and during installation non-duty hours. Special arrangements will be made with the appropriate emergency service organizations.

10.1 Evacuations

In the event of an emergency that requires evacuation of the site, verbal instructions will be given by the Health and Safety Representative or designated alternate. During an emergency evacuation, personnel will proceed to the assembly point designated on the map unless conditions cause the assembly point to be unstable or harmful. Verbal instructions will be given if evacuation beyond the assembly point is required. Personnel working on-site should not take time to monitor for contamination unless time allows. Contaminated personnel and areas they have been in contact with will be monitored when the conditions are stable and considered safe.

The following conditions would require evacuation:

- Fire
- Chemical Release
- Radiological Release
- Any event that an injury is incurred
- Any other event that would cause the working conditions to be unstable and no longer safe

The Project Manager or designee. will account for all personnel, ascertain information about the emergency, and advise further instructions to the on-site personnel.

In the event that an evacuation occurs, the following will be performed prior to reentry:

a. The conditions resulting in the evacuation have been corrected.

b. The hazards have been reassessed.

c. The Work Plan and Health and Safety Plan have been revised accordingly and approved by the Project Manager or designee., and the appropriate facility personnel.

d. Site personnel have been informed on changes to the site and work conditions.

e. Site personnel have been informed on precautions to take and any change in PPE requirements.

f. TheProject Manager or designee. has given the approval for reentry.

10.2 Medical Emergencies

If a situation occurs that results in the injury of personnel or visitors, the following actions shall be taken:

10.2.1 Stop all work activities. Ensure the area is in a safe condition.

10.2.2 Qualified personnel will provide first aid to the injured person.

10.2.3 In the event the injury is severe, the Project Manager or designee. will act as the emergency point of contact. Ensure the emergency personnel are aware that contamination may be present.

10.2.4 For any incident, accident, or injury, notify the Emergency Response Organization at phone number 911, the Base Security Post, and the ATG Project Manager or designated alternate.

10.2.5 If the injuries and time allow, the injured person will be surveyed for contamination and decontaminated if necessary.

10.2.6 If a hazardous material gets on the person's skin or eyes, the area will be flushed immediately with clean water until medical personnel arrive.

10.2.7 If a person succumbs to heat stress, the following should be used as a guide:

a. Heat cramps: Caused by heavy sweating and inadequate water and electrolyte replacement.

Symptoms: muscle spasms; pain in the hands, feet, and abdomen.

Treatment: drink Gatorade to replace fluids and electrolytes.

b. Heat Exhaustion: Caused by sustained exertion in a heated environment. Lack of acclimatization and failure to properly rehydrate may contribute.

Symptoms: clammy skin; heavy sweating; dizziness; nausea; and fainting.

Treatment: Promptly remove individual to a cooler environment and give water or Gatorade to replace fluids and electrolytes. If medical assistance is needed, contact emergency personnel

immediately.

c. Heat stroke: the most serious form of heat stress occurs when temperature regulation fails and the body temperature rises to critical levels.

Symptoms: Red, hot, and dry skin; lack of, or reduced perspiration; nausea; dizziness or confusion; strong rapid pulse; and coma.

Treatment: Immediately summon emergency medical services. While waiting for emergency services to arrive, and if facilities are available, cool person by immersion in cold water or by wrapping in a wet sheet with vigorous fanning with cool dry air. Treat for shock.

d. High concentrations will be identified by the Threshold Limit Values (TLVs) for Chemical Substances and Physical Agents and Biological Exposure Indices (BEIs) as referenced in the Reference List.

10.3 Radiological Incident

A radiation incident may be defined as an unforseen occurrence, either actual or suspected, involving exposure or radiation. An accident is considered to occur over a short period of time, from seconds up to several days. Chronic occupational or other long-term exposure is not considered accidental.

There are two ways in which humans can be exposed to ionizing radiation:

1. External. The source of ionizing radiation may be outside of the body so that the radiation strikes the individual and is absorbed. Radiation from x-ray generators, particle accelerators, sealed sources of radionuclides, and reactors are examples. The radiation may be beta, gamma, or neutron. Alpha emitters present no significant external hazard.

2. Internal. The source of ionizing radiation may gain entrance into the human body by inhalation, ingestion, injection, or absorption through intact or abraded skin. Radionuclides may also be formed within the body following exposure to an external source of neutrons. All persons who are known or suspected to have been internally exposed to radioactive material will be reported to the Fort McClellan Radiation Protection Office.

SPECIFIC GUIDELINES

In the event of an emergency, the Project Manager or designee. will assume control of the situation and direct activities until relieved by proper authority. The exact actions and sequence of actions to be taken will be determined by the nature of the emergency. The following actions are typical responses to emergency situations, however, the sequence of these actions are highly variable.

10.3.1 Stop all work activities

10.3.2 Leave the area in a safe condition

10.3.3 Limit the radiation exposure and the spread of radiation contamination, if undue hazard to personnel does not result. For example:

a. Return sources to shield containers
b. Place absorbent material on spills
c. Turn off ventilation and equipment
d. Extinguish flames, heaters, etc.
e. Restrict access to the area

10.3.4 Perform radiological surveys (airborne, contamination, and radiation) to determine the nature and extent of the release and spread of contamination.

10.3.5 Contain the area with herculite or an equivalent material to prevent the continued spread of radioactive material and/or hazardous material to the environment.

10.3.6 Evacuate and survey all personnel to a identified safe area.

NOTE: In the event of any injury, this will take precedence to evacuate and place the injured individual in a safe condition. Immediate medical attention will be obtained for any injuries occurring during this operation. All injuries will result in immediate work stoppage and evaluation of the conditions prior to recommencing activities under the direction of the Project Manager or designated alternate.

10.3.7 Radioactively contaminated personnel will receive all necessary medical care and treatment at the earliest practical time.

10.3.8 Radiation and radioactive contamination will not deter medical personnel in efforts to save life or limb, although slightly different techniques must be employed, e.g. rotating medical personnel to minimize exposure to any one individual, keep individual exposures As Low As Reasonably Achievable (ALARA), etc.

10.3.9 Radioactively contaminated personnel will be decontaminated at the earliest opportunity consistent with their medical needs.

10.3.10 Every effort will be made to minimize radiation exposure and the spread of contamination during medical treatment.

10.3.11 The ATG Project Manager or designated alternate will advise the Site RPO of the extent of contamination and exposure of the individual.

10.3.12 At the earliest possible time consistent with the patient's medical needs, the attending physician will allow decontamination to begin. Decontamination will be provided under the guidance of ATG Radiation Protection personnel.

10.3.13 All contaminated clothing, equipment, and waste material will be retained by ATG Radiation Protection personnel.

10.3.14 Contaminated valuables will be retained by ATG Radiation Protection personnel who will account for them, and will decontaminate them as soon as the situation permits so that they may be returned or disposed of properly. Valuables and personal property will not be disposed of as contaminated waste without written consent of the owner.

10.3.15 Formulate a recovery plan, obtain approval as required, and commence recovery operations.

10.4 Responsibilities

10.4.1 Personnel

All personnel are responsible for the following:

Become thoroughly familiar with the contents of this regulation prior to using radioactive material.

Take adequate precautionary measures to protect all personnel from unnecessary exposure to radiation.

Seek advice and assistance from ATG Radiation Protection personnel concerning the safety of an operation.

Prescribe rules, procedures, or protocols for the use of radioactive materials under his control to ensure proper and safe use. These will be made available to any radiation worker in the area and will be furnished for review and comment by Allied Technology Group.

Ensure that all rules, procedures, and practices of radiation safety are rigorously followed in the work area.

Report actual or potential emergency situations to the Project Manager or designee..

Promptly contact ATG Radiation Protection personnel. Exposed individual(s) should cooperate in any and all attempts to evaluate his/her radiation exposure.

If working with radioactive material, maintain a current inventory of the quantity of radioactive material on hand to be readily available to the RPO upon request. The inventory will include the radionuclide(s), current activity, and form.

Evacuating the area immediately.

If qualified, provide first aid to the injured.

10.4.2 Management

All supervisors are responsible for the following:

Anticipate hazardous conditions and prevent them from occurring.

Ensure personnel are trained on emergency situations.

Ensure emergency contact numbers are current.

Ensure evacuation routes are clear.

Alert emergency personnel and act as the point of contact.

Account for all personnel.

The overall health and safety of their workers.

Limiting possible radiation exposure to the general public.

Notification of the Base RPO if a radiation incident should occur involving contractors.

Generation of a written report of all incidents involving radiological hazards including the following as a minimum:

- The type of radiation incident: internal contamination, external contamination, or exposure.
- The number of contaminated individuals and their condition.
- The type of radioactive material.
- Efforts, if any, that have been made to decontaminate the individual at the accident site.

Levels of radiation measured on the patient.

10.4.3 The Fort McClellan Radiation Protection Office will respond to all radiological emergencies and will:

Provide technical advice as necessary.

Arrange for additional resources, e.g. personnel, supplies, and equipment.

Provide assistance as needed.

Provide advice and radiation monitoring.

Provide exposure control and monitoring of staff personnel attending the patient.

Direct decontamination of the personnel at the earliest time consistent with medical needs.

If required, make a prompt investigation of the incident.

Issue specific guidance to minimize exposure of the staff or spread of

contamination.

Such guidance will be developed on the scene by the Fort McClellan Radiation Protection Office.

Make appropriate reports to MEDCOM, the Nuclear Regulatory Commission (NRC), and other agencies in accordance with pertinent directives.

10.4.4 Medical Personnel

The medical personnel present at the scene of an accident will:

Evaluate the injury

Apply first aid

Take the person to a designated decontamination area

Employ contamination control measures

Follow recommendations whenever possible since radioactive contamination can necessitate very costly decontamination operations and result in the loss of facilities for many days.

Notify the Fort McClellan Radiation Protection Office.

10.5 Safety Signals

Vehicle, tractor, and portable gas-operated horns are used for safety signals as follows:

One Long Blast	**WARNING ALARM** - prepare for emergency response
Two Short Blasts	**ACTIVATION ALARM** - initiate emergency response activities as directed by the Project Manager or designee..
Three Short Blasts	**ALL CLEAR** - return to normal activities.

10.6 Emergency Information

Emergencies may include fires, fire hazards, accidents requiring first aid, or other incidents requiring emergency procedures. ATG and its subcontractors will, at all times, minimize potential emergencies. The following section lists emergency phone numbers which should be posted in all work areas:

EMERGENCY PHONE NUMBERS

Ambulance (Fire Department)	(256) 848-2315
Hospital (Emergency Room)	(256) 235-8900
Fire Department	(256) 820-1117
Security	(256) 848-5159 or 3560
Center for Disease Control (CDC)	(404) 452-4100
RCRA Hotline	(800) 424-9346
Poison Control Center	(619) 543-6000
National Response Center	(800) 424-8802

DIRECTIONS TO HOSPITAL

The nearest hospital is Stringfellow Memorial of Anniston which is 5 miles from the project site on 301 East 18th Street

10.7 Key ATG Personnel

POSITION	NAME	PHONE
Project Manager	Lee Young	(865) 220-8030
Project Health Physicist	Mark McHugh	(865) 425-5011
Corporate RSO	Arthur Palmer	(865) 425-5033

10.8 Key Contracting Personnel

POSITION	NAME	PHONE
US Army OSC Health Physicist	Mike Styvaert	(309) 782-0880
US Army OSC Contract Officer	Robert Matthys	(309) 782-5554

10.9 Key Facility Personnel

POSITION	NAME	PHONE
Fort McClellan RPO	John May	(256) 848-5737
Fort McClellan Env. Contact	Lisa Kingsbury	(256) 848-7455

11.0 SPILL PREVENTION AND CONTROL

Spill prevention control shall be as follows:

The use and spread of materials will be initially prevented by the elimination of unnecessary materials being introduced to the site. The basic survey effort requires that only exempt quantity radioactive check sources, instrument batteries, and P-10 gas (10% methane, 90% argon) be mobilized for routine use.

The control of spills is thus intended for encountered or discovered materials on the base as the result of or during the radiological surveys.

11.1 Spill Response

If a spill of hazardous material occurs, the following actions will be taken:

Notify the Project Manager or designated alternates immediately.

Take immediate measures to control and contain the spill within site boundaries.

Keep unnecessary personnel away, isolate the hazardous area, and deny entry.

Stay upwind and keep out of low-lying areas.

Allow no flares, smoking, or flames in the hazard area.

For liquids, keep combustibles away from the spilled material.

Take necessary steps to clean up the spill and all contaminated material.

12.0 ACRONYMS

ACGIH	American Conference of Governmental and Industrial Hygienists
ALARA	As Low As Reasonably Achievable
ATG	Allied Technology Group
BEI	Biological Exposure Indices
CDC	Center for Disease Control
CFR	Code of Federal Regulations
EOD	Explosive Ordnance Disposal
HBV	Hepatitis-B Virus
IOC	Industrial Operations Command
LEL	Lower Explosive Limit
MSDS	Material Safety Data Sheet
NRC	Nuclear Regulatory Commission
OSHA	Occupational Safety & Health Association
PPE	Personnel Protective Equipment
RCRA	Resources Conservation and Recovery Act
RPO	Radiation Protection Office(r)
RSO	Radiation Safety Officer
RWP	Radiation Work Permit
TLD	Thermoluminescent Dosimeter
TLV	Threshold Limit Value
UXO	Unexploded Ordnance

13.0 REFERENCES

29 CFR 1910, OSHA Standards for General Industry.

29 CFR 1926, OSHA Standards for Construction.

U.S. Nuclear Regulatory Commission Division of Industrial and Medical Safety, "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material".

ATG Corporate Health and Safety Manual.

ATG "Decommissioning Plan for the Fort McClellan 'Burial Mound' for the IOC, December 1998.

ATG "Project Quality Assurance Plan for the Fort McClellan 'Burial Mound' for the IOC, December 1998.

ATG Respiratory Protection Program.

American Conference of Governmental Industrial Hygienists (ACGIH), "Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices".

ANSI A14 Series - 1992, Safety Standard for Ladders.

ANSI B30 Series, Safety Standards for Cableways, Cranes, Derricks, Hoists, Hooks, Jacks, and Stings.

ANSI B56 Series, Safety Standard for Powered industrial Trucks.

ANSI Z41 - 1991, Personnel Protection - Protective Footwear.

ANSI Z49.1 - Safety in Welding and Cutting.

ANSI Z87.1 - 1989, Practice for Occupational and Educational Eye and Face Protection.

ANSI Z89.1 - 1986, Protective Headwear for Industrial Workers.

ANSI ZI 17.1 - 1989. Safety Requirements for Confined Spaces.

NUREG/CR 2082 "Monitoring for Compliance with Decommissioning Termination Survey Criteria".

NUREG-1575, "Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)"

NUREG-1515, "A Non-Parametric Statistical Mehodololgy for the Design and Analysis of Final Status Decommissioning Surveys".

NUREG-1517, "Minimum Detectable Concentrations with Typical Survey Instruments for Various Contaminants and Field Conditions".

NRC Decommissions and Regulatory Issue Branch Technical Position, "A Summary of NRC and Interim Radiological Cleanup Criteria and Current Dose Rates" (Nov, 1992).

NUREG/CR5512,"Residual Contamination from Decommissioning".

Industrial Radiation Study No. 27-MH-0987-R2-97, Pelham Range Burial Mound Site Fort McClellan, Alabama 29 August - 15 September 1995 and 14-28 January 1996, U. S. Army Center for Health Promotion and Preventive Medicine.

14.0 FORMS

ATG Form-027	Training Record
ATG Form-047	Occupational Radiation Exposure History Letter
ATG Form-109	Site Registration
ATG Form-112	Radiation Exposure Record
ATG Form-116	Contamination Report Index
ATG Form-117	Personnel Contamination Report
ATG Form-118	Clothing Contamination Report
ATG Form-133	Foreman's Report of Injury or Illness

TRAINING RECORD

TRAINING DATE:	INSTRUCTOR:
LOCATION:	TOTAL CLASS HOURS:

TRAINING COURSE TITLE:

SCOPE OF TRAINING:

NAME OF STUDENT	SOCIAL SECURITY NO.	SIGNATURE

TRAINING APPROVED BY (Project Director):

Allied Tech(qy Group, Inc.
47375 ont Blvd.
Fremont, California 94538
(800) 227-2840

OCCUPATIONAL RADIATION EXPOSURE HISTORY
Exposure Year 1999

Name:_____ Social Security Number:_____

Address:_____ Date of Birth:_____

City:_____ State: _____ Zip: _____

The Occupational Radiation Exposure listed below was received by the above individual while assigned by Allied Technology Group

Project/Location Monitored	Monitoring Method TLD/Film Badge	Record/Estimate	NRC License Number(s):
	TLD Badge #		

Abbreviations: NC - Not Calculated ND - None Detected NM - Not Monitored SA - See attached

Monitoring Period		Deep-Dose Equivalent			Shallow-Dose Equivalent		LDE	CEDE	CDE	TEDE	TODE
From	To	X or γ	Neutron	Total DDE	Skin SDE, WB	Extremity SDE, ME	Lens	$H_{E,50}$	$H_{T,50}$	DDE+CEDE	DDE+CDE

THIS REPORT IS FURNISHED TO YOU UNDER THE PROVISIONS OF THE NUCLEAR REGULATORY COMMISSION REGULATION 10 CFR PART 20 TITLED "STANDARDS FOR PROTECTION AGAINST RADIATION". YOU SHOULD PRESERVE THIS REPORT FOR FURTHER REFERENCE. ALL DOSE EQUIVALENT VALUES ARE REPORTED IN MILLIREM.

Radiation Safety Officer:_____ Date:_____

SITE REGISTRATION FORM
ALLIED TECHNOLOGY GROUP, INC.

PERSONAL INFORMATION

Name:			Date:
Social Security:	Date of Birth:	Project Name:	
Permanent Address:			
City:		State:	Zip:

EMPLOYER INFORMATION

Employer's Name:	
Employer's Address:	
Name of Emergency Contact:	
Address of Emergency Contact:	
Emergency Contact Phone:	
Signature:	

MEDICAL HISTORY

List any condition or ailment that may affect your ability to perform your job:		
Indicate if you are epileptic or diabetic:		
List any allergies you have:		
List any medications you are now taking:		
Last Tetanus Shot date:	Date of Last Physical:	
Signature:		Date:

FINAL PAYCHECK ADDRESS

Address:	
City:	
Phone:	
FedEx: ☐	Check box at left if you want your check Federal Expressed to you. ATG must deduct a $15.00 fee from your final pay for this service. If not checked, paycheck will be sent regular mail.

1995 RADIATION EXPOSURE RECORD

AME:	
SOCIAL SECURITY NO:	BIRTH DATE:
EXTREMITY BADGE NO:	LM BADGE NO:
LIFETIME WHOLE BODY EXPOSURE:	

	WHOLE BODY	SKIN	EXTREMITIES		LIFETIME HIGHEST WHOLE BODY
			LEFT	RIGHT	
JANUARY					
FEBRUARY					
MARCH					
QUARTER TOTALS					
APRIL					
MAY					
JUNE					
QUARTER TOTALS					
JULY					
AUGUST					
SEPTEMBER					
QUARTER TOTALS					
OCTOBER					
NOVEMBER					
DECEMBER					
QUARTER TOTALS					
ANNUAL TOTALS					

CONTAMINATION REPORT INDEX

DATE	DATE	TYPE CLOTHING PERSONNEL	LOCATION OF CONTAMINATION	COMMENTS

PERSONNEL CONTAMINATION REPORT

NAME	DATE
LOCATION WHERE CONTAMINATION OCCURRED:	RWP#

EXTENT OF CONTAMINATION:

A. INITIAL SURVEY RESULTS:	
B. SURVEY RESULTS AFTER DECONTAMINATION:	
C. RELEASE SURVEY RESULTS:	

SKIN DOSE EVALUATION:

A. Maximum contamination level conversion from dpm to mrad/hr maximum skin dose rate

_____ dpm (4,000 dpm/mrad/hr) = _____ mrad/hr.

B. Maximum skin dose rate Total time skin contaminated

Total maximum skin dose _____ mrad/hr x_____ hr* =_____ mrad**.

* If skin contamination cannot be removed, assume a residence time of 48 hours. Contact the Radiation Safety Officer in all cases where skin contamination cannot be reduced below 1000 dpm.

** If 75 mrad, contact the Radiation Safety Officer. (75 mrad is equivalent to 75000 cpm on the skin for 4 hours.)

RADIATION SAFETY OFFICER COMMENTS:

SIGNATURE (TECHNICIAN)	DATE
SIGNATURE (INDIVIDUAL)	DATE
SIGNATURE (SUPERVISOR)	DATE

CLOTHING CONTAMINATION REPORT

NAME:	BADGE NO.:
WORK AREA:	
DATE OF OCCURRENCE:	TIME OF OCCURRENCE:
LOCATION WHERE CONTAMINATION OCCURRED:	
JOB BEING PERFORMED:	
WAS WORK COVERED BY RWP? ☐ YES OR ☐ NO	IF YES, RWP#
ANTI-C's WORN? ☐ YES OR ☐ NO	
DESCRIBE:	
EXTENT OF CONTAMINATION, INCLUDING APPROXIMATE AREA:	
CAUSE OF CONTAMINATION:	
METHOD OF DECONTAMINATION:	
RADIATION PROTECTION COMMENTS:	
SURVEY SECTION:	
A. INITIAL SURVEY RESULTS:	
B. AFTER DECONTAMINATION:	
C. RELEASE SURVEY RESULTS:	
HEALTH AND SAFETY OFFICER	DATE
INDIVIDUAL'S SIGNATURE	DATE

FOREMAN'S REPORT OF ACCIDENT, INJURY OR ILLNESS

EMPLOYER'S NAME:	
EMPLOYER'S ADDRESS:	
WORK LOCATION:	
WORK LOCATION ADDRESS:	
EMPLOYEE'S NAME:	DATE OF BIRTH:
EMPLOYEE'S ADDRESS:	
IS THIS A WORK RELATED INJURY OR ILLNESS? ☐ YES ☐ NO ☐ N/A	
DATE OF OCCURRENCE:	TIME OF OCCURRENCE:
ACCIDENT OR INJURY DESCRIPTION:	
IS THIS A LOST TIME ACCIDENT, INJURY OR ILLNESS? ☐ YES ☐ NO	
IS THIS AN OSHA RECORDABLE ACCIDENT OR ILLNESS? ☐ YES ☐ NO	
WAS MEDICAL TREATMENT NECESSARY? ☐ YES ☐ NO	
EMPLOYEE SIGNATURE	DATE
WITNESS SIGNATURE	DATE
WITNESS SIGNATURE	DATE
FOREMAN'S SIGNATURE	DATE
PROJECT MANAGER SIGNATURE	DATE

ATTACHMENT 8

QUALITY ASSURANCE PLAN

U.S. ARMY FORT McCLELLAN
FORT McCLELLAN, ALABAMA
HQ, OSC PROJECT NUMBER USA 99-100

Release Surveys for Commodity Storage Sites

QUALITY ASSURANCE PLAN

Prepared by:

Allied Technology Group Inc.
669 Emory Valley Road
Oak Ridge, TN 37830

July 2000

U.S. ARMY FORT McCLELLAN

Release Surveys for Commodity Storage Sites

QUALITY ASSURANCE PLAN

APPROVAL PAGE

Concurrence: Lee a. Young
Lee Young, ATG Project Manager

Date: 7/19/00

Concurrence:
Mark McHugh, ATG Project QAM

Date: 000719

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1.0 INTRODUCTION

1.1 Background

Allied Technology Group (ATG) has been contracted by the U.S. Army Industrial Operations Command (IOC) Radioactive Waste Disposal Office for the radiological release surveys of commodity storage sites at Fort McClellan near Anniston, Alabama. As a supporting part of the overall work plan for the project, this Project Quality Assurance Plan has been integrated into the Decommissioning Plan to provide the necessary controls to successfully complete the contract requirements. Performance of project activities is obligated to ATG under contract DAAA09-98-C-0039, Modification P00003. The internal ATG project number if 10036.02.

1.2 Scope and Objectives

The project Quality Assurance Plan has been developed to meet the applicable regulations and requirements and to assure compliance with the work objective, and requirements of the project Sampling and Analysis Plan (SAP) and the Project Health and Safety Plan (HASP).

Management and supervisory personnel will be on site to provide instruction and guidance to project personnel in the implementation of this plan.

2.0 QUALITY ASSURANCE PROGRAM

2.1 Project Quality Assurance Plan

The Project Quality Assurance Plan is committed to ensuring that all activities to be performed during this radiological survey project which affect quality are prescribed by and performed in accordance with procedures. The Project Quality Assurance Plan is implemented for the activities specified in the Sampling and Analysis Plan and the Project Health and Safety Plan for the Fort McClellan project. The Project Quality Assurance Plan highlights project specific aspects of the applicable quality assurance elements. The specific quality assurance tasks are defined in the plan.

2.2 Quality Assurance Training

The Project Manager or designated alternate will perform the initial quality assurance training of the project personnel at the start of the project.

If additional personnel are added to the project, they will receive quality assurance training prior to participation in the project activities. Quality assurance training will consist of a review and discussion of the project Sampling and Analysis Plan and supporting documents which shall include the ATG Field Operating Procedures and any additional procedures referenced in the Sampling and Analysis Plan, Health and Safety Plan and the Quality Assurance Plan. Special emphasis will be placed on documentation of work, quality control checks, equipment performance, identification and control of radioactive material and safety procedures.

Each participant shall acknowledge that he/she has received training and that he/she understands the quality assurance requirements relevant to the project by signing and dating the Training Record, ATG Form 027

2.3 Technical Training and Personnel Qualifications

Allied Technology Group management will review written statements of qualification and resumes with reference to the position necessary to perform the work as described in the Sampling and Analysis Plan to establish personnel capabilities and qualification to perform the assigned task. If comparison of personnel qualification, including education, experience, and training do not fulfill the requirements of the position description to meet project needs, appropriate training including "read and study" and "on-the-job" training will be performed or other appropriately qualified individuals will be assigned to perform the task.

The Project Manager or designated alternate shall review all personnel qualifications and determine the type of training or experience required to ensure that an individual is qualified to perform the work. This review will be documented on the Review of Personnel Qualification, ATG Form 103. Personnel records shall be maintained in the quality assurance record file and shall include a record of the initial qualifications, documentation of review by the Project Manager or designated alternate and acceptance of current qualifications or the need for additional training and a record of the completion of training. Project management shall monitor the performance of individuals involved in activities affecting quality and shall determine if there is a need for retraining or replacement. Retraining or replacement of individuals will be initiated immediately upon identification of the need for such actions. The following guidelines shall be used to determine the proficiency and ability of the workers assigned to this project:

2.3.1 Qualification Requirements:

2.3.1.1 Physically capable of performing the work tasks.

2.3.1.2 Demonstrated capability to perform the specific function in accordance with approved procedures.

2.3.1.3 Familiarity with technical aspects of the equipment and procedures, and capability to verify that the equipment is in proper working condition.

2.3.2 Capability Demonstration:

2.3.2.1 The Project Manager or designated alternate shall determine the type of training or experience required to determine if personnel are qualified to perform the specific tasks.

2.3.2.2 The individual workers shall review the approved project Plans.

2.3.2.3 The individual workers shall demonstrate their understanding of the project Plans.

2.3.3 Support Personnel

2.3.3.1 Minimum personnel will be used to support the survey.

2.3.3.2 All support personnel at Fort McClellan will be trained on the applicable hazards on which they are working. This training shall be documented on Training Record ATG Form 027.

2.3.3.3 All support personnel involved in the survey activities shall be monitored for exposure (TLD).

2.3.3.4 All support personnel involved in the survey activities shall be under the direct surveillance of the ATG Lead Investigator (HP) while performing work.

3.0 ORGANIZATION

The Project Quality Assurance Plan oversight will be performed by Headquarters, Industrial Operations Command and the base Chemical School. The ATG Quality Assurance Director

will report independently of the on-site project management. The Industrial Operations Command will perform unannounced inspections to include a review of ATG QA/QC procedures and their implementation on site during the survey activities.

The QA Manager is responsible for assuring that the Project Quality Assurance Plan is implemented and is adhered to on site. All project records and documents will be submitted to the QA Manager for final approval.

The Project Manager reports to the QA Manager, for the purpose of QA/QC control, and will act as an on-site quality auditor. The on-site audit reports and records will be submitted to the QA Manager. Quality items that will impact the performance of the contract will be immediately submitted to IOC. Copies of all reports, records or correspondence will be maintained on site for review.

4.0 CONTROL OF DATA

4.1 Planning

The work tasks necessary to complete this contract will be performed in a planned, systematic manner. To assure adequate project planning, the Sampling and Analysis Plan will be approved prior to the start of work. The Sampling and Analysis Plan will specify the required data collection and records to verify that the contract commitments have been met.

4.2 Data Collection

Data collection will be performed by the individual performing the tasks or their supervisor. Data collection will be performed in accordance with the Sampling and Analysis Plan, Project Quality Assurance Plan and the Project Health and Safety Plan requirements.

4.3 Documentation

Data collection shall be fully documented on the appropriate data records and daily project logs. All records shall be complete and thorough as possible hand written, legible and in ink. Personnel making a change to a record shall cross out the old entry with one line, add the new information and initial and date the change. Under no circumstances shall the old entry be scratched out, whited out, erased or otherwise removed or made illegible. When applicable, an explanation should accompany the

change or correction.

4.4 Quality Control Checks

All data shall be reviewed and checked by a technically qualified person such as the Corporate Health Physicist or the Project Manager. If the Project Manager does the Quality Control check, then he/she shall not review their own work. These checks shall be made to assure that both the technical, operational and quality assurance requirements have been met.

The following guidelines will be used to perform the quality control checks:

4.4.1 Verify that the record contains;

4.4.1.1 The project name or task description

4.4.1.2 Name or initials of the performer

4.4.1.3 Date of performance

4.4.1.4 Page number if pertinent.

4.4.2 And, if applicable, that the record has;

4.4.2.1 Conformed with the appropriate procedures

4.4.2.2 Instrument calibration data (instrument identification, calibration date, certificate of calibration, etc.) of survey instruments used is current

4.4.2.3 Completeness and adequacy of the performance and documentation

4.4.2.4 Accuracy of material documented.

If the material being checked conforms to the guidelines, the individual performing the quality control check shall sign and date the record. If the material is rejected, it shall be handled in one of two ways:

4.4.2.4.1 Discuss and correct minor deviations with responsible personnel resulting in subsequent acceptance or,

4.4.2.4.2 Initiate corrective action procedures in the form of a Nonconformance Report, Form ATGF-108.

4.5 Management Review

The Project Manager or designated alternate shall review all data records prior to submitting them to the QA Manager. The same steps shall be taken with the review that are taken with the quality control checks.

5.0 PROCUREMENT DOCUMENT CONTROL

Procurement or acquisition of packages, plastic bags, protective clothing, safety equipment and radiological survey equipment, etc. may be needed to perform the work tasks. The procurement documents and packing lists will be reviewed upon receipt by the Project Manager or designated alternate to verify that appropriate quality assurance and technical requirements have been met. These records will be maintained with the other project records.

6.0 SAMPLING AND ANALYSIS PLAN

The Sampling and Analysis Plan for the activities at Fort McClellan and the associated supporting documents shall be reviewed and approved by Allied Technology Group management, IOC, and the pertnant regulatory agencies (i.e., NRC, EPA, State).

The Sampling and Analysis Plan will have systematically numbered steps and pages, a cover page and an approval page. Distribution of copies to pertinent personnel will be accordance with Section 7 of this Quality Assurance Plan, Document Control.

If revisions to the Sampling and Analysis Plan are necessary during the performance of the project, ATG shall submit any major changes to the NRC for approval. Minor plan revisions or minor field changes that do not affect the quality of work, objectives, or cause a potential health and safety impact will not require submittal to the NRC for approval. Major changes include revisions that would result in an unreviewed safety question or a change in a license condition. In accordance with Administrative Procedure AROP No. 102, 'Revisions to the Operational Procedures' and the use of Form 104, 'Project Work Plan Change Request', the Project Manager or designated alternate will review all proposed changes to determine if the change is significant. All changes will be documented and highlighted by change bars in the

right margins of the text.

7.0 DOCUMENT CONTROL

The Sampling and Analysis Plan and associated supporting documents shall be issued as a controlled document to assure that the current approved revision is in use. Controlled copies of these documents will be issued to project personnel by the Project Manager or designated alternate who will maintain a distribution list of the controlled copies. Personnel assigned controlled documents will be required to acknowledge receipt of the document and all subsequent revisions to the document.

A document Distribution Record, ATG Form 105, shall be maintained to assure that current documents are distributed. When issuing a current document or document revision, a Document Transmittal Record, ATG Form 106 shall be submitted to the recipient. This record will demonstrate that current documents have been issued and are in use. The transmittal record shall be acknowledged and returned to the QA Director.

The recipient of the controlled document shall return the document to the QA Director when the requirements for its use ends. Upon return of the controlled document, the QA Director shall enter the date of return on the Document Distribution Record.

8.0 INSPECTIONS

All quality-affecting work activities data shall be reviewed and checked by an independent Quality Assurance person, per Section 4.4, Quality Control Checks, to verify that they meet project requirements. For radiological measurements, quality control inspections will be performed by randomly verifying survey techniques and survey meter results.

The Project Manager or designated alternate will be responsible for completing the Daily Quality Control Checklist, ATG Form 107. The checklist is designed to account for project Decommissioning Plan activities that pertain to project tasks and radiation protection concerns.

Unsatisfactory items will be immediately rectified to bring the item to a satisfactory condition. The checklist is to be completed at the end of each shift for that days activities.

9.0 CONTROL OF MEASURING AND TEST EQUIPMENT

Measuring and test equipment shall be controlled and properly maintained to assure that the indicated results are accurate. Measuring and test equipment will not be used for any other purpose than that which the manufacturer intended. The equipment shall be stored, when not in use, in a controlled area so that environmental or physical damage does not occur. Only personnel qualified to use the equipment will be allowed to perform work with the equipment.

Measuring and test equipment that do not perform properly or do not provide good, reproducible results shall be taken out of service. The equipment shall be tagged with an "out of service" tag and removed from the normal equipment storage area.

9.1 Calibration

Radiological survey meters will be supplied from the ATG Oak Ridge Technical Support Office. Meters used by ATG, Inc. are calibrated by a certified calibration facility at a minimum frequency of annually.

Copies of the primary calibration certificates will be sent with the meters to the job site. In addition, survey meters have an attached calibration sticker that indicate the calibration date and the calibration due date. Radiation survey meter performance testing and maintenance will be performed in accordance with the Radiation Survey Procedure.

10.0 HANDLING, STORAGE AND SHIPPING

All radioactive material will be packaged, handled and stored according to the appropriate health and safety procedures. Packages (swipe samples) shall meet the Department of Transportation (DOT) regulations. The Project Manager (or designated ATG lead inspector) shall inspect and sign the shipping airbills.

11.0 CONTROL ON NONCONFORMANCE ITEMS

Procedures have been established and documented to control equipment and activities that do not conform to work plan requirements or whose quality does not meet the intended use. Nonconforming items, including reviewed data, shall be identified, documented, segregated or disposed of as appropriate. Nonconformance includes noncompliance with the technical procedures, contract documents or errors in documented analyses or results. Nonconformance reports shall be prepared, including a description of the nonconformance

and the proposed corrective action or disposition such as accept, reject, repair or rework. Nonconforming items or data shall be marked as nonconforming and shall not be used in any further activity until corrective action has been satisfactorily completed or an acceptable disposition approved by the Project QA Manager.

Persons determining corrective action or disposition shall have demonstrated competence, have an adequate understanding of the requirement, and have access to pertinent background information. Proposed corrective action or disposition and completion of corrective action shall be reviewed and approved in accordance with Section 12.0, Corrective Action.

11.1 Identification and Reporting of Nonconformances

A nonconformance exists if there is a deviation from or noncompliance with the Sampling and Analysis Plan or contract specifications. Nonconformances also include major errors in documented analysis, data or results and deficiencies in documentation or any other aspect of the project that affects quality. Personnel who identify a nonconformance shall report the condition by:

11.1.1 Completing Part A of the Nonconformance Report, ATG Form 108;

11.1.2 Request a nonconformance number from the Project Manager or designated alternate;

11.1.3 Distribute the nonconformance report to IOC, the Project Manager or designated alternate, and the Project QA Manager;

11.1.4 Notification of all nonconformances and copies of all Nonconformance Reports will be provided to the IOC Health Physicist and the NRC Representative.

11.2 Evaluation of Nonconformance Reports

IOC and the Project QA Manager will review the nonconformance report to determine if any of the following conditions exist and document the findings by completing Part B of the Nonconformance Report.

11.2.1 IOC may elect to evaluate the nonconformance item with the Project Manager or designated alternate, and Project QA Manager to determine if the nonconformance item could invalidate the results of ongoing work. If the nonconformance(s) incident in any way affects the health of workers and/or

the environment, it shall be reported to all appropriate facility personnel. If work is stopped, it shall be so noted on the nonconformance report. All affected work shall be immediately stopped and the Project QA Director notified. Work shall not be restarted until corrective action is approved and work authorized to restart by IOC.

11.2.2 If the nonconformance constitutes a significant condition adverse to quality, determine the cause of the condition. Examples of significant conditions adverse to quality include significant failures to implement the project Sampling and Analysis Plan or major errors in data or analysis which had previously been approved.

11.2.3 If the nonconformance has any impact on previously obtained data or reports submitted to the Fort McClellan or the IOC representatives, the Project Manager or designated alternate shall note the impact in the remarks section of the nonconformance report and notify in writing all individuals and organizations that may be affected by the nonconformance and resulting data.

11.3 Tracking Nonconformance Reports

The Project QA Director shall monitor nonconformance reports to determine if trends adverse to quality are developing. If such trends are developing, such as repetitive reports related to a particular activity, a written report will be submitted to all project personnel identifying the particular problem. The Director will evaluate the identified problem and propose and implement a written corrective action program to prevent recurrence of the nonconformance.

12.0 CORRECTIVE ACTION

Corrective action for conditions adverse to quality will be determined and implemented in a timely manner. Conditions adverse to quality are any of the following: failures, malfunctions, deficiencies, defective items and nonconformances. A significant condition adverse to quality is one which, if uncorrected, could have a serious effect on safety, operability or validity of data. The cause of the condition will be determined and action taken to preclude the recurrence of the nonconformance item. IOC shall verify that the corrective action has been implemented and, if necessary, that the Detailed Work Plan has been revised.

12.1 Recommendation of Corrective Action

The project personnel that recommend the corrective action will document the recommendation on Part C of the Nonconformance Report. In the case of a nonconformance which is a significant condition adverse to quality, the corrective action shall be such as to preclude recurrence of the non-conformance. The recommended corrective action will be reviewed and approved by IOC.

12.2 Corrective Action Implementation and Verification

The approved corrective action shall be implemented by the appropriate project personnel. When implementation is verified by IOC, the Project QA Manager, and the Project Manager, Part D of the Nonconformance Report will be completed. The completed nonconformance report will be maintained on site with the nonconformance record log in the project file.

13.0 QUALITY ASSURANCE RECORDS

A quality assurance records system for the project will be implemented and maintained. Records shall be in ink, legible, identifiable and retrievable. The quality assurance records will be sufficiently detailed to properly reflect all work activities in the performance of this contract.

These records may be in the form of data sheets, notes, graphs, comments, computations and other graphic or written data generated in connection with the work activities. Records will be considered valid only if the individual completing the record has initialed or signed and dated the record. If revisions or changes to the quality assurance records are required, the changes will be made to the original records by crossing out the old entry with one line, adding the new information and initialing and dating the change.

The Project Manager or designated alternate will be responsible for maintaining and protecting the records. The records will be maintained on site with the project files. File access will be limited to project personnel and authorized contract personnel. At the completion of the project, the Project Manager or designated alternate will submit all project QA records to the QA Director. A copy of all project documents will be provided with the Final Report to the Fort McClellan representative, IOC Health Physicist, and IOC Contracting Officer.

14.0 QUALITY ASSURANCE AUDITS

No formal quality assurance audits are planned for this activity. A quality assurance audit

may be performed if the QA Director deems necessary. Quality Assurance records will be evaluated and audited by the QA Director at the end of the project.

15.0 REFERENCES

15.1 U.S. Code of Federal Regulations, Title 10, "Energy", Part 19 and Part 20.

15.2 U.S. Code of Federal Regulations, Title 29, "Labor", Part 120.

15.3 U.S. Code of Federal Regulations, Title 40, "Protection of the Environment".

15.5 NUREG-1575 / EPA 402-R-97-016, "Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)", December 1997.

15.6 U.S. Nuclear Regulatory Commission Division of Industrial and Medical Safety, "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material (August 1987)".

15.7 Allied Technology Group "Health and Safety Plan for the Release Survey of Fort McClellan Commodity Storage Sites'".

15.8 Allied Technology Group "Sampling and Analysis Plan for the Release Survey of Fort McClellan Commodity Storage Sites".

16.0 FORMS

16.1	ATGF-027	Training Attendance Record
16.2	ATGF-103	Review of Personnel Qualifications
16.3	ATGF-104	Project Work Plan Change Request
16.4	ATGF-105	Document Distribution Record
16.5	ATGF-106	Document Transmittal Record
16.6	ATGF-107	Daily Quality Control Checklist
16.7	ATGF-108	NonConformance Report

TRAINING RECORD

TRAINING DATE:	INSTRUCTOR:
LOCATION:	TOTAL CLASS HOURS:

TRAINING COURSE TITLE:

SCOPE OF TRAINING:

NAME OF STUDENT	SOCIAL SECURITY NO.	SIGNATURE

RAINING APPROVED BY (Project Director):

REVIEW OF PERSONNEL QUALIFICATIONS

NAME:	POSITION:
EDUCATION, TRAINING AND EXPERIENCE:	
QUALIFICATIONS ACCEPTED (Yes / No)	ADDITIONAL TRAINING REQUIRED:
NOT FIT FOR DUTY:	
REVIEWED BY (PROJECT DIRECTOR):	DATE:
ADDITIONAL TRAINING ASSIGNMENT:	
QUALIFICATIONS ACCEPTED (Yes / No)	
REVIEWED BY (PROJECT DIRECTOR):	DATE:

PROJECT WORK PLAN CHANGE REQUEST

CHANGE REQUESTED BY:	DATE:

REASON FOR CHANGE:

CHANGE REQUESTED:

SIGNATURE:	DATE:

WORK CHANGE REQUEST REVIEWED BY (Health and Safety Officer):

REMARKS:

DISPOSITION OF WORK PLAN CHANGE REQUEST:

FINAL WORK CHANGE REQUEST REVIEW:

PROJECT DIRECTOR:

DOCUMENT DISTRIBUTION RECORD

NAME OF DOCUMENT:	
DOCUMENT REVISION:	**DOCUMENT DATE:**
NAME AND TITLE OF RECIPIENT	**DATE SENT**
APPROVED BY (Project Director):	

DOCUMENT TRANSMITTAL RECORD

AME AND TITLE OF RECIPIENT:	
DOCUMENT NAME:	
REVISION NUMBER:	DOCUMENT DATE:
INSTRUCTIONS OR REMARKS:	

DOCUMENT SENT BY THE PROJECT DIRECTOR TO:

AME:		TELEPHONE:	
STREET ADDRESS	CITY	STATE	ZIP

PLEASE COMPLETE THE FOLLOWING, SIGN AND RETURN TO SENDER:

☐ I acknowledge that I received the document or document revision and that I have updated my records.

☐ I am returning the document with this transmittal record.

SIGNATURE:	DATE:

DOCUMENT TRANSMITTAL RECORD COMPLETE AND APPROVED

SIGNATURE (Project Director):	DATE:

DAILY QUALITY CONTROL CHECKLIST

DATE: _____

		S	NS
1.	PERSONNEL MONITORING		
	DOSIMETRY		
	RWP REQUIREMENTS MET		
	RWP ACCESS LOG COMPLETE		
2.	INDUSTRIAL SAFETY		
	HARD HATS AND EQUIPMENT SAFETY GLASSES WORN		
	SAFETY EQUIPMENT USED		
	WORK AREAS SECURED		
	SAFETY RULE VIOLATIONS INVESTIGATED		
3.	WORK PLAN REQUIREMENTS		
	WORK PLAN PROCEDURES FOLLOWED		
	SCHEDULE COMMITMENTS MET		
	WORK AREAS CLEANED AND SET UP FOR NEXT DAY		
4.	RADIATION SURVEYS		
	ROUTINE SURVEYS COMPLETE		
	AREA POSTINGS UPDATED		
	BARRELS LABELED		
	SURVEY RESULTS ACCEPTABLE		
5.	STOP WORK CONDITIONS		
	STOP WORK ORDERS INVESTIGATED		
	CORRECTIVE ACTION IMPLEMENTED		

S = SATISFACTORY NS = NOT SATISFACTORY

SIGNATURE (Health and Safety Officer):	DATE:

NONCONFORMANCE REPORT

NONCONFORMANCE REPORT NO: ___ . _____

PART A	
Description of Nonconformance:	
PART B	
Evaluation of Nonconformance:	
Work Stoppage Required (Yes / No)?	Impacts Previous Data (Yes / No)?
SIGNATURE:	**DATE:**
PART C	
Recommended Corrective Action:	
SIGNATURE:	**DATE:**
PART D	
Corrective Action Implemented:	
Corrective Action to Nonconformance Approved:	

ATG Health & Safety Officer	Date	ATG Project Director	Date

APPENDIX B

MDC_{SCAN} INFORMATION

Appendix B
MDC_{Scan} Information

Purpose

Surface scans were performed using the 500 cm^2 Ludlum 43-37 gas-flow proportional floor monitor. The worse case scanning Minimum Detectable Concentration (MDC_{Scan}) value is calculated herein, utilizing the guidance provided in Section 6.7.2.1of MARSSIM and the bounding conditions present during the subject surveys.

Calculating the Minimum Detectable Count-Rate (MDCR)

To calculate the MDCR, first S_i (i.e., the value for the minimum detectable number of net source counts during a scanning interval) is required to be calculated. Field technicians performing scans did not exceed a scanning speed of one (1) detector width per second, thereby ensuring a counting interval (i) of at least one (1) second. The maximum ambient count-rate (i.e., background) on the 43-37 floor monitor for any of the subject areas was 1,434 counts per minute (cpm). The α and β uncertainty percentages are defined by the DQOs at 0.05 each.

Using MARSSIM Table 6.5, the desired performance (d') is 3.28. From the above information, the background counts per scanning interval (b_i) is 1,434/60 or 23.9 counts. Therefore, using MARSSIM Equation 6-8, s_i equals d' times the square root of b_i or 16 counts.

Using MARSSIM Equation 6-9, the MDCR equals s_i times 60/i, or 962 cpm. This is to say, the scanning technician can be expected to detect ~ 960 cpm above ambient with a probability acceptable to the defined DQOs (i.e., a reasonably conservative assumption).

Calculating MDC_{Scan}

To calculate the MDC_{Scan}, a number of efficiencies are required to be defined. The surveyor efficiency (p), as recommended by MARSSIM, is conservatively bounded at 0.5. The instrument efficiency (ε_i), as determined during its calibration and recorded on the associated calibration certificate and survey records, is 0.236. The surfaces scanned were smooth painted wood, concrete, or tiled surfaces, resulting in a conservative assumption of 0.5 for the surface efficiency (ε_s).

Using MARSSIM Equation 6-10, the MDC_{Scan} value can be bounded at a value of 2,306 dpm /100 cm^2, which is less than the $DCGL_W$ for the associated β emitting isotopes.

Note on ^{226}Ra

As discussed in MARSSIM Section 6.7.2.2, the MDC_{scan} value does not directly apply to α emitting activity. This is due to the low (i.e., almost zero (0)) ambient (i.e., background) α count-rate. Using the above methodology to calculate a MDC_{Scan} for α activity, with the maximum α b_i of 0.1167 and α ε_i of 0.216, results in a MDC_{Scan} of 176 dpm /100 cm^2, which is less than the $DCGL_W$ for ^{226}Ra. Using the methodology defined for α scanning, as described in MARSSIM Section 6.7.2.2, and these parameter values, the scan interval (i) of one (1) second is more than adequate to detect the $DCGL_W$ for ^{226}Ra.

APPENDIX C

CHPPM INDUSTRIAL RADIATION STUDY 27-MH-0987-R2-97

U.S. Army Center for Health Promotion and Preventive Medicine

INDUSTRIAL RADIATION STUDY NO. 27-MH-0987-R2-97
PELHAM RANGE BURIAL MOUND SITE
FORT MCCLELLAN, ALABAMA
29 AUGUST-15 SEPTEMBER 1995
AND
14-28 JANUARY 1996

Distribution limited to U.S. Government agencies only; protection of privileged information evaluating another command; Feb 98. Requests for this document must be referred to Commander, U.S. Army Environmental Center, ATTN: SFIM-AEC-ETD, Aberdeen Proving Ground, MD 21010-5401.

USCHPPM

Readiness Thru Health

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U.S. Army Center for Health Promotion and Preventive Medicine

The lineage of the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) can be traced back over 50 years. This organization began as the U.S. Army Industrial Hygiene Laboratory, established during the industrial buildup for World War II, under the direct supervision of the Army Surgeon General. Its original location was at the Johns Hopkins School of Hygiene and Public Health. Its mission was to conduct occupational health surveys and investigations within the Department of Defense's (DOD's) industrial production base. It was staffed with three personnel and had a limited annual operating budget of three thousand dollars.

Most recently, it became internationally known as the U.S. Army Environmental Hygiene Agency (AEHA). Its mission expanded to support worldwide preventive medicine programs of the Army, DOD, and other Federal agencies as directed by the Army Medical Command or the Office of The Surgeon General, through consultations, support services, investigations, on-site visits, and training.

On 1 August 1994, AEHA was redesignated the U.S. Army Center for Health Promotion and Preventive Medicine with a provisional status and a commanding general officer. On 1 October 1995, the nonprovisional status was approved with a mission of providing preventive medicine and health promotion leadership, direction, and services for America's Army.

The organization's quest has always been one of excellence and the provision of quality service. Today, its goal is to be an established world-class center of excellence for achieving and maintaining a fit, healthy, and ready force. To achieve that end, the CHPPM holds firmly to its values which are steeped in rich military heritage:

- ★ *Integrity is the foundation*
- ★ *Excellence is the standard*
- ★ *Customer satisfaction is the focus*
- ★ *Its people are the most valued resource*
- ★ *Continuous quality improvement is the pathway*

This organization stands on the threshold of even greater challenges and responsibilities. It has been reorganized and reengineered to support the Army of the future. The CHPPM now has three direct support activities located in Fort Meade, Maryland; Fort McPherson, Georgia; and Fitzsimons Army Medical Center, Aurora, Colorado; to provide responsive regional health promotion and preventive medicine support across the U.S. There are also two CHPPM overseas commands in Landstuhl, Germany and Camp Zama, Japan who contribute to the success of CHPPM's increasing global mission. As CHPPM moves into the 21st Century, new programs relating to fitness, health promotion, wellness, and disease surveillance are being added. As always, CHPPM stands firm in its commitment to Army readiness. It is an organization proud of its fine history, yet equally excited about its challenging future.

Indust Radn Study No. 27-MH-0987-R2-97, Fort McClellan, AL,
29 Aug-15 Sep 95 and 14-28 Jan 96

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DEPARTMENT OF THE ARMY
U.S. ARMY CENTER FOR HEALTH PROMOTION AND PREVENTIVE MEDICINE
5158 BLACKHAWK ROAD
ABERDEEN PROVING GROUND, MARYLAND 21010-5422

REPLY TO ATTENTION OF

EXECUTIVE SUMMARY
INDUSTRIAL RADIATION STUDY NO. 27-MH-0987-R2-97
PELHAM RANGE BURIAL MOUND SITE
FORT MCCLELLAN, ALABAMA
29 AUGUST-15 SEPTEMBER 1995
AND
14-28 JANUARY 1996

I. PURPOSE.

A. This study was performed to assess radiological health hazards associated with potential contamination at the Burial Mound Site, Fort McClellan, Alabama. This area was used as a low-level radioactive material burial ground.

B. This study was also performed to determine if residual radioactivity at the site is in compliance with the Nuclear Regulatory Commission (NRC) guidance for release to unrestricted use.

II. CONCLUSIONS.

A review of the survey results indicates there are potential radiological health hazards in the Burial Mound Survey Unit.

A. The soil sampling survey results indicate residual contamination above both the cobalt-60 activity in soil release criteria and the cesium-137 activity in soil release criteria.

B. The sub-surface survey measurements were in some areas 1000 times the associated background measurement. These highly elevated readings are indicative of buried radioactive sources or substantial contamination pockets in the sub-surface environs.

III. RECOMMENDATIONS.

A. Remediate the radioactive contamination identified in the Burial Mound Survey Unit. Excavate, remove and properly dispose of the surface and sub-surface contamination identified. After remediation perform a final status survey of the Burial Mound Survey Unit to support release of this area for unrestricted use.

B. Perform radiological surveys in the "Old Rideout Field" area of Pelham Range to support release of this area for unrestricted use.

DEPARTMENT OF THE ARMY
U.S. ARMY CENTER FOR HEALTH PROMOTION AND PREVENTIVE MEDICINE
5158 BLACKHAWK ROAD
ABERDEEN PROVING GROUND, MARYLAND 21010-5422

REPLY TO
ATTENTION OF

MCHB-TS-OIP

INDUSTRIAL RADIATION STUDY NO. 27-MH-0987-R2-97
PELHAM RANGE BURIAL MOUND SITE
FORT MCCLELLAN, ALABAMA
29 AUGUST-15 SEPTEMBER 1995
AND
14-28 JANUARY 1996

I. REFERENCES. See Appendix A for a list of references.

II. AUTHORITY. Memorandum, USAEC, SFIM-AEC-TSS, 27 December 1993, subject: Request for Technical Services.

III. PURPOSE.

A. This study was performed to assess radiological health hazards associated with potential contamination at the Burial Mound Site, Fort McClellan, Alabama. This area was used as a low-level radioactive material burial ground.

B. This study was also performed to determine if residual radioactivity at the site is in compliance with the Nuclear Regulatory Commission (NRC) guidance for release to unrestricted use.

IV. GENERAL.

A. Entrance interviews and periodic briefings, to include discussions of the findings and recommendations, were held with Mr. John W. May, Department of the Army Civilian (DAC), Fort McClellan Radiation Protection Officer (RPO) and Staff Sergeant (SSG) Kenneth S. Baugh, Fort McClellan Alternate Radiation Protection Officer.

B. The study was performed under the direction of Ms. Frances Szrom, DAC, Health Physicist, Industrial Health Physics Program, U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM). Survey team members are listed in Appendix D. Appendix E contains a list of instrumentation used for this study.

C. The survey team would like to acknowledge Mr. John W. May and SSG Kenneth S. Baugh for their exceptional assistance rendered during the study. Their commitment to project completion was demonstrated in their approach to coordinating and providing the survey team with the required support in the areas of presurvey site preparation, range access coordination, and fuel support. Mr. Mays' and SSG Baughs' personal involvement extended well beyond normal duty hours. Without the level of support provided by these professionals, the study could not have been accomplished.

V. SITE BACKGROUND. A synopsis of the historical information pertaining to the Rideout Field area of Fort McClellan, AL, is contained in the Survey Plans, which are contained in Appendix C. A brief overview is provided below:

A. The radioactive material burial mound site is located at Rideout Field, Pelham Range, Area 24C, Fort McClellan, Alabama. The area known as Rideout Field served as a radiological training area from the mid 1950's through May of 1973. The training concept was to raise and lower sealed radioactive sources to simulate the large area radioactive contamination (fallout) from the surface detonation of a small yield (less than 0.5 kiloton) nuclear weapon. Students were then trained to perform both ground and aerial surveys to map the radiological fallout pattern. The training facility was utilized to train Radiation Control Teams in support of nuclear weapons testing performed by the Atomic Energy Commission (AEC).

B. There were actually two different radiological training areas during this time frame which were referred to as Rideout Field. The first field, which will be referred to as "Old Rideout Field", contained approximately 600 source storage wells and was located north of Cane Creek, between the West Perimeter Road and Centerline Road. The second field, which will be referred to as "New Rideout Field", extended south of Cane Creek along Centerline Road. A diagram of the two fields, which was contained in documentation (Reference 14) pertaining to the installation of New Rideout Field, is reproduced in Figure H-1.

C. The Old Rideout Field used locally fabricated cobalt-60 (Co-60) sources and higher activity commercially procured cesium-137 (Cs-137) sources. While the Co-60 sources were used to simulate a uniform fallout pattern, the Cs-137 sources were used to simulate hot spots within the fallout pattern. The sources were

raised and lowered manually from their shielded storage positions (approximately 6 feet below the ground surface) for each exercise.

D. There were a number of shortcomings with the Old Rideout Field which ultimately lead to the construction of the New Rideout Field:

1. The practice of manually raising and lowering the sources for each exercise resulted in a significant collective total effective dose equivalent (Reference 15).

2. There were an excessive number of leaking locally fabricated Co-60 sources. These leaking sources were routinely buried in cut down 55-gallon drums (Reference 17).

3. The facility was not large enough to perform meaningful aerial surveys (Reference 15).

4. The Chemical School lacked support facilities such as a fixed Hot Cell facility [references to a temporary field Hot Cell have been found, (Reference 5)] for source fabrication, leak testing and storage.

E. The first AEC license (BML 1-2861-1) was issued to the Chemical School in 1957 (Reference 16). Although substantiating documents (shipping papers) have not been located, reference is made to the proper disposal of all locally fabricated Co-60 sources (Reference 18). Despite the reference to the proper disposal of all locally fabricated Co-60 sources, one such source was found, recovered, and properly disposed of in 1985 (Reference 19) from the area referred to as the Burial Mound.

F. For this study, the Burial Mound site was located by the Fort McClellan RPO, based on the report in Reference 20. Grid coordinates and additional site location information for the Burial Mound site is contained in the Survey Plans in Appendix C. The Burial Mound footprint and sampling grids Global Positioning System (GPS) data are displayed in Figure H-2.

G. Based on previous visits to this site and the documented Co-60 source found in 1985, this site was classified as an "affected open land area" as defined in NUREG/CR-5849. This study was conducted in two phases. Phase I, the scoping survey was conducted 29 August-15 September 1995. During Phase I, a

reconnaissance background survey was performed to establish the Fort McClellan/Rideout Field population background; a background area survey unit was established near the Burial Mound Site; appropriate surface soil samples, instrument measurements and air samples taken; and a 100% scanning survey of the Burial Mound Survey Unit was rendered. Phase II, the characterization survey was conducted 14-28 January 1996. During Phase II, core soil samples were collected from the Background Area and the Burial Mound Survey Unit; and after removal of the soil core, gamma scalar counts were recorded at various depths down the hole, with a small diameter sodium iodide detector.

H. Although the AEC licenses (BML 1-2861-1, BML 1-2861-2, and SNM 344) held by the U.S. Army Chemical Center and School (USACMLCS) were terminated in 1973, a formal close-out survey was not performed as required by the current Title 10, Code of Federal Regulations, Parts 30, and 70. Since no record of a formal close-out survey could be located, the U.S. Army Toxic and Hazardous Materials Agency (USATHAMA), requested the U.S. Army Environmental Hygiene Agency (USAEHA) investigate these areas (References 1 and 3). The USATHAMA has been redesignated as the U.S. Army Environmental Center (USAEC) and the USAEHA has been redesignated as the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM). This report details the scoping survey and characterization survey (29 Aug-15 Sep 95 and 14-28 Jan 96) investigations at the Burial Mound Site. The Background Area and Burial Mound Survey Unit location of the site are noted on a portion of the Fort McClellan topographic map in Figure H-3.

VI. RADIATION SURVEYS AND RESULTS. The Phase I (Scoping Survey) and Phase II (Characterization Survey) Survey Plans are attached in Appendix C. The Survey Plans contain the basis for this study and explain the various surveys that constitute this study. The results of the various surveys are discussed as follows:

A. Surface Instrumentation Surveys - Scoping Survey.

1. Reconnaissance Background Gamma Surveys - Measurements and Results. The Reconnaissance Background survey was performed to determine the Fort McClellan/Pelham Range "population" background. Ten locations outside the New Rideout Field fence line were selected and surveyed. The 10 locations (Bkg-1 through Bkg-10) are indicated in Figure H-3, which is a portion of the Pelham range topographic map.

a. Monitoring to determine gamma exposure rates were performed with an Eberline model ESP-2 survey meter mated with an Eberline Model SPA-3 Scintillation Probe Assembly. The probe contains a 2 inch by 2 inch sodium iodide [NaI(Tl)] crystal, 2-inch 10 stage photomultiplier tube socket with a dynode resistor string, and magnetic shield. The sensitivity is approximately 1,200,000 counts per minute (cpm) per 1 milliroentgen per hour (mR/hr) with a Cs-137 source and about 500,000 cpm/mR/hr with Co-60.

(1) Reconnaissance background gamma radiation exposure rate measurements ranged from 3.99 - 7.53 microRoentgen per hour (µR/hr); the average gamma exposure rate was 5.286 µR/hr. Measurements were taken 1 meter (m) from the ground surface with the exposure rate averaged electronically (scaler average rate mode) for a period of 18 minutes. See Table F-1 for all Reconnaissance Background ESP-2/SPA-3 exposure rate measurements.

(2) Quality control (QC) limits were established for the ESP-2 survey meter [Serial Number (SN): 355] and SPA-3 probe assembly (SN: 355-4). Operational checks were performed by exposing the detector to a Cs-137 calibration standard prior to each day's operation and periodically during the day.

b. Monitoring to determine gamma exposure rates were also performed with a Reuter-Stokes Ionization Chamber.

(1) The Model RSS-112 Ionization Chamber (SN: F-8591) consists of two main components, an electronics enclosure and a High Pressure Ionization Chamber (HPIC). Key features of the ion chamber include: an 8 liter spherical ionization chamber; an internally mounted electrometer; a nearly flat energy response from 0.07 to 10 million electron volts; ±5% accuracy at back-ground; an omni directional response; a linear output from 0-100 mR/hr; and beta insensitive. Sensitivity is 19.99 mV/µR/hr with a Co-60 source.

(2) Reconnaissance background gamma exposure rate measurements ranged from 5.8 - 11.6 µR/hr; the average gamma exposure rate was 8.24 µR/hr. Measurements were taken 1 m from the ground surface with the exposure rate averaged electronically (220, 5 second measurements). See Table F-1, for all Reconnaissance Background RSS-112 exposure rate measurements.

c. A Canberra Industries, Inc. Portable Plus Multichannel Analyzer with a 3 inch by 3 inch NaI(Tl) detector was used to perform in-situ screening for gamma emitting radionuclides in the Reconnaissance Background areas. The instrument was energy calibrated using Co-60 and Cs-137 calibration standards. The 30 minute acquisitions indicated naturally occurring isotopes from the uranium and thorium decay chains as well as potassium-40 (K-40). No man-made radionuclides were identified in the Reconnaissance Background Locations.

2. Troop Assembly Area Background Gamma Surveys - Measurements and Results. A Background Area Survey Unit was established approximately 100 m North-North-East (NNE) of the Burial Mound in the Troop Assembly Area. The area appeared to be similar geologically and was up gradient from the Burial Mound. Gamma exposure rate measurements and surface soil samples were obtained from this Troop Assembly Background Area. The Troop Assembly Background Area location is indicated on the Pelham Range topographic map at Figure H-3.

a. The Troop Assembly Area Background gamma exposure rate measurements with the ESP-2 survey meter/SPA-3 probe combination ranged from 5.65 µR/hr to 5.90 µR/hr; the average gamma exposure rate was 5.764 µR/hr. Measurements were taken 1 m from the ground surface with the exposure rate averaged electronically (scaler average rate mode) for a period of 18 minutes. Table F-2 contains all ESP-2/SPA-3 Troop Assembly Background Area exposure rate measurements.

b. The Troop Assembly Area Background RS-112 HPIC gamma radiation exposure rate measurements ranged from 7.2 µR/hr to 10.2 µR/hr; the average gamma exposure rate was 8.65 µR/hr. Measurements were taken 1 m from the ground surface with the exposure rate averaged electronically (220, 5 second measurements). Table F-2 contains all RS-112 HPIC Troop Assembly Background Area exposure rate measurements.

c. Scanning surveys were performed using a combination Eberline Model ASP-1/PG-2 instrument-probe assembly. The PG-2 is a ruggedized thin-crystal NaI(Tl) detector 2 inches in diameter by 2 millimeters thick. The thin-crystal gives this probe characteristics which enhance operator ability to locate buried radioactive materials. First, its thin-crystal gives the probe directional discrimination without the use of heavy lead

collimators. Second, its high efficiency for low energy gamma photons and x-rays enable it to detect the bremsstrahlung x-rays from moderate to high energy beta emitters as well as compton scattered gamma photons and x-rays. The probe was attached to the end of a rod and passed back and forth within 6 inches of the surface while the operator moved forward at a rate not to exceed 0.5 meters per second.

(1) Two 10 m by 10 m grids were established in the Troop Assembly Background Area. Sampling locations were marked in accordance with the Survey Plans located in Appendix C.

(2) Each grid in the Troop Assembly Background Area was divided into 10 1 m wide survey lanes. The survey team performed a 100% scanning survey of the Background Area with the ASP-1/PG-2 instrument package. The background count rate varied from 1,200 cpm to 1,900 cpm and averaged 1,400 cpm. Table F-4 includes the Background Area scanning survey results.

(3) Operational checks were performed by exposing the ASP-1/PG-2 survey meter/detector to a Cs-137 calibration standard prior to each day's operation and periodically during the day.

3. Burial Mound Survey Unit Gamma Surveys - Measurements and Results. The area identified as the Burial Mound was gridded into eight 10 m by 10 m grids. One measurement was recorded from each grid center with both the ESP-2/SPA-3 and RSS-112 HPIC instruments. A diagram of the grid layout and sampling scheme are included in Figure 1 of Appendix C.

a. The ESP-2/SPA-3 gamma exposure rate measurements at the Burial Mound Survey Unit varied from 0.964 µR/hr below the Background Area average to 0.766 µR/hr above the Background Area average. Table F-3 contains all ESP-2/SPA-3 Burial Mound Survey Unit exposure rate measurements.

b. The RS-112 HPIC gamma exposure rate measurements varied from 0.85 µR/hr below the Troop Assembly Background Area average to 1.25 µR/hr above the Troop Assembly Background Area. Table F-3 contains all RS-112 HPIC gamma exposure rate measurements.

c. The survey team performed a 100% scanning survey of the Burial Mound Survey Unit with the ASP-1/PG-2 instrument package. Each 10 m by 10 m grid in the Burial Mound Survey Unit was divided

into 10 1 m wide survey lanes. The Troop Assembly Background Area average count rate was 1,400 cpm. Any areas of the Burial Mound Survey Unit that exceeded twice the average background rate background (2,800 cpm) were marked as "hot spots". Twenty-three hot spots were identified and varied from 3,000 to 18,000 cpm (2 to 13 times background). Figures H-4 and H-5 display the hot spot locations relative to the sampling grid. Table F-4, includes the Burial Mound Survey Unit scanning survey results.

d. Gamma Spectroscopy Results. Field screening of the Burial Mound Survey Unit with a Canberra Portable Plus Gamma Spectroscopy System indicated the hot spots included Co-60 and Cs-137. Air samples collected during soil sampling operations were field screened for Co-60 and Cs-137. Photopeaks indicative of Co-60 or Cs-137 were not observed in the air filter gamma-ray spectra. The air filter samples were subsequently screened by the Radiologic, Classic, & Clinical Chemistry Division Laboratory for Co-60 and Cs-137 activity with identical results. Photopeaks indicative of Co-60 or Cs-137 were not observed in the air filter gamma-ray spectra.

B. Surface Soil Sample Results - Scoping Survey. Surface soil samples, from the top 15 centimeters (cm) of soil, were collected in the Reconnaissance Background Locations, the Troop Assembly Background Area, the Burial Mound Survey Unit, and from several of the hot spots identified during the scanning survey. All surface soil samples collected were analyzed for gross alpha activity, gross beta-gamma activity and for gamma emitting isotopes. The representative gross alpha activity minimum detectable activity (MDA) for the analytical technique employed was 5 picocuries per gram of dry soil (pCi/g). The representative gross beta-gamma MDA was 4 pCi/g. The representative gamma spectrometry MDAs for the radionuclides of interest were: K-40 at 4 pCi/g; Co-60 at 0.2 pCi/g; Cs-137 at 0.2 pCi/g; bismuth-214 (Bi-214) at 0.6 pCi/g; thorium-234 (Th-234) at 2 pCi/g; and actinium-228 (Ac-228) at 1.4 pCi/g. Table F-5 includes all surface soil sample results.

1. Reconnaissance Background Surface Soil Sample Results. Surface soil samples were collected from the 10 Reconnaissance Background Locations. The following narrative basic statistics are summarized in Table 1. Complete descriptive statistics, for the Reconnaissance Area surface soil sample data set, are contained in Table G-1.

a. The gross alpha activities ranged from 7 pCi/g to 24 pCi/g; the average Reconnaissance Background gross alpha activity was 14.6 pCi/g.

b. The gross beta-gamma activities ranged from 8 pCi/g to 29 pCi/g; the average Reconnaissance Background gross beta-gamma activity was 12.5 pCi/g.

c. The gamma spectral analyses indicated the presence of K-40, Cs-137, Bi-214, and Ac-228. The K-40 activities ranged from 0.04 pCi/g to 24 pCi/g and averaged 7.10 pCi/g. The Cs-137 activities ranged from 0.07 pCi/g to 1.6 pCi/g and averaged 0.55 pCi/g. The Bi-214 activities ranged 0.7 pCi/g to 1.6 pCi/g and averaged 0.94 pCi/g. The Ac-228 activities ranged from 0.7 pCi/g to 2.3 pCi/g and averaged 1.21 pCi/g. Statistics for Co-60 (range -0.05 pCi/g to 0.08 pCi/g and average 0.012 pCi/g) and Th-234 (range -1 pCi/g to 2 pCi/g and average 1.05 pCi/g) are listed in Table 1 (Basic Statistics) and in Table G-1 (Complete Descriptive Statistics). All Co-60 activity and Th-234 activity results are less than or equal to the respective MDA.

Table 1. Reconnaissance Background Area Surface Soil Samples Basic Statistics

Analyte	Low (pCi/g)	High (pCi/g)	Average (pCi/g)	MDA (pCi/g)
Gross Alpha	7	24	14.6	5
Gross Beta-Gamma	8	29	12.5	4
K-40	0.04	24	7.10	4
Co-60	-0.05	0.08	0.012	0.2
Cs-137	0.07	1.6	0.55	0.2
Bi-214	0.7	1.6	0.94	0.6
Th-234	-1	2	1.05	2
Ac-228	0.7	2.3	1.21	1.4

2. Troop Assembly Background Area Surface Soil Sample Results. Ten Troop Assembly Area Background surface soil samples

were collected. All Troop Assembly Area Background surface soil samples were analyzed for gross alpha, gross beta-gamma activities and for gamma emitting isotopes. The following narrative basic statistics are summarized in Table 2. Complete descriptive statistics, for the Troop Assembly Area Background surface soil samples, are contained in Table G-2.

a. The gross alpha activities ranged from 16 pCi/g to 22 pCi/g; the average Troop Assembly Area Background gross alpha activity was 19.3 pCi/g.

b. The gross beta-gamma activities ranged from 9 pCi/g to 16 pCi/g; the average Troop Assembly Area Background gross beta-gamma activity was 13.3 pCi/g.

c. The gamma spectral analyses indicated the presence of K-40, Cs-137, Bi-214, Th-234 and Ac-228. The K-40 activities ranged from 4 pCi/g to 8 pCi/g and averaged 6.0 pCi/g. The Cs-137 activities ranged from -0.03 pCi/g to 0.3 pCi/g and averaged 0.12 pCi/g. The Bi-214 activities ranged from 1.1 pCi/g to 1.6 pCi/g and averaged 1.28 pCi/g. The Th-234 activities ranged from 1 pCi/g to 4 pCi/g and averaged 2.3 pCi/g. The Ac-228 activities ranged from 1 pCi/g to 2.2 pCi/g and averaged 1.49 pCi/g. Statistics for Co-60 activities (range -0.04 pCi/g to 0.1 pCi/g and average 0.03 pCi/g) are listed in Table 2 (Basic Statistics) and in Table G-1 (Complete Descriptive Statistics). All Co-60 activity results are less than the Co-60 MDA.

Table 2. Troop Assembly Area Background Surface Soil Samples Basic Statistics

Analyte	Low (pCi/g)	High (pCi/g)	Average (pCi/g)	MDA (pCi/g)
Gross Alpha	16	22	19.3	5
Gross Beta-Gamma	9	16	13.3	4
K-40	4	8	6.0	4
Co-60	-0.04	0.1	0.03	0.2
Cs-137	-0.03	0.3	0.12	0.2
Bi-214	1.1	1.6	1.28	0.6

Analyte	Low (pCi/g)	High (pCi/g)	Average (pCi/g)	MDA (pCi/g)
Th-234	1	4	2.3	2
Ac-228	1.0	2.2	1.49	1.4

3. Burial Mound Survey Unit Surface Soil Sample Results. Eight surface soil samples were collected from the Burial Mound Survey Unit. One sample was collected from the center of each grid in the Burial Mound Survey Unit. The Burial Mound Survey Unit surface soil samples were analyzed for gross alpha, gross beta-gamma activities and for gamma emitting isotopes. The following narrative basic statistics are summarized in Table 3. Complete descriptive statistics, for the Burial Mound Survey Unit surface soil samples, are contained in Table G-3.

a. The gross alpha activities ranged from 10 pCi/g to 25 pCi/g; the average Burial Mound Survey Unit gross alpha activity was 17.5 pCi/g.

b. The gross beta-gamma activities ranged from 8 pCi/g to 24 pCi/g; the average Burial Mound gross beta-gamma activity was 13.8 pCi/g.

c. The gamma spectral analyses indicated the presence of K-40, Co-60, Cs-137, Bi-214, Th-234 and Ac-228. The K-40 activities ranged from 3 pCi/g to 14 pCi/g and averaged 6.88 pCi/g. The Co-60 activities ranged from -0.03 pCi/g to 0.4 pCi/g and averaged 0.09 pCi/g. The Cs-137 activities ranged from 0.05 pCi/g to 1.6 pCi/g and averaged 0.61 pCi/g. The Bi-214 activities ranged from 1.0 pCi/g to 1.6 pCi/g and averaged 1.24 pCi/g. The Th-234 activities ranged from 0.02 pCi/g to 5 pCi/g and averaged 2.1 pCi/g. The Ac-228 activities ranged from 0.8 pCi/g to 2.0 pCi/g and averaged 1.2 pCi/g.

Table 3. Burial Mound Survey Unit Surface Soil Analysis Summary

Analyte	Low (pCi/g)	High (pCi/g)	Average (pCi/g)	MDA (pCi/g)
Gross Alpha	10	25	17.5	5

Analyte	Low (pCi/g)	High (pCi/g)	Average (pCi/g)	MDA (pCi/g)
Gross Beta-Gamma	8	24	13.8	4
K-40	3	14	6.88	4
Co-60	-0.03	0.4	0.09	0.2
Cs-137	0.05	1.6	0.61	0.2
Bi-214	1.0	1.6	1.24	0.6
Th-234	0.02	5	2.1	2
Ac-228	0.8	2.0	1.20	1.4

4. Burial Mound Hot Spot Surface Soil Sample Results. Surface soil samples, at 7 of the 23 identified hot spots, were collected. The hot spot surface soil samples were analyzed for gross alpha activity, gross beta-gamma activity and for gamma emitting isotopes. The following narrative basic statistics are summarized in Table 4. Complete descriptive statistics, for the seven hot spot surface soil samples, are contained in Table G-4.

a. The gross alpha activities ranged from 16 pCi/g to 22 pCi/g; the average hot spot gross alpha activity was 19.7 pCi/g.

b. The gross beta-gamma activities ranged from 15 pCi/g to 130 pCi/g; the average hot spot gross beta-gamma activity was 42.7 pCi/g.

c. The gamma spectral analyses indicated the presence of K-40, Co-60, Cs-137, Bi-214, Th-234 and Ac-228. The K-40 activities ranged from 4 pCi/g to 10 pCi/g and averaged 6.4 pCi/g. The Co-60 activities ranged from 1.6 pCi/g to 187 pCi/g and averaged 38.0 pCi/g. The Cs-137 activities ranged from 0.2 pCi/g to 179 pCi/g and averaged 32.6 pCi/g. The Bi-214 activities ranged from 0.6 pCi/g to 1.6 pCi/g and averaged 1.0 pCi/g. The Th-234 activities ranged from -5 pCi/g to 5 pCi/g and averaged -0.7 pCi/g. The Ac-228 activities ranged from 0.9 pCi/g to 2 pCi/g and averaged 1.2 pCi/g.

Table 4. Burial Mound Hot Spot Surface Soil Analysis Summary

Analyte	Low (pCi/g)	High (pCi/g)	Average (pCi/g)	MDA (pCi/g)
Gross Alpha	16	22	19.7	5
Gross Beta-Gamma	15	130	42.7	4
K-40	4	10	6.4	4
Co-60	1.6	187	38.0	0.2
Cs-137	0.2	179	32.6	0.2
Bi-214	0.6	1.6	1.0	0.6
Th-234	-5	5	-0.7	2
Ac-228	0.9	2.0	1.2	1.4

d. Hot spot surface soil sample HS-20 had a very localized area of intense activity (approximately 100 times background) when screened with a thin window GM detector in the field. ESP-2/SPA-3 exposure rate readings up to 60 µR/hr were obtained through the sample container (double zip-lock bags).

(1) This sample was submitted to the laboratory with a request to isolate the source of the intense activity and analyze it as a separate sample. The laboratory isolated a speck of soil about the size of the eye of a sewing needle. The Co-60 activity of the soil speck was 253,000 pCi. The mass of the soil speck was 0.0043 gram. Therefore, the specific activity of the soil speck is 58.8 microcuries per gram. Pictures of the soil speck are included in Figures H-6 and H-7.

(2) The remaining surface soil sample HS-20 was analyzed in duplicate. The results of the duplicate analyses indicated the soil sample was not homogeneous. Therefore, the laboratory was requested to analyze all remaining soil from sample HS-20 as additional duplicate samples. The laboratory analyzed two additional sample aliquots. All HS-20 duplicate sample results are listed in Table 9.

Table 9. HS-20 Surface Soil Sample Duplicate Analyses

Analyte	HS-20	HS-20 1st Dup	HS-20 2nd Dup	HS-20 3rd Dup
K-40	7 +/- 4	5 +/- 2	4 +/- 1	5 +/- 2
Co-60	187 +/- 2	19 +/- 1	12 +/- 0.5	17 +/- 1
Cs-137	0.9 +/- 0.5	1.1 +/- 0.3	0.7 +/- 0.2	0.6 +/- 0.4
Bi-214	0.8 +/- 0.6	1.6 +/- 0.5	1.0 +/- 0.3	1 +/- 1
Th-234	-2 +/- 11	3 +/- 2	1 +/- 4	2 +/- 2
Ac-228	2 +/- 2	0.4 +/- 1.0	0.8 +/- 0.5	1 +/- 1

C. Sub-Surface Instrumentation Surveys - Characterization Survey. Sub-surface characterization surveys were performed since the surface soil sample surveys indicated activity concentrations greater than both the Co-60 and Cs-137 release criteria.

1. Troop Assembly Background Area "Down-Hole" Logging Measurements and Results.

a. After removal of the soil core samples (see paragraph VI.D) gamma scalar counts were performed at various depths down the hole. This "down-hole" logging survey was performed with a Ludlum Model 44-62-2 waterproof 0.5 inch diameter 1 inch thick NaI(Tl) detector mated to a Ludlum Model 2350 Data Logger. Where possible, 45 second scaler measurements were recorded from the surface and each one foot interval to the bottom of the hole. Several of the holes collapsed before the planned readings were taken. Basic statistics for the Troop Assembly Background Area "down-hole" logging survey are summarized in Table 5. All Troop Assembly Background Area "down-hole" logging survey results are contained in Table F-6.

Table 5. Troop Assembly Background Area "Down-Hole" Logging Survey Basic Statistics

Relative Depth from Surface (feet)	Minimum NaI Counts in 45 seconds	Maximum NaI Counts in 45 seconds	Average NaI Counts in 45 seconds
0 (surface)	103	158	135
-1	246	349	289
-2	252	412	315
-3	283	470	346
-4	290	474	354
-5	304	480	373
-6	271	499	379
-7	261	449	405
-8	317	508	421
-9	329	534	455
-10	300	594	467
-11	319	579	467
-12	345	641	479

b. Operational checks were performed by exposing the Ludlum 2350/44-62-2 survey meter/NaI detector to a Cs-137 calibration standard prior to each day's operation and periodically during the day.

2. Burial Mound "Down-Hole" Logging Survey Measurements and Results.

a. After removal of the soil core samples (see paragraph VI.D) gamma scalar counts were performed at various depths down the hole. This "down-hole" logging survey was performed with a Ludlum Model 44-62-2 waterproof 0.5 inch diameter 1 inch thick NaI(Tl) detector mated to a Ludlum Model 2350 Data Logger. Where possible,

45 second scaler measurements were recorded from the surface and each 1 foot interval to the bottom of the hole. Several of the holes collapsed before the planned readings were taken. Basic statistics for the Burial Mound Survey Unit "down-hole" logging survey are summarized in Table 6 below. All Burial Mound "down-hole" logging survey results are contained in Table F-7. Soil mounds, from 1 foot to 4 feet above the surrounding surface, were present in portions of the Burial Mound Survey Unit. Measurements from these mound areas are indicated with positive relative depth numbers.

b. The Burial Mound (BM) "down-hole" logging survey indicates elevated measurements when compared to the Troop Assembly background Area "down-hole" logging survey. Several Burial Mound "down-hole" measurements were greater than 1000 times the associated Troop Assembly Area Background Measurement. These elevated results are indicative of buried radioactive sources or substantial contamination pockets (close to but not within the core sample) in the subsurface environs, since there was no significant correlation between the sub-surface soil activity measurements (paragraph VI.D.2) and the "down-hole" logging measurements.

c. The highest measurements of the BM's "down-hole" logging survey were recorded in the following locations; BM C1-5 peaking at a depth of 3 feet below the area's surrounding surface (141,362 counts in 45 seconds); BM C2-1 with two peaks, one at 5 feet below and the other at 8 feet below the area's surrounding surface (301,991 and 249,340 counts in 45 seconds); BM C2-7 peaking at a depth of 5 feet below the area's surrounding surface (939,591 counts in 45 seconds); and BM D2-6 peaking at a depth of 6 feet below the area's surrounding surface (16,285 counts in 45 seconds).

d. Operational checks were performed by exposing the Ludlum 2350/44-62-2 survey meter/NaI detector to a Cs-137 calibration standard prior to each day's operation and periodically during the day.

Table 6. Burial Mound Survey Unit "Down-Hole" Logging Survey Basic Statistics

Relative Depth from Surface (feet)	Minimum NaI Counts in 45 seconds	Maximum NaI Counts in 45 seconds	Average NaI Counts in 45 seconds
+4 (mound)	130	258	170.4
+3 (mound)	90	343	240.7
+2 (mound)	74	506	222.9
+1 (mound)	94	479	235.4
0 (surface)	80	432	156.1
-1	102	814	243.9
-2	150	5697	353
-3	159	141362	2808.4
-4	157	170097	6194.7
-5	159	939591	21036.4
-6	181	427340	9964.8
-7	201	169164	3643.9
-8	242	249340	4793.3
-9	266	33725	1020.7
-10	290	5622	543.7
-11	297	915	476.3
-12	218	727	479.2

D. Sub-Surface Soil Sample Results - Characterization Survey.

1. Sample Collection and Identification.

a. Troop Assembly Background Area. Two 10 m by 10 m grids were established in the Troop Assembly Background Area. Sets of core soil samples were collected from each sample point (6 sample points per grid) as described in the sampling plan (Appendix C). Twelve sets of core soil samples were collected from the Troop Assembly Background Area. One-hundred, forty-four samples were prepared and analyzed from the 12 sets of core soil samples.

b. Burial Mound Survey Unit. Nineteen 10 m by 10 m grids were established in the Burial Mound Survey Unit Area. Forty-nine sets of core soil samples were collected from the Burial Mound

Survey Unit. Five-hundred, seventy-one samples were prepared and analyzed from the Burial Mound Survey Unit.

c. The sampling equipment (Geoprobe Macro-Core Soil Sampling System) used collects a 2 inch diameter soil core up to 4 feet in length. Therefore, core soil samples were planned to be collected in 4-foot sections to a depth of 12 feet below the area's surrounding surface. Soil mounds, from 1 foot to 4 feet above the surrounding surface, were present in portions of the Burial Mound Survey Unit. If a mound was present at a sampling point, then a core soil sample was collected from the top of the mound to the surrounding surface.

d. Each soil core sample collected was labeled with a unique identifier. This identifier indicates the survey unit location [BM or Troop Assembly Background Area (BKG)], the grid sampling point (A0-3, B0-3, C0-3, ..., E2-8, E3-6), and the depth (+4/0, +3/0, +2/0, +1/0, -0/4, -4/8, or -8/12) at which the soil core sample was collected. For example, sample identifier BKG A1-1-0/4, was collected in the Troop Assembly Background Area, at grid location A1-1, from the surface to a depth of 4 feet below the surface. Sample identifier BM C1-5+3/0 was collected in the Burial Mound Survey Unit Area, at grid location C1-5, from a mound that was 3 feet above the surrounding surface to the surrounding surface.

e. In the laboratory each 4 foot core soil sample was split into 4 equal samples prior to analysis. Each partial soil core sample was labeled with a unique identifier following the labeling scheme described above. For example, field sample BKG A1-1-0/4 was split into 4 laboratory samples with the following unique identifiers: BKG A1-1-0/1; BKG A1-1-1/2; BKG A1-1-2/3; and BKG A1-1-3/4. In some instances, the soil core sample had compressed into a length much shorter than the actual sample core depth. For example, field sample core BM B1-3+3/0 was approximately 2 feet in length, although the soil core sample was collected from a mound 3 feet in height. Since the gamma spectral analyses performed by the laboratory required a volume contained in a 1 foot length of the sample tube, this sample core was split into two laboratory samples with the following identifiers: BM B1-3+3/1.5 and BM B1-3+1.5/0.

f. Each laboratory sample prepared was analyzed for gross alpha activity, gross beta-gamma activity and gamma emitting radionuclides. The gamma spectrometry soil sample preparation

steps were modified due to the number of samples collected. Rather than drying and sieving each sample, as specified in the routine procedure, the 1 foot sections were placed directly into Marinelli containers and counted on a high purity germanium (HPGe) detector. A Marinelli soil geometry efficiency calibration curve was prepared and used to quantitate the radionuclides present in the samples. Duplicate samples for gamma spectrometry could not be prepared since the entire sample was analyzed. Therefore, replicate gamma spectral counts of the prepared sample were performed for Quality Assurance (QA) purposes. The gross alpha activity and gross beta-gamma activity analyses were performed after the gamma spectral analyses. Approximately 0.1 gram of soil was removed from the Marinelli and placed on a 2 inch planchet. The soil was spread over the area of the planchet and dried thoroughly. The prepared planchet was then counted in a low background proportional counter for gross alpha activity and gross beta-gamma activity. Efficiency corrections were made based on the areal density of the soil that was spread over the planchet area. Approximately 10% of the samples were prepared and analyzed in duplicate for gross alpha activity and gross beta-gamma activity.

2. Troop Assembly Background Area Core Soil Sample Results. Twelve sets of background core soil samples were collected and 144 samples prepared for analysis. All Troop Assembly Background Area core soil samples were analyzed for gross alpha activity, gross beta-gamma activity and for gamma emitting isotopes. The following narrative basic statistics are summarized in Table 7. Complete descriptive statistics, for the Burial Mound Survey Unit core soil samples, are contained in Table G-5. All background core soil sample results are included in Table F-8.

a. The gross alpha activities ranged from 0.4 pCi/g to 23 pCi/g; the average Troop Assembly Area Background gross alpha activity was 10.4 pCi/g. The alpha activity representative MDA was 7 pCi/g.

b. The gross beta-gamma activities ranged from 4 pCi/g to 34 pCi/g; the average Troop Assembly Area Background gross beta-gamma activity was 18.1 pCi/g. The beta-gamma activity representative MDA ranged from 5 pCi/g to 7 pCi/g.

c. The gamma spectral analyses indicated the presence of K-40, lead-214 (Pb-214), Bi-214 and Ac-228. The K-40 activities ranged from 3 pCi/g to 21 pCi/g and averaged 11.5 pCi/g. The

Pb-214 activities ranged from 0.5 pCi/g to 2.1 pCi/g and averaged 1.3 pCi/g. The Bi-214 activities ranged from 0.6 pCi/g to 1.9 pCi/g and averaged 1.18 pCi/g. The Ac-228 activities ranged from 0.6 pCi/g to 1.9 pCi/g and averaged 1.16 pCi/g. The gamma spectrometry representative MDAs for the radionuclides of interest were: K-40 at 1 pCi/g; Co-60 from 0.1 pCi/g to 0.2 pCi/g; Cs-137 from 0.1 pCi/g to 0.2 pCi/g; Pb-214 from 0.2 pCi/g to 0.4 pCi/g; Bi-214 at 0.5 pCi/g; and Ac-228 from 0.3 pCi/g to 0.6 pCi/g. Statistics for Co-60 and Cs-137 are listed in Table 7 (Basic Statistics) and Table G-5 (Complete Descriptive Statistics). All Co-60 activity and Cs-137 activity results are less than or equal to the respective MDA.

Table 7. Troop Assembly Area Background Core Soil Samples Basic Statistics

Analyte	Low (pCi/g)	High (pCi/g)	Average (pCi/g)	MDA (pCi/g)
Gross Alpha	0.4	23	10.4	7
Gross Beta-Gamma	4	34	18.1	5-7
K-40	3	21	11.5	1
Co-60	-0.08	0.1	0.0002	0.1-0.2
Cs-137	-0.09	0.1	-0.013	0.1-0.2
Pb-214	0.5	2.1	1.3	0.2-0.4
Bi-214	0.6	1.9	1.18	0.5
Ac-228	0.6	1.9	1.16	0.3-0.6

3. Burial Mound Survey Unit Core Soil Sample Results. Sixty-one core soil samples were collected and 571 samples prepared for analysis. All core samples were analyzed for gross alpha, gross beta-gamma activities and for gamma emitting isotopes. The following narrative basic statistics are summarized in Table 8. All Burial Mound Survey Unit core soil sample results are included in Table F-8.

a. The gross alpha activities ranged from -1 pCi/g to 23 pCi/g; the average gross alpha activity was 7.74 pCi/g.

b. The gross beta-gamma activities ranged from 2 pCi/g to 93 pCi/g; the average gross beta-gamma activity was 17.1 pCi/g.

c. The gamma spectral analyses indicated the presence of K-40, Co-60, Cs-137, Pb-214, Bi-214 and Ac-228. The K-40 activities ranged from 1 pCi/g to 39 pCi/g and averaged 11.7 pCi/g. The Co-60 activities ranged from -0.1 pCi/g to 330 pCi/g and averaged 2.56 pCi/g. The Cs-137 activities ranged from -0.1 pCi/g to 12 pCi/g and averaged 0.10 pCi/g. The Pb-214 activities ranged from 0.1 to 2.2 pCi/g and averaged 1.2 pCi/g. The Bi-214 activities ranged from -0.5 pCi/g to 2.2 pCi/g and averaged 1.1 pCi/g. The Ac-228 activities ranged from -1 pCi/g to 3 pCi/g and averaged 1.14 pCi/g. The gamma spectrometry representative MDAs for the radionuclides of interest were: K-40 at 1 pCi/g; Co-60 at 0.2 pCi/g; Cs-137 at 0.2 pCi/g; Pb-214 at 0.4 pCi/g; Bi-214 at 0.5 pCi/g; and Ac-228 at 0.6 pCi/g.

Table 8. Burial Mound Survey Unit Core Soil Samples Basic Statistics

Analyte	Low (pCi/g)	High (pCi/g)	Average (pCi/g)	MDA (pCi/g)
Gross Alpha	-1	23	7.74	7
Gross Beta-Gamma	2	93	17.1	5-7
K-40	1	39	11.7	1
Co-60	-0.1	330	2.56	0.1-0.2
Cs-137	-0.1	12	0.10	0.1-0.2
Pb-214	0.1	2.2	1.2	0.2-0.4
Bi-214	-0.5	2.2	1.1	0.5
Ac-228	-1	3	1.1	0.3-0.6

E. Data Interpretation - Burial Mound Survey Unit. The ultimate goal of the decommissioning process is to assure that future uses of any licensed facility will not result in individuals being exposed to unacceptable levels of radiation and/or radioactive materials. This is normally accomplished by ensuring any residual radioactive material is below the release guidelines

established by regulatory agencies such as the NRC. These guideline values refer to radiation and radioactivity above normal background levels.

1. Gamma Exposure Rate. The release criteria for direct radiation levels is 5 µR/hr above the established background exposure rate. No exposure rates greater than 1.25 µR/hr above background (paragraph VI.A.3.a) were noted. Therefore, the Burial Mound survey unit meets the release criteria for direct radiation levels.

2. Cobalt-60. The Co-60 activity in soil unrestricted use release criteria is 8 pCi/g above background. This radionuclide is not naturally occurring and is typically not found in background samples. Results of the laboratory analyses indicate no detectable Co-60 activity in the Troop Assembly Background Area. However, Co-60 activity above the release criteria was identified in the Burial Mound Survey Unit. The highest surface soil sample Co-60 activity result (Table 4) was 187 pCi/g or 23 times the release criteria. The highest core soil sample Co-60 activity result (Table 8) was 330 pCi/g or 41 times the release criteria. In addition, there may be more items similar to the speck of Co-60 material (paragraph VI.B.4.d) in the burial mound. Although this particular speck has been remediated, a similar item would be more than 7 million times the Co-60 activity in soil unrestricted use release criteria. Therefore, the Burial Mound Survey Unit does not meet the release criteria for Co-60 activity in soil.

3. Cesium-137. The Cs-137 activity in soil unrestricted use release criteria is 15 pCi/g above background. This radionuclide is not naturally occurring, but unlike Co-60 activity, it is found worldwide in surface soil samples. The source of the surface soil Cs-137 activity is fallout from atmospheric nuclear weapons testing and nuclear reactor accidents. The Cs-137 activity is usually found in the top several cm of soil with concentrations ranging from less than 0.1 pCi/g to several pCi/g depending on the location and soil type. Results of the laboratory analyses indicated Cs-137 activity in the background areas up to 1.6 pCi/g (Table 1). The highest surface soil sample Cs-137 activity result (Table 4) was 179 pCi/g or 11 times the release criteria. Therefore, the Burial Mound Survey Unit does not meet the release criteria for Cs-137 activity in soil.

a. If neither the Co-60 soil activity results nor the Cs-137 soil activity results exceeded the respective release criteria, then the "sum of the fractions rule" would have been applied to determine if the Burial Mound Survey Unit met the release criteria, since more than one radionuclide was detected.

b. The Co-60 activity in soil release criteria of 8 pCi/g is based on the assumption that only Co-60 is present. Likewise, the Cs-137 activity in soil release criteria of 15 pCi/g is based on the assumption that only Cs-137 is present. Therefore, when multiple radionuclides are present in a survey unit, the fractions of each radionuclide activity compared to its release criteria are summed and the summed value is compared to one. If the summed value is less than or equal to one then the survey unit meets the release criteria. If the summed value is greater than one, the survey unit does not meet the "sum of the fractions rule" release criteria.

VII. CONCLUSIONS. A review of the survey results indicates there are potential radiological health hazards in the Burial Mound Survey Unit.

A. The soil sampling survey results indicate that there is residual contamination above both the Co-60 activity in soil release criteria and the Cs-137 activity in soil release criteria.

B. The "down-hole" logging survey measurements were in some areas 1000 times the associated background measurement. These highly elevated readings are indicative of buried radioactive sources or substantial contamination pockets in the sub-surface environs.

VIII. RECOMMENDATIONS.

A. Remediate the radioactive contamination identified in the Burial Mound Survey Unit. Excavate, remove and properly dispose of the surface and sub-surface contamination identified. After remediation perform a final status survey of the Burial Mound Survey Unit to support release of this area for unrestricted use.

Indust Radn Study No. 27-MH-0987-R2-97, Fort McClellan, AL, 29 Aug-15 Sep 95 and 14-28 Jan 96

B. Perform radiological surveys in the "Old Rideout Field" area of Pelham Range to support release of this area for unrestricted use.

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APPENDIX A

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APPENDIX B

Abbreviations

Ac-228	actinium-228
AEC	Atomic Energy Commission
ASP	Analog Smart Portable
Bi-214	bismuth-214
BML	Byproduct Material License
Co-60	cobalt-60
cpm	counts per minute
Cs-137	cesium-137
DAC	Department of the Army Civilian
ESP	Eberline Smart Portable
GPS	Global Positioning System
H_0	null hypothesis
IAW	in accordance with
K-40	potassium-40
MDA	minimum detectable activity
mR/hr	milliRoentgen per hour
µR/hr	microRoentgen per hour
NaI(Tl)	sodium iodide, thallium activated
NRC	Nuclear Regulatory Commission
NUREG/CR	Nuclear Regulatory Guide/Contractor Report

Pb-214	lead-214
pCi/g	picocuries per gram
QA	quality assurance
QC	quality control
RAP	Radiological Analysis Program
RPO	Radiation Protection Officer
SN	serial number
SNM	Special Nuclear Material
SOP	Standard Operating Procedure
Sr-90	strontium-90
SSE	South Southeast
USACHPPM	U.S. Army Center for Health Promotion and Preventive Medicine
USACMLCS	U.S. Army Chemical Center and School
USAEC	U.S. Army Environmental Center
USAEHA	U.S. Army Environmental Hygiene Agency
USATHAMA	U.S. Army Toxic and Hazardous Materials Agency
UTM	Universal Transverse Mercator

APPENDIX C

SURVEY/SAMPLING PLANS

Survey Title	Page
Phase I - Scoping Survey	C-2
Phase II - Characterization Survey	C-11

Survey Plan for Rideout Field
Pelham Range, Fort McClellan, Alabama
30 August 1995 - 16 September 1995

1. **Purpose:** This survey is designed to perform a scoping survey of Rideout Field Cobalt-60 training area as defined in NUREG/CR-5849. The survey monitoring procedures and methodologies are designed to detect and locate potential radioactive materials contamination or sources left behind after all radiological training was terminated.

2. **History:** The area known as Rideout Field served as a radiological training area from 1965 to 1972. The area was also used as an active radioactive material burial site as late as 1959. The radioactive materials associated with the burial site (Co-60, Cs-137, and possibly Sr-90) and the training area (Co-60) were disposed of in NRC licensed disposal facilities when the US Army Chemical Center and School training mission was transferred from Fort McClellan, Alabama to the US Army Ordnance Center and School at Aberdeen Proving Ground, Maryland in 1973. A close-out survey was conducted by the USAEHA in 1973, however, a detailed characterization survey was not performed at that time.

3. **Method:** Three surveys will be performed, which include a background survey, the burial mound area survey, and the training area survey.

Background Survey: A background survey will be performed to determine the Ft. McClellan/Pelham Range "population" background. Six to ten locations outside of the Rideout Field area of concern will be selected and surveyed as follows:

At each background survey location data will be collected using a Reuter-Stokes high pressure ionization chamber and an ESP-2 / SPA-3 survey meter / probe combination calibrated in micro-R per hour. The Reuter-Stokes and SPA-3 measurements will be taken simultaneously. Each detector will be approximately 1 meter from the ground. The detectors will be placed approximately 5 meters apart.

The Reuter-Stokes data will be collected for approximately 18 minutes (220 5-sec intervals). The mean and standard deviation of the 220 intervals will be recorded along with the high and the low reading. From this data the Ft. McClellan population mean and standard deviation will be calculated. This data will also be tested, as described in NUREG/CR-5849, equation 8-22, to demonstrate that average background represents the population background average within 20% at the 95% confidence level. Additional background survey points will be collected, if warranted.

The ESP-2/SPA-3 data will be collected for approximately 18 minutes using the average rate mode. From this data the Ft.

McClellan population mean and standard deviation will be calculated. This data will also be tested, as described in NUREG/CR-5849, equation 8-22, to demonstrate that average background represents the population background average within 20% at the 95% confidence level. Additional background survey points will be collected, if warranted.

A surface soil sample will also be collected at each background sample location. These samples will be analyzed for gross alpha, gross beta, and gamma emitting isotopes by USACHPPM-RAP. Light weight work gloves will be used to minimize the potential for cuts and abrasions during soil sample collection.

At the selected background locations air samples will also be collected in addition to the Reuter-Stokes and SPA-3 measurements. Air samples will be collected through out the surveys (especially when collecting soil samples from the burial area) since re-suspension of Cobalt-60 and Cesium-137 is a radiological health and safety concern to all members of the survey team.

The air sample will be collected using a HI-Q Model CF-993B portable air sampler. The air sample will be collected for approximately 30 minutes. The air sample collection time may be readjusted as necessary, but a minimum of 1500 cubic feet of air will be collected. The air flow rate at the start and end of the air sample will be recorded. The average of these two values will be used in subsequent calculations. The air sample will be analyzed by gamma spectroscopy for Co-60 and Cs-137 with a portable Canberra MCA connected to a 3" by 3" NaI detector. The MCA count time will be established in the field, since it is dependent on the background count rate of the detector in the particular counting environment and geometry. After the gamma spectrum is acquired the air sample will be also analyzed by Koval's method (USACHPPM Radioisotope Program method RAP-0041.000) to determine the activity in the air sample due to long lived isotopes on the air filter. An HP-210L survey instrument or equivalent will be used to count (scalar mode) the air filter. The counting efficiency will be determined with a Tc-99 calibration standard. From this data (MCA counts and Koval method activity calculations) the Ft. McClellan population mean and standard deviation will be calculated. This data will also be tested, as described in NUREG/CR-5849, equation 8-22, to demonstrate that average background represents the population background average within 20% at the 95% confidence level. Additional background survey points will be collected, if warranted. Any unexpected results, such as Co-60 in the background sample, will be brought to the immediate attention of the local RPO and the entire following survey plan readdressed.

Additional background surveys will be performed near the burial mound site in the Troop Assembly area. This area has been selected since it is upgradient from the burial site, close geographically, and similar geologically. The purpose of these additional background surveys is to ensure all members of the survey team are appropriately trained and proficient with the survey procedures and all instrument operating procedures. This portion of the background survey will also be used to establish the gamma scan survey background statistics. The surveys to be performed in this area include an ESP-2/SPA-3 radiation safety survey; air sampling survey; sample grid location surveys with the Reuter-Stokes, portable Canberra MCA / 3" by 3" NaI detector, and ESP-2 / SPA-3; gamma scan survey with ASP-1/PG-2; and soil sampling survey. At the conclusion of these additional background surveys two 100 square meter (10m x 10m) grids will be marked and surveyed in the same manner as the grids in the burial mound area. Shoe covers and light weight fabric coveralls will be worn, at a minimum, throughout the remaining surveys.

The first measurements collected in the Troop Assembly area will cover an area of approximately 600 square meters (two 10m x 10m grids extended by 5m in each direction) with the ESP-2/SPA-3. As long as these measurements are within the 95% confidence interval of the Ft. McClellan population mean, the survey will continue, ingress/egress paths established and personnel monitoring (frisking) procedures established. If these measurements are outside the upper bound of the 95% confidence interval of the Ft. McClellan population mean, then the additional background survey area will be re-located, to another location, perhaps near Rideout Hall, and the ESP-2/SPA-3 measurements and statistical test repeated.

After the additional background area meets the ESP-2/SPA-3 criteria listed above, the HI-Q portable air sampler will be positioned on the downwind side of the additional background survey area and set to collect a sample for the same sample collection time as the background air sample (approximately 30 minutes). The air flow rate at the start and end of the air sample will be recorded. After the air sample is collected, the air sample will be analyzed by gamma spectroscopy for Co-60 and Cs-137 with the portable Canberra MCA / 3" x 3" NaI detector. The MCA count time will be as previously established. As long as Co-60 is not present in the air sample gamma spectrum or Cs-137 does not exceed the established Ft. McClellan population background at the upper bound of the 95% confidence interval, then the survey will continue with the previously established radiation safety procedures. If any Co-60 is present in the gamma spectrum or Cs-137 is present above the previously established Ft. McClellan population background at the upper bound of the 95% confidence interval, the local RPO will be immediately notified and the following additional radiation safety issues addressed and procedures implemented.

The survey team will vacate the area through the established egress path, leaving coveralls and shoe covers. Nasal swipes will be taken and FedExed back to the USACHPPM-RAP laboratory for priority analysis. The air filter will then be analyzed by Koval's method to determine the activity in air due to the long lived isotopes on the air filter. This result will be used to determine if 10% of the ALI via inhalation for the particular isotope could have been exceeded or will be exceeded during the remaining field survey time. (Co-60, class Y, ALI via inhalation = 30 microCuries, DAC = 1e-8 microcuries per milliliter of air, effective half-life = 10 days; Cs-137, class Y, ALI via inhalation = 1e+5 microCuries, DAC = 5e-5 microCuries per milliliter of air, effective half-life = 70 days.) If 10% of the ALI could have been exceeded the air filter sample will then be Fedexed to the USACHPPM-RAP laboratory for a priority quantitative gamma spectral analysis. Also a 24 hour urine bioassay will be collected from each survey team member starting approximately 24 hours after the exposure. Weekly 24 hour urine bioassay samples will be collected thereafter or as determined in consultation with Medical Health Physics and the USACHPPM-RAP laboratory. (Prior to departing USACHPPM for Ft. McClellan all survey members will provide a pre-survey 24 hour urine bioassay sample to the USACHPPM-RAP laboratory. This sample will be analyzed only if the onsite air sampling results warrant such action.) Based on the USACHPPM-RAP quantitative gamma spectral air filter results, nasal swipe results and remaining field survey time a decision will be made to determine if respiratory protection is required for survey team members. If 10% of the ALI for the isotope(s) of concern can be exceeded in the remaining survey time then respiratory protection will be used by the survey team members. If survey members are required to wear respirators then the survey schedule will be re-adjusted as necessary taking into account the heat, humidity and reduced air intake of the individuals. Protective clothing will consist of lightweight coveralls, light duty work gloves over latex or rubber gloves, cloth or paper hoods and shoe coverings.

The next measurements (after air sample is started) to be performed in the additional background survey area (approximately 600 square meters) are with the Reuter/Stokes HPIC. The Reuter-Stokes will be placed in the middle of the 600 square meter area and an 18 minute count performed (220 5 sec intervals). If the average of this data falls in the Ft. McClellan Reuter-Stokes population at the 95% confidence interval the survey will continue. If these measurements are outside the upper bound of the 95% confidence interval of the Ft. McClellan population mean, the additional background survey area will be re-located, to another location and the additional background survey measurements, starting with the ESP-2/SPA-3 survey repeated.

After the additional background area meets the Reuter-Stokes measurement criteria listed above and the air sample results present no problem, two 100 square meter grids (10m x 10m) will be marked in the middle of the 600 square meter area. Five sampling and measurement locations forming a "Z" pattern will be established in each grid (one in the grid center and the other four at the mid-points between the grid center and the grid corners).

Gamma survey measurements will be taken and recorded at 1-meter above the ground for each of the measurement locations. These measurements will be taken with an Eberline ESP-2 and SPA-3 probe combination. These measurements will be repeated with the Reuter Stokes high pressure ionization chamber (HPIC).

In-situ gamma spectroscopy measurements at 1 meter will be recorded for each measurement location. These measurements will be performed using a 3in x 3in Sodium Iodide detector and Canberra Portable Multi Channel Analyzer.

The grid will then be subdivided into 10 1-meter wide survey lanes. Each survey lane will be scanned using an Eberline ASP-1 and PG-2 detector with the speaker on. The PG-2 probe will be attached to a stick and passed back and forth within the lane as close as possible to the lane surface while moving forward at a speed not to exceed 0.5 meters per second. The analog meter readings will be noted, however changes in the instrument response are monitored via the audible output, rather than needle fluctuations. The instrument background will be noted for each survey lane and an average background established for the grid. A Chi square analysis will be performed on the data from each grid. This test will verify that the data is normally distributed, as would be expected in a background area, and will be used to refine the teams' gamma scanning survey technique. The gamma scan survey will be performed by each survey team member. If the data does not pass the Chi square test the team members' survey technique will be refined and the data recollected, until the team member

demonstrates proficiency.

Surface soil samples will be collected from each of the 5 measurement locations in the grid's "Z" pattern. Whenever, soil samples are being collected, an air sample will also be collected at an appropriate distance downwind from the soil sampling area. The air sample results will be interpreted and appropriate actions taken as previously described. At a minimum light duty work gloves will be worn during all soil sampling actions to protect from cut and abrasions.

Burial Mound Area Survey: This survey will be performed to determine the extent of the burial mound area and to identify hot spots and hot zones for further characterization by sub-surface sampling. The sub-surface sampling is anticipated to be performed with a GeoProbe soil sampler from 1-14 November 1995. During a previous site visit, a hot spot significantly above background was detected. Qualitative gamma spectral analysis of the hot spot indicated the presence of Co-60 and Cs-137.

A gamma exposure survey will be performed with the ESP-2/SPA-3. All readings 5 microRoentgen per hour above background will be marked as a preliminary hot spot or hot zone. A hot zone will have the elevated reading spread over an area, whereas, a hot spot the elevated reading will only be located at a single point. Ingress and egress paths will be established through the work area to an equipment/supply staging area. The path will minimize the time the survey team is in the vicinity of the hot areas (ALARA). All survey team members will be monitored (frisked) out of the work area and prior to entering the staging area.

The HI-Q air sampler will be setup downwind from all identified hot spots/zones. After the air sample is collected, the sample will be analyzed, results interpreted and appropriate actions taken as previously described.

The extent of the area to be gridded will be determined using the portable Canberra MCA and 3" x 3" NaI detector at 1 meter. Gamma ray spectra will be collected on the MCA starting at the middle of the burial mound. Gamma ray spectra will be collected at 10 meter intervals on lines that bisect the mound length wise and width wise. The extent of the area to grid will be determined when Co-60 is no longer in the spectra and Cs-137 is at the established background level for 2 consecutive measurements and all hot spots/zones previously identified are included.

The area will be gridded in 10 meter by 10 meter grid squares. Each grid will be subdivided into 10 1 meter wide survey lanes. Each survey lane will be gamma scanned using the ASP-1/PG-2 meter/probe combination with the speaker on. The preliminary hot spots/zones identified with the ESP-2/SPA-3 will be refined, since the ASP-1/PG-2 reading is

unidirectional and the ESP-2/SPA-3 reading is omnidirectional. All readings outside the upper bound of the 95% confidence interval of the background gamma scan will be further investigated with the MCA and Reuter-Stokes.

A Reuter-Stokes measurement (18 minutes - 220 5 second intervals) and MCA gamma spectrum will be collected at the center of each 10m x 10m grid. This will ensure 100% coverage of the radiological suspect area. These results will be compared to the background population averages developed for these measurements to determine whether the area is part of or distinct from the background population.

Surface soil samples will be collected from up to five locations in each grid. If no hot spots/zones have been identified in the grid, then the five samples will be collected (PPE: work gloves minimum) in the "Z" pattern. If there are hot spots/zones , then the samples will be collected (PPE: work gloves over latex or rubber gloves) from the hot spots/zones. When surface soil samples are being collected from hot spots/zones insure a downwind air sample is being collected. After the air sample is collected, the sample will be analyzed, results interpreted and appropriate actions taken as previously described.

Training Area Survey: A radiological training area existed at Rideout Field from 1965 to 1972. All sources (Co-60) used during this time were accounted for by serial number. However, an earlier radiological training field existed at Rideout Field. A Co-60 source was discovered buried at Rideout Field in 1985 and this source is believed to have come-from the earlier radiological training area. Therefore, it is possible that other sources remain from this earlier training field.

To determine areas for further investigation the Reuter-Stokes HPIC will be employed. Measurements will be taken at 10 meter intervals along the area suspected to have contained the earlier Co-60 radiological training field. Each measurement will be 18 minutes (220 5 second intervals). The average measurement will be compared to the background population average. Anomalies (any measurement at or above the upper bound of the 68% confidence interval of the population background) will be marked and investigated as time allows. If necessary these areas will be re-visited during the 1-14 November 1995 sub-surface soil sampling survey.

4. Proposed Timeline:

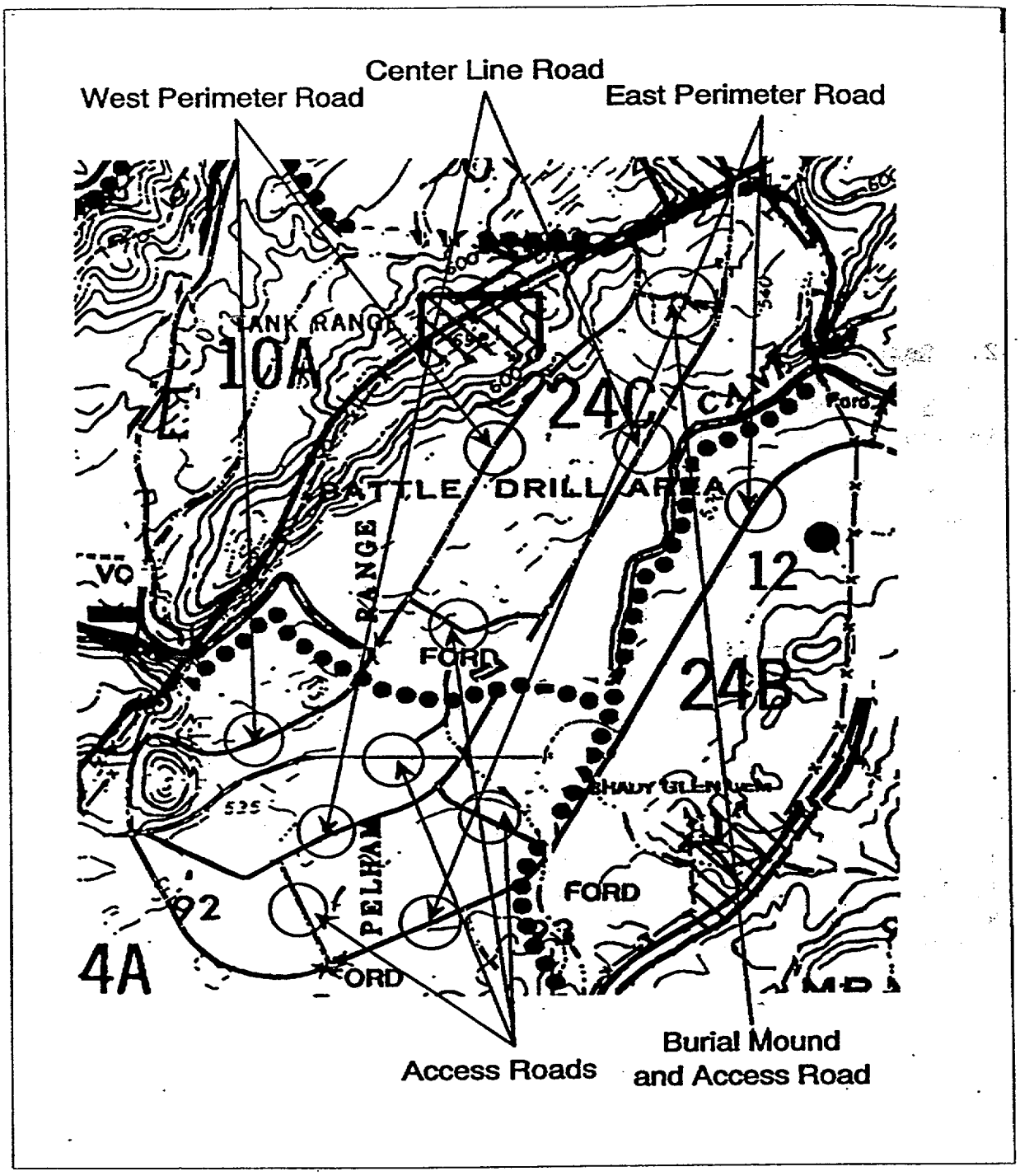
Area to be surveyed (See attached map)	**Proposed Dates**

Burial Mound and Access Road, North Field (3 days)	30 August - 1 September (and 1 - 14 Nov for Sampling)
Centerline Road, South Field (4 days 8 hrs)	5 - 11 Sep
North Access Road between Centerline Road and East Perimeter Road, South Field (1 day)	11 - 12 Sep
Middle Access Road between Centerline Road and East Perimeter Road, South Field (1 day)	12 - 13 Sep
South Access Road between Centerline Road and East Perimeter Road, South Field (1 day)	13 - 14 Sep
East Perimeter Road, South Field (2 days)	14 - 16 Sep

5. Proposed Access Coordination: It is desired that these surveys have minimum impact on the use of the area for military training. Surveys and sampling will be accomplished during daylight hours. It is desired to have a minimum 50-meter buffer around each measurement site which can be delineated by temporary barricades or markings of your choice. Roads will be surveyed at the rate of approximately 300-meters per day. A 400-meter section of road could be barricaded each day, or the entire section of road could be barricaded for the duration of each survey period.

Request the survey team members, equipment, and vehicles be granted umpire or evaluator status (or be accompanied by someone with such status) with authority to cross lines of communication and check-points as required during the survey.

6. Pre-survey Support Request: It is requested that the RPO have all trees and brush removed from and within 20-meters of the burial mound as close as possible to but prior to the 30 August start date.


Center Line Road
West Perimeter Road
East Perimeter Road
TANK RANGE
10A
24C
BATTLE DRILL AREA
RANGE
FORD
12
24B
4A
92
PELHAM
FORD
ORD
Access Roads
Burial Mound
and Access Road

ENVIRONMENTAL SURVEY PLAN
RIDEOUT FIELD SITE
FORT MCCLELLAN, ALABAMA
8 JANUARY - 19 JANUARY 1996

1. **Purpose**. The purpose of this Survey Plan is to evaluate potential radiological contamination in a Burial Mound at Pelham Range, Fort McClellan, Alabama for unrestricted release or required remediation.

2. **References**.

a. NUREG/CR-5849, Manual for Conducting Radiological Surveys in support of License Termination, June 1992.

b. Industrial Radiation Consultation No. 27-43-EU66-93, U.S. Army Chemical School and Military Police Center and Fort McClellan, Alabama, 27 July 1993.

3. **Historical Data Review Summary**.

a. The historical review completed by USACHPPM, (previously USAEHA) is the Industrial Radiation Consultation No. 27-43-EU66-93, and serves as an initial indication of the scope of work. It will also serve as the guidance for which aspects of the site survey plan must be implemented in each specific area.

b. The burial mound at Pelham Range has been identified as a location where radioactive material was buried. The burial mound is located within the area historically known as Rideout Field. Rideout Field had been used as a radiological training facility by the U.S. Army Chemical School from the mid 1950's through May of 1973. Although this area was released by the Atomic Energy Commission in 1973, the historical review of Fort McClellan identified the need for further investigation (reference Industrial Radiation Consultation No. 27-43-EU66-93 U.S. Army Chemical School and Military Police Center and Fort McClellan, Fort McClellan, Alabama, 27 July 1993). Specifically, there was no formal termination survey performed or documented to substantiate the unrestricted release criteria required by NUREG/CR-5849. The information gathered from historical documents, and written recollections of personnel assigned to Fort McClellan during the time period in question indicate the radiological waste placed

within the burial mound is most likely low-level laboratory waste (Cs-137, some Co-60, and possibly Sr-90). The data review indicates laboratory radiological waste, low-level laboratory waste in Super Tropical Bleach (STB) steel drums, and contaminated dirt removed from other radioactive material burial ground(s) were put into the burial mound (Hand written letter, LTC William G. Powell to MAJ Anderson, subject: Personal Recollections and Information on Iron Mountain and Rattlesnake Gulch, 6 March 1971). This same reference indicates radioactive wastes were buried at depths of 6 to 8 feet.

(1) Groundwater and soil contamination are the primary concerns. Since there are no known records of the quantities, chemical, or physical forms of the radioactive wastes which were placed in the burial mound, the data gathered during the survey is expected to provide a three-dimensional profile of the radioactive contaminants, their relative distributions (solubilities), and source terms. These attributes are required for site-specific modeling of guidelines for allowable residual concentrations of radionuclides and exposure pathway analysis. The potential exposure pathways are external radiation exposure, inhalation of radionuclides, and ingestion of food and water contaminated with radionuclides.

(2) The radioisotopes identified in the data review are cesium-137 (Cs-137), cobalt-60 (Co-60), and strontium-90 (Sr-90). All samples will be analyzed for gross alpha and gross beta-gamma activities. Gamma spectral analysis will be performed to identify specific gamma emitting radionuclides. Elevated beta counting results may require radiochemical determination of strontium-90. Appropriate analyses will be performed to identify any activity detected above background. Background samples will be collected to identify natural occurring radioactivity.

4. **Description of Location**.

a. The burial mound is located at the northwest corner of Pelham Range, northern end of the Battle Drill Area of Range 24C. The mound is oblong in shape and is approximately 25 meters long by 15 meters wide at coordinates 593300 meters East, 3732500 meters North in Universal Transverse Mercator (UTM) Grid Zone 16. The burial mound is surrounded by one ribbon of white Engineer Tape attached to metal fence stakes and marked with DANGER-KEEP OUT signs. The area surrounding the burial mound is utilized as a

maneuver training area for students at the U.S. Army Chemical and Military Police Schools, Active Duty Units, Reserve Units and Alabama National Guard Units.

b. "Affected" and "unaffected" areas classify survey units by contamination potential. NUREG/CR-5849 defines an affected open land survey as follows: "Affected" open land areas have potential radioactive contamination (based on plant operating history) or known radioactive contamination (based on past or preliminary radiological surveillance). This would normally include areas where radioactive materials were used and stored, where records indicate spills or other unusual occurrences that could have resulted in spread of contamination, and where radioactive materials were buried. Areas immediately surrounding or adjacent to locations where radioactive materials were used, stored, spilled, or buried are included in this classification because of the potential for inadvertent spread of contamination.

c. This site has been categorized as an affected open land area as defined in NUREG/CR-5849, based on known radioactive waste burials and elevated survey measurements found during the scoping survey.

5. **Survey Plan**. This plan consists of procedures for performing environmental background surveys, and for performing radiological surveys on site specific areas. Procedures used during all surveys will comply with the procedures outlined in NUREG/CR-5849. This plan is developed to comply with the guidance outlined for an "affected" open land area as defined in NUREG/CR-5849 and above.

5.1. **Background Survey**. A background survey will be performed to determine the Ft. McClellan/Pelham Range "population" background. Six to ten locations outside of the Rideout Field area of concern will be selected and surveyed as follows:

At each background survey location data will be collected using a Reuter-Stokes high pressure ionization chamber (HPIC) and an ESP-2/SPA-3 survey meter/probe combination calibrated in micro-R per hour. The Reuter-Stokes and SPA-3 measurements will be taken simultaneously. Each detector will be approximately 1 meter from the ground. The detectors will be placed approximately 5 meters apart.

The Reuter-Stokes data will be collected for approximately 18

minutes (220 5-sec intervals). The mean and standard deviation of the 220 intervals will be recorded along with the high and the low reading. From this data the Ft. McClellan population mean and standard deviation will be calculated. This data will also be tested, as described in NUREG/CR-5849, equation 8-22, to demonstrate that average background represents the population background average within 20% at the 95% confidence level. Additional background survey points will be collected, if warranted.

The ESP-2/SPA-3 data will be collected for approximately 18 minutes using the average rate mode. From this data the Ft. McClellan population mean and standard deviation will be calculated. This data will also be tested, as described in NUREG/CR-5849, equation 8-22, to demonstrate that average background represents the population background average within 20% at the 95% confidence level. Additional background survey points will be collected, if warranted.

A surface soil sample will also be collected at each background sample location. These samples will be analyzed for gross alpha, gross beta-gamma, and gamma emitting isotopes by USACHPPM-RAP. Light weight work gloves will be used to minimize the potential for cuts and abrasions during soil sample collection.

Additional background surveys will be performed near the burial mound site in the Troop Assembly area. This area has been selected since it is upgradient from the burial site, close geographically, and similar geologically. The purpose of these additional background surveys is to ensure all members of the survey team are appropriately trained and proficient with the survey procedures and all instrument operating procedures. The surveys to be performed in this area include an ESP-2/SPA-3 radiation safety survey; sample grid location surveys with the Reuter-Stokes, portable Canberra MCA/3" by 3" NaI detector, and ESP-2/SPA-3 instrument surveys; gamma scan survey with ASP-1/PG-2; and soil sampling survey. At the conclusion of these additional background surveys two 100 square meter (10m x 10m) grids will be marked and surveyed in the same manner as the grids in the burial mound area. Shoe covers and light weight fabric coveralls will be worn, at a minimum, throughout the remaining surveys.

The first measurements collected in the Troop Assembly area will cover an area of approximately 600 square meters (two 10m x 10m

grids extended by 5m in each direction) with the ESP-2/SPA-3. As long as these measurements are within the 95% confidence interval of the Ft. McClellan population mean, the survey will continue. Ingress/egress paths will be marked and personnel monitoring (frisking) procedures established. If these measurements are outside the upper bound of the 95% confidence interval of the Ft. McClellan population mean, then the additional background survey area will be re-located, to another location, perhaps near Rideout Hall, and the ESP-2/SPA-3 measurements and statistical test repeated.

The next measurements to be performed in the additional background survey area (approximately 600 square meters) are with the Reuter/Stokes HPIC. The Reuter-Stokes will be placed in the middle of the 600 square meter area and an 18 minute count performed (220 5 sec intervals). If the average of this data falls in the Ft. McClellan Reuter-Stokes population at the 95% confidence interval the survey will continue. If these measurements are outside the upper bound of the 95% confidence interval of the Ft. McClellan population mean, the additional background survey area will be re-located, to another location and the additional background survey measurements, starting with the ESP-2/SPA-3 survey repeated.

After the additional background area meets the Reuter-Stokes measurement criteria listed above, two 100 square meter grids (10m x 10m) will be marked in the middle of the 600 square meter area. Five sampling and measurement locations forming a "Z" pattern will be established in each grid (one in the grid center and the other four at the mid-points between the grid center and the grid corners).

Gamma survey measurements will be taken and recorded at 1-meter above the ground for each of the measurement locations. These measurements will be taken with an Eberline ESP-2 and SPA-3 probe combination. These measurements will be repeated with the Reuter Stokes high pressure ionization chamber (HPIC).

In-situ gamma spectroscopy measurements at 1 meter will be recorded for each measurement location. These measurements will be performed using a 3in x 3in Sodium Iodide detector and Canberra Portable Multi Channel Analyzer.

The grid will then be subdivided into 10 1-meter wide survey lanes. Each survey lane will be scanned using an Eberline ASP-1 and PG-2

detector with the speaker on. The PG-2 probe will be attached to a stick and passed back and forth within the lane as close as possible to the lane surface while moving forward at a speed not to exceed 0.5 meters per second. The analog meter readings will be noted, however changes in the instrument response are monitored via the audible output, rather than needle fluctuations. The instrument background will be noted for each survey lane and an average background established for the grid. This exercise will be used to refine the teams' gamma scanning survey technique. The gamma scan survey will be performed by each survey team member.

Surface soil samples will be collected from each of the 5 measurement locations in the grid's "Z" pattern. At a minimum light duty work gloves will be worn during all soil sampling actions to protect from cuts and abrasions.

a. Procedures.

(1) Instrumentation Surveys.

(a) Background instrumentation surveys and soil samples will be collected from outside the affected areas; preferably from an area where the topsoil has not been disturbed.

(b) All instrumentation will have operational checks performed with an appropriate radioactive check source prior to shipping to the field site; before starting the survey and periodically during the survey.

© All gamma surveys will be performed with the gamma detector at approximately 1-m from the soil surface.

(2) Soil Sample Surveys.

(a) All soil samples will be randomly selected. For the purpose of this survey, the soil surface is defined as the top 15 cm of soil. Soil samples will be analyzed for gross alpha, gross beta-gamma, and gamma emitting isotope activities. All sample locations will be posted/marked with an identifiable marker, such as a flag or stake.

(b) The subsurface background samples in the Troop Assembly Area will be collected in a systematic "Z" pattern. The area will be up gradient from and geologically similar to the area

of the burial mound. Surface soil samples will be procured from this area and submitted for laboratory analysis. The area will be made up of 2-10 meter by 10 meter grids with sampling locations in the center of each grid and at the mid-point between the grid center and grid corners (this pattern is typically referred to as the standard "Z" pattern). A core sampler will be used to collect 10 background samples. The soil samples will be collected to a depth of 12 feet below the soil surface. This sampling depth is an integral multiple of the 4 foot sampling tube depth that collects samples at least 3 feet below the known burial depth (8 feet).

(3) Water Sample Surveys. Water samples will be collected from available surface water sources including any run-off areas from the burial mound (no well or tap water sources are available at this site). All background water samples will be collected up gradient from the survey site. Water sample analyses will be performed in accordance with the RAP Analytical Protocols.

5.2. **Burial Mound Survey**. The Burial Mound has been classified as an Affected Open Land Area as defined in NUREG/CR-5849. The classification of this area as "affected" was confirmed during the scoping survey by in-situ gamma spectroscopy with a 3x3 inch sodium iodide detector (NaI(Tl)) and the identification of 23 "hot spots" which were greater than 2 times background by audible surface scanning with a 2 inch diameter, 2 millimeter thick NaI(Tl) detector. The in-situ analysis confirmed the presence of both cesium-137 and cobalt-60 in the burial mound. Preliminary analysis of the scoping survey data indicate the "hot spots" exhibit both point-source and distributed source characteristics.

a. Instrumentation Survey. Field survey meters will be within current calibration. All survey meters will have operational checks performed on them with an appropriate radioactive check source prior to starting the field surveys, and periodically during the survey work.

(1) The site has been 100% scanned with a gamma survey meter matched with a thin crystal sodium iodide detector. The detector was held within 6 inches of the soil surface.

(2) Areas with count rates greater than twice the measured background have been flagged.

(3) After the core samples have been removed (see Soil

Samples below), the boreholes will be logged with a sodium iodide detector each foot (approximately 0.30 m) from the surface to the bottom of the borehole. The detector reading will be zeroed at each position and allowed to acquire counts for a minimum of 1 minute. The instrument reading will then be recorded with the location information.

b. Soil Samples.

(1) Surface soil samples will be collected from grid centers and areas near selected "hot spots" from the survey site and submitted for laboratory analysis. All soil samples collected will be analyzed for gross alpha, gross beta-gamma, and gamma emitting isotope activities.

(2) Core samples will be collected in a systematic triangular pattern as recommended by the Environmental Protection Agency in report number 230/02-99-042 titled Methods for Evaluating the Attainment of Cleanup Standards Volume 1: Soils and Solid Media. A graphical representation of the pattern and the numbering system is attached as Figure 1. Since burial trenches were normally 6-8 feet deep during this time frame, each core location will be sampled to a maximum depth of 12 feet below the mounds surrounding surface (e.g. if the mound surface is 6 feet above the surrounding surface, the maximum core depth would be 18 feet (6 feet for the mound and 12 feet for the trench).

c. Water Samples.

(1) Fort McClellan currently has no Ground Water Monitoring Wells or tap water sources in the vicinity of the burial mound. There is apparently a drinking water well located approximately 350 meters NNE of the burial mound at Rideout Hall. Current data suggests it may be upgradient from the burial mound, but the data is not definitive.

(2) Surface water run-off samples may be collected in the vicinity of the burial mound if available. All samples collected will be analyzed for gross alpha activity, gross beta-gamma activity, and gamma emitting isotopes.

6. **Laboratory Analysis**. All laboratory analyses will be performed by USACHPPM, Radioisotope Analysis Program (RAP), which maintains multiple certifications including the EPA and A2LA.

a. Samples will be analyzed in accordance with USACHPPM, RAP protocols and procedures. Soil samples and water samples analysis will be performed at USACHPPM.

b. All laboratory samples will be controlled in accordance with USACHPPM chain of custody protocol.

7. **Quality Assurance and Quality Control (QA and QC)**.

a. Field survey instruments will be checked daily with a radioactive check source before use. Field QA will consist of blank samples since split and duplicate samples are not feasible with the sampling method to be used.

b. The QA for laboratory instruments will be performed by RAP, USACHPPM. Laboratory QA/QC such as sample spikes and background controls will be implemented by RAP as appropriate.

8. **Sample Contamination Management**.

a. Disposable gloves and splash protective apparel (i.e., saranex aprons, face shields) will be worn when appropriate. Since the soil sampling method effectively isolates each sample, gloves will be changed when integrity is compromised or monitoring results indicate contamination.

b. Sample collection equipment will be wiped clean with maslin cloths (mineral oil treated yellow dust cloths) between each sample. All disposable equipment will be used one time only. Equipment cleaning material will be collected, monitored and controlled.

c. All sample containers will be placed in a secondary container and shipped to USACHPPM via express common carrier or returned with USACHPPM survey equipment and vehicles.

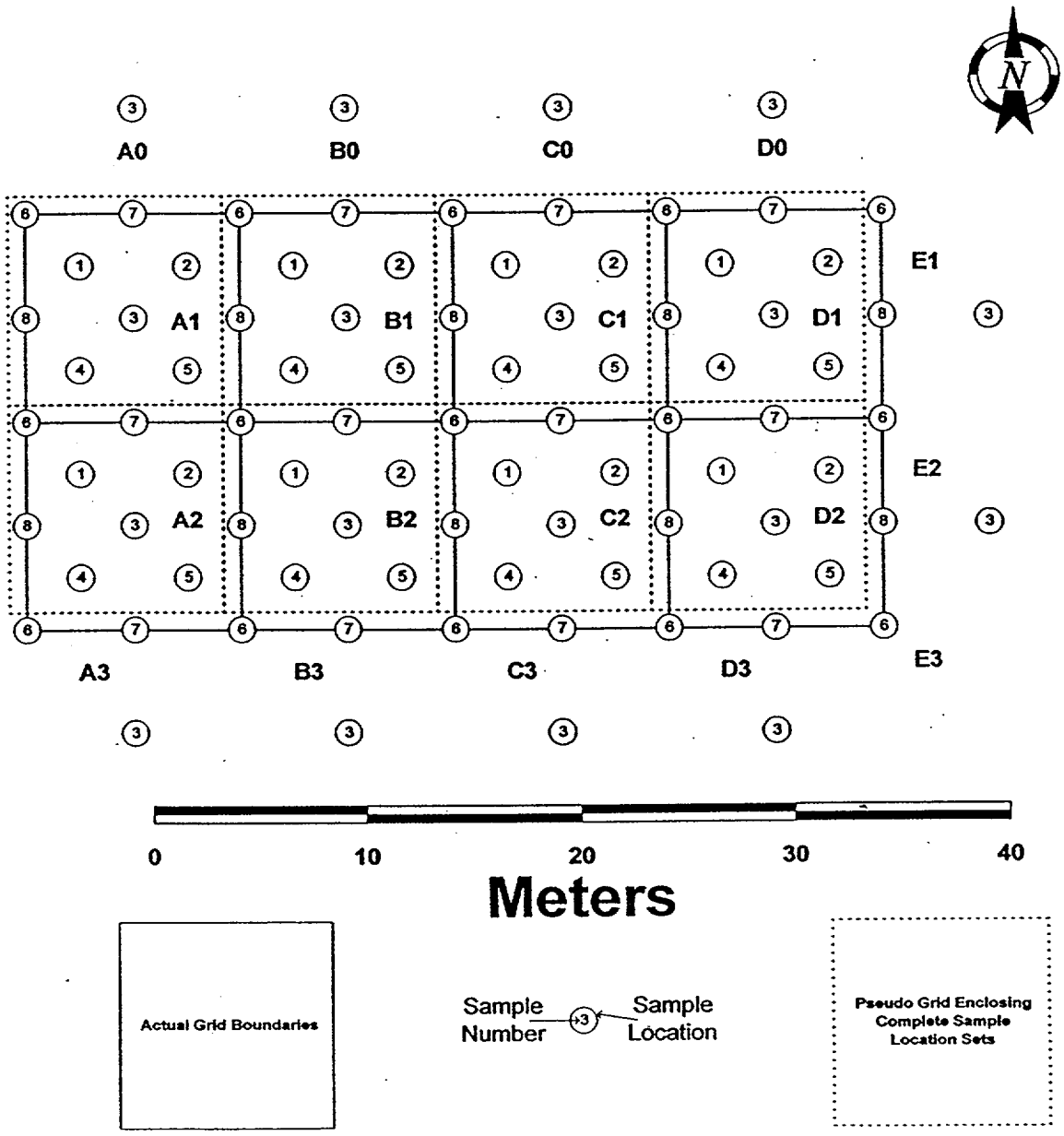
9. **General Safety Plan**. General site safety is covered in the attached Site Safety Plan for Rideout Field, Fort McClellan, AL 8 January - 19 January 1996.

10. **Survey Data**. Survey and Laboratory data will be used to provide recommendations for release of the site for unrestricted use or site remediation work plans. If radiological contamination is observed above acceptable levels, USACHPPM will provide

necessary recommendations to assist in the remediation effort.

Figure 1.

Pelham Range
Burial Mound, Rideout Field
Fort McClellan, Alabama



APPENDIX D

SITE SAFETY PLANS

Safety Plan Page

Phase I - Scoping Survey D-2

Phase II - Characterization Survey D-7

SITE SAFETY PLAN
RIDEOUT FIELD SITE
FORT MCCLELLAN, ALABAMA
PROJECT NUMBER 27-83-0987
AUGUST 1995 - SEPTEMBER 1995

1. INTRODUCTION. Safety is the responsibility of everyone involved in every aspect of this survey. It will be the number one concern and under no circumstance will any compromises be made on established safety standards.

2. ORGANIZATION AND RESPONSIBILITIES.

a. Harris Edge
Program Manager
Industrial Health Physics Program
U.S. Army Center for Health Promotion and Preventive Medicine (Provisional)[USACHPPM (Prov)]

b. Frances Szrom
Project and Site Safety Manager
USACHPPM (Prov)

c. Michael Bush
Co-Project and Site Safety Manager
USACHPPM (Prov)

d. Barthel F. Truffa, III
Health Physics Consultant
Nuclear Support Services

3. SCOPE OF WORK.

a. Purpose. The purpose of these radiological termination surveys is to produce the data to demonstrate that all radiological parameters are in compliance with current applicable Federal, State and local radiological guidelines for release of the areas for unrestricted use.

b. Project Description. Rideout Field, Fort McClellan, AL had been used as a radioactive waste burial site (1959) and radiological training area (1965-1972 and earlier). Records indicate the waste was removed (1970's) and disposed at licensed Nuclear Regulatory Commission (NRC) disposal facilities. However, adequate termination surveys were not performed. Therefore, radiological surveys will be performed following the guidelines currently available in NUREG/CR-5849, "Manual for Conducting Radiological Surveys in Support of License Termination". This survey has been classified as a scoping survey as defined in NUREG/CR-5849. Radiological sampling will comprise survey instrumentation readings and if warranted, surface soil samples (from surface to 15 centimeter depth). Gamma survey instrumentation will be used to scan for elevated

readings. All areas with readings that exceed the limits established in the attached work plan will be identified and marked for further characterization. All characterization surveys will be performed in accordance with the requirements listed in NUREG/CR-5849. The Rideout Field site contains two areas of concern: the radiological burial area and the radiological training area. The radiological burial area is believed to be the dirt mound adjacent to the north most access road between Center Line and West Perimeter Roads of Rideout Field. The radiological training area (1965-1972) was located along the southern end of Center Line Road. An older (prior to 1965) radiological training area is also believed to have existed in this same area. The work to be performed is detailed in the Survey Plan for Rideout Field, Pelham Range, Fort McClellan, AL, 30 August 1995 - 16 September 1995, which is attached.

c. Personnel. The personnel that will be involved on site are listed in paragraphs 2b through 2d above. Either the project manager or co-project manager will be present during on site operations. While on site the survey team may be accompanied by Fort McClellan personnel, as designated by the installation radiation protection officer.

d. Medical Surveillance. All USACHPPM personnel involved in this survey are included in the medical monitoring program through Kirk Army Health Clinic at Aberdeen Proving Ground - Edgewood, Maryland.

4. SITE SPECIFIC HAZARD ANALYSIS.

a. Biological Hazards. Snakes, ticks, and other pests, as well as poisonous plants, are typically found in wooded and field areas in Fort McClellan, AL during the summer months. Therefore, snakes, ticks and poisonous plants will be a significant hazard to the survey personnel. The Fort McClellan Radiation Protection Officer or safety qualified designee will provide training to all survey personnel of the indigenous pests, poisonous plants and hazard minimization techniques prior to start of the field work. Those techniques will be incorporated into the daily work procedures.

b. Chemical Hazards. None apparent.

c. Climatic Hazards/Temperature. Given the timing of this survey, hot weather may present a problem. Fluids, frequent work breaks and light weight coveralls will be used to mitigate warm weather effects. However, if conditions warrant, such as heat alerts or heat advisories in the Fort McClellan area, work will cease until conditions improve. The Fort McClellan Radiation Protection Officer or safety qualified designee will review heat alert/advisory procedures with all survey personnel prior to start of the field work. These procedures will be incorporated into the daily work procedures.

d. Electrical/Utility. None apparent.

e. Flammable/Explosive. None apparent.

f. Ordnance. None apparent.

g. Infectious. None apparent.

h. Oxygen/Confined Space. None apparent.

i. Physical Hazards. Physical hazards are not normally associated with the radiation survey equipment.

j. Noise. Noise is not associated with the radiation survey equipment.

k. Radioactive. The survey plan is attached and has been developed to incorporate radiation protection procedures during the survey. The attached survey plan, along with this safety plan, are staffed with the local Radiation Protection Officer for concurrence. The radiation protection plan ensures that personnel exposures are kept as low as reasonably achievable. Personnel dosimetry and other appropriate radiation protection devices, will be used to monitor all personnel that enter radiation fields of 2 millirads per hour or greater. Since re-suspension of radioactive material (Co-60 and Cs-137) is possible the survey plan includes air filter sampling procedures, result interpretation and appropriate safety actions to be taken based on these air sample monitoring results.

l. Personal Protective Equipment. Steel toed safety boots/shoes will be worn at all times. Safety glasses will be worn as necessary. Light duty work gloves may be used to protect from cuts and abrasions as long as the field radiation survey equipment indicate readings less than 3 times the background count rate. Latex or rubber gloves will be used while sampling, if field radiation survey equipment exceed 3 times the background count rate. Shoe covers and light weight coveralls will be used at a minimum during the survey of the areas of concern. The need for cloth/paper hoods, double gloving (work gloves over latex or rubber gloves) and respiratory protection is addressed in the attached work plan. Respiratory protection may be required since re-suspension of radioactive materials is possible. The results of the air sample monitoring will be used to determine the need for respirators and bioassay samples, as detailed in the attached work plan.

m. Decontamination Procedures. A radiological clean area will be established near the survey site. Potentially contaminated clothing, gloves, shoe covers and equipment will be collected before entering the clean area. Personnel will be monitored (frisked) with a low level survey meter when leaving the work area and prior to entering the radiological clean area. Personnel found to have radiological contamination on them

greater than 2 times background will be required to decontaminate prior to leaving the contaminated area. Personnel and equipment decontamination will be accomplished with soap and water rinses, as necessary.

n. Emergency Procedures. The survey team will have cellular communications available to request emergency medical support and contact necessary Fort McClellan personnel. Illnesses and injuries will be directed to the local medical support centers. Emergency medical services are available through the Ambulance Service which has an MOU with Ft. McClellan, AL. The ambulance service phone number is (205) 848-2345. The ambulance service will transport medical emergencies to Noble Army Community Hospital (205) 848-2152 or Jacksonville Hospital (205) 435-4970.

5. NOTIFICATION. Pre-entry safety and work briefings will be held prior to daily work commencement. The briefings will consist of the familiarization of project personnel with the survey locations and methodologies, site safety procedures, and emergency response procedures. The following individuals acknowledge that they have been notified of the contents of this site safety and health plan, understand its requirements, and agree to comply with the identified procedures:

Name	Signature	Date
Frances Szrom	Frances Szrom	25 Aug 95
Michael Bush	Michael J. Bush	25 Aug 95
Barthel F. Truffa, III	Barthel F Truffa III	25 aug 95
_____	_____	

PREPARED BY:

Frances Szrom 25 Aug 95

FRANCES SZROM DATE
Project Manager/Site Safety Manager
Industrial Health Physics Program
USACHPPM

REVIEWED BY:

Harris Edge 25 Aug 95

HARRIS EDGE DATE
Program Manager
Industrial Health Physics Program
USACHPPM

CONCURRENCE BY:

Creighton P. Jacobson 25 Aug 95

CREIGHTON P. JACOBSON DATE
Safety and Occupational Health Manager
USACHPPM

for JOHN W. MAY DATE 30 Aug 95
Health Physicist
Radiation Protection Officer
Fort McClellan, Alabama

Please Note: The following copy of the 8-19 January 1996 Site Safety Plan was reproduced from a computer file, since the original printed copy with signatures was lost.

SITE SAFETY PLAN
RIDEOUT FIELD SITE
FORT MCCLELLAN, ALABAMA
PROJECT NUMBER 27-MH-0987
8 JANUARY - 19 JANUARY 1996

1. INTRODUCTION. Safety is the responsibility of everyone involved in every aspect of this survey. It will be the number one concern and under no circumstance will any compromises be made on established safety standards.

2. ORGANIZATION AND RESPONSIBILITIES.

a. Harris Edge
Program Manager
Industrial Health Physics Program
U.S. Army Center for Health Promotion and Preventive Medicine
USACHPPM

b. Frances Szrom
Project and Site Safety Manager
USACHPPM

c. Michael Bush
Co-Project and Site Safety Manager
USACHPPM

d. Barthel F. Truffa, III
Health Physics Consultant
Nuclear Support Services

e. I. Richard Kestner
Engineering Technician
USACHPPM

f. Michael Stewart
Medical Laboratory Technician
USACHPPM

g. Amy L. Bigger
Medical Laboratory Technician
USACHPPM

3. SCOPE OF WORK.

a. Purpose. The purpose of these radiological surveys is to produce the data to demonstrate that all radiological parameters are in compliance with current applicable Federal, State and local radiological guidelines for release of the areas for unrestricted use.

b. Project Description. Rideout Field, Fort McClellan, AL had been used as a radioactive waste burial site (1959) and radiological training area (1965-1972 and earlier). Records indicate the waste was removed (1970's) and disposed at licensed Nuclear Regulatory Commission (NRC) disposal facilities. However, adequate termination surveys were not performed. Therefore, radiological surveys will be performed following the guidelines currently available in NUREG/CR-5849, "Manual for Conducting Radiological Surveys in Support of License Termination". This survey has been classified as a final survey as defined in NUREG/CR-5849. Radiological sampling will comprise survey instrumentation readings and subsurface soil samples (from surface to 12 feet below the mounds surrounding surface). Gamma survey instrumentation will be used to scan the bore holes for elevated readings. Equipment, such as the GeoProbe, which is a hydraulic push sampler, will be used to collect the samples. The burial mound is oblong in shape and is approximately 25 meters long by 15 meters wide and is located at coordinates 593300 meters East, 3732500 meters North in Universal Transverse Mercator (UTM) Grid Zone 16. The work to be performed is detailed in the Survey Protocol No. 27-MH-0987A-P-96 for Fort McClellan, AL to which this appendix is attached.

c. Personnel. The personnel that will be involved on site are listed in paragraphs 2b through 2g above. Either the project manager or co-project manager will be present during on site operations. While on site the survey team may be accompanied by Fort McClellan safety qualified personnel, as designated by the installation safety manager.

d. Medical Surveillance. All USACHPPM personnel involved in

d. Medical Surveillance. All USACHPPM personnel involved in this survey are included in the medical monitoring program through Kirk Army Health Clinic at Aberdeen Proving Ground - Edgewood, Maryland.

4. SITE SPECIFIC HAZARD ANALYSIS.

a. Biological Hazards. Snakes, ticks, and other pests, as well as poisonous plants, are typically found in wooded and field areas in Fort McClellan, AL during the spring to fall seasons. This survey will be performed during the winter months, therefore snakes, ticks and poisonous plants will not be a significant hazard to the survey personnel.

b. Chemical Hazards. None apparent.

c. Climatic Hazards/Temperature. Given the timing of this survey, cold weather changing to warm weather may present a problem. Warm layered clothing and frequent work breaks may be used to mitigate cold weather effects. The doffing of layered clothing will be used to mitigate the effects of warming temperatures. However, if conditions warrant, such as extremely low temperatures, heavy rain or wind, work will cease until conditions improve. The Fort McClellan Radiation Protection Officer or safety qualified designee will review cold advisory procedures with all survey personnel prior to start of the field work. These procedures will be incorporated into the daily work procedures.

d. Electrical/Utility. None apparent.

e. Flammable/Explosive. None apparent.

f. Ordnance. None apparent.

g. Infectious. None apparent.

h. Oxygen/Confined Space. None apparent.

I. Physical Hazards. Numerous physical hazards are associated with hydraulic push sampling equipment. Care will be taken at all times and instructions for safe and proper operation from the equipment operator will be followed by all survey personnel at all times.

j. Noise. Noise is a concern for the equipment operator and nearby personnel. Therefore, the operator and nearby personnel will wear ear plugs/muffs.

k. Radioactive. The survey protocol to which this appendix is attached has been developed to incorporate radiation protection procedures during the survey. The survey protocol, along with this safety plan, are staffed with the local Radiation Protection Officer for concurrence. The radiation protection plan ensures that personnel exposures are kept as low as reasonably achievable. Personnel dosimetry and other appropriate radiation protection devices, will be used to monitor all personnel that enter radiation fields of 2 millirad per hour or greater.

Air samples may be collected when appropriate to assist in determining potential radionuclide airborne concentrations. Air samples will be collected, counted, and results interpreted as below.

Air samples collected during the scoping survey were submitted for laboratory screening. The results showed no detectable Co-60, Cs-137, or Natural Thorium daughter gamma emissions. Although this was the desired result, air sampling will continue due to the aggressive nature of the subsurface soil sampling method to be utilized.

The HI-Q or other appropriate portable air sampler will be positioned on the downwind side and at breathing zone height for the collection of air samples during the acquisition of soil samples. Samples will be collected for at least 20 minutes, the air flow rate at the start and end of the air sample collection period will be recorded. After the air sample is collected, the air filter will be analyzed by gamma spectroscopy for Co-60 and Cs-137 with a portable Canberra MCA with a 3" x 3" NaI detector. As long as Co-60 and Cs-137 are not present in the air sample gamma spectrum, the survey will continue with the previously established radiation safety procedures. If any Co-60 or Cs-137 is present, the following additional radiation safety issues will be addressed and appropriate procedures implemented:

The survey team will vacate the area through the established egress path, leaving coveralls, shoe covers, and gloves. The Installation RPO will be notified immediately.

Nasal swipes will be taken from each member of the survey team and sent back to the USACHPPM-RAP laboratory for priority analysis.

The air filter will then be analyzed by Koval's method to determine the activity in air due to the long lived isotopes on the air filter. This result will be used to determine if 10% of the Annual Limit of Intake (ALI) via inhalation for the particular isotope(s) could have been exceeded or will be exceeded during the remaining field survey time (Co-60, class Y, ALI via inhalation = 30 microcuries, Derived Air Concentration (DAC) = 1e-8 microcuries per milliliter of air, effective half-life = 10 days; Cs-137, class Y, ALI via inhalation = 1e+5 microcuries, DAC = 5e-5 microcuries per milliliter of air, effective half-life = 70 days.)

If 10% of the ALI could have been exceeded the air filter sample will then be returned to the USACHPPM-RAP laboratory for a priority quantitative gamma spectral analysis.

A 24 hour urine bioassay will be collected from each survey team member starting approximately 24 hours after the exposure. Weekly 24 hour urine bioassay samples will be collected thereafter or as determined in consultation with Medical Health Physics and the USACHPPM-RAP laboratory. (Prior to departing USACHPPM for Ft. McClellan all survey members will provide a pre-survey 24 hour urine bioassay sample to the USACHPPM-RAP laboratory. This sample will be analyzed only if the onsite air sampling results warrant such action.)

Based on the USACHPPM-RAP quantitative gamma spectral air filter results, nasal swipe results and remaining field survey time a decision will be made to determine if respiratory protection is required for survey team members. If 10% of the ALI for the isotope(s) of concern can be exceeded in the remaining survey time then respiratory protection will be used by the survey team members. If survey members are required to wear respirators then the survey schedule will be re-adjusted as necessary taking into account the heat, humidity and reduced air intake of the individuals. Protective clothing will consist of coveralls, work gloves over latex or rubber gloves, cloth or paper hoods and shoe coverings.

l. Personal Protective Equipment. Steel toed safety boots/shoes will be worn at all times. Safety glasses will be worn as necessary. Ear plugs/muffs will be worn as necessary. Hard hats will be worn by the equipment operator and nearby personnel. Light duty work gloves may be used to protect from cuts and abrasions as long as the field radiation survey equipment indicate readings less than 3 times the background count rate. Latex or rubber gloves will be used while sampling, if field radiation survey equipment exceed 3 times the background count rate. Shoe covers and light weight coveralls will be used at a minimum during the survey of the areas of concern. The need for cloth/paper hoods, Tyvek, double gloving (work gloves over latex or rubber gloves) and respiratory protection is addressed in the survey protocol and this appendix. Respiratory protection may be required since re-suspension of radioactive materials is possible. The results of the air sample monitoring will be used to determine the need for respirators and bioassay samples, as detailed in this appendix. If required, respirators and fit testing will be coordinated through the Ft. McClellan RPO's office.

m. Decontamination Procedures. A radiological clean area will be established near the survey site. Potentially contaminated clothing, gloves, shoe covers and equipment will be collected before entering the clean area. Personnel will be monitored (frisked) with a low level survey meter when leaving the work area and prior to entering the radiological clean area. Personnel found to have radiological contamination on them greater than 2 times background will be required to decontaminate prior to leaving the contaminated area. Personnel and equipment decontamination will be accomplished with soap and water rinses, as necessary.

n. Emergency Procedures. The survey team will have cellular communications available to request emergency medical support and contact necessary Fort McClellan personnel. Illnesses and injuries will be directed to the local medical support centers. Emergency medical services are available through the Ambulance Service which has an MOU with Ft. McClellan, AL. The ambulance service phone number is (205) 848-2345. The ambulance service will transport medical emergencies to Noble Army Community Hospital (205) 848-2152 or Jacksonville Hospital (205) 435-4970.

5. NOTIFICATION. Pre-entry safety and work briefings will be held prior to daily work commencement. The briefings will consist of the familiarization of project personnel with the survey locations

and methodologies, site safety procedures, and emergency response procedures. The following individuals acknowledge that they have been notified of the contents of this site safety and health plan, understand its requirements, and agree to comply with the identified procedures:

Name	Signature	Date
Frances Szrom	_____	
Michael Bush	_____	
Barthel F. Truffa, III	_____	
I. Richard Kestner	_____	
Michael Stewart	_____	
Amy L. Bigger	_____	
_____	_____	
_____	_____	

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PREPARED BY:

FRANCES SZROM DATE
Project Manager/Site Safety Manager
Industrial Health Physics Program
USACHPPM

REVIEWED BY:

HARRIS EDGE DATE
Program Manager
Industrial Health Physics Program
USACHPPM

CONCURRENCE BY:

CREIGHTON P. JACOBSON DATE
Safety and Occupational Health Manager
USACHPPM

JOHN W. MAY DATE
Health Physicist
Radiation Protection Officer
Fort McClellan, Alabama

APPENDIX E

Instrumentation and Laboratory Analyses

I. Field Survey Instrumentation:

A. Eberline Smart Portable (ESP), Model ESP-2, SN 355: calibrated 19 January 1995. The ESP-2 was mated with the following radiation detectors:

1. Eberline Model SPA-3 Scintillation Probe Assembly for measuring gamma exposure rate.

2. Eberline Model HP-270 energy compensated metal GM detector for measuring gamma exposure rate and detecting beta radiation.

B. Eberline Smart Portable (ESP), Model ESP-2, SN 1447 calibrated 7 December 1994. The ESP-2 was mated with the following radiation detectors:

1. Eberline Model HP-210T tungsten shielded thin window GM detector for measuring beta-gamma count rates.

2. Eberline Model AC-3 Zinc Sulfide Scintillation detector for detecting alpha count rates.

3. Eberline Model SPA-3 Scintillation Probe Assembly for measuring gamma exposure rate.

C. Eberline Analog Smart Portable (ASP), Model ASP-1, SN 2871 calibrated 11 October 1994. The ASP-1 was mated with the following radiation detector: Eberline Model PG-2 plutonium-gamma thin crystal sodium iodide detector for detection of low energy gamma and x-rays.

D. Ludlum Model 2350 Data Logger, SN 98629, calibrated 1 February 1995. The 2350 was mated to the following detector: Ludlum Model 44-2 1-inch by 1-inch Sodium Iodide detector, SN PR 109560, for the measurement of gamma exposure rates.

II. Laboratory Instrumentation:

A. Tennelec Model LB 5100, Alpha/Beta Gas-flow Proportional Counting System, SN: 52259-1.

B. Tennelec Model LB 5100, Alpha/Beta Gas-flow Proportional Counting System, SN: 57259-2.

C. Ortec Gamma Spectral Analyzer, Model GEM-LB-47220-S, with High Purity Germanium Detector, SN: 25-P-95S.

D. Ortec Gamma Spectral Analyzer, Model GMX-15185-S, with High Purity Germanium Detector, SN: 22-N-71XA.

III. Laboratory Analyses.

A. Phase I - Scoping Survey Surface Soil Sample Analyses. The RCCCD Radiological Laboratory's routine procedures were followed for the gross alpha activity, gross beta-gamma activity and gamma spectral analyses. The routine soil sample preparation were followed. Each soil sample was dried in a forced air furnace. After allowing to dry overnight, all rocks, plant roots, and other materials were screened from the soil.

1. Gross Alpha and Gross Beta. An 0.1 gram aliquot of dried soil was fixed into a pre-weighed planchet. The sample planchet was then counted in a gas flow proportional counter for gross alpha and gross beta activity. Efficiency and absorption factors were calculated based on areal density efficiency curves. In addition, duplicate analyses were performed on several soil samples.

2. Gamma Spectral Analyses. An 100. gram aliquot of dried soil was placed in a calibrated soil geometry container. Each soil sample was counted for 100 minutes on a high purity germanium detector (HPGe) or germanium drifted lithium (GeLi) detector. Results for Co-60, Cs-137, K-40, Ac-228, Bi-214, and Pb-214 were reported.

B. Phase II - Characterization Survey Core Soil Sample Analyses. Due to the number of samples collected in the characterization survey, the RCCCD Radiological Laboratory's routine procedures were modified. The modifications are described in paragraphs VI.D.1.e and VI.D1.1.f of this report.

APPENDIX F

MEASUREMENTS AND RESULTS

Table F-1. Reconnaissance Background Exposure Rate Measurements F-2

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Table F-1. Reconnaissance Background Exposure Rate Measurements

Location Description	Grid Coordinates	Reuter Stokes (µR/hr)				ESP-2/SPA-3 (µR/hr)
		Average	Max	Min	Std Dev	
Recon Bkg-1	94573510	7.7	9.3	6.6	0.4	4.78
Recon Bkg-2	94303430	9.7	11.6	8.3	0.4	7.53
Recon Bkg-3	93703340	6.9	8.3	5.8	0.4	3.99
Recon Bkg-4	93633282	7.8	9.1	6.5	0.4	4.51
Recon Bkg-5	94003230	7.6	10	6.7	0.4	4.84
Recon Bkg-6	93863211	8.1	10.5	7	0.4	4.97
Recon Bkg-7	93833117	8.4	9.8	7.3	0.4	5.31
Recon Bkg-8	93543070	9.3	11.2	8.1	0.5	6.34
Recon Bkg-9	93063020	8.6	10	7.6	0.4	5.63
Recon Bkg-10	92422940	8.3	9.4	7.5	0.4	4.96

TABLE F-2. Troop Assembly Background Survey Unit Exposure Rate Measurements

Location Description	Grid Coordinates	Reuter Stokes (µR/hr)				ESP-2/SPA-3 (µR/hr)
		Average	Max	Min	Std Dev	
BKG A1-1	--	--	--	--	--	5.74
BKG A1-2	--	--	--	--	--	5.77
BKG A1-3	--	8.6	9.7	7.2	0.4	5.71
BKG A1-4	--	--	--	--	--	5.65
BKG A1-5	--	--	--	--	--	5.9
BKG B1-1	--	--	--	--	--	5.8
BKG B1-2	--	--	--	--	--	5.7
BKG B1-3	--	8.7	10.2	7.6	0.4	5.76
BKG B1-4	--	--	--	--	--	5.72
BKG B1-5	--	--	--	--	--	5.89

Table F-3. Burial Mound Survey Unit Exposure Rate Measurements

Location Description	Grid Coordinates	Reuter Stokes (µR/hr)				ESP-2/SPA-3 (µR/hr)
		Average	Max	Min	Std Dev	
BM A1-3	--	8.2	10.2	7.2	0.4	5.2
BM B1-3	--	8.1	10	7.1	0.4	5.07
BM C1-3	--	9.6	11.2	8.5	0.4	6.16
BM D1-3	--	8.9	10.7	7.7	0.4	5.99
BM A2-3	--	7.8	9.1	6.5	0.4	4.8
BM B2-3	--	8.3	9.7	6.8	0.4	5.37
BM C2-3	--	9.9	11.7	8.3	0.5	6.53
BM D2-3	--	8.4	9.7	7.5	0.4	5.53

Table F-4. Troop Assembly Background Survey Unit and Burial Mound Survey Unit Scanning Survey Results

Location Description	Lane Number	Surveyor	ASP-1/PG-2 (cpm)			Hot Spot cpm(ID#)
			Average	Max	Min	
BKG A1	1	BFT	1500	1700	1300	--
BKG A1	2	BFT	1400	1600	1200	--
BKG A1	3	BFT	1500	1600	1200	--
BKG A1	4	BFT	1600	1800	1400	--
BKG A1	5	BFT	1400	1600	1300	--
BKG A1	6	BFT	1500	1800	1300	--
BKG A1	7	BFT	1500	1900	1300	--
BKG A1	8	BFT	1600	1800	1400	--
BKG A1	9	BFT	1400	1600	1300	--
BKG A1	10	BFT	1400	1700	1300	--
BKG B1	1	BFT	1600	1800	1400	--
BKG B1	2	BFT	1400	1600	1200	--
BKG B1	3	BFT	1400	1700	1200	--
BKG B1	4	BFT	1500	1800	1300	--

Table F-4. Troop Assembly Background Survey Unit and Burial Mound Survey Unit Scanning Survey Results

Location Description	Lane Number	Surveyor	ASP-1/PG-2 (cpm)			Hot Spot cpm(ID#)
			Average	Max	Min	
BKG B1	5	BFT	1500	1800	1200	--
BKG B1	6	BFT	1400	1600	1200	--
BKG B1	7	BFT	1400	1600	1200	--
BKG B1	8	BFT	1500	1700	1300	--
BKG B1	9	BFT	1400	1600	1300	--
BKG B1	10	BFT	1400	1600	1200	--
BM A1	1	BFT	1200	1400	1100	--
BM A1	2	BFT	1300	1500	1100	--
BM A1	3	BFT	1300	1400	1100	--
BM A1	4	BFT	1300	1400	1100	--
BM A1	5	BFT	1300	1500	1100	--
BM A1	6	BFT	1200	1400	1000	--
BM A1	7	BFT	1400	1600	1200	--
BM A1	8	BFT	1200	1400	1100	--
BM A1	9	BFT	1300	1400	1100	--
BM A1	10	BFT	1300	1500	1000	--
BM A2	1	Survey lanes blocked by tank.				
BM A2	2					
BM A2	3					
BM A2	4					
BM A2	5	BFT	1200	1400	1000	--
BM A2	6	BFT	1200	1400	1000	--
BM A2	7	BFT	1300	1500	1100	--
BM A2	8	BFT	1200	1400	1100	--
BM A2	9	BFT	1200	1400	1000	--
BM A2	10	BFT	1200	1400	1000	--
BM B1	1	MJB	1200	1400	1100	--
BM B1	2	MJB	1200	1400	1100	--
BM B1	3	MJB	1300	1400	1100	--
BM B1	4	MJB	1300	1500	1200	--
BM B1	5	MJB	1300	1400	1100	--

Table F-4. Troop Assembly Background Survey Unit and Burial Mound Survey Unit Scanning Survey Results

Location Description	Lane Number	Surveyor	ASP-1/PG-2 (cpm)			Hot Spot cpm(ID#)
			Average	Max	Min	
BM B1	6	MJB	1300	1400	1100	--
BM B1	7	MJB	1200	1400	1100	--
BM B1	8	MJB	1400	1600	1300	--
BM B1	9	MJB	1400	1700	1200	--
BM B1	10	MJB	1400	1400	1200	--
BM B2	1	MJB	1300	1400	1100	--
BM B2	2	MJB	1200	1400	1100	--
BM B2	3	MJB	1200	1400	1100	--
BM B2	4	MJB	1300	1400	1100	--
BM B2	5	MJB	1400	1500	1200	--
BM B2	6	MJB	1400	1600	1300	--
BM B2	7	MJB	1400	1700	1200	--
BM B2	8	MJB	1400	1700	1200	--
BM B2	9	MJB	1600	1800	1300	--
BM B2	10	MJB	1500	1800	1400	--
BM C1	1	BFT	1300	1600	1200	--
BM C1	2	BFT	1500	1700	1300	--
BM C1	3	BFT	1600	1800	1400	--
BM C1	4	BFT	1600	1800	1500	--
BM C1	5	BFT	1600	1800	1400	--
BM C1	6	BFT	1600	2000	1200	--
BM C1	7	BFT	1900	3400	1300	3400(HS3)
BM C1	8	BFT	2400	5600	1200	5600(HS5), 5000(HS6), 4300(HS7)
BM C1	9	BFT	2000	5600	1400	3000(HS8), 5600(HS9), 4700(HS10)

Table F-4. Troop Assembly Background Survey Unit and Burial Mound Survey Unit Scanning Survey Results

Location Description	Lane Number	Surveyor	ASP-1/PG-2 (cpm)			Hot Spot cpm(ID#)
			Average	Max	Min	
BM C1	10	BFT	2600	5400	1200	4200(HS11), 5400(HS12), 3200(HS13), 4000(HS14), 3200(HS15), 3200(HS16)
BM C2	1	BFT	1400	1600	1200	--
BM C2	2	BFT	1600	1900	1400	--
BM C2	3	BFT	2000	2700	1600	--
BM C2	4	BFT	2200	4000	1400	3100(HS1), 4000(HS2)
BM C2	5	BFT	1500	1900	1200	--
BM C2	6	BFT	1400	1800	1200	--
BM C2	7	BFT	1500	1800	1200	--
BM C2	8	BFT	1700	4200	1200	4200(HS4)
BM C2	9	BFT	1500	2200	1200	--
BM C2	10	BFT	1400	1800	1200	--
BM D1	1	MJB	2000	5400	1200	5400(HS17)
BM D1	2	MJB	1700	3600	1300	3600(HS18)
BM D1	3	MJB	1600	4600	1300	4600(HS19)
BM D1	4	MJB	1600	18000	1200	18000(HS20), 12000(HS21), 7400(HS22), 6200(HS23)
BM D1	5	MJB	2000	3800*	1200	*due to HS21
BM D1	6	MJB	1400	1700	1200	--
BM D1	7	MJB	1400	1600	1200	--
BM D1	8	MJB	1300	1400	1200	--
BM D1	9	MJB	1300	1500	1200	--
BM D1	10	MJB	1300	1400	1100	--
BM D2	1	MJB	1600	2000	1200	--
BM D2	2	MJB	1500	1700	1200	--

Table F-4. Troop Assembly Background Survey Unit and Burial Mound Survey Unit Scanning Survey Results

Location Description	Lane Number	Surveyor	ASP-1/PG-2 (cpm)			Hot Spot cpm(ID#)
			Average	Max	Min	
BM D2	3	MJB	1400	1600	1300	--
BM D2	4	MJB	1400	1500	1200	--
BM D2	5	MJB	1400	1600	1200	--
BM D2	6	MJB	1500	1200	1800	--
BM D2	7	MJB	1400	1600	1200	--
BM D2	8	MJB	1400	1600	1200	--
BM D2	9	MJB	1400	1500	1200	--
BM D2	10	MJB	1400	1500	1300	--
BM D0(PhaseII)	1	MJB	1100	1200	1100	--
BM D0	2	MJB	1100	1300	1000	--
BM D0	3	MJB	1100	1200	1100	--
BM D0	4	MJB	1100	1100	1000	--
BM D0	5	MJB	1100	1200	1000	--
BM D0	6	MJB	1100	1400	1000	--
BM D0	7	MJB	1000	1200	1000	--
BM D0	8	MJB	1300	1400	1000	--
BM D0	9	MJB	1200	1400	1000	--
BM D0	10	MJB	1200	1200	1000	--

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Table F-5. Surface Soil Sample Laboratory Results

Sample Identification	Lab Number	Picocuries per Gram +/- 2 Standard Deviations							
		Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Bi-214	Th-234	Ac-228
Recon Bkg-1	W6764	7+/-4	9+/-3	2+/-1	0.02+/-0.05	0.7+/-0.1	0.9+/-0.2	2+/-3	0.7+/-0.3
Recon Bkg-2	W6765	24+/-7	29+/-4	24+/-3	-0.05+/-0.1	0.1+/-0.1	1.6+/-0.3	2+/-2	2.3+/-0.8
Recon Bkg-3	W6766	7+/-4	8+/-3	5+/-1	0.02+/-0.04	0.6+/-0.1	0.9+/-0.2	2+/-3	0.8+/-0.3
Recon Bkg-3 Dup	W6766	9+/-5	11+/-3						
Recon Bkg-4	W6767	11+/-5	8+/-3	0.04+/-1	0.03+/-0.1	0.4+/-0.2	0.7+/-0.3	1+/-2	0.9+/-0.5
Recon Bkg-5	W6768	15+/-6	9+/-3	3+/-1	0.02+/-0.05	0.5+/-0.1	0.8+/-0.2	0.4+/-3	1.0+/-0.2
Recon Bkg-6	W6769	17+/-6	8+/-3	4+/-2	0.08+/-0.1	0.4+/-0.1	0.9+/-0.3	2+/-2	1.4+/-0.4
Recon Bkg-7	W6770	15+/-6	12+/-3	6+/-1	-0.02+/-0.05	0.5+/-0.1	0.8+/-0.2	-1+/-3	1.0+/-0.3
Recon Bkg-8	W6771	22+/-6	16+/-3	14+/-3	0.03+/-0.1	0.6+/-0.2	0.9+/-0.3	1+/-2	1.2+/-0.5
Recon Bkg-9	W6772	15+/-6	14+/-3	7+/-1	0.002+/-0.05	1.6+/-0.2	0.8+/-0.2	-1+/-3	1.3+/-0.3
Recon Bkg-10	W6773	13+/-5	12+/-3	6+/-2	-0.01+/-0.1	0.1+/-0.1	1.1+/-0.3	2+/-2	1.5+/-0.5
Bkg A1-1	W6779	19+/-6	14+/-3	8+/-2	0.02+/-0.1	0.3+/-0.1	1.5+/-0.4	2+/-2	1.5+/-0.6
Bkg A1-1 Dup	W6779	19+/-6	16+/-3						
Bkg A1-2	W6780	21+/-6	11+/-3	6+/-1	0.03+/-0.04	0.1+/-0.1	1.3+/-0.2	2+/-4	1.2+/-0.4
Bkg A1-3	W6781	18+/-6	15+/-3	5+/-2	0.1+/-0.1	0.1+/-0.1	1.1+/-0.4	3+/-1	1.5+/-0.7
Bkg A1-4	W6782	16+/-6	15+/-3	8+/-1	0.04+/-0.06	0.1+/-0.1	1.1+/-0.2	1+/-4	1.7+/-0.4
Bkg A1-5	W6783	22+/-7	16+/-3	7+/-2	0.03+/-0.1	-0.03+/-0.09	1.3+/-0.3	2+/-2	1.2+/-0.6
Bkg B1-1	W6774	21+/-6	14+/-3	6+/-2	0.1+/-0.1	0.2+/-0.2	1.3+/-0.3	2+/-2	1.2+/-0.5
Bkg B1-2	W6775	19+/-6	11+/-3	5+/-2	-0.04+/-0.08	0.1+/-0.1	1.6+/-0.3	4+/-2	2.2+/-0.5
Bkg B1-3	W6776	16+/-6	16+/-3	5+/-1	-0.001+/-0.06	0.04+/-0.06	1.1+/-0.2	1+/-4	1.5+/-0.3
Bkg B1-4	W6777	22+/-6	12+/-3	6+/-2	0.06+/-0.1	0.2+/-0.2	1.4+/-0.4	3+/-2	1.9+/-0.8
Bkg B1-5	W6778	19+/-6	9+/-3	4+/-2	0.01+/-0.09	0.1+/-0.1	1.1+/-0.4	3+/-2	1.0+/-0.7
MND A1-3	W6784	20+/-6	9+/-3	5+/-1	0.03+/-0.05	0.1+/-0.1	1.1+/-0.2	0.02+/-3.7	1.0+/-0.4
MND B1-3	W6785	13+/-5	12+/-3	3+/-2	-0.01+/-0.1	0.7+/-0.1	1.1+/-0.3	1+/-2	0.8+/-0.4
MND C1-3	W6786	19+/-6	17+/-3	12+/-2	0.3+/-0.1	0.9+/-0.1	1.4+/-0.3	5+/-4	1.3+/-0.4
MND D1-3	W6787	19+/-6	12+/-3	5+/-2	-0.03+/-0.1	0.4+/-0.1	1.2+/-0.3	2+/-2	0.9+/-0.6
MND A2-3	W6788	10+/-5	8+/-3	4+/-1	-0.01+/-0.05	0.1+/-0.7	1.0+/-0.2	3+/-3	0.9+/-0.4
MND B2-3	W6789	25+/-7	17+/-3	8+/-2	-0.01+/-0.1	0.7+/-0.2	1.4+/-0.4	2+/-2	1.5+/-0.6
MND C2-3	W6790	23+/-6	24+/-4	14+/-3	0.4+/-0.2	1.6+/-0.2	1.6+/-0.5	3+/-2	2.0+/-0.5
MND D2-3	W6791	11+/-5	11+/-3	4+/-2	0.02+/-0.1	0.4+/-0.2	1.1+/-0.3	0.4+/-2.3	1.2+/-0.5
HS 2	W6792	21+/-6	15+/-3	4+/-1	6.6+/-0.4	1.1+/-0.2	1.2+/-0.3	5+/-4	1.1+/-0.7
HS 2-DUP	W6792			5+/-2	7+/-1	0.9+/-0.3	1.5+/-0.5	3+/-2	1.2+/-0.7

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Table F-5. Surface Soil Sample Laboratory Results

Sample Identification	Lab Number	Picocuries per Gram +/- 2 Standard Deviations							
		Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Bi-214	Th-234	Ac-228
HS 4	W6793	22+/-6	39+/-4	8+/-1	8+/-1	26+/-1	1.1+/-0.3	-5+/-6	1.2+/-0.6
HS 4-DUP	W6793	18+/-6	37+/-4	7+/-3	9+/-1	26+/-1	1.7+/-0.6	2+/-3	1.4+/-0.7
HS 9	W6794	18+/-6	32+/-4	10+/-2	6.3+/-0.4	17+/-1	1.6+/-0.4	1+/-5	1.3+/-0.4
HS 9-DUP	W6794			8+/-2	7+/-1	18+/-1	1.9+/-0.5	2+/-2	1.8+/-0.7
HS 11	W6795	19+/-6	31+/-4	6+/-2	22+/-1	3.9+/-0.3	0.8+/-0.4	-1+/-5	1.1+/-0.7
HS 11-DUP	W6795	16+/-5	24+/-4	3+/-2	23+/-1	3.6+/-0.5	0.9+/-0.5	1+/-2	0.5+/-1.0
HS 20	W6796	20+/-6	24+/-4	7+/-4	187+/-2	0.9+/-0.5	0.8+/-0.6	-2+/-11	2+/-2
HS 20-DUP	W6796			5+/-2	19+/-1	1.1+/-0.3	1.6+/-0.5	3+/-2	0.4+/-1.0
HS 21	W6797	22+/-6	130+/-10	5+/-1	1.6+/-0.2	179+/-2	0.6+/-0.3	-1+/-10	0.9+/-0.3
HS 21-DUP	W6797			4+/-2	1.5+/-0.4	170+/-2	1.0+/-0.7	3+/-2	1.5+/-0.5
HS 23	W6798	16+/-5	28+/-4	5+/-2	34+/-1	0.2+/-0.2	0.9+/-0.7	-2+/-5	1.0+/-0.8
HS 23-DUP	W6798			6+/-2	32+/-1	0.5+/-0.4	1.2+/-0.7	3+/-2	1+/-1

Table F-6. Troop Assembly Background Area "Down-Hole" Logging Survey Results

Relative Depth from Surface (feet)	Troop Assembly Area Grid Locations											
	Bkg A1-1	Bkg A1-2	Bkg A1-3	Bkg A1-4	Bkg A1-5	Bkg A1-6	Bkg B1-1	Bkg B1-2	Bkg B1-3	Bkg B1-4	Bkg B1-5	Bkg B1-6
0	132	150	126	122	136	103	137	156	131	158	108	155
-1	246	276	345	281	286	hole	250	311	267	280	286	349
-2	323	412	378	298	320	colla	304	260	252	260	298	358
-3	365	470	408	319	410	psed	298	306	345	283	300	306
-4	307	474	384	421	410	328	335	307	290	304	301	385
-5	402	417	480	436	372	359	304	329	321	318	325	417
-6	415	441	446	499	378	364	271	325	332	318	321	439
-7	394	443	425	449	418	392	261	392	440	447	361	433
-8	406	462	420	444	396	386	317	475	508	506	367	369
-9	462	421	425	484	477	534	388	523	533	534	329	348
-10	473	447	456	506	500	520	300	511	594	583	320	388
-11	463	436	405	543	470	499	319	532	579	574	346	443
-12	453	450	345	503	511	435	427	573	641	540	409	461

Table F-7. Burial Mound Survey Unit "Down-Hole" Logging Survey Results

BM Grid Location	Relative Depth from Surface (feet)																
	+4	+3	+2	+1	0 (surface)	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12
	NaI Counts in 45 Seconds																
A0-3					131	220	224	290	271	312	336	350	331	406	406	409	393
A1-1																	
A1-2																	
A1-3																	
A1-4																	
A1-5					96	224	253	211	198	243	258	245	305	375	400	446	
A1-6					116	265	251	230	233	259	242	294	311	392	403		
A1-7					108	223	214	220	242	324	413	379	363	392	385		
A1-8																	
A2-1																	
A2-2					105	198	239	230	189	257	384	383	390	472	456		
A2-3																	
A2-4																	
A2-5																	
A2-6																	
A2-7					106	202	209	215	232	199	288	312	320	360	395	385	
A2-8																	
A3-3																	
A3-6																	
A3-7																	
B0-3					109	266	239	262	235	278	314	412	378	396	492	476	498
B1-1					101	201	235	228	271	404	448	381	439	462	553	629	560
B1-2					90	194	190	196	201	159	205	308	331	465	515	578	
B1-3					136	211	227	210	207	223	284	392	466	447	469	487	493
B1-4					80	173	192	222	265	296	301	272	293	306	353		
B1-5		90	164	205	161	164	170	159	181	228	415	931					
B1-6					104	219	251	216	248	339	416	420	403	436	453	508	457
B1-7					101	194	216	226	219	332	365	433	457	490	437		

Table F-7: Burial Mound Survey Unit "Down-Hole" Logging Survey Results

BM Grid Location	Relative Depth from Surface (feet)																
	+4	+3	+2	+1	0 (surface)	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12
	NaI Counts in 45 Seconds																
B1-8					113	228	200	228	246	271	320	331	269	275	368	363	
B2-1			93	159	207	215	185	219	190	205	197	290	324	442	506	533	526
B2-2			121	237	210	279	270	270	260	309	437	403	373	328	387	424	382
B2-3					100	196	263	283	233	255	367	396	428	466	480	431	489
B2-4					174	204	232	228	258	356	375	301	300	285	290	334	
B2-5				94	232	250	249	268	266	296	436	512	468	493	513	475	452
B2-6			84	128	129	148	178	264	282	311	331	324	333	331	373	403	407
B2-7					117	138	225	218	218	199	181						
B2-8					90	205	236	222	221	198	307	400	422	436	505	504	
B3-3																	
B3-6																	
B3-7					129	246	266	257	262	416	458	430	354	482	416	413	
C0-3					111	237	262	263	195	275							
C1-1					111	224	273	270	277	324	355	347	369	398	426	342	218
C1-2					154	249	233	254	216	405	509	497	484	566	508	546	567
C1-3				163	198	237	266	267	364	432	450	423	359	490	498	461	487
C1-4	143	304	235	248	221	252	251	251	386	364	434	461	415	418	430	483	495
C1-5	258	331	303	276	430	814	5697	141362	129124	19540	3471	861	573	512	493	437	440
C1-6					106	264	242	240	207	219	221	297	392	515	540	609	568
C1-7					119	220	276	296	299	302	324	355	418	478	479	413	
C1-8				120	207	202	227	245	277	337	338	364	383	340	321	297	258
C2-1		239	356	296	341	360	781	5977	69015	301991	121381	169164	249340	33725	5622	915	680
C2-2			151	206	209	232	216	231	227	207	215	257	279	300	464	704	727
C2-3					119	227	251	237	253	250	247	363	478	556	564	546	
C2-4			74	153	186	172	150	185	172								
C2-5																	
C2-6	130	258	271	351	315	264	236	284	254	340	491	466	505	569	539	537	511
C2-7	183	343	365	417	432	630	1334	12179	170097	939591	427340	16966	1658	570	484	439	496

Table F-7. Burial Mound Survey Unit "Down-Hole" Logging Survey Results

BM Grid Location	Relative Depth from Surface (feet)																
	+4	+3	+2	+1	0 (surface)	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12
	NaI Counts in 45 Seconds																
C2-8		120	245	248	230	207	247	268	261	254	292	399	450	498	467	435	491
C3-3																	
C3-6					102	208	207	192	195	201	185	201	242	266	356	302	361
C3-7					107	214	212	255	229	248	242	241	313	403	394	434	
D0-3					87	255	291	313	346	407	468	457	437	488	465	482	455
D1-1					96	242	228	230	236	295	345	391	435	400	461	427	524
D1-2					128	248	260	276	299	362	439	479	467	483	522	513	486
D1-3					127	236	222	231	238	238							
D1-4				231	353	284	254	220	228	246	336	360	432	451	391	394	428
D1-5					99	217	235	216	258	387	423	428	416	486	414		
D1-6					100	235	267	261	264	269	408	520	545	573	578	579	572
D1-7					125	258	236	290	313	335	329	298	300	358	362	368	432
D1-8			506	479	242	202	212	209	157	187	312	363	424	461	458	424	333
D2-1					103	212	218	228	242	239	354	366	383	393	402	415	
D2-2																	
D2-3																	
D2-4																	
D2-5																	
D2-6			153	226	235	265	228	301	952	5179	16285	3302	474	332	407	379	398
D2-7					155	254	259	236	345	414	531	548	531	507	529	521	455
D2-8					125	225	251	237	246	228	294	390	473	460	484	459	454
D3-3																	
D3-6																	
D3-7																	
E1-3					134	240	290	282	325	305	374	316	365	384	414	492	475
E1-6					122	239	283	283	303	304	387	414	470	508	524	545	514
E1-8					138	284	272	319	384	441	425	482	459	467	437	455	529
E2-3					137	285	291	301	313	418	512	492	570	500	490	560	

Table F-7. Burial Mound Survey Unit "Down-Hole" Logging Survey Results

BM Grid Location	Relative Depth from Surface (feet)																
	+4	+3	+2	+1	0 (surface)	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12
	NaI Counts in 45 Seconds																
E2-6					109	264	287	298	359	316	266	253	252	302	451	463	500
E2-8					109	284	258	248	289	293	327	338	389	418	459	522	539
E3-6					138	253	269	312	297	409	533	592	678	666	601	594	638

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Picocuries per Gram								
	Lab Number	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BKG A1-1-0/1	X3024	10	13	6	0.04	0.03	1.3	0.9	1.1
BKG A1-1-1/2	X3025	13	14	6	-0.03	-0.06	0.8	0.9	0.8
BKG A1-1-2/3	X3026	22	22	7	0.01	-0.01	1.1	1	1.2
BKG A1-1-3/4	X3027	5	13	11	-0.01	-0.03	0.9	1.1	1.3
BKG A1-1-4/5	X3028	21	22	13	0.02	0.01	1.2	1.2	1.2
BKG A1-1-5/6	X3029	20	20	13	0.04	-0.03	1.3	1	1.3
BKG A1-1-6/7	X3030	18	15	13	-0.01	-0.02	1.1	1.1	1.2
BKG A1-1-6/7 DUP	X3030	16	17						
BKG A1-1-7/8	X3031	17	20	15	0.03	-0.09	1.4	1.1	1.7
BKG A1-1-8/9	X3032	14	18	17	-0.01	-0.01	1.5	1.3	1.4
BKG A1-1-9/10	X3033	12	24	16	-0.03	0.004	1.5	1.3	1.3
BKG A1-1-10/11	X3034	10	24	15	-0.004	-0.02	1.5	1.4	1.3
BKG A1-1-11/12	X3035	21	27	16	-0.02	0.02	1.7	1.5	1.3
BKG A1-2-0/1	X3036	6	7	6	0.01	0.02	1.1	0.9	1.1
BKG A1-2-1/2	X3037	3	13	11	0.03	-0.05	1.5	1.1	1.1

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Picocuries per Gram								
	Lab Number	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BKG A1-2-2/3	X3038	20	19	15	0.03	0.03	1.4	1.6	1.3
BKG A1-2-3/4	X3039	13	22	16	0.02	0.03	1.6	1.5	1.3
BKG A1-2-4/5	X3040	10	15	16	0.04	0.01	1.3	1.1	1.4
BKG A1-2-5/6	X3041	21	24	17	-0.03	-0.07	1.6	1.4	1.3
BKG A1-2-5/6 DUP	X3041	15	31						
BKG A1-2-6/7	X3042	18	18	18	-0.01	-0.02	1.6	1.4	1.3
BKG A1-2-7/8	X3043	3	21	16	0.01	-0.02	1.6	1.5	0.9
BKG A1-2-8/9	X3044	21	18	14	-0.001	-0.01	1.3	1.2	1
BKG A1-2-9/10	X3045	18	18	18	0.02	-0.02	1.6	1.6	1.1
BKG A1-2-10/11	X3046	23	23	18	-0.01	0.01	1.7	1.6	1.1
BKG A1-2-11/12	X3047	18	21	13	0.1	-0.06	1.9	1.8	1.2
BKG A1-3-0/1	X3048	7	13	5	0.01	0.002	1.2	1	1.1
BKG A1-3-1/2	X3049	8	14	5	0.02	-0.02	0.9	1	1
BKG A1-3-2/3	X3050	6	22	11	0.01	-0.02	1.4	1.1	1.3
BKG A1-3-3/4	X3051	5	22	13	-0.05	-0.03	1.6	1.2	1.2
BKG A1-3-4/5	X3052	8	19	15	0.001	-0.02	1.5	1.3	1.3
BKG A1-3-4/5 DUP	X3052	15	24						
BKG A1-3-5/6	X3053	12	28	15	0.02	-0.03	1.7	1.5	1.2
BKG A1-3-6/7	X3054	10	28	15	-0.02	-0.03	1.8	1.6	1.3
BKG A1-3-7/8	X3055	12	27	16	-0.01	0.02	1.5	1.5	1.2
BKG A1-3-8/9	X3056	11	18	16	-0.01	0.005	1.6	1.4	0.9
BKG A1-3-9/10	X3057	11	29	15	0.03	-0.04	1.4	1.4	0.8
BKG A1-3-10/11	X3058	11	31	19	0.01	0.01	2	1.6	1.2
BKG A1-3-11/12	X3059	7	23	12	-0.01	-0.03	1.3	1.6	0.9
BKG A1-4-0/1	X3060	2	12	4	0.01	-0.02	1.1	0.8	1
BKG A1-4-1/2	X3061	5	11	4	-0.01	0.02	1.2	1	1.3
BKG A1-4-1/2 DUP	X3061	7	9						
BKG A1-4-2/3	X3062	9	8	5	0.004	-0.04	1.3	1.1	1.3
BKG A1-4-3/4	X3063	4	17	9	0.04	0.05	1.3	0.9	1.1

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Picocuries per Gram								
	Lab Number	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BKG A1-4-4/5	X3064	13	12	13	-0.01	-0.03	1.4	1.1	1.2
BKG A1-4-5/6	X3065	5	30	18	-0.08	0.02	1.7	1.6	1.3
BKG A1-4-6/7	X3066	7	29	20	-0.04	-0.03	1.7	1.6	1.2
BKG A1-4-7/8	X3067	8	30	17	0.03	-0.03	1.5	1.3	1.4
BKG A1-4-8/9	X3068	12	22	16	-0.01	-0.04	1.7	1.3	1.3
BKG A1-4-9/10	X3069	13	22	15	0.04	-0.003	1.7	1.4	1.4
BKG A1-4-10/11	X3070	11	24	19	-0.03	-0.03	1.7	1.4	1.5
BKG A1-4-11/12	X3071	14	26	12	0.01	0.01	1.4	1.2	0.9
BKG A1-5-0/1	X3072	15	11	5	-0.04	-0.01	1.2	0.9	1.4
BKG A1-5-1/2	X3073	6	14	4	0.04	-0.05	1	0.9	1.2
BKG A1-5-2/3	X3074	9	18	8	0.01	-0.01	1.3	1.3	1
BKG A1-5-3/4	X3075	21	27	14	-0.03	-0.03	1.8	1.7	1.3
BKG A1-5-4/5	X3076	17	13	13	-0.01	-0.01	1.3	1.2	1.2
BKG A1-5-4/5 DUP	X3076	17	18						
BKG A1-5-5/6	X3077	13	18	14	-0.07	0.06	1.2	1.1	1
BKG A1-5-6/7	X3078	18	18	12	0.01	-0.01	1.2	1	1.1
BKG A1-5-7/8	X3079	20	22	16	-0.02	-0.04	1.4	1.2	1.2
BKG A1-5-8/9	X3080	11	20	13	0.004	-0.02	1.3	1.1	1.1
BKG A1-5-9/10	X3081	13	22	14	0.01	-0.03	1.8	1.6	0.8
BKG A1-5-10/11	X3082	5	24	18	-0.01	-0.02	1.8	1.6	1.2
BKG A1-5-11/12	X3083	13	23	19	-0.08	-0.04	1.9	1.9	0.9
BKG A1-6-0/1	X3084	7	4	4	0.01	0.1	1	0.8	0.7
BKG A1-6-1/2	X3085	13	10	5	0.01	0.01	0.8	1	1.2
BKG A1-6-1/2 DUP	X3085	7	13						
BKG A1-6-2/3	X3086	15	14	7	-0.005	-0.04	1.1	0.9	1.3
BKG A1-6-3/4	X3087	6	23	14	-0.03	-0.04	1.2	1.2	1.6
BKG A1-6-4/5	X3088	8	10	12	0.01	0.02	1.2	1.2	1.2
BKG A1-6-5/6	X3089	15	17	14	0.03	-0.03	1.5	1.3	1
BKG A1-6-6/7	X3090	11	17	19	0.04	-0.02	1.5	1.2	1.1

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Picocuries per Gram								
	Lab Number	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BKG A1-6-7/8	X3091	21	27	16	0.06	0.01	1.4	1.4	1.2
BKG A1-6-8/9	X3092	5	13	17	-0.004	0.1	1.5	1.2	1.2
BKG A1-6-9/10	X3093	21	28	21	-0.01	-0.002	1.6	1.6	1.9
BKG A1-6-9/10 DUP	X3093	14	26						
BKG A1-6-10/11	X3094	11	28	18	-0.03	-0.01	1.6	1.2	1.7
BKG A1-6-11/12	X3095	17	21	20	0.03	-0.01	1.6	1.5	1.1
BKG B1-1-0/1	X3096	5	13	5	0.01	0.005	1.1	0.9	1.4
BKG B1-1-0/1 DUP	X3096	7	9						
BKG B1-1-1/2	X3097	14	9	5	0.02	-0.02	1.2	1.1	1.2
BKG B1-1-2/3	X3098	17	11	6	0.02	-0.01	1	0.9	1.1
BKG B1-1-3/4	X3099	11	18	8	0.02	-0.03	1	0.9	1.2
BKG B1-1-4/5	X3100	14	20	14	-0.004	-0.01	1.5	1.1	1.3
BKG B1-1-5/6	X3101	19	16	8	0.03	-0.03	0.7	0.7	0.9
BKG B1-1-6/7	X3102	0.4	9	9	-0.003	-0.02	0.8	0.6	0.7
BKG B1-1-7/8	X3103	4	14	10	-0.001	-0.001	0.5	0.6	0.8
BKG B1-1-8/9	X3104	15	12	14	0.01	0.03	1.1	1.1	1.1
BKG B1-1-9/10	X3105	17	26	16	-0.0002	-0.01	1.3	1.2	1.2
BKG B1-1-10/11	X3106	9	14	12	-0.03	-0.04	1	0.7	0.6
BKG B1-1-11/12	X3107	10	18	12	-0.04	-0.02	0.9	0.8	0.6
BKG B1-2-0/1	X3108	5	9	4	0.005	0.02	0.9	0.8	1.3
BKG B1-2-1/2	X3109	5	6	3	0.04	-0.03	1	0.8	1
BKG B1-2-2/3	X3110	7	8	3	0.03	0.005	0.9	0.8	1.3
BKG B1-2-3/4	X3111	8	10	5	-0.03	-0.02	1	0.8	1.1
BKG B1-2-4/5	X3112	13	8	5	0.01	-0.01	0.8	0.7	1.2
BKG B1-2-5/6	X3113	7	13	6	-0.001	-0.04	0.8	1.1	1
BKG B1-2-6/7	X3114	5	18	10	0.03	-0.003	1.2	1.2	1.2
BKG B1-2-7/8	X3115	5	23	16	0.002	-0.03	1.3	1.2	1.3
BKG B1-2-8/9	X3116	12	22	13	-0.02	-0.01	1.2	1.1	1.5
BKG B1-2-9/10	X3117	10	25	14	-0.01	0.004	1.4	1.6	1.2

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Lab Number	Picocuries per Gram							
		Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BKG B1-2-10/11	X3118	7	31	17	0.03	-0.04	1.4	1.2	1.4
BKG B1-2-11/12	X3119	8	29	16	-0.02	-0.09	1.5	1.5	1.2
BKG B1-3-0/1	X3120	2	12	4	-0.003	-0.01	0.9	0.9	1.3
BKG B1-3-1/2	X3121	5	9	3	0.05	-0.04	0.8	0.8	1.1
BKG B1-3-1/2 DUP	X3121	6	11						
BKG B1-3-2/3	X3122	9	14	4	-0.01	-0.01	0.9	0.9	1.3
BKG B1-3-3/4	X3123	6	11	5	-0.03	-0.05	1.3	1.2	1.7
BKG B1-3-4/5	X3124	5	14	6	-0.02	-0.02	1.1	0.9	0.8
BKG B1-3-5/6	X3125	17	14	4	-0.03	-0.03	1.2	0.9	1.1
BKG B1-3-6/7	X3126	5	17	12	0.01	0.02	1.1	1.1	1
BKG B1-3-7/8	X3127	8	25	16	-0.02	-0.06	1.3	1.2	1.4
BKG B1-3-8/9	X3128	7	20	16	-0.01	-0.002	1.4	1.1	1.2
BKG B1-3-9/10	X3129	6	23	18	-0.05	-0.05	1.3	1.4	1.4
BKG B1-3-9/10 DUP	X3129	13	26						
BKG B1-3-10/11	X3130	8	34	20	-0.02	-0.03	1.9	1.7	1.5
BKG B1-3-11/12	X3131	11	30	21	0.06	-0.06	2.1	1.9	0.9
BKG B1-4-0/1	X3132	4	10	4	-0.02	0.002	0.9	0.8	1.3
BKG B1-4-1/2	X3133	7	9	3	-0.02	0.02	1.2	1	1.2
BKG B1-4-2/3	X3134	6	13	4	-0.02	-0.01	1	1.1	1.3
BKG B1-4-3/4	X3135	15	11	6	-0.02	-0.02	1	1.2	1.2
BKG B1-4-4/5	X3136	10	14	5	0.01	-0.01	0.9	0.9	0.8
BKG B1-4-5/6	X3137	6	17	6	0.03	0.001	0.9	0.8	0.8
BKG B1-4-6/7	X3138	8	17	9	-0.01	-0.004	1	1	0.9
BKG B1-4-7/8	X3139	8	26	14	-0.04	0.06	1.2	1.2	1.3
BKG B1-4-7/8 DUP	X3139	3	18						
BKG B1-4-8/9	X3140	7	16	17	-0.02	-0.004	1.5	1.2	1.3
BKG B1-4-9/10	X3141	7	34	16	-0.03	-0.04	1.4	1	1.2
BKG B1-4-10/11	X3142	7	27	21	0.05	-0.02	1.8	1.4	1.5
BKG B1-4-11/12	X3143	7	26	17	0.08	0.03	1.5	1.4	1.6

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Picocuries per Gram								
	Lab Number	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BKG B1-5-0/1	X3144	9	10	5	-0.002	0.05	1.1	0.9	1.4
BKG B1-5-1/2	X3145	4	10	4	-0.04	-0.06	0.8	1	1.3
BKG B1-5-2/3	X3146	11	9	4	-0.01	0.01	0.8	0.9	1.4
BKG B1-5-3/4	X3147	14	14	6	0.02	0.07	1.1	0.8	1.2
BKG B1-5-3/4 DUP	X3147	6	14						
BKG B1-5-4/5	X3148	9	10	5	-0.0001	-0.005	1	0.9	1.1
BKG B1-5-5/6	X3149	4	9	6	-0.02	-0.04	0.8	0.8	1.2
BKG B1-5-6/7	X3150	5	13	6	-0.01	-0.02	1.2	1.1	1
BKG B1-5-7/8	X3151	9	12	6	0.03	-0.0002	1.2	1.1	1
BKG B1-5-8/9	X3152	4	13	6	-0.003	-0.03	1.1	1	1.2
BKG B1-5-9/10	X3153	7	11	6	-0.04	-0.05	1	1	0.9
BKG B1-5-9/10 DUP	X3153	18	11						
BKG B1-5-10/11	X3154	11	11	7	-0.01	0.003	1.1	0.8	0.9
BKG B1-5-11/12	X3155	12	16	8	-0.02	-0.07	1.2	1.2	0.9
BKG B1-6-0/1	X3156	4	11	7	-0.003	0.01	1.2	1.1	1
BKG B1-6-1/2	X3157	6	20	14	0.03	0.04	1.4	1.4	1
BKG B1-6-2/3	X3158	9	15	10	0.01	-0.01	1.2	1.1	1.1
BKG B1-6-3/4	X3159	11	17	12	-0.07	-0.03	1.2	1	0.9
BKG B1-6-4/5	X3160	7	17	13	-0.01	-0.02	1.4	1.1	1.2
BKG B1-6-4/5 DUP	X3160	4	15						
BKG B1-6-5/6	X3161	9	34	17	-0.02	-0.03	1.8	1.5	1
BKG B1-6-6/7	X3162	13	34	21	0.01	-0.02	2	1.9	1.1
BKG B1-6-7/8	X3163	13	19	12	-0.01	-0.001	1.3	1.5	1
BKG B1-6-8/9	X3164	9	22	13	0.01	-0.04	1.3	1.1	0.9
BKG B1-6-9/10	X3165	13	18	12	-0.01	-0.02	1.4	1.4	0.8
BKG B1-6-10/11	X3166	11	15	14	0.01	-0.02	1.5	1.2	1
BKG B1-6-11/12	X3167	9	30	15	0.06	-0.03	1.7	1.6	1
BM A0-3-0/1	X3168	5	8	3	0.01	0.2	0.9	0.8	1
BM A0-3-1/2	X3169	7	6	2	-0.02	-0.04	0.8	0.9	0.8

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Lab Number	Picocuries per Gram							
		Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BM A0-3-2/3	X3170	4	5	2	0.03	-0.02	0.7	0.8	1.3
BM A0-3-3/4	X3171	8	6	3	-0.04	0.01	0.8	0.8	1.1
BM A0-3-4/5	X3172	-0.4	13	6	-0.01	0.0001	0.6	0.6	0.8
BM A0-3-4/5 DUP	X3172	6	4						
BM A0-3-5/6	X3173	8	9	10	0.01	-0.0005	1	0.9	1.2
BM A0-3-6/7	X3174	14	10	14	0.01	0.002	0.9	0.8	1.2
BM A0-3-7/8	X3175	6	17	11	0.06	0.01	0.9	1	1.2
BM A0-3-8/9	X3176	Sample stuck in sample tube casing - portion lost when removed. Therefore, no sample to lab.							
BM A0-3-9/10	X3177	7	14	12	0.04	0.03	0.8	1.1	1
BM A0-3-9/10 DUP	X3177	1	11						
BM A0-3-10/11	X3178	4	25	15	-0.02	-0.03	0.9	0.8	0.9
BM A0-3-11/12	X3179	0.9	18	11	-0.004	-0.03	0.9	0.8	0.6
BM A1-6-0/1	X3180	9	6	3	0.01	0.08	1	0.9	0.9
BM A1-6-1/2	X3181	2	6	3	-0.02	0.02	1	0.8	1.2
BM A1-6-2/3	X3182	7	7	2	0.03	0.002	0.8	0.7	1
BM A1-6-3/4	X3183	11	5	2	0.002	-0.02	0.9	1	0.8
BM A1-6-3/4 DUP	X3183	7	8						
BM A1-6-4/5	X3184	0.3	8	3	0.02	0.03	0.8	0.8	0.7
BM A1-6-5/6	X3185	4	10	3	-0.002	-0.01	0.7	0.8	0.7
BM A1-6-6/7	X3186	7	15	8	-0.01	-0.03	0.8	0.8	0.9
BM A1-6-7/8	X3187	7	10	6	0.03	-0.001	0.6	0.5	0.9
BM A1-6-8/9	X3188	5	9	5	0.004	0.04	0.7	0.6	1
BM A1-6-9/10	X3189	6	17	15	-0.08	0.01	0.6	0.6	1.3
BM A1-6-10/11	X3190	9	20	16	-0.04	0.02	1	0.9	1.2
BM A1-6-11/12	X3191	9	19	13	0.06	-0.05	0.7	0.7	1.2
BM A1-7-0/1	X3192	4	4	4	-0.01	0.2	1.1	0.8	0.9
BM A1-7-1/2	X3193	4	10	3	0.02	0.04	0.9	0.8	1.2
BM A1-7-2/3	X3194	4	5	2	0.01	0.01	0.8	0.7	0.6
BM A1-7-3/4	X3195	5	6	3	-0.005	-0.02	0.9	0.6	1.2

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Picocuries per Gram								
	Lab Number	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BM A1-7-4/5	X3196	3	8	3	-0.02	0.04	0.8	0.6	0.9
BM A1-7-5/6	X3197	5	14	13	0.04	0.002	1.1	1	1.1
BM A1-7-6/7	X3198	14	16	18	-0.02	0.001	1.1	0.9	1.4
BM A1-7-7/8	X3199	3	18	16	-0.02	-0.03	1.1	1.2	1.3
BM A1-7-8/9	X3200	5	9	12	-0.01	0.1	0.9	0.7	1
BM A1-7-8/9 DUP	X3200	8	11						
BM A1-7-9/10	X3201	5	18	13	0.03	0.06	1	0.9	1.3
BM A1-7-10/11	X3202	4	18	17	-0.01	-0.02	1.1	1	1.3
BM A1-7-11/12	X3203	7	24	18	-0.06	0.005	1.1	0.9	1.1
BM B0-3-0/1	X3204	7	5	4	-0.0001	0.2	0.8	0.8	1
BM B0-3-1/2	X3205	5	10	3	0.01	-0.01	0.9	0.9	0.8
BM B0-3-2/3	X3206	3	8	3	0.01	-0.02	1	0.8	1
BM B0-3-3/4	X3207	10	9	3	0.07	0.0004	0.7	0.8	0.8
BM B0-3-4/5	X3208	6	5	4	0.02	0.03	0.9	0.6	0.9
BM B0-3-4/5 DUP	X3208	4	9						
BM B0-3-5/6	X3209	8	8	7	0.02	-0.02	0.7	0.5	0.7
BM B0-3-6/7	X3210	6	13	11	-0.01	0.02	1	0.9	1.1
BM B0-3-7/8	X3211	8	16	11	0.01	0.02	0.9	0.9	0.8
BM B0-3-8/9	X3212	10	13	11	0.02	0.004	1.1	0.7	0.9
BM B0-3-9/10	X3213	9	20	11	0.04	-0.02	0.9	1	0.7
BM B0-3-10/11	X3214	11	19	17	-0.001	-0.02	1.4	1.3	1.3
BM B0-3-11/12	X3215	8	23	13	-0.07	-0.01	1.5	1.4	1.2
BM B1-5-+3/1.5	X3216	9	12	3	0.004	0.3	0.8	0.6	0.6
BM B1-5-+1.5/0	X3217	6	8	3	0.04	0.2	0.5	0.5	0.5
BM B1-5-4/5	X3218	3	6	6	0.03	-0.01	1	0.9	1
BM B1-5-4/5 DUP	X3218	3	7						
BM B1-5-5/6	X3219	8	6	4	0.04	-0.01	0.9	0.8	1.2
BM B1-5-6/7	X3220	4	9	4	13	9.5	1	0.9	1
BM B1-5-6/7 REP	X3220			4	9	7	0.8	0.8	0.05

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Picocuries per Gram								
	Lab Number	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BM B1-5-7/8	X3221	3	16	11	0.9	0.1	1	0.9	1.4
BM B1-5-7/8 REP	X3221			11	0.6	0.07	0.8	0.8	1.1
BM B1-5-8/9	X3222	2	15	8	0.1	0.07	0.6	0.5	0.9
BM B1-5-8/9 REP	X3222			9	0.4	0.01	0.7	0.7	0.8
BM B1-5-9/10	X3223	4	13	9	0.2	0.01	0.6	0.6	0.9
BM B1-5-9/10 REP	X3223			8	0.1	-0.002	0.6	0.6	0.8
BM B1-5-10/11	X3224	5	16	10	0.2	-0.001	1	0.9	0.9
BM B1-5-10/11 REP	X3224			10	0.3	-0.01	0.9	1	1.3
BM B1-5-11/12	X3225	2	16	12	0.2	-0.03	1	1	1.3
BM B1-5-11/12 REP	X3225			11	0.1	0.01	0.9	0.9	1.1
BM B1-6-0/1	X3226	1	10	4	0.03	0.2	1	0.9	1.1
BM B1-6-1/2	X3227	7	8	4	-0.05	0.001	0.9	0.9	1.2
BM B1-6-2/3	X3228	4	8	3	0.0001	-0.002	1	0.7	0.8
BM B1-6-3/4	X3229	7	8	4	-0.02	-0.02	0.9	0.6	0.9
BM B1-6-4/5	X3230	8	8	7	-0.002	0.04	1	0.9	0.9
BM B1-6-4/5 DUP	X3230	4	7						
BM B1-6-5/6	X3231	5	17	13	-0.01	-0.03	1.1	0.9	1.1
BM B1-6-6/7	X3232	3	23	16	-0.03	-0.01	1.2	1	1.3
BM B1-6-7/8	X3233	6	25	16	-0.02	-0.002	1.3	1	1.2
BM B1-6-8/9	X3234	2	7	16	-0.01	0.08	1.3	1	1.4
BM B1-6-9/10	X3235	6	30	17	-0.09	-0.04	1.4	1.5	1.2
BM B1-6-10/11	X3236	5	27	18	-0.02	0.01	1.6	1.4	1.3
BM B1-6-11/12	X3237	12	21	15	0.03	-0.003	1.6	1.3	1.6
BM B1-7-0/1	X3238	2	9	4	-0.004	0.2	1	1	1.3
BM B1-7-1/2	X3239	2	6	5	-0.04	-0.01	1	1	1.2
BM B1-7-2/3	X3240	6	7	3	0.01	0.01	0.8	0.6	1
BM B1-7-2/3 DUP	X3240	7	6						
BM B1-7-3/4	X3241	5	8	4	0.01	-0.02	1	1	1.2

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Picocuries per Gram								
	Lab Number	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BM B1-7-4/5	X3242	9	7	4	-0.01	0.02	1.1	0.9	1.1
BM B1-7-5/6	X3243	6	14	9	0.03	-0.05	1.2	1.1	0.7
BM B1-7-6/7	X3244	7	18	11	0.03	0.005	1.3	1.1	1.2
BM B1-7-7/8	X3245	10	17	14	0.04	0.01	1.4	1.3	1.1
BM B1-7-8/9	X3246	10	14	14	0.02	-0.003	1.2	1.2	1.6
BM B1-7-9/10	X3247	6	22	16	-0.1	0.001	1.8	1.5	1.3
BM B1-7-10/11	X3248	10	21	17	-0.01	0.001	1.7	1.4	1.3
BM B1-7-11/12	X3249	10	21	16	0.03	-0.01	1.5	1.3	1.5
BM B2-1-+3/1.5	X3250	17	7	1	-0.001	0.2	0.7	0.5	0.7
BM B2-1-+1.5/0	X3251	9	4	2	0.05	0.03	0.6	0.5	0.4
BM B2-1-0/4	X3252	10	12	3	0.003	0.002	0.8	0.7	1
BM B2-1-4/5	X3253	0	9	2	-0.04	-0.04	0.7	0.8	0.7
BM B2-1-5/6	X3254	2	9	6	-0.004	-0.02	0.8	0.7	0.7
BM B2-1-5/6 DUP	X3254	6	11						
BM B2-1-6/7	X3255	3	5	6	-0.02	-0.03	0.8	0.8	0.8
BM B2-1-7/8	X3256	7	21	12	0.04	-0.02	0.8	0.8	0.9
BM B2-1-7/8 REP	X3256			12	0.04	-0.02	0.8	0.8	0.9
BM B2-1-8/9	X3257	12	16	14	0.02	-0.04	1.4	1.5	1.7
BM B2-1-8/9 REP	X3257			14	0.02	-0.04	1.4	1.5	1.7
BM B2-1-9/10	X3258	9	24	21	0.03	-0.01	1.9	1.6	1.4
BM B2-1-9/10 REP	X3258			21	0.03	-0.01	1.9	1.6	1.4
BM B2-1-10/11	X3259	4	34	19	-0.004	-0.07	2	1.8	1.6
BM B2-1-11/12	X3260	5	30	20	-0.02	0.02	1.8	1.3	1.8
BM B2-1-11/12 DUP	X3260	7	27						
BM B2-2-+2/1	X3261	22	12	5	0.02	0.4	0.8	0.8	1.1
BM B2-2-+1/0	X3262	7	5	5	0.01	0.05	0.9	0.9	1.2
BM B2-2-0/4	X3263	5	9	4	0.002	-0.06	1	0.8	0.6
BM B2-2-4/5	X3264	4	18	13	-0.03	-0.01	1	1.1	1.2
BM B2-2-5/6	X3265	4	17	17	0.03	-0.03	1.1	1.1	1.4

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Picocuries per Gram								
	Lab Number	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BM B2-2-6/7	X3266	9	32	19	0.05	-0.04	1.3	1	1.4
BM B2-2-7/8	X3267	6	22	17	0.07	0.02	1.3	0.9	1.2
BM B2-2-8/9	X3268	2	26	14	0.02	0.02	1.1	0.8	1.1
BM B2-2-9/10	X3269	13	28	13	0.02	-0.003	1.1	0.8	1.1
BM B2-2-9/10 DUP	X3269	10	26						
BM B2-2-10/11	X3270	2	23	15	0.01	-0.07	1.4	1	1.6
BM B2-2-11/12	X3271	7	24	14	-0.004	-0.01	1.3	1.4	1.2
BM B2-5-+1/0	X3272	10	7	4	0.03	0.1	0.9	0.6	1
BM B2-5-0/1	X3273	6	5	3	-0.02	0.2	1.1	1	1.1
BM B2-5-1/2	X3274	6	11	4	-0.01	-0.03	1	0.9	1
BM B2-5-2/3	X3275	4	8	5	0.1	-0.03	1	1.2	1.2
BM B2-5-3/4	X3276	1	10	4	-0.01	-0.01	1.2	0.8	1.4
BM B2-5-4/5	X3277	3	7	4	-0.02	0.01	0.9	0.9	0.7
BM B2-5-5/6	X3278	1	19	14	-0.01	-0.004	1.3	0.9	1.2
BM B2-5-6/7	X3279	6	23	17	-0.07	0.003	1.6	1.2	1.2
BM B2-5-7/8	X3280	6	26	22	-0.02	-0.01	1.5	1.3	1.7
BM B2-5-7/8 DUP	X3280	7	31						
BM B2-5-8/9	X3281	9	34	19	0.03	-0.01	1.7	1.6	1.2
BM B2-5-9/10	X3282	7	33	20	-0.01	-0.01	1.9	1.7	1.6
BM B2-5-10/11	X3283	4	23	17	0.1	-0.01	2	1.6	1
BM B2-5-11/12	X3284	6	26	14	-0.01	-0.01	1.6	1.4	1.2
BM B2-6-+3/1.5	X3285	6	7	2	0.001	0.12	0.6	0.6	0.6
BM B2-6-+1.5/0	X3286	7	6	2	0.01	-0.004	0.7	0.6	0.6
BM B2-6-0/2	X3287	5	15	9	-0.002	0.03	1.4	1	1.2
BM B2-6-2/4	X3288	10	12	8	0.03	0.04	0.9	1.1	1.2
BM B2-6-4/6	X3289	3	21	9	0.01	0.02	1.1	0.9	1
BM B2-6-6/8	X3290	8	18	13	-0.01	-0.02	1.4	1.4	1.1
BM B2-6-6/8 DUP	X3290	7	17						
BM B2-6-8/9	X3291	4	23	16	0.02	-0.03	1.4	1.2	1.3

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Picocuries per Gram								
	Lab Number	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BM B2-6-9/10	X3292	7	22	15	-0.01	-0.01	1.3	1.4	1.5
BM B2-6-10/11	X3293	9	29	18	0.02	-0.02	1.7	1.5	1.7
BM B2-6-11/12	X3294	11	22	16	-0.01	-0.07	1.5	1.6	1.1
BM B2-7-0/2	X3295	10	9	3	0.01	0.3	0.8	0.8	0.9
BM B2-7-2/4	X3296	3	9	3	0.01	-0.01	0.9	0.8	1
BM B2-7-4/5	X3297	5	8	5	0.01	0.02	1.1	0.8	1.1
BM B2-7-5/6	X3298	3	8	3	0.01	-0.01	0.6	0.7	0.6
BM B2-7-6/7	X3299	10	5	4	0.02	-0.001	0.7	0.5	0.7
BM B2-7-7/8	X3300	2	6	4	0.02	0.01	0.8	0.5	0.4
BM B2-7-7/8 DUP	X3300	2	6						
BM B2-7-8/9	X3301	2	12	9	0.02	-0.005	0.6	0.7	0.8
BM B2-7-9/10	X3302	0.3	12	9	0.002	0.06	0.5	0.8	0.7
BM B2-7-10/11	X3303	8	15	10	0.01	-0.01	0.9	0.7	0.8
BM B2-7-11/12	X3304	2	10	8	-0.03	-0.03	0.7	0.6	0.9
BM C0-3-0/1	X3305	6	9	3	-0.004	0.1	0.9	0.8	1
BM C0-3-1/2	X3306	3	10	4	0.05	-0.05	0.9	0.7	0.8
BM C0-3-2/3	X3307	7	7	4	0.01	-0.01	1	0.8	1.3
BM C0-3-3/4	X3308	1	5	2	0.004	0.04	1	0.7	0.6
BM C0-3-4/5	X3309	-0.3	6	4	-0.002	0.01	0.9	0.8	0.6
BM C0-3-5/6	X3310	5	6	7	0.01	-0.02	0.9	0.9	0.9
BM C0-3-6/7	X3311	8	20	13	0.02	0.01	1.3	1.1	1.1
BM C0-3-7/8	X3312	6	21	13	0.02	-0.01	1.1	1.1	0.8
BM C0-3-8/9	X3313	15	18	13	-0.004	0.005	1.1	1.1	1
BM C0-3-8/9 DUP	X3313	10	18						
BM C0-3-9/10	X3314	8	22	15	-0.01	-0.04	1.5	1.5	0.9
BM C0-3-10/11	X3315	5	26	17	-0.001	-0.03	1.9	1.7	1.4
BM C0-3-11/12	X3316	18	29	19	-0.01	0.06	1.9	1.5	1.1
BM C1-1-0/1	X3317	16	7	4	0.03	0.05	0.8	0.8	0.7
BM C1-1-1/2	X3318	7	9	4	-0.02	-0.06	0.9	1.1	1.5

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Picocuries per Gram								
	Lab Number	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BM C1-1-2/3	X3319	7	9	4	0.003	-0.03	0.9	0.9	1.3
BM C1-1-3/4	X3320	5	11	4	0.02	0.01	0.8	0.7	1.3
BM C1-1-3/4 DUP	X3320	5	12						
BM C1-1-4/5	X3321	16	17	11	-0.04	-0.02	1.1	1	1
BM C1-1-5/6	X3322	7	16	11	0.03	-0.06	1	1.2	0.8
BM C1-1-6/7	X3323	10	14	13	-0.03	-0.02	1	0.9	0.9
BM C1-1-7/8	X3324	10	17	11	-0.02	-0.01	1.1	1.1	1
BM C1-1-8/9	X3325	13	22	12	0.02	-0.02	1	0.9	1
BM C1-1-9/10	X3326	14	22	16	-0.02	-0.04	1.3	1.3	1.3
BM C1-1-10/11	X3327	10	22	17	0.04	-0.02	1.5	1.5	1.4
BM C1-1-11/12	X3328	5	10	12	-0.002	0.01	1.3	1	0.7
BM C1-2-0/1	X3329	9	8	3	0.06	0.3	0.8	0.9	0.8
BM C1-2-1/2	X3330	7	8	5	0.03	0.02	1.1	0.9	1.1
BM C1-2-1/2 DUP	X3330	7	7						
BM C1-2-2/3	X3331	1	8	4	-0.02	-0.01	0.9	0.9	0.9
BM C1-2-3/4	X3332	12	6	3	0.01	0.02	0.8	0.8	0.9
BM C1-2-4/5	X3333	14	11	9	0.01	0.01	1.2	1	1
BM C1-2-5/6	X3334	11	24	18	0.05	-0.1	1.6	1.4	1.5
BM C1-2-6/7	X3335	19	24	20	0.01	-0.03	1.7	1.5	1.6
BM C1-2-7/8	X3336	16	19	17	0.01	0.003	1.4	1.2	1.7
BM C1-2-8/9	X3337	15	18	16	-0.01	0.03	1.2	1.1	1.2
BM C1-2-9/10	X3338	5	31	18	-0.02	-0.03	1.4	1.6	1.3
BM C1-2-10/11	X3339	13	25	17	-0.01	-0.01	1.3	1.3	1.2
BM C1-2-11/12	X3340	16	27	17	0.01	0.0002	1.4	1.3	1.3
BM C1-2-11/12 DUP	X3340	9	27						
BM C1-3-+1/0	X3341	8	8	8	0.07	0.2	1.2	1.1	1.2
BM C1-3-0/1	X3342	9	4	4	0.03	0.1	0.9	0.6	1.1
BM C1-3-1/2	X3343	15	7	4	0.01	-0.004	0.9	0.7	0.9
BM C1-3-2/3	X3344	13	9	4	-0.05	-0.01	0.9	1	1.3

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Lab Number	Picocuries per Gram							
		Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BM C1-3-3/4	X3345	7	7	4	-0.01	-0.01	1.1	0.9	1
BM C1-3-4/5	X3346	17	19	14	-0.1	-0.01	1.4	1.4	1.5
BM C1-3-5/6	X3347	9	24	17	0.002	0.004	1.5	1.4	1.6
BM C1-3-5/6 DUP	X3347	13	26						
BM C1-3-6/7	X3348	19	22	17	-0.04	-0.02	1.6	1.5	1.5
BM C1-3-7/8	X3349	17	20	18	0.01	-0.04	1.5	1.2	1.3
BM C1-3-8/9	X3350	10	23	21	-0.1	0.02	2	1.6	1.9
BM C1-3-9/10	X3351	17	26	18	0.04	0.01	2.2	1.7	1.8
BM C1-3-10/11	X3352	12	25	16	-0.03	-0.03	2	1.5	1.3
BM C1-3-11/12	X3353	18	27	20	0.06	0.02	2.2	2	1.9
BM C1-4-+4/2	X3354	14	13	8	0.06	0.3	1	0.9	1.2
BM C1-4-+2/0	X3355	7	10	6	-0.001	0.02	0.9	0.8	1.2
BM C1-4-0/2	X3356	4	10	3	-0.004	-0.01	0.8	0.7	1
BM C1-4-2/4	X3357	4	13	5	-0.01	-0.01	0.7	0.8	0.8
BM C1-4-4/5	X3358	10	28	15	0.01	-0.001	1.6	1.3	1.2
BM C1-4-5/6	X3359	4	23	14	0.09	-0.04	1.8	1.3	1.5
BM C1-4-6/7	X3360	8	24	17	0.03	-0.02	1.6	1.4	1.3
BM C1-4-6/7 DUP	X3360	9	24						
BM C1-4-7/8	X3361	12	20	15	0.1	0.005	1.6	1.4	1.4
BM C1-4-8/9	X3362	14	29	13	-0.04	-0.03	1.6	1.3	1
BM C1-4-9/10	X3363	8	24	11	0.004	-0.01	1.2	1.5	1.1
BM C1-4-10/11	X3364	5	33	18	0.01	0.01	2	1.5	1.2
BM C1-4-11/12	X3365	5	29	16	0.02	-0.08	2.1	1.7	1.5
BM C1-5-+4/2	X3366	6	17	7	0.2	1.5	1	0.7	1.3
BM C1-5-+4/2 REP	X3366			6	0.3	1.6	0.9	0.8	0.9
BM C1-5-+2/0	X3367	9	7	4	0.08	0.3	0.8	0.7	0.8
BM C1-5-+2/0 DUP	X3367	7	7						
BM C1-5-+2/0 REP	X3367			4	0.05	0.1	0.8	0.6	1
BM C1-5-0/4	X3368	8	9	7	0.04	0.3	1.1	0.7	1.2

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Lab Number	Picocuries per Gram							
		Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BM C1-5-0/4 REP	X3368			5	0.05	0.3	0.8	1	0.7
BM C1-5-4/5	X3369	3	6	4	0.1	1.6	0.7	0.8	0.6
BM C1-5-4/5 REP	X3369			4	0.2	1.7	1	0.8	0.7
BM C1-5-5/6	X3370	3	18	17	0.08	0.2	1.3	1.1	1.2
BM C1-5-5/6 REP	X3370			16	0.1	0.4	1.5	1.2	1
BM C1-5-6/7	X3371	6	18	14	0.1	0.02	1.1	1.2	0.9
BM C1-5-6/7 REP	X3371			13	0.03	0.08	1.2	1.2	1.3
BM C1-5-7/8	X3372	12	33	22	-0.03	0.001	1.5	1.3	1.3
BM C1-5-8/9	X3373	8	28	20	0.02	0.004	1.5	1.3	1.3
BM C1-5-9/10	X3374	6	30	19	0.09	0.02	1.7	1.3	1.3
BM C1-5-10/11	X3375	5	25	20	0.1	-0.06	1.6	1.5	1.4
BM C1-5-11/12	X3376	8	15	16	0.02	-0.01	1.5	1.5	1.5
BM C1-6-0/1	X3377	5	9	3	0.02	0.05	0.8	0.8	0.6
BM C1-6-0/1 DUP	X3377	12	8						
BM C1-6-1/2	X3378	8	8	4	0.02	-0.04	0.7	0.8	0.8
BM C1-6-2/3	X3379	4	9	3	-0.02	-0.01	0.8	0.7	1
BM C1-6-3/4	X3380	6	5	2	0.003	-0.002	0.9	0.7	0.8
BM C1-6-4/5	X3381	2	7	3	0.002	-0.01	0.8	0.7	1
BM C1-6-5/6	X3382	7	6	4	-0.01	-0.06	1	0.9	1
BM C1-6-6/7	X3383	7	11	5	0.02	-0.02	0.9	0.7	0.7
BM C1-6-7/8	X3384	16	18	8	-0.001	-0.002	0.9	0.7	0.8
BM C1-6-8/9	X3385	6	8	12	0.01	-0.02	1.4	1.3	1.4
BM C1-6-9/10	X3386	18	22	15	0.01	-0.01	1.8	2	1.4
BM C1-6-10/11	X3387	20	30	16	0.02	-0.03	1.8	1.8	1.3
BM C1-6-11/12	X3388	16	25	14	0.09	-0.02	1.8	1.6	1.4
BM C1-7-0/1	X3389	3	11	5	0.01	0.2	1	0.9	1
BM C1-7-1/2	X3390	7	10	5	0.05	0.003	0.8	0.7	1.3
BM C1-7-1/2 DUP	X3390	8	10						
BM C1-7-2/3	X3391	7	9	5	0.01	-0.01	1.1	0.8	1.2

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Lab Number	Picocuries per Gram							
		Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BM C1-7-3/4	X3392	10	13	9	0.03	-0.01	1	0.8	0.8
BM C1-7-4/5	X3393	6	11	9	0.003	-0.01	0.9	0.9	0.8
BM C1-7-5/6	X3394	5	12	7	0.01	0.02	1.1	0.9	0.8
BM C1-7-6/7	X3395	6	14	10	0.02	-0.02	1.1	1	1
BM C1-7-7/8	X3396	11	26	16	-0.05	-0.02	1.3	1.2	1.2
BM C1-7-8/9	X3397	3	14	14	-0.01	0.06	1.3	1.1	1.3
BM C1-7-9/10	X3398	12	24	16	0.05	-0.03	1.4	1.7	1.3
BM C1-7-10/11	X3399	10	25	17	0.03	-0.04	1.4	1.3	1.5
BM C1-7-11/12	X3400	10	23	13	0.03	-0.00004	1.4	1.4	1.2
BM C1-7-11/12 DUP	X3400	3	23						
BM C1-8-+1/0	X3401	5	9	4	0.07	0.08	1.1	0.8	0.7
BM C1-8-0/1	X3402	10	7	3	-0.02	0.002	0.7	0.8	1
BM C1-8-1/2	X3403	5	10	4	-0.01	0.02	0.9	0.7	1
BM C1-8-2/3	X3404	6	11	3	0.04	-0.05	0.9	0.7	1.3
BM C1-8-3/4	X3405	8	8	4	0.01	-0.02	0.9	0.7	0.9
BM C1-8-4/5	X3406	8	13	14	0.07	-0.01	0.9	1.1	1.3
BM C1-8-5/6	X3407	9	20	13	0.05	-0.01	1.2	1.1	1.4
BM C1-8-6/7	X3408	8	17	12	-0.03	-0.06	1.2	1	1
BM C1-8-6/7 DUP	X3408	6	18						
BM C1-8-7/8	X3409	4	14	11	0.03	0.004	1.1	1	1.1
BM C1-8-8/9	X3410	13	22	12	0.03	-0.03	1	1	1.5
BM C1-8-9/10	X3411	7	11	8	0.00003	-0.02	0.8	0.7	0.9
BM C1-8-10/11	X3412	1	8	13	-0.002	-0.03	1.2	0.8	1
BM C1-8-11/12	X3413	7	10	10	-0.01	-0.02	0.8	0.6	0.9
BM C2-1-+4/0	X3414	14	17	8	0.6	0.2	0.9	0.9	0.9
BM C2-1-+4/0 REP	X3414			8	0.4	0.2	1	0.8	1
BM C2-1-0/2	X3415	7	6	3	0.06	0.2	0.8	0.8	1
BM C2-1-0/2 REP	X3415			2	0.07	0.2	0.6	0.6	0.6
BM C2-1-2/4	X3416	4	8	3	11	11	0.7	0.7	0.4

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Picocuries per Gram								
	Lab Number	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BM C2-1-2/4 REP	X3416			2	9	12	0.8	0.6	0.6
BM C2-1-4/6	X3417	4	30	2	330	0.3	0.3	1	1
BM C2-1-4/6 DUP	X3417	16	84						
BM C2-1-4/6 REP	X3417			1	320	0.1	0.1	-0.1	-1
BM C2-1-6/8	X3418	14	93	15	320	0.1	1	1	1
BM C2-1-6/8 REP	X3418			13	310	0.6	1	1	0.2
BM C2-1-8/9	X3419	17	40	18	49	0.02	2	1.3	3
BM C2-1-8/9 REP	X3419			21	46	0.03	1.5	1.1	1.7
BM C2-1-9/10	X3420	8	28	23	4.2	0.01	1.6	1.6	1.8
BM C2-1-9/10 REP	X3420			22	4.3	-0.1	2.1	1.7	2.1
BM C2-1-10/11	X3421	10	29	18	0.8	-0.01	1.8	1.5	1.9
BM C2-1-10/11 REP	X3421			21	0.6	-0.03	1.2	1.1	1.7
BM C2-1-11/12	X3422	11	27	22	0.04	-0.03	1.7	1.3	1.3
BM C2-1-11/12 REP	X3422			22	-0.004	0.06	1.6	1.5	1.2
BM C2-2-+2/0	X3423	-1	13	4	0.04	0.4	1	1	0.9
BM C2-2-0/4	X3424	6	7	4	-0.01	-0.01	1	0.7	1.1
BM C2-2-4/5	X3425	8	9	3	-0.02	0.01	0.9	0.8	0.9
BM C2-2-5/6	X3426	12	9	8	-0.01	-0.01	1	1	1.1
BM C2-2-6/7	X3427	9	16	8	0.1	-0.04	0.9	0.9	0.7
BM C2-2-7/8	X3428	5	7	9	0.3	-0.01	0.8	0.6	0.7
BM C2-2-7/8 DUP	X3428	8	7						
BM C2-2-8/9	X3429	6	11	6	0.1	0.0003	0.7	0.7	0.4
BM C2-2-8/9 REP	X3429			6	0.07	0.0003	0.6	0.6	0.5
BM C2-2-9/10	X3430	12	12	8	0.2	0.01	1	0.8	0.7
BM C2-2-9/10 REP	X3430			7	0.2	-0.01	0.8	0.7	0.9
BM C2-2-10/11	X3431	9	17	16	0.8	0.07	1.9	1.6	1.8
BM C2-2-10/11 REP	X3431			14	0.6	0.07	1.5	1.2	1

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Picocuries per Gram								
	Lab Number	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BM C2-2-11/12	X3432	17	33	21	1	0.9	2.2	1.9	1.6
BM C2-2-11/12 REP	X3432			18	0.9	0.9	2	2.2	1.5
BM C2-3-0/1	X3433	19	11	6	0.4	0.6	1.3	1.2	0.6
BM C2-3-0/1 REP	X3433			5	0.3	0.5	0.6	0.5	0.8
BM C2-3-1/2	X3434	6	11	5	0.02	0.08	1.1	0.9	1.4
BM C2-3-2/3	X3435	11	9	4	0.07	-0.04	1	0.8	1.1
BM C2-3-3/4	X3436	6	11	4	0.03	-0.03	1.1	0.8	1.3
BM C2-3-4/5	X3437	8	9	4	-0.02	-0.04	1.2	0.9	1.1
BM C2-3-5/6	X3438	10	9	4	0.01	0.004	1	0.8	1
BM C2-3-6/7	X3439	5	10	8	0.03	-0.03	1.2	1.1	0.9
BM C2-3-7/8	X3440	9	23	14	-0.004	-0.04	1.5	1.3	1.3
BM C2-3-8/9	X3441	11	18	15	0.08	0.03	1.4	1.4	1.5
BM C2-3-9/10	X3442	10	21	15	-0.01	-0.001	1.5	1.2	1.2
BM C2-3-10/11	X3443	11	30	20	-0.02	-0.04	1.7	1.6	1
BM C2-3-11/12	X3444	10	34	21	-0.001	-0.001	2.2	1.7	1.5
BM C2-4-+2/0	X3445	8	6	4	0.01	0.04	0.7	0.7	0.9
BM C2-4-0/2	X3446	2	9	3	0.04	0.03	1	0.8	1.2
BM C2-4-2/4	X3447	10	4	3	-0.004	0.03	0.9	0.7	1.2
BM C2-4-4/5	X3448	10	8	6	-0.01	0.001	0.9	1	1
BM C2-4-5/6	X3449	10	13	10	-0.002	0.01	1.2	1.1	1.2
BM C2-4-5/6 DUP	X3449	13	14						
BM C2-4-6/7	X3450	14	22	14	-0.01	-0.05	1.5	1.6	1.2
BM C2-4-7/8	X3451	15	24	18	0.03	-0.02	1.5	1.4	1.4
BM C2-4-8/9	X3452	16	28	15	0.03	-0.01	1.1	1.1	1.3
BM C2-4-9/10	X3453	10	22	21	-0.05	-0.01	1.5	1.1	1.5
BM C2-4-10/11	X3454	9	31	22	0.06	-0.07	1.5	1.3	1.2
BM C2-4-11/12	X3455	18	27	24	-0.03	0.01	2	1.6	1.2
BM C2-6-+4/0	X3456	12	10	8	0.09	0.2	1.1	1.1	1
BM C2-6-0/4	X3457	5	6	4	0.01	-0.02	0.8	0.7	1.1

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Lab Number	Picocuries per Gram							
		Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BM C2-6-0/4 DUP	X3457	8	9						
BM C2-6-4/5	X3458	8	9	9	0.04	0.02	1.2	1	0.9
BM C2-6-5/6	X3459	7	28	20	0.01	-0.003	1.6	1.4	1.8
BM C2-6-6/7	X3460	12	30	17	-0.02	-0.01	2	1.3	1.6
BM C2-6-7/8	X3461	13	27	23	0.03	-0.02	1.8	1.4	1.5
BM C2-6-8/9	X3462	7	29	18	0.001	-0.04	1.7	1.5	1.3
BM C2-6-9/10	X3463	15	31	18	-0.05	-0.01	1.7	1.5	1.3
BM C2-6-10/11	X3464	6	33	18	0.001	-0.02	1.6	1.4	1.6
BM C2-6-10/11 DUP	X3464	6	33						
BM C2-6-11/12	X3465	9	25	16	-0.02	-0.04	1.3	1.3	1.2
BM C2-7-+4/0	X3466	16	21	7	0.01	0.1	1	0.8	1
BM C2-7-0/4	X3467	2	12	9	0.0005	-0.03	1.1	1	1.1
BM C2-7-0/4 REP	X3467			9	-0.02	-0.06	1	1	0.8
BM C2-7-4/5	X3468	0	17	10	42	0.6	0.9	0.9	2
BM C2-7-4/5 REP	X3468			12	37	0.4	1.1	0.8	0.7
BM C2-7-5/6	X3469	14	27	17	3.4	-0.06	1.8	1.5	1.8
BM C2-7-5/6 REP	X3469			21	3.4	0.03	1.7	1.6	1.1
BM C2-7-6/7	X3470	5	24	24	1.6	-0.004	2	1.5	1.6
BM C2-7-6/7 REP	X3470			21	1.6	-0.06	1.7	1.3	1.3
BM C2-7-7/8	X3471	17	35	25	0.6	-0.02	2.2	1.8	2.4
BM C2-7-7/8 DUP	X3471	5	37						
BM C2-7-7/8 REP	X3471			22	0.5	-0.01	2	1.9	2
BM C2-7-8/9	X3472	11	30	15	0.002	0.004	1.3	1.6	0.9
BM C2-7-8/9 REP	X3472			12	0.04	-0.01	1.1	1	1
BM C2-7-9/10	X3473	9	27	16	0.001	0.005	1.7	1.4	1.6
BM C2-7-10/11	X3474	6	29	16	-0.02	0.02	1.8	1.6	1.2
BM C2-7-11/12	X3475	5	29	21	-0.03	-0.02	1.7	1.6	2
BM C2-8-+4/0	X3476	7	11	5	0.1	-0.02	1.1	1	1
BM C2-8-0/2	X3477	7	11	3	0.02	-0.02	0.9	0.8	1.1

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Picocuries per Gram								
	Lab Number	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BM C2-8-2/4	X3478	2	7	3	0.02	0.03	1.1	1.2	1.4
BM C2-8-4/5	X3479	4	10	7	-0.002	0.002	1	0.7	1
BM C2-8-5/6	X3480	3	17	13	-0.03	0.03	1.5	1.2	1.1
BM C2-8-6/7	X3481	8	26	19	0.0002	-0.05	1.5	1.2	1.3
BM C2-8-6/7 DUP	X3481	11	25						
BM C2-8-7/8	X3482	10	27	16	-0.03	0.02	1.7	1.3	1.1
BM C2-8-8/9	X3483	9	26	20	-0.04	-0.04	1.5	1.3	1.3
BM C2-8-9/10	X3484	4	33	21	-0.05	0.03	1.5	1.5	1.4
BM C2-8-10/11	X3485	2	27	20	0.01	-0.01	1.6	1.6	1.5
BM C2-8-11/12	X3486	7	29	18	0.1	-0.05	2	1.5	1.6
BM C3-6-0/2	X3487	8	8	4	-0.03	0.09	0.8	0.7	0.9
BM C3-6-2/4	X3488	5	8	3	0.02	-0.02	1	0.8	1.1
BM C3-6-4/5	X3489	5	6	4	0.001	0.003	0.9	0.9	0.8
BM C3-6-5/6	X3490	6	7	3	-0.01	0.001	0.8	0.5	1
BM C3-6-6/7	X3491	3	13	4	-0.0001	0.03	1.3	0.9	1.1
BM C3-6-7/8	X3492	6	10	5	0.03	-0.02	1.3	1	0.9
BM C3-6-7/8 DUP	X3492	3	15						
BM C3-6-8/9	X3493	4	9	7	-0.01	0.01	1.1	0.9	0.9
BM C3-6-9/10	X3494	7	14	11	0.01	-0.03	1.1	1.2	0.7
BM C3-6-10/11	X3495	7	18	15	0.01	0.01	1.3	1.3	0.9
BM C3-6-11/12	X3496	7	22	17	0.02	0.04	1.3	1.4	1.2
BM D0-3-0/1	X3497	4	8	4	-0.01	0.1	0.9	0.8	0.7
BM D0-3-1/2	X3498	8	8	4	0.05	0.03	1	0.9	1.2
BM D0-3-2/3	X3499	4	14	5	0.01	-0.02	1	0.8	1.1
BM D0-3-3/4	X3500	4	12	5	0.02	-0.02	0.7	0.9	1.1
BM D0-3-4/5	X3501	6	15	13	-0.003	-0.02	1.2	1.1	1.3
BM D0-3-5/6	X3502	12	23	15	0.01	-0.01	1.4	1.3	1.7
BM D0-3-6/7	X3503	8	28	18	0.03	-0.002	1.7	1.5	1.5
BM D0-3-6/7 DUP	X3503	7	28						

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Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Lab Number	Picocuries per Gram							
		Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BM D0-3-7/8	X3504	9	26	14	-0.01	-0.01	1.4	1.4	1
BM D0-3-8/9	X3505	8	14	14	-0.004	0.003	1.6	1.1	1.1
BM D0-3-9/10	X3506	14	21	16	0.01	0.001	1.4	1.5	0.8
BM D0-3-10/11	X3507	12	27	16	0.01	-0.004	1.6	1.3	1
BM D0-3-11/12	X3508	11	23	16	0.04	-0.07	1.7	1.3	1.3
BM D1-1-0/1	X3509	16	7	3	-0.04	0.1	0.8	0.6	0.9
BM D1-1-1/2	X3510	3	10	4	-0.02	-0.02	0.7	0.7	0.9
BM D1-1-2/3	X3511	8	8	3	-0.02	0.05	0.8	0.7	1.1
BM D1-1-3/4	X3512	7	9	3	-0.01	0.0003	0.7	0.8	0.9
BM D1-1-3/4 DUP	X3512	6	9						
BM D1-1-4/5	X3513	5	12	3	0.04	-0.00004	1	1	1.1
BM D1-1-5/6	X3514	10	14	9	-0.04	-0.01	1.3	1.2	0.9
BM D1-1-6/7	X3515	11	20	17	0.06	-0.02	1.7	1.5	1.3
BM D1-1-7/8	X3516	12	31	17	0.02	-0.04	1.5	1.3	1.4
BM D1-1-8/9	X3517	12	28	15	-0.03	-0.01	1.9	1.7	1.7
BM D1-1-9/10	X3518	17	27	17	-0.001	0.005	1.6	1.5	1.6
BM D1-1-10/11	X3519	1	24	20	0.02	0.01	1.8	2	1.6
BM D1-1-11/12	X3520	18	26	16	-0.01	0.0003	1.6	1.1	0.8
BM D1-2-0/1	X3521	15	6	4	-0.02	0.01	0.8	0.8	1
BM D1-2-1/2	X3522	3	10	4	0.03	0.01	0.9	0.8	1.2
BM D1-2-1/2 DUP	X3522	9	4						
BM D1-2-2/3	X3523	3	8	5	0.01	-0.02	0.9	0.8	1.4
BM D1-2-3/4	X3524	7	10	6	0.02	-0.02	1	0.9	1
BM D1-2-4/5	X3525	16	12	13	0.003	0.02	1.1	1.1	1.2
BM D1-2-5/6	X3526	10	17	16	0.02	-0.01	1.3	1.5	1.3
BM D1-2-6/7	X3527	23	18	15	-0.05	-0.02	1.3	1.3	1.5
BM D1-2-7/8	X3528	11	23	14	0.003	-0.01	1.4	1.4	2.1
BM D1-2-8/9	X3529	4	21	15	0.03	-0.01	1.3	1.1	1.2
BM D1-2-9/10	X3530	10	21	17	-0.002	0.03	1.4	1.6	1.5

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Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Picocuries per Gram								
	Lab Number	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BM DT-2-10/11	X3531	11	27	19	-0.02	-0.02	1.7	1.5	1.9
BM DT-2-11/12	X3532	10	25	18	-0.01	-0.08	1.6	1.6	1.1
BM DT-2-11/12 DUP	X3532	8	29						
BM DT-3-0/1	X3533	8	6	4	-0.001	0.1	0.8	0.8	0.9
BM DT-3-1/2	X3534	5	7	5	-0.01	-0.01	1	0.8	1
BM DT-3-2/3	X3535	4	8	3	-0.01	-0.005	0.9	0.8	1.5
BM DT-3-3/4	X3536	7	11	5	-0.01	-0.01	1.1	0.8	1
BM DT-3-4/5	X3537	5	11	6	-0.001	-0.01	1.1	0.8	1.1
BM DT-3-5/6	X3538	7	13	21	0.02	0.01	1.2	1	0.9
BM DT-3-6/7	X3539	13	37	24	0.1	-0.03	1.4	1.1	1.1
BM DT-3-7/8	X3540	4	37	31	0.04	0.01	1.3	1.1	1.7
BM DT-3-7/8 DUP	X3540	6	36						
BM DT-3-8/9	X3541	6	17	27	-0.02	-0.00004	1.2	0.9	1.3
BM DT-3-9/10	X3542	12	38	36	-0.02	-0.03	1.6	1.4	1.8
BM DT-3-10/11	X3543	12	39	39	0.03	-0.02	1.7	1.7	1.8
BM DT-3-11/12	X3544	9	36	36	0.02	0.02	1.8	1.4	1.8
BM DT-4-+1/0	X3545	7	13	4	4.3	0.2	1.1	1	0.9
BM DT-4-0/1	X3546	5	5	4	-0.02	0.005	0.9	0.9	1.2
BM DT-4-1/2	X3547	0.9	10	3	0.02	-0.01	0.9	0.9	1.1
BM DT-4-2/3	X3548	4	10	5	-0.04	-0.04	0.9	0.9	0.9
BM DT-4-3/4	X3549	4	10	7	-0.01	-0.04	1.1	1	1
BM DT-4-4/5	X3550	7	22	16	0.07	0.01	1.4	1.2	1
BM DT-4-5/6	X3551	6	26	19	-0.01	-0.03	1.4	1.3	1.5
BM DT-4-6/7	X3552	12	33	20	0.03	0.04	1.3	1.3	1
BM DT-4-6/7 DUP	X3552	13	27						
BM DT-4-7/8	X3553	7	31	28	-0.03	-0.03	1.6	1.6	1.2
BM DT-4-8/9	X3554	5	31	21	0.04	-0.02	1.4	1.1	0.9
BM DT-4-9/10	X3555	7	30	20	-0.001	-0.02	1.3	1	1.4
BM DT-4-10/11	X3556	11	24	18	-0.04	0.01	1.1	1.3	1.1

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Picocuries per Gram								
	Lab Number	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BM D1-4-11/12	X3557	9	25	19	0.01	-0.07	1.4	1.3	1.3
BM D1-5-0/1	X3558	19	9	4	-0.03	0.07	0.9	0.7	0.9
BM D1-5-1/2	X3559	-0.3	9	4	0.02	-0.01	0.9	0.8	1.1
BM D1-5-2/3	X3560	5	14	5	-0.01	0.0003	0.9	0.7	1
BM D1-5-2/3 DUP	X3560	6	10						
BM D1-5-3/4	X3561	14	13	6	0.05	-0.01	0.9	1	1
BM D1-5-4/5	X3562	6	14	16	0.04	0.1	1.1	1.1	1.2
BM D1-5-5/6	X3563	6	28	22	-0.03	-0.05	1.4	1.3	1.1
BM D1-5-6/7	X3564	9	31	27	0.02	0.002	1.4	1.3	1.8
BM D1-5-7/8	X3565	6	35	29	0.02	-0.1	1.5	1.7	1.7
BM D1-5-8/9	X3566	6	16	29	0.01	-0.03	1.3	1.2	1.5
BM D1-5-9/10	X3567	6	38	27	-0.04	-0.03	1.7	1.2	1.8
BM D1-5-10/11	X3568	19	36	29	0.03	0.01	1.4	1.2	1.9
BM D1-5-11/12	X3569	11	33	28	-0.01	-0.004	1.5	1.5	1.6
BM D1-6-0/1	X3570	8	5	3	0.02	0.1	0.9	0.8	1
BM D1-6-1/2	X3571	6	6	4	-0.02	0.01	0.9	0.9	0.9
BM D1-6-1/2 DUP	X3571	9	7						
BM D1-6-2/3	X3572	9	8	4	-0.003	-0.01	1.1	0.7	1.2
BM D1-6-3/4	X3573	10	6	5	0.02	-0.03	0.9	0.8	0.9
BM D1-6-4/5	X3574	6	24	16	-0.01	0.01	1.5	1.2	1.5
BM D1-6-5/6	X3575	7	13	14	-0.03	-0.05	1.3	1.1	1.1
BM D1-6-5/6 DUP	X3575	6	17						
BM D1-6-6/7	X3576	8	10	3	-0.01	0.02	0.9	1	0.6
BM D1-6-7/8	X3577	7	28	23	0.1	-0.05	2.1	1.5	1.3
BM D1-6-8/9	X3578	19	9	13	-0.02	0.2	1.3	1.3	1
BM D1-6-9/10	X3579	13	28	18	-0.02	-0.004	1.7	1.6	1.2
BM D1-6-10/11	X3580	17	21	22	0.03	-0.01	1.7	1.6	1.6
BM D1-6-11/12	X3581	10	26	21	0.03	-0.08	2	1.8	1.7
BM D1-7-0/1	X3582	6	2	5	-0.01	0.06	0.9	0.9	0.7

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Lab Number	Picocuries per Gram							
		Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
EM D1-7-1/2	X3583	3	7	5	-0.001	-0.03	1.1	1	1.2
EM D1-7-2/3	X3584	11	9	5	0.03	-0.02	1	0.8	1.1
EM D1-7-3/4	X3585	7	17	8	0.02	0.01	1.2	1	1.1
EM D1-7-3/4 DUP	X3585	8	16						
EM D1-7-4/5	X3586	16	9	13	-0.04	-0.001	1.3	1.2	0.9
EM D1-7-5/6	X3587	13	19	14	0.01	-0.02	1	1.1	0.9
EM D1-7-6/7	X3588	2	16	16	0.03	0.01	1.4	0.9	1.3
EM D1-7-7/8	X3589	5	12	12	-0.03	-0.005	0.9	0.8	0.9
EM D1-7-8/9	X3590	12	19	15	-0.004	-0.04	1	1	1
EM D1-7-9/10	X3591	11	18	16	-0.03	-0.02	1.2	1.2	1.2
EM D 1-7-10/11	X3592	9	20	15	-0.001	-0.03	1.2	1.1	0.7
EM D 1-7-11/12	X3593	10	23	19	0.03	-0.01	1.3	1.1	1.2
EM D 1-8-12/1	X3594	15	19	5	14	3.4	1.1	1.3	1
EM D 1-8-1/10	X3595	7	7	4	1.7	1	0.9	0.8	0.7
EM D 1-8-0/1	X3596	8	9	3	0.01	-0.01	1.1	0.9	1.2
EM D-1-8-0/1 DUP	X3596	2	10						
EM D=1-8-1/2	X3597	6	9	4	0.02	0.01	1	0.8	1.2
EM D=1-8-2/3	X3598	6	9	3	0.05	-0.01	1	0.9	0.9
EM D=1-8-3/4	X3599	7	10	4	0.01	-0.01	1	0.8	1.1
EM D=1-8-4/5	X3600	3	7	3	-0.05	0.02	0.8	0.7	0.7
EM D=1-8-5/6	X3601	8	13	10	-0.01	0.02	1.1	0.9	0.9
EM D=1-8-6/7	X3602	10	23	18	-0.01	0.003	1.4	1.5	1.4
EM D=1-8-7/8	X3603	8	25	18	-0.01	-0.01	1.5	1.2	1.4
EM D=1-8-8/9	X3604	11	30	22	-0.02	-0.03	1.9	1.7	1.2
EM D=1-8-8/9 DUP	X3604	8	34						
EM D=1-8-9/10	X3605	11	38	25	-0.04	-0.01	2.2	1.9	1.4
EM D=1-8-10/11	X3606	9	34	21	-0.01	0.01	2.2	1.9	1.5
EM D=1-8-11/12	X3607	6	34	21	0.01	-0.02	2.1	1.6	1.7
EM D=2-1-0/1	X3608	1	14	4	0.04	0.2	0.7	0.6	0.8

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Picocuries per Gram								
	Lab Number	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BM D 2-1-1/2	X3609	3	13	6	-0.02	0.01	1	0.8	0.8
BM D 2-1-2/3	X3610	7	9	4	-0.01	-0.01	0.9	0.8	0.9
BM D 2-1-3/4	X3611	4	9	3	-0.004	-0.01	0.6	0.5	0.6
BM D 2-1-4/5	X3612	6	8	4	0.02	0.01	1	0.7	0.9
BM D 2-1-5/6	X3613	7	14	17	-0.004	-0.004	1.1	1	1.3
BM D 2-1-6/7	X3614	10	18	20	0.01	-0.03	1.1	1.3	1.4
BM D 2-1-7/8	X3615	14	30	23	-0.03	0.02	1.2	1.1	1.8
BM D 2-1-7/8 DUP	X3615	11	29						
BM D-2-1-8/9	X3616	8	24	25	-0.01	-0.02	1.5	1.4	1.3
BM D-2-1-9/10	X3617	14	28	18	-0.08	-0.01	1.3	1.1	1.1
BM D-2-1-10/11	X3618	10	24	24	-0.04	-0.01	1.3	1.2	1.5
BM D-2-1-11/12	X3619	18	26	24	0.05	0.04	1.4	1.1	1.4
BM D-2-6-+2/0	X3620	4	12	5	0.2	0.2	0.8	1.2	0.9
BM D-2-6-0/1	X3621	7	8	4	-0.002	0.01	0.8	0.9	1.1
BM D-2-6-1/2	X3622	2	9	4	-0.06	0.3	1	0.8	1.1
BM D-2-6-2/3	X3623	10	6	5	0.03	-0.07	1	0.9	1.1
BM D-2-6-3/4	X3624	6	8	3	-0.06	-0.01	1.1	0.9	1.3
BM D-2-6-3/4 DUP	X3624	7	9						
BM D-2-6-4/5	X3625	6	6	4	-0.0001	-0.02	1.1	0.9	1.4
BM D-2-6-5/6	X3626	5	7	5	0.08	-0.03	1	1	1
BM D-2-6-6/7	X3627	8	16	11	0.5	-0.01	1.3	1.2	1.2
BM D-2-6-7/8	X3628	6	12	11	0.2	-0.02	1.1	0.9	0.7
BM D-2-6-8/9	X3629	17	14	12	0.01	-0.01	1	1	0.9
BM D-2-6-9/10	X3630	12	14	19	0.02	-0.01	1.5	1.7	0.8
BM D-2-6-10/11	X3631	20	25	19	-0.01	0.003	2.1	1.9	1.4
BM D-2-6-11/12	X3632	8	23	14	-0.08	-0.04	1.4	1.2	1.4
BM D-2-7-0/1	X3633	9	8	4	0.03	0.4	1.1	0.7	0.9
BM D-2-7-1/2	X3634	3	8	4	0.05	0.01	0.9	0.8	1
BM D-2-7-2/3	X3635	1	7	5	-0.01	0.03	0.9	0.8	1.3

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Picocuries per Gram								
	Lab Number	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
EM DB2-7-2/3 DUP	X3635	7	11						
EM DB2-7-3/4	X3636	4	15	4	0.04	-0.02	1.1	1.1	0.9
EM DB2-7-4/5	X3637	9	27	20	-0.03	-0.01	1.2	1	1.3
EM DB2-7-5/6	X3638	5	31	27	0.1	-0.002	1.7	1.2	1.9
EM DB2-7-6/7	X3639	5	37	30	0.06	0.01	1.4	1.4	1.7
EM DB2-7-7/8	X3640	5	42	30	-0.1	0.01	1.3	1.3	1.3
EM DB2-7-8/10	X3641	3	40	28	-0.02	-0.03	1.2	1.1	1.5
EM DB2-7-10/12	X3642	4	38	24	-0.06	0.03	1.4	1.4	1.5
EM DB2-8-0/1	X3643	5	12	6	0.04	0.2	0.9	0.8	0.9
EM DB2-8-1/2	X3644	6	9	3	-0.01	0.01	0.7	0.7	1.1
EM DB2-8-2/3	X3645	7	12	4	0.04	0.01	0.8	0.8	1.2
EM DB2-8-2/3 DUP	X3645	3	11						
EM DB2-8-3/4	X3646	4	7	4	-0.01	-0.01	0.9	0.7	1.2
EM DB2-8-4/5	X3647	9	10	3	-0.04	-0.01	0.7	0.7	1
EM DB2-8-5/6	X3648	4	7	5	0.01	-0.02	0.9	0.7	0.6
EM DB2-8-6/7	X3649	6	16	15	0.09	-0.05	1.1	1.2	1.3
EM DB2-8-7/8	X3650	2	26	23	0.03	-0.02	1.3	1	1.3
EM DB2-8-8/9	X3651	4	33	22	-0.05	0.07	1.4	1.3	1.2
EM DB2-8-9/10	X3652	5	29	22	-0.01	-0.03	1.5	1.1	1.3
EM DB2-8-10/11	X3653	7	31	18	0.02	0.003	1.4	1.5	1
EM DB2-8-11/12	X3654	9	20	18	0.01	0.02	1.5	1.2	1.3
EM BE1-3-0/1	X3655	7	10	4	0.01	0.08	1	0.8	0.8
EM BE1-3-1/2	X3656	2	10	4	0.02	-0.04	0.9	0.9	1.1
EM BE1-3-1/2 DUP	X3656	8	7						
EM BE1-3-2/3	X3657	5	13	4	0.004	-0.02	1.1	0.9	1.2
EM BE1-3-3/4	X3658	6	12	4	-0.01	-0.02	1	0.9	1.1
EM BE1-3-4/5	X3659	8	11	7	-0.04	-0.02	1	0.9	1.2
EM BE1-3-5/6	X3660	10	14	12	0.02	-0.03	1.3	1	1.4
EM BE1-3-6/7	X3661	9	14	14	-0.01	0.02	1.1	1	0.9

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Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Lab Number	Picocuries per Gram							
		Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
EM E1-3-7/8	X3662	4	16	13	-0.01	0.005	1.3	1.1	1
EM E1-3-8/9	X3663	5	21	15	0.02	-0.004	1.2	1	1
EM E1-3-9/10	X3664	11	26	16	0.03	-0.01	1.4	1.3	1.4
EM E1-3-10/11	X3665	5	24	18	-0.03	-0.01	1.6	1.4	1.1
EM E1-3-11/12	X3666	9	22	15	0.02	-0.02	1.6	1.4	1.1
EM E1-6-0/1	X3667	8	7	4	0.02	0.01	0.8	0.7	0.9
EM E1-6-1/2	X3668	6	10	5	-0.04	-0.05	1.1	0.9	1.7
EM E1-6-2/3	X3669	6	10	6	-0.01	0.002	1	0.9	1.2
EM E1-6-3/4	X3670	3	13	7	-0.03	-0.01	1	0.8	1.4
EM E1-6-4/5	X3671	8	9	6	0.02	0.06	0.9	0.8	1
EM E1-6-4/5 DUP	X3671	3	7						
EM E1-6-5/6	X3672	5	12	9	0.04	0.01	1	0.6	1.3
EM E1-6-6/7	X3673	9	10	13	-0.03	-0.04	1.1	1.1	1
EM E1-6-7/8	X3674	8	33	16	-0.01	0.02	1.3	1.4	1.4
EM E1-6-8/9	X3675	5	22	23	-0.04	-0.03	1.5	1	1.7
EM E1-6-9/10	X3676	9	30	22	0.05	0.003	1.4	1.7	1.4
EM E1-6-9/10 DUP	X3676	4	31						
EM E1-6-10/11	X3677	7	36	26	-0.03	-0.003	1.6	1.6	1.2
EM E1-6-11/12	X3678	8	30	19	0.04	-0.02	1.5	1.3	1.1
EM E1-8-0/1	X3679	6	6	4	0.00004	0.0003	0.9	0.7	1
EM E1-8-1/2	X3680	4	10	4	-0.003	-0.004	0.9	0.8	1.1
EM E1-8-2/3	X3681	4	12	7	-0.02	0.03	1.1	1	1.1
EM E1-8-3/4	X3682	5	24	11	0.07	0.02	1.1	1	1
EM E1-8-4/5	X3683	6	19	16	0.005	-0.003	1.3	1.1	1.1
EM E1-8-5/6	X3684	9	25	19	0.01	-0.02	1.5	1.5	1
EM E1-8-5/6 DUP	X3684	8	23						
EM E1-8-6/7	X3685	8	28	20	-0.01	-0.01	1.3	1.1	1.4
EM E1-8-7/8	X3686	5	27	20	0.04	-0.004	1.4	1.5	1.4
EM E1-8-8/9	X3687	6	25	17	0.02	-0.02	1.2	1	1

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Picocuries per Gram								
	Lab Number	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BM E1-8-9/10	X3688	6	25	17	0.04	-0.02	1.6	1.4	1.1
BM E1-8-10/11	X3689	7	23	19	0.05	0.0005	1.5	1.4	1.3
BM E1-8-11/12	X3690	5	28	19	0.01	-0.07	1.8	1.6	1.5
BM E2-3-0/1	X3691	3	5	3	0.03	-0.01	0.7	0.7	0.9
BM E2-3-1/2	X3692	5	9	5	-0.01	0.002	1	0.8	1
BM E2-3-2/3	X3693	2	9	3	-0.03	0.004	0.9	0.9	1
BM E2-3-3/4	X3694	5	9	3	0.01	0.00005	1	0.8	0.9
BM E2-3-3/4 DUP	X3694	5	11						
BM E2-3-4/5	X3695	6	7	4	-0.01	-0.02	0.9	0.9	1
BM E2-3-5/6	X3696	7	19	17	0.1	-0.08	1.6	1.2	1.4
BM E2-3-6/7	X3697	5	28	21	0.003	-0.01	1.6	1.3	1.4
BM E2-3-7/8	X3698	4	25	22	0.1	0.02	1.6	1.4	1.5
BM E2-3-8/9	X3699	8	26	21	-0.04	-0.02	1.6	1.3	1.4
BM E2-3-9/10	X3700	5	28	19	-0.01	0.003	1.6	1.5	1.1
BM E2-3-10/11	X3701	13	24	16	0.01	0.03	1.2	1.3	1.2
BM E2-3-11/12	X3702	7	26	20	-0.05	0.05	1.9	1.7	1.5
BM E2-6-0/1	X3703	5	4	4	0.03	0.1	1.1	0.8	0.8
BM E2-6-1/2	X3704	4	12	5	-0.03	-0.04	0.7	0.9	1.3
BM E2-6-2/3	X3705	5	12	5	0.01	0.02	0.9	0.9	1.2
BM E2-6-3/4	X3706	4	20	12	0.03	-0.03	1	0.8	1.2
BM E2-6-3/4 DUP	X3706	5	13						
BM E2-6-4/5	X3707	4	23	14	0.01	-0.03	1	0.9	1
BM E2-6-5/6	X3708	2	11	10	-0.03	0.01	0.7	0.7	0.8
BM E2-6-6/7	X3709	6	13	9	-0.002	-0.01	0.7	-0.5	0.7
BM E2-6-7/8	X3710	1	17	10	-0.001	-0.05	0.7	0.5	0.6
BM E2-6-8/9	X3711	11	12	9	0.01	0.01	0.5	0.6	0.5
BM E2-6-9/10	X3712	5	15	16	0.02	-0.07	1.1	1.1	1
BM E2-6-10/11	X3713	9	10	16	-0.01	-0.0008	1.4	1.2	0.9
BM E2-6-11/12	X3714	17	21	18	-0.1	-0.08	1.5	1.4	1

Table F-8. Core Soil Sample Laboratory Results

Sample Identification	Picocuries per Gram								
	Lab Number	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
BM E2-8-0/1	X3715	7	9	5	-0.01	0.03	0.9	0.7	1.1
BM E2-8-1/2	X3716	3	13	5	0.06	0.2	0.8	0.9	0.8
BM E2-8-1/2 DUP	X3716	9	8						
BM E2-8-2/3	X3717	6	8	5	-0.04	-0.02	1	0.8	0.9
BM E2-8-3/4	X3718	6	12	5	-0.01	0.03	0.7	0.8	0.6
BM E2-8-4/5	X3719	19	10	9	0.003	0.03	0.8	0.6	0.9
BM E2-8-5/6	X3720	6	12	12	-0.05	0.02	0.8	0.6	0.7
BM E2-8-6/7	X3721	6	18	15	-0.01	-0.001	1.2	0.9	1.3
BM E2-8-7/8	X3722	8	22	12	0.02	-0.05	1.1	0.8	1
BM E2-8-8/9	X3723	11	24	18	-0.004	-0.04	1.3	1.2	1
BM E2-8-9/10	X3724	6	22	19	-0.05	-0.03	1.3	1.6	1.2
BM E2-8-10/11	X3725	18	26	32	0.05	0.02	1.9	1.5	1.5
BM E2-8-11/12	X3726	12	30	26	-0.005	0.03	1.3	1.6	1.1
BM E3-6-0/1	X3727	6	9	4	0.03	0.05	0.8	0.8	1.1
BM E3-6-0/1 DUP	X3727	15	7						
BM E3-6-1/2	X3728	8	9	5	0.06	0.01	0.9	1	1.1
BM E3-6-2/3	X3729	10	12	5	0.01	-0.02	1.1	1	1
BM E3-6-3/4	X3730	7	8	5	-0.02	-0.02	1	1	1.2
BM E3-6-4/5	X3731	2	17	19	0.05	0.0004	0.9	0.9	1.3
BM E3-6-5/6	X3732	16	20	22	0.02	-0.06	1.5	1.1	1.2
BM E3-6-5/6 DUP	X3732	22	22						
BM E3-6-6/7	X3733	18	33	28	0.01	-0.01	1.6	1.4	1.4
BM E3-6-7/8	X3734	19	29	27	0.05	-0.07	1.6	1.4	1.6
BM E3-6-8/9	X3735	10	34	29	0.02	-0.002	1.5	1.4	1.6
BM E3-6-9/10	X3736	12	30	26	0.02	-0.04	1.8	1.3	1.7
BM E3-6-10/11	X3737	18	30	27	0.01	0.02	1.7	1.5	1.7
BM E3-6-11/12	X3738	8	30	25	0.1	0.03	1.6	1.3	1.3

APPENDIX G

STATISTICS

Table G-1. Reconnaissance Background Surface Soil Descriptive Statistics G-2

Table G-2. Troop Assembly Area Background Surface Soil Descriptive Statistics G-3

Table G-3. Burial Mound Survey Unit Surface Soil Descriptive Statistics G-4

Table G-4. Burial Mound Hot Spots Surface Soil Descriptive Statistics G-5

Table G-5. Troop Assembly Area Background Core Soil Samples Descriptive Statistics G-6

Table G-6. Burial Mound Survey Unit Soil Samples Descriptive Statistics G-7

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Table G-1. Reconnaissance Background Surface Soil Descriptive Statistics								
Recon Backgrounds	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Bi-214	Th-234	Ac-228
Mean	14.6	12.5	7.104	0.0122	0.545	0.94	1.05	1.21
Standard Error	1.765093639	2.03442594	2.21693843	0.01101292	0.13462087	0.08055364	0.37925365	0.1464013
Median	15	10.5	5.5	0.02	0.5	0.9	1.5	1.1
Mode	15	8	6	0.02	0.6	0.9	2	1
Standard Deviation	5.581716184	6.43341969	7.01057487	0.03482592	0.42570856	0.254732976	1.19930536	0.4629615
Sample Variance	31.15555556	41.3888889	49.14816	0.00121284	0.18122778	0.064888889	1.43833333	0.2143333
Kurtosis	-0.36252543	5.31891099	3.55088832	1.24536109	4.55190152	5.762447055	-0.5022217	2.9252286
Skewness	0.256467069	2.17978783	1.83602467	0.12606532	1.73597483	2.262643309	-0.9676324	1.5076378
Range	17	21	23.96	0.13	1.53	0.9	3	1.6
Minimum	7	8	0.04	-0.05	0.07	0.7	-1	0.7
Maximum	24	29	24	0.08	1.6	1.6	2	2.3
Sum	146	125	71.04	0.122	5.45	9.4	10.5	12.1
Count	10	10	10	10	10	10	10	10
Confidence Level(95.000%)	3.45951484	3.98739566	4.34511304	0.0215849	0.26385166	0.157881999	0.7433224	0.2869408
Mean - (1.96*StdDev)	3.66	-0.11	-6.64	-0.06	-0.29	0.44	-1.3	0.3
Mean + (1.96*StdDev)	25.54	25.11	20.84	0.08	1.38	1.44	3.4	2.12

Table G-2. Troop Assembly Area Background Surface Soil Descriptive Statistics

Background Area	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Bi-214	Th-234	Ac-228
Mean	19.3	13.3	6	0.0349	0.118	1.28	2.3	1.49
Standard Error	0.7	0.7608478	0.421637	0.0137117	0.0297321	0.0573488	0.3	0.1159023
Median	19	14	6	0.03	0.095	1.3	2	1.5
Mode	19	14	6	0.1	0.2	1.1	2	1.2
Standard Deviation	2.2135944	2.406011	1.3333333	0.0433601	0.0940213	0.1813529	0.9486833	0.3665151
Sample Variance	4.9	5.7888889	1.7777778	0.0018801	0.00884	0.0328889	0.9	0.1343333
Kurtosis	-1.039051	-0.925394	-0.748326	-0.024119	0.4437419	-0.861682	-0.346855	0.053331
Skewness	-0.319608	-0.560018	0.3515625	0.1402074	0.5386525	0.5085648	0.2342428	0.6919169
Range	6	7	4	0.14	0.33	0.5	3	1.2
Minimum	16	9	4	-0.04	-0.03	1.1	1	1
Maximum	22	16	8	0.1	0.3	1.6	4	2.2
Sum	193	133	60	0.349	1.18	12.8	23	14.9
Count	10	10	10	10	10	10	10	10
Confidence Level(95.000%)	1.3719728	1.4912315	0.8263922	0.0268743	0.0582738	0.1124015	0.5879883	0.2271639
Mean - (1.96*StdDev)	14.96	8.58	3.39	-0.05	-0.07	0.92	0.44	0.77
Mean + (1.96*StdDev)	23.64	18.02	8.61	0.12	0.3	1.64	4.16	2.21

Table G-3. Burial Mound Survey Unit Surface Soil Descriptive Statistics								
Burial Mound Grid Ctrs	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Bi-214	Th-234	Ac-228
Mean	17.5	13.75	6.875	0.08675	0.60625	1.2375	2.0775	1.2
Standard Error	1.963961	1.8684409	1.4446638	0.0585893	0.1763817	0.0730399	0.5783652	0.1414214
Median	19	12	5	0.007	0.55	1.15	2.15	1.1
Mode	19	12	5	-0.01	0.7	1.1	3	0.9
Standard Deviation	5.5549206	5.2847489	4.0861264	0.1657155	0.4988827	0.2065879	1.6358637	0.4
Sample Variance	30.857143	27.928571	16.696429	0.0274616	0.2488839	0.0426786	2.67605	0.16
Kurtosis	-1.483719	0.7876139	-0.404185	0.6291972	1.4535099	-0.586068	-0.008833	1.2767857
Skewness	-0.196689	1.0540392	1.0577072	1.4965293	1.0569089	0.7554505	0.4994463	1.2321429
Range	15	16	11	0.43	1.55	0.6	4.98	1.2
Minimum	10	8	3	-0.03	0.05	1	0.02	0.8
Maximum	25	24	14	0.4	1.6	1.6	5	2
Sum	140	110	55	0.694	4.85	9.9	16.62	9.6
Count	8	8	8	8	8	8	8	8
Confidence Level(95.000%)	3.8492872	3.6620715	2.8314849	0.1148327	0.3457012	0.1431553	1.1335732	0.2771804
Mean - (1.96*StdDev)	6.61	3.39	-1.13	-0.24	-0.37	0.83	-1.13	0.42
Mean + (1.96*StdDev)	28.39	24.11	14.88	0.41	1.58	1.64	5.28	1.98

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29 Aug-15 Sep 95 and 14-28 Jan 96

Table G-4. Burial Mound Hot Spots Surface Soil Descriptive Statistics

Burial Mound Hot Spots	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Bi-214	Th-234	Ac-228
Mean	19.714286	42.714286	6.4285714	37.957143	32.585714	1	-0.728571	1.2285714
Standard Error	0.8370665	14.815877	0.7824608	25.202436	24.68394	0.1253566	1.1589639	0.1375193
Median	20	31	6	8.2	3.9	0.9	-1	1.1
Mode	22	#N/A	5	#N/A	#N/A	0.8	-2	1.1
Standard Deviation	2.2146697	39.199125	2.0701967	66.679379	65.307565	0.3316625	3.0663302	0.3638419
Sample Variance	4.9047619	1536.8714	4.2857143	4446.1395	4265.0781	0.11	9.402381	0.132381
Kurtosis	-0.423207	6.2293973	-0.012444	6.3567372	6.4874859	0.7785124	2.0916292	4.4289012
Skewness	-0.657575	2.4448006	0.7728734	2.4947213	2.5248444	0.9209801	0.8808931	1.9753222
Range	6	115	6	185.4	178.8	1	10	1.1
Minimum	16	15	4	1.6	0.2	0.6	-5	0.9
Maximum	22	130	10	187	179	1.6	5	2
Sum	138	299	45	265.7	228.1	7	-5.1	8.6
Count	7	7	7	7	7	7	7	7
Confidance Level(95.000%)	1.6406177	29.038542	1.5335927	49.395794	48.379561	0.2456941	2.2715241	0.2695325
Mean - (1.96*StdDev)	15.37	-34.12	2.37	-92.73	-95.42	0.35	-6.74	0.52
Mean + (1.96*StdDev)	24.06	119.54	10.49	168.65	160.59	1.65	5.28	1.94

Table G-5. Troop Assembly Area Background Core Soil Samples Descriptive Statistics

Background Area	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
Mean	10.432911	18.14557	11.548611	0.0002201	-0.012738	1.3	1.175	1.1631944
Standard Error	0.4074682	0.5504336	0.4390635	0.0024188	0.0025666	0.0260185	0.0238264	0.0184307
Median	9.5	18	13	-0.0025	-0.02	1.3	1.1	1.2
Mode	7	18	16	-0.01	-0.02	1.2	1.1	1.2
Standard Deviation	5.1217961	6.9188434	5.2687625	0.0290251	0.030799	0.3122219	0.2859165	0.2211687
Sample Variance	26.232795	47.870394	27.759858	0.0008425	0.0009486	0.0974825	0.0817483	0.0489156
Kurtosis	-0.53647	-0.711616	-1.296379	1.0017599	2.0585064	-0.402411	-0.403252	0.654825
Skewness	0.5352359	0.369845	-0.111913	0.143633	0.7789802	0.1481853	0.394121	0.0986754
Range	22.6	30	18	0.18	0.19	1.6	1.3	1.3
Minimum	0.4	4	3	-0.08	-0.09	0.5	0.6	0.6
Maximum	23	34	21	0.1	0.1	2.1	1.9	1.9
Sum	1648.4	2867	1663	0.0317	-1.8342	187.2	169.2	167.5
Count	158	158	144	144	144	144	144	144
Largest(1)	23	34	21	0.1	0.1	2.1	1.9	1.9
Smallest(1)	0.4	4	3	-0.08	-0.09	0.5	0.6	0.6
Confidence Level(95.0%)	0.8048274	1.0872113	0.8678931	0.0047811	0.0050733	0.0514305	0.0470974	0.0364319

Table G-6. Burial Mound Survey Unit Soil Samples Descriptive Statistics

Burial Mound	Gross Alpha	Gross Beta	K-40	Co-60	Cs-137	Pb-214	Bi-214	Ac-228
Mean	7.7430843	17.116057	11.689769	2.5605587	0.101609	1.1843234	1.0589109	1.1408416
Standard Error	0.1688298	0.3944381	0.300876	1.0629206	0.0341233	0.0150589	0.0136695	0.013616
Median	7	14	11.5	0.01	-0.004	1.1	1	1.1
Mode	6	9	4	-0.01	-0.01	0.9	0.8	1
Standard Deviation	4.2342293	9.8924574	7.4066841	26.165989	0.8400147	0.3707064	0.3365034	0.3351863
Sample Variance	17.928698	97.860713	54.85897	684.65898	0.7056247	0.1374233	0.1132345	0.1123499
Kurtosis	0.6643614	7.4202332	-0.398492	142.10492	145.7054	-0.147481	0.3947486	4.1071004
Skewness	0.8574565	1.5681857	0.5344814	11.887775	11.718309	0.5815069	0.3258821	0.1342646
Range	24	91	38	330.1	12.1	2.1	2.7	4
Minimum	-1	2	1	-0.1	-0.1	0.1	-0.5	-1
Maximum	23	93	39	330	12	2.2	2.2	3
Sum	4870.4	10766	7084	1551.6986	61.57503	717.7	641.7	691.35
Count	629	629	606	606	606	606	606	606
Largest(1)	23	93	39	330	12	2.2	2.2	3
Smallest(1)	-1	2	1	-0.1	-0.1	0.1	-0.5	-1
Confidence Level(95.000%)	0.3308998	0.7730833	0.5897052	2.0832831	0.0668803	0.0295149	0.0267917	0.0266869

APPENDIX H

FIGURES

Figure H-1. Old and New Rideout Field Site Locations H-2

Figure H-2. Burial Mound Foot Print and Sampling Grids GPS Data H-3

Figure H-3. Reconnaissance Backgrounds, Burial Mound Survey Unit and Troop Assembly Background Locations H-4

Figure H-4. Hot Spot Locations Relative to Survey Grid Locations H-5

Figure H-5. Hot Spot Locations Relative to Survey Grids C1, C2, D1 and D2 . . . . . H-6

Figure H-6. Soil Speck with Elevated cobalt-60 Activity Compared to the Eye of a Needle H-7

Figure H-7. Soil Speck with Elevated Cobalt-60 Activity Compared to a Dime H-8

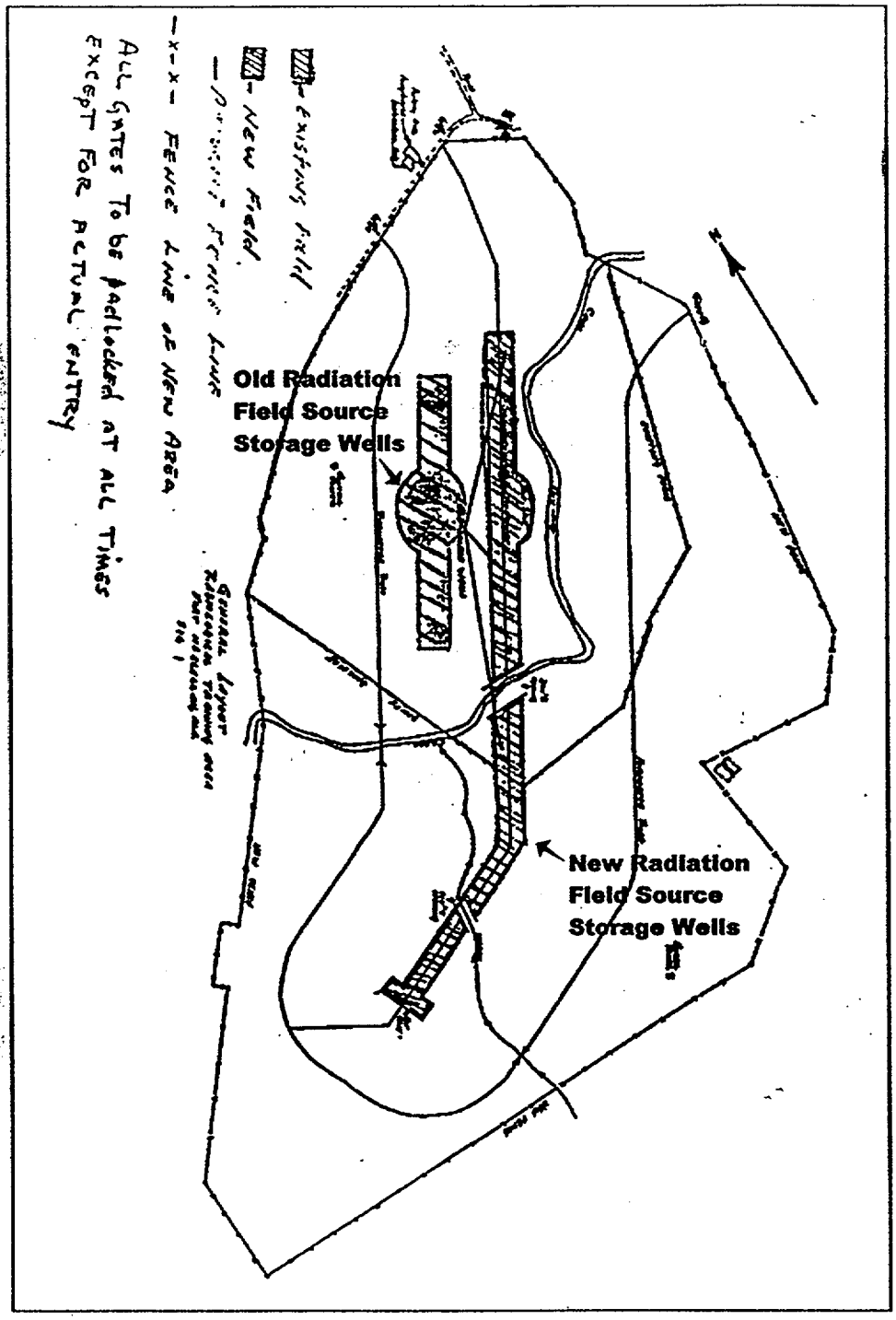


Figure H-1. Old and New Rideout Field Site Locations

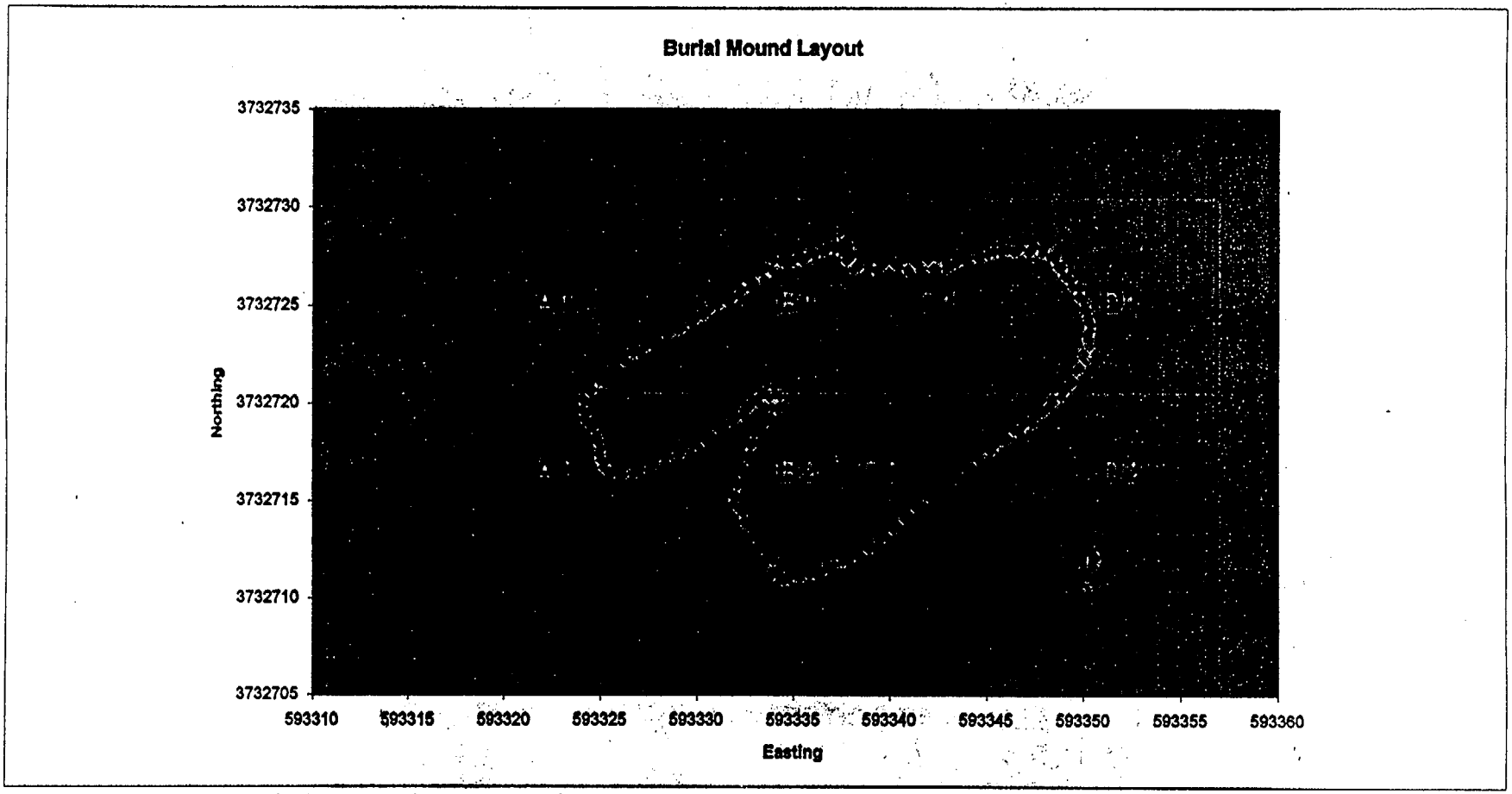


Figure H-2. Burial Mound Foot Print and Sampling Grids GPS Data

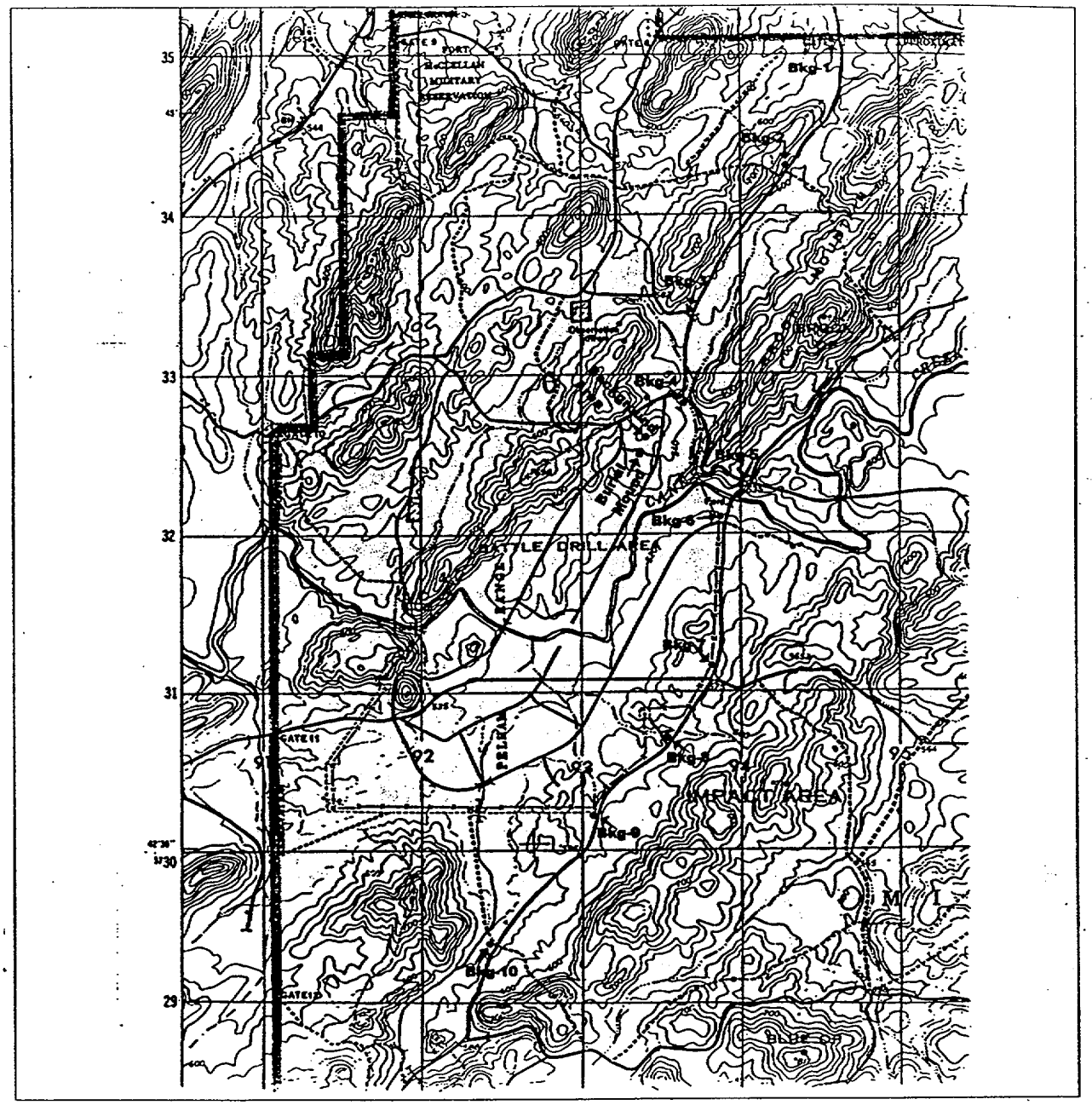


Figure H-3. Reconnaissance Backgrounds, Burial Mound Survey Unit and Troop Assembly Background Locations

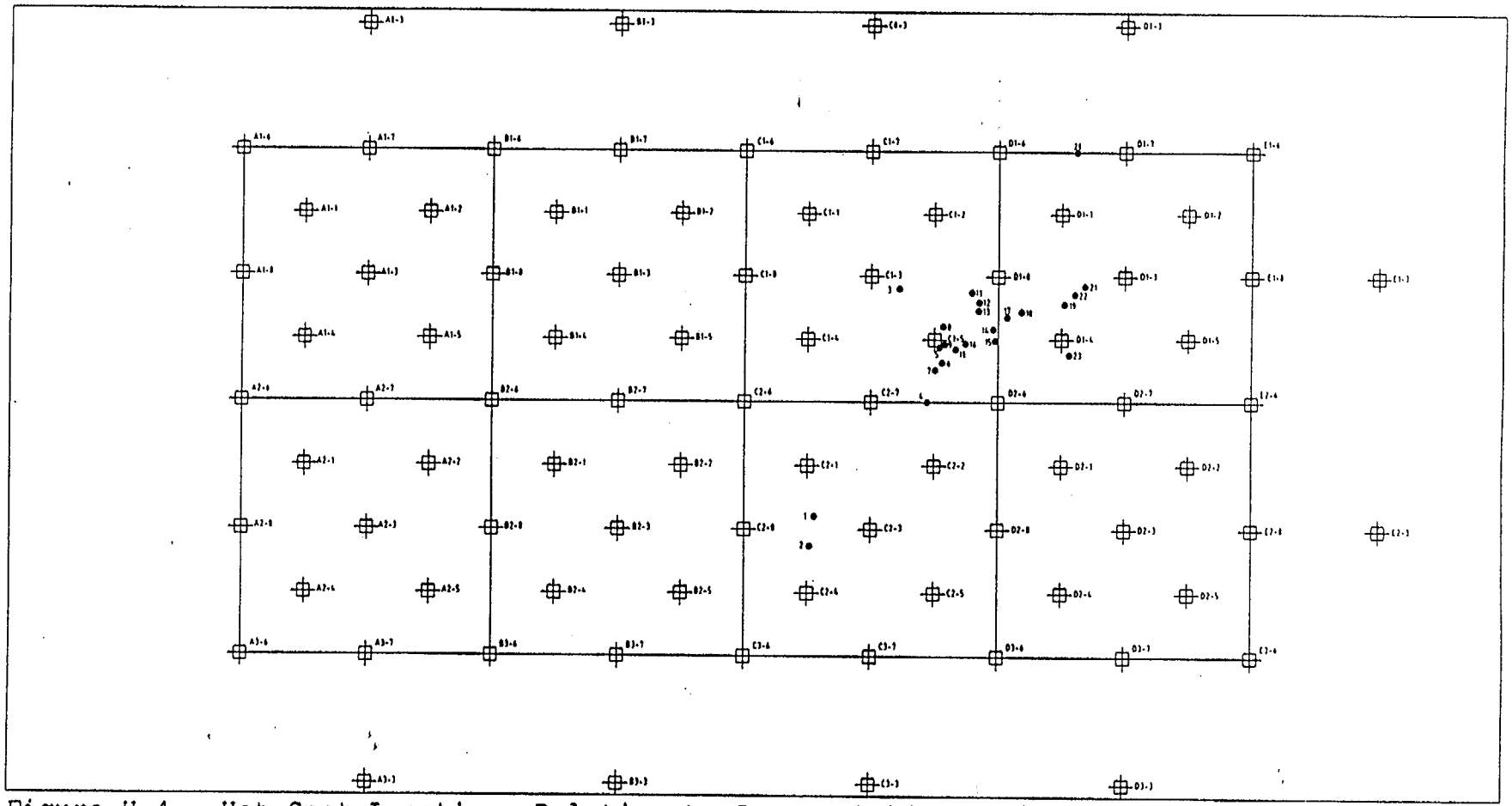


Figure H-4. Hot Spot Locations Relative to Survey Grid Locations

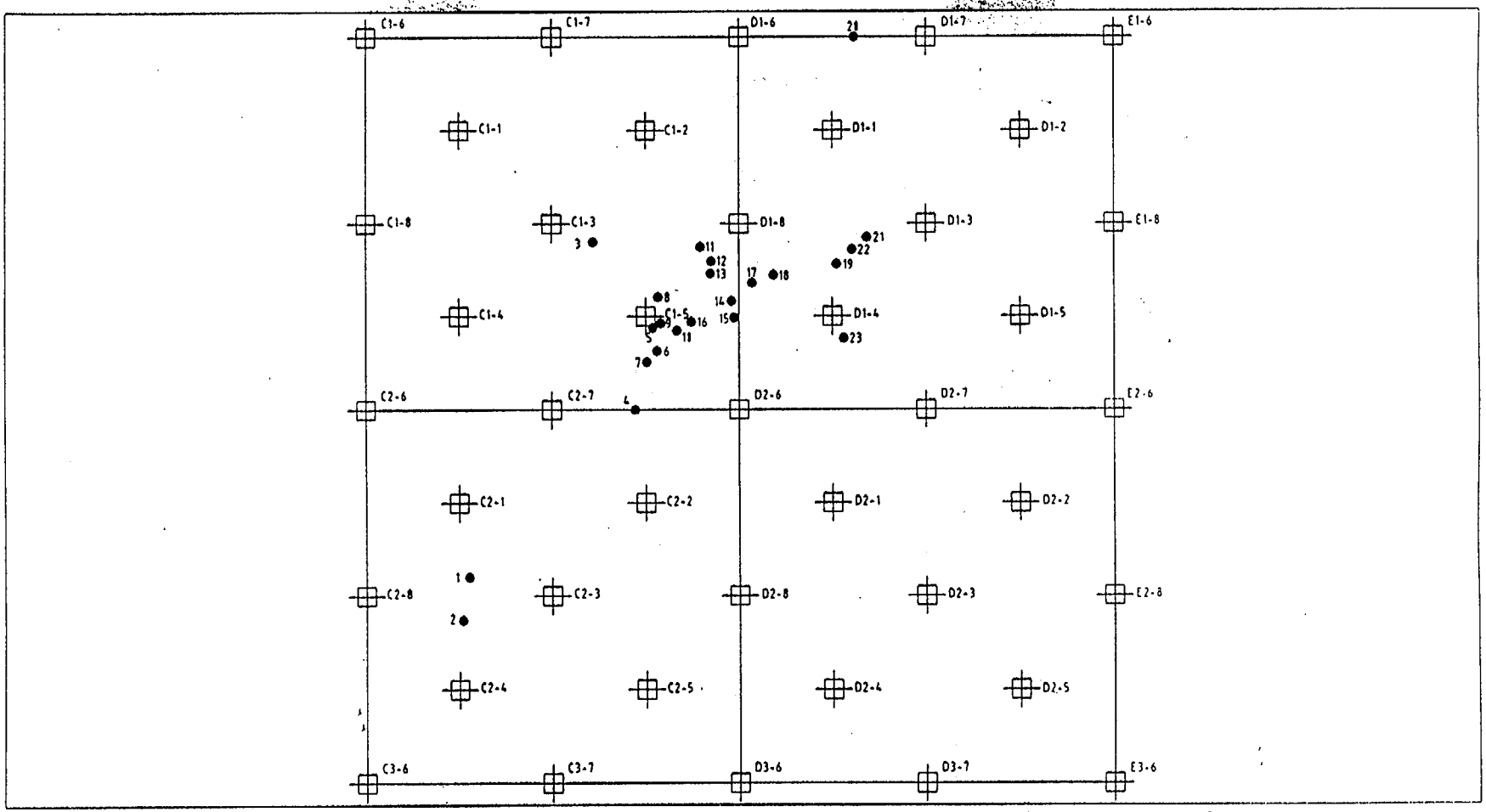


Figure H-5. Hot Spot Locations Relative to Survey Grids C1, C2, D1 and D2

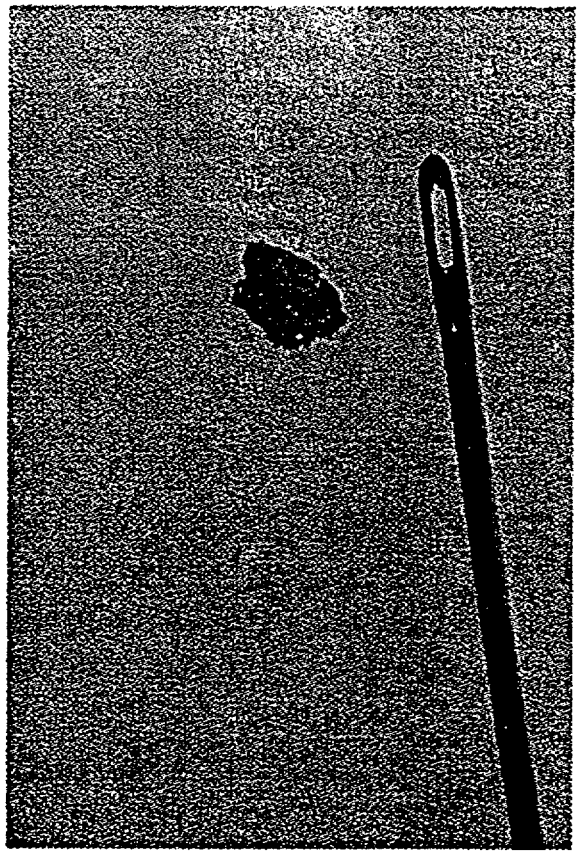


Figure H-6. Soil Speck with Elevated Cobalt-60 Activity Compared to the Eye of a Needle



Figure H-7. Soil Speck with Elevated Cobalt-60 Activity Compared to a Dime

Bart FYI

Rich Sutton

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

AUG 22 1997

OSWER No. 9200.4-18

MEMORANDUM

SUBJECT: Establishment of Cleanup Levels for CERCLA Sites with Radioactive Contamination

FROM: Stephen D. Luftig, Director
Office of Emergency and Remedial Response

Larry Weinstock, Acting Director
Office of Radiation and Indoor Air

TO: Addressees

PURPOSE

This memorandum presents clarifying guidance for establishing protective cleanup levels[1] for radioactive contamination at Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) sites. The policies stated in this memorandum are inclusive of all radioactive contaminants of concern at a site including radon.[2] The directive is limited to providing guidance regarding the protection of human health and does not address levels necessary to protect ecological receptors.

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[1]This directive provides guidance on cleanup levels expressed as a risk, exposure, or dose level and not as a soil concentration level. The concentration level for various media, such as soil, that corresponds to a given risk level should be determined on a site-specific basis, based on factors such as the assumed land use and the physical characteristics (e.g., important surface features, soils, geology, hydro geology, meteorology, and ecology) at the site. This guidance does not alter the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) expectations regarding treatment of principal threat waste and the use of containment and institutional controls for low level threat waste.

[2]Since radon is not covered in some Federal radiation regulations it is important to note that the cleanup guidance clarifications in this memorandum include radon. Attachment A is a listing of standards for radionuclides (including radon) that may be applicable or relevant and appropriate requirements (ARARs) for Superfund sites.

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This document provides guidance to EPA staff. It also provides guidance to the public and to the regulated community on how EPA intends that the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) be implemented. The guidance is designed to describe EPA's national policy on these issues. The document does not, however, substitute for EPA's statutes or regulations, nor is it a regulation itself. Thus, it cannot impose legally-binding requirements on EPA, States, or the regulated community, and may not apply to a particular situation based upon the circumstances. EPA may change this guidance in the future, as appropriate.

BACKGROUND

All remedial actions at CERCLA sites must be protective of human health and the environment and comply with Applicable or Relevant and Appropriate Requirements (ARARs) unless a waiver is justified. Cleanup levels for response actions under CERCLA are developed based on site-specific risk assessments, ARARs, and/or to-be-considered material[3] (TBCs).

A listing is attached of radiation standards that are likely to be used as ARARs to establish cleanup levels or to conduct remedial actions. Cleanup standards have been under development by EPA under the Atomic Energy Act (AEA) and will be ARARs under certain circumstances if issued.

ARARs are often the determining factor in establishing cleanup levels at CERCLA sites. However, where ARARs are not available or are not sufficiently protective, EPA generally sets site-specific remediation levels for: 1) carcinogens at a level that represents an excess upper bound lifetime cancer risk to an individual of between 10^{-4} to 10^{-6}; and for 2) non-carcinogens such that the cumulative risks from exposure will not result in adverse effects to human populations (including sensitive sub-populations) that may be exposed during a lifetime or part of a lifetime, incorporating an adequate margin of safety. (See 40 CFR 300.430(e)(2)(i)(A)(2).) Since all radionuclides are carcinogens, this guidance addresses carcinogenic risk. If non-carcinogenic risks are posed by specific radionuclides, those risks should be taken into account in establishing cleanup levels or suitable remedial actions. The site-specific level of cleanup is determined using the nine criteria specified in Section 300.430(e)(9)(iii) of the NCP.

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[3]To-be-considered material (TBCs) are non-promulgated advisories or guidance issued by Federal or State governments that are not legally binding and do not have the status of potential ARARs. However, TBCs will be considered along with ARARs as part of the site risk assessment and may be used in determining the necessary level of cleanup for protection of health and the environment.

It is important to note that a new potential ARAR was recently promulgated : NRC's Radiological Criteria for License Termination (See 62 FR 39058, July 21, 1997). We expect that NRC's implementation of the rule for License Termination (decommissioning rule) will result in cleanups within the Superfund risk range at the vast majority of NRC sites. However, EPA has determined that the dose limits established in this rule as promulgated generally will not provide a protective basis for establishing preliminary remediation goals (PRGs) under CERCLA.[4] The NRC rule set an allowable cleanup level of 25 millirem per year (equivalent to approximately 5×10^{-4} increased lifetime risk) as the primary standard with exemptions allowing dose limits of up to 100 millirem per year (equivalent to approximately 2×10^{-3} increased lifetime risk). Accordingly, while the NRC rule standard must be met (or waived) at sites where it is applicable or relevant and appropriate, cleanups at these sites will typically have to be more stringent than required by the NRC dose limits in order to meet the CERCLA and NCP requirement to be protective.[5] Guidance that provides for cleanups outside the risk range (in general, cleanup levels exceeding 15 millirem per year which equates to approximately 3×10^{-4} increased lifetime risk) is similarly not protective under CERCLA and generally should not be used to establish cleanup levels.

The lack of a protective comprehensive set of regulatory cleanup levels for radiation, together with the possibility of confusion as to the status of other Federal Agency regulations and guidance as ARARs or TBCs, may cause uncertainty as to the cleanup levels deemed protective under CERCLA. Until a protective comprehensive radiation cleanup rule is available, this guidance clarifies the Agency's position on CERCLA cleanup levels for radiation.

OBJECTIVE

This guidance clarifies that cleanups of radionuclides are governed by the risk range for all carcinogens established in the NCP when ARARs are not available or are not sufficiently protective. This is to say, such cleanups should generally achieve risk levels in the 10^{-4} to 10^{-6} range. EPA has a consistent methodology for assessing cancer risks and determining PRGs at CERCLA sites no matter the type of contamination.[6]

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[4]See letter, Carol Browner, Administrator, EPA, to Shirley Jackson, Chairman, Nuclear Regulatory Commission, February 7, 1997.

[5]See attachment B for a detailed discussion of the basis for the conclusion that the dose limits in the NRC rule are not adequately protective.

[6]U.S. EPA, "Risk Assessment Guidance for Superfund Volume I Human Health Evaluation Manual (Part A) Interim Final," EPA//540/1-89/002, December 1989. U.S. EPA, "Risk Assessment Guidance for Superfund: Volume I - Human Health Evaluation Manual (Part B, Development of Risk-based Preliminary Remediation Goals", EPA/540/R-92/003, December 1991.

Cancer risks for radionuclides should generally be estimated using the slope factor approach identified in this methodology. Slope factors were developed by EPA for more than 300 radionuclides in the *Health Effects Assessment Summary Tables* (HEAST).[7] Cleanup levels for radioactive contamination at CERCLA sites should be established as they would for any chemical that poses an unacceptable risk and the risks should be characterized in standard Agency risk language consistent with CERCLA guidance.

Historically, radiation exposure and cleanup levels have often been expressed in units unique to radiation (e.g., millirem or picoCuries). It is important for the purposes of clarity that a consistent set of existing risk-based units (i.e., # x$10^{-\#}$) for cleanups generally be used. This will also allow for ease and clarity of presenting cumulative risk for all contaminants, an objective consistent with EPA's policy on risk characterization.[8]

Cancer risk from both radiological and non-radiological contaminants should be summed to provide risk estimates for persons exposed to both types of carcinogenic contaminants. Although these risks initially may be tabulated separately, risk estimates contained in proposed and final site decision documents (e.g., proposed plans, Record of Decisions (RODs), Action Memos, ROD Amendments, Explanation of Significant Differences (ESDs)) should be summed to provide an estimate of the combined risk to individuals presented by **all** carcinogenic contaminants.

IMPLEMENTATION

The approach in this guidance should be considered at current and future CERCLA sites for which response decisions have not been made.

Overall Exposure Limit:

Cleanup should generally achieve a level of risk within the 10^{-4} to 10^{-6} carcinogenic risk range based on the reasonable maximum exposure for an individual. The cleanup levels to be specified include exposures from all potential pathways, and through all media (e.g., soil, ground water, surface water, sediment, air, structures,

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[7]U.S. EPA, "Health Effects Assessment Summary Tables FY-1995 Annual," EPA/540/R-95/036, May 1995; and U.S. EPA, "Health Effects Assessment Summary Tables FY-1995 Supplement," EPA/540/R-95/142, Nov. 1995.

[8]For further discussion of EPA's policy, see memorandum from EPA Administrator Carol Browner entitled: "EPA Risk Characterization Program," March 21, 1995.

biota). As noted in previous policy, "the upper boundary of the risk range is not a discrete line at 1 x 10^{-4}, although EPA generally uses 1 x 10^{-4} in making risk management decisions. A specific risk estimate around 10^{-4} may be considered acceptable if justified based on site-specific conditions".[9]

If a dose assessment is conducted at the site[10] then 15 millirem per year (mrem/yr) effective dose equivalent (EDE) should generally be the maximum dose limit for humans. This level equates to approximately 3 x 10^{-4} increased lifetime risk and is consistent with levels generally considered protective in other governmental actions, particularly regulations and guidance developed by EPA in other radiation control programs.[11]

Background Contamination:

Background radiation levels will generally be determined as background levels are determined for other contaminants, on a site-specific basis. In some cases, the same constituents are found in on-site samples as well as in background samples. The levels of each constituent are compared to background to determine its impact, if any, on site-related activities. Background is generally measured only for those radionuclides that are contaminants of concern and is compared on a contaminant specific basis to cleanup level. For example, background levels for radium-226 and radon-222 would generally not be evaluated at a site if those radionuclides were not site-related contaminants.

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[9]Memo from Assistant Administrator Don Clay to the Regions; "Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions'" OSWER Directive 9355.0-30; April 22, 1991.

[10]Cleanup levels not based on ARARs should be expressed as risk, although levels may at the same time be expressed in millirem.

[11]Further discussion and analysis of the basis for this recommendation is contained in the materials in the docket for the AEA standard under development by EPA, which is available at the following address: U.S. EPA, 401 M Street, S.W., Room M1500, Air Docket No. A-93-27, Washington D.C. 20460. The material is also available via computer modem through the Cleanup Regulation Electronic Bulletin Board (800-700-7837 outside the Washington area and 703-790-0825 locally), or on-line through the Radiation Site Cleanup Regulation HomePage (http://www.epa.gov/radiation/cleanup/). Cleanup levels based on some older ARARs that use a 25/75/25 mrem/yr standard (i.e., 25 mrem/yr to the whole body, 75 mrem/yr to the thyroid, and 25 mrem/yr to any other critical organ) may appear to permit greater risk than those based on 15 mrem EDE but on average correspond to approximately 10 mrem/yr EDE, using current risk methodologies. Similarly, ARARs based on a 25/75 mrem/yr standard used as an ARAR (i.e., 25 mrem/yr to whole body and 75 mrem/yr to any critical organ) would on average correspond to those cleanups based on 15 mrem/yr EDE. (See also "Comparison of Critical Organ and EDE Radiation Dose Rate Limits for Situations Involving Contaminated Land;" Office of Radiation and Indoor Air; April 1997.) See also Attachment B.

In certain situations background levels of a site-related contaminant may equal or exceed PRGs established for a site. In these situations background and site-related levels of radiation will be addressed as they are for other contaminants at CERCLA sites.[12]

Land Use and Institutional Controls:

The concentration levels for various media that correspond to the acceptable risk level established for cleanup will depend in part on land use at the site. Land uses that will be available following completion of a response action are determined as part of the remedy selection process considering the reasonably anticipated land use or uses along with other factors.[13] Institutional controls (ICs) generally should be included as a component of cleanup alternatives that would require restricted land use in order to ensure the response will be protective over time. The institutional controls should prevent an unanticipated change in land use that could result in unacceptable exposures to residual contamination, or at a minimum, alert future users to the residual risks and monitor for any changes in use.

Future Changes in Land Use:

Where waste is left on-site at levels that would require limited use and restricted exposure to ensure protectiveness, EPA will conduct reviews at least once every five years to monitor the site for any changes including changes in land use. Such reviews should analyze the implementation and effectiveness of any ICs with the same degree of care as other parts of the remedy. Should land use change in spite of land use

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[12]For further information regarding EPA's approach for addressing background at CERCLA sites see: National Oil and Hazardous Substances Pollution Contingency Plan, 55 FR 8717-8718, March 8, 1990; U.S. EPA "Guidance on Remedial Actions for Contaminated Ground Water at Superfund Sites," EPA/540/G-88/003, December 1988, pg. 4-9; U.S. EPA "Soil Screening Guidance: User's Guide," EPA/540/R-96/018, April 1996, pg. 8; and U.S. EPA "Risk Assessment Guidance for Superfund Volume I Human Health Evaluation Manual (Part A)," EPA/540/1-89/02, December 1989, pp. 4-5 to 4-10 and 5-18 to 5-19. It should be noted that certain ARARs specifically address how to factor background into cleanup levels. For example, some radiation ARAR levels are established as increments above background concentrations. (See attached chart for a listing of radiation standards that are likely to be used as ARARs.) In these circumstances, rather then follow the general guidance cited above, background should be addressed in the manner prescribed by the ARAR ARARs, such as 40 CFR 192, are available to establish cleanup levels for those naturally occurring radionuclides that pose the most risk (such as radium-226 or Thorium in soil, and indoor radon) when those radionuclides are site related contaminants.

[13]In developing Land use assumptions, decision makers should consult the guidance provided in the memorandum from Elliott Laws A.A., OSWER entitled: "Land Use in the CERCLA Remedy Selection Process" (OSWER Directive No. 9355.7-04), May 25, 1995.

restrictions, it will be necessary to evaluate the implications of that change for the selected remedy, and whether the remedy remains protective (e.g., a greater volume of soil may need to be removed or managed to achieve an acceptable level of risk for a less restrictive land use).

Ground Water Levels:

Consistent with CERCLA and the NCP, response actions for contaminated ground water at radiation sites must attain (or waive as appropriate) the Maximum Contaminant Levels (MCLs) or non-zero Maximum Contaminant Level Goals (MCLGs) established under the Safe Drinking Water Act, where the MCLs or MCLGs are relevant and appropriate for the site. This will typically be the case where ground waters are a current or potential source of drinking water.[14] The ARARs should generally be attained throughout the plume (i.e., in the aquifer).

Modeling Assessment of Future Exposures:

Risk levels, ground water cleanup, and dose limits should be predicted using appropriate models to examine the estimated future threats posed by residual radioactive material following the completion of the response action.[15] The modeling assessment should: (1) assume that the current physical characteristics (e.g., important surface features, soils, geology, hydrogeology, meteorology, and ecology) will continue to exist at the site; (2) take into account for each particular radionuclide that is a site-related contaminant, the following factors:

- radioactive decay and the ingrowth of radioactive decay products when assessing risk levels;
- the year of peak concentration in the ground water when assessing protection (e.g., remediating previous contamination and preventing future contamination) of ground water, and;
- the year of peak dose when assessing dose limits; and,

(3) model the expected movement of radioactive material at the site both within media (i.e., soil, ground water, surface water, sediment, structures, air, biota) and to other media.

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[14]In making decisions on ground water protection, decision makers should consult the guidance provided in "Presumptive Response Strategy and Ex-Situ Treatment Technologies for Contaminated Ground Water at CERCLA Sites" (OSWER Directive No. 9355.7-04) October 1996.

[15]For further information regarding the basis for this recommendation, see U.S. EPA, "Risk Assessment Guidance for Superfund Volume I Human Health Evaluation Manual (Part A) Interim Final," EPA//540/1-89/002, December 1989, pp. 10-22 and 10-24.

FURTHER INFORMATION

The subject matter specialists for this directive are Jeffrey Phillips of OERR and John Karhnak of ORIA. General questions about this directive, should be directed to 1-800-424-9346.

Attachments

Addressees

National Superfund Policy Managers
Superfund Branch Chiefs (Regions I-X)
Superfund Branch Chiefs, Office of Regional Counsel (Regions I-X)
Radiation Program Managers (Regions I, IV, V, VI, VII, X)
Radiation Branch Chief (Region II)
Residential Domain Section Chief (Region III)
Radiation and Indoor Air Program Branch Chief (Region VIII)
Radiation and Indoor Office Director (Region IX)
Federal Facilities Leadership Council
OERR Center Directors

CC:

Jim Woolford, FFRRO
Elizabeth Cotsworth, OSW
Craig Hooks, FFEO
Barry Breen, OSRE
Joanna Gibson, HOSC/OERR
Earl Salo, OGC

RISK COMPARISION FOR RADIONUCLIDES IN SOIL
(in Risk/picoCurie/gram)

A quick reference guide of risk values and Preliminary Remediation Goals (PRG) derived from numerical computer software based on RAGS HHEM Part B with its Default Scenario Values and Pathways

STEVE M. DEAN & SONIA S. KIMOTSUKI

June 30, 1995

RADIONUCLIDE	COMMERCIAL SOIL RISK VALUES					RESIDENTIAL SOIL RISK VALUES				
	INGESTION	INHALATION	EXTERNAL	TOTAL	PRG (pCi/gram)	INGESTION	INHALATION	EXTERNAL	TOTAL	PRG (pCi/gram)
Ac 227 D	2.0E-07	2.1E-09	4.0E-06	4.2E-06	0.24	7.9E-07	2.7E-09	1.4E-05	1.5E-05	0.067
Am 241	1.0E-07	1.0E-09	3.1E-08	1.3E-07	7.5	4.1E-07	1.3E-09	1.1E-07	5.2E-07	1.9
Am 243 D	1.0E-07	1.0E-09	1.8E-06	1.9E-06	0.54	4.2E-07	1.3E-09	6.4E-06	6.8E-06	0.15
C 14	3.2E-10	1.9E-16	0.0E+0	3.2E-10	3100	1.3E-09	2.4E-16	0.0E+0	1.3E-09	770
Cl 36	7.0E-10	3.5E-14	0.0E+0	7.0E-10	1400	2.8E-09	4.4E-14	0.0E+0	2.8E-09	360
Cm 243	7.8E-08	7.8E-10	1.1E-06	1.2E-06	0.83	3.2E-07	9.8E-10	4.1E-06	4.4E-06	0.23
Cm 244	6.6E-08	6.6E-10	1.4E-10	6.7E-08	15	2.7E-07	8.3E-10	5.0E-10	2.7E-07	3.7
Co 57	3.0E-10	7.8E-14	1.4E-06	1.4E-06	0.73	1.2E-09	9.8E-14	5.0E-06	5.0E-06	0.20
Co 60	5.9E-09	1.9E-12	6.5E-05	6.5E-05	0.016	2.4E-08	2.3E-12	2.3E-04	2.3E-04	0.0043
Cs 134	1.5E-08	7.8E-13	3.9E-05	3.9E-05	0.026	6.0E-08	9.8E-13	1.4E-04	1.4E-04	0.0071
Cs 135	1.4E-09	7.3E-14	0.0E+0	1.4E-09	710	5.7E-09	9.2E-14	0.0E+0	5.7E-09	180
Cs 137 D	9.9E-09	5.2E-13	1.4E-05	1.4E-05	0.072	4.0E-08	6.5E-13	5.0E-05	5.0E-05	0.020
Eu 152	1.8E-09	2.1E-12	2.7E-05	2.7E-05	0.037	7.2E-09	2.7E-12	9.8E-05	9.8E-05	0.010
Eu 154	2.9E-09	2.5E-12	3.1E-05	3.1E-05	0.033	1.2E-08	3.1E-12	1.1E-04	1.1E-04	0.0090
Eu 155	5.2E-10	2.6E-13	4.0E-07	4.1E-07	2.5	2.1E-09	3.3E-13	1.5E-06	1.5E-06	0.68
Fe 55	1.1E-10	1.5E-14	0.0E+0	1.1E-10	9100	4.4E-10	1.9E-14	0.0E+0	4.4E-10	2300
H 3	2.2E-11	2.6E-15	0.0E+0	2.2E-11	45000	9.0E-11	3.3E-15	0.0E+0	9.0E-11	11000
I 129	5.8E-08	3.3E-12	1.8E-08	7.5E-08	13	2.3E-07	4.2E-12	6.5E-08	3.0E-07	3.4
K 40	3.9E-09	2.0E-13	4.1E-06	4.1E-06	0.25	1.6E-08	2.5E-13	1.5E-05	1.5E-05	0.068
Na 22	2.5E-09	1.3E-13	5.4E-05	5.4E-05	0.019	1.0E-08	1.7E-13	2.0E-04	2.0E-04	0.0051
Nb 94	2.2E-09	2.2E-12	4.0E-05	4.0E-05	0.025	8.7E-09	2.8E-12	1.5E-04	1.5E-04	0.0069

APPENDIX D

RANGE 25 CORRESPONDENCE

Speer, James B., Major, CmlC
1963 Letter to District Engineer, U.S. Army Engineer District, Mobile, Actuator Test-RORTAP, 31 May 1963. U.S. Army Chemical School, Fort McClellan, Alabama.

U. S. ARMY CHEMICAL SCHOOL
Fort McClellan, Alabama

31 January 63

AMCL-V

SUBJECT: Actuator Test - RORTAP

TO: District Engineer
U. S. Army Engineer District, Mobile
P. O. Box 1169
Mobile, Alabama

1. The purpose of this report is to present a summary of the twelve-week operational test conducted on the proposed actuators for use in the Remotely Operated Radiation Training Area, Pelham Range (RORTAP). This test was conducted by the U. S. Army Chemical School for the Mobile District Engineer as established by the request for technical proposals dated 7 September 1962 and revised 5 October 1962 (Inclosure 1).

2. The test was conducted by Major James B. Speer, CmlC, assisted by SMaj Phillip W. LaVie, SSgt Elmer E. Solf, and Pfc Ronald H. Ullerich. (Inclosure 2).

3. Bandholtz MD Range, Fort McClellan, was designated as the test site. A temporary radiation area was established using barbed wire for fencing and posting appropriate radiation signs every 20 feet along the fence line. This fencing was placed at a point surrounding the field so that a reading not greater than 2 mrad/hour could be obtained with all units in the "up" position.

4. a. Five offerors submitted prototypes for test:

(1) Tracerlab, Inc.
1601 Trapelo Road
Waltham 54, Massachusetts

(2) Nuclear Safeguards, Inc.
509 Crain Highway, S. E.
Glen Burnie, Maryland

(3) Engineered Equipment Corporation
1207 E. 23d Street
Chattanooga, Tennessee

(4) Atomic Energy of Canada, Ltd.
Commercial Products Division
P. O. Box 93
Ottawa, Canada

(5) Electro Manufacturing & Research, Inc.
2052 East Main Street
Bridgeport, Connecticut

b. Of the five, three satisfactorily completed the test. Number (3), above, was removed from the test on 19 March 1963. Number (4), above, was removed from the test on 9 May 1963. These removals were ordered by the Mobile District Engineer either as a result of complete unacceptability (3) or a forced stoppage (4).

5. a. On 3 December 1962, a letter was transmitted by the Mobile District Engineer to all offerors accepting their technical proposals and instructing offerors to have their prototypes submitted so as to reach Fort McClellan by 28 January 1963. All complied with the exception of (5). This unit was delayed by a common carrier and did not arrive at the test site until 2 February 1963. A shipping document in the possession of the offeror indicated shipment was made on 25 January 1963.

b. The request for technical proposal required that each offeror be allowed a period of 10 normal 8-hour working days to operate and make any final adjustments or modifications on his model before testing began. The period was established between 4 February and 18 February. Each offeror was afforded the same facilities and assistance during this period.

6. Three models (2), (3) and (4), were submerged on 31 January 1963, in a 3000 gallon water tank containing water to a level of two feet above the highest point of the unit when laid on the floor of the tank (Figures E-1, E-2 and E-3). On 3 February 1963, (1) was submerged; (5) was submerged on the following day. The results of this test are reported individually in the respective annex.

7. a. The Post Engineer, Fort McClellan, at the request of the Mobile District Engineer emplaced five (5) sections of 24-inch concrete culvert pipe in which were placed pattern forms made to accept a particular unit. As all units were different, five (5) separate pattern forms had to be fabricated. These forms were then poured with concrete establishing a firm base upon which to install the units for the test.

b. The Post Engineer also had an operations shed moved onto the site for test control panels. Electric power was brought to the shed and an automatic programmer installed. Units (1), (2), (4) and (5) were electrically hooked up to this programmer and were maintained on

this for the test period. Unit (3) had his own AGASTAT timer so there was no necessity for connecting it to the government furnished programmer. Power was brought from the operations shed to the actuators by waterproof cables laid either on the ground or by direct burial. All electrical lines and electrical equipment were installed by personnel assigned to the Post Engineer.

8. During the period 4 February to 18 February 1963, each offeror was allowed to install, and make necessary adjustments to, his unit and system. The dummy capsule issued each offeror was removed from the actuator and replaced with a capsule containing radioactive material (15 curies cobalt-60) on 19 February. While handling the "hot" capsules with the 10-foot tongs, two were allowed to roll into the sand surrounding the concrete foundations. These were picked up, placed in (1) and (2), and apparently a small amount of sand was picked up as well. The capsules were removed, replaced in the large shield container and the units cleaned to remove the sand. After clean-up, the capsules were replaced; the units cycled to check out the operation and it was determined that the unit would operate properly. There was no trouble at any time during the test that could be directly caused by the admission of this small amount of sand.

9. a. The twelve-week test commenced at 0630 hours, 20 February 1963, and consisted of the following test schedule:

(1) Monday through Thursday, each week
0630 - 1430 hours - cycling test
1430 - 1730 hours - individual tests
1730 - 0630 hours - held in "up" position

(2) Friday each week
0630 - 1430 hours - cycling test
1430 - 1730 hours - individual tests
1730 - 0630 hours following Monday - all power off

b. Actual motor running time for each unit is stated in the respective annex.

c. During the test period, varying weather conditions were experienced. The temperature ranged from -7°F to 92°F; icy conditions were observed during the early stages of the test; extremely heavy rains and standing water were also observed. In May, the temperature and humidity on numerous occasions were very high. Winds up to 45 knots per hour carrying heavy dust and sand were noted. The weather during the test period is considered to cover the extreme conditions under which these units will be required to operate.

d. The twelve-week test was completed at 0630 hours, 14 May 1963.

AFCL-4
SUBJECT: Actuator Test - RERTAP

10. During the period 14 - 17 May 1963, each of the units satisfactorily completing the test, i.e., (1), (2) and (5), was dismantled by test personnel in the presence of the respective offeror.

11. Attached as annexes are the findings of the test. Recommendations and conclusions are integrated into each annex.

12. Request disposition instructions on the four units, (1), (2), (4) and (5), which are being held at the test site.

7 Incl
1. Request for Technical Proposal, Sep 62
2. Ltr assigning Major Speer as Test Officer
3. Figures E-1, E-2, E-3
4. Annex A
5. Annex B
6. Annex C
7. Annex D

JAMES B. SPEER
Major, CmlC
Test Officer

APPENDIX E

CALIBRATION AND QC DATA

of
Scientific and Industrial
Instruments

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 915-235-5494
501 OAK STREET FAX NO. 915-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

CERTIFICATE OF CALIBRATION

CUSTOMER ALLIED TECHNOLOGY GROUP ORDER NO. 239056 / 243662

. Bicron Model MICRO REM Serial No. B.500 Z

J. _____ Model _____ Serial No. _____

Cal. Date 14-Oct-99 Cal Due Date 14-Oct-00 Cal. Interval 1 Year Meterface 0-200urem/

Check mark ☑ applies to applicable instr. and/or detector IAW mfg. spec. T. 73 °F RH 35 % Alt 706.8 mm Hg

☐ New Instrument Instrument Received ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair ☐ Other-See comments

☑ Mechanical ck. ☑ Meter Zeroed ☐ Background Subtract ☐ Input Sens. Linearity
☐ F/S Resp. ck ☑ Reset ck. ☐ Window Operation ☐ Geotropism
☐ Audio ck. ☐ Alarm Setting ck. ☐ Batt. ck. (Min. Volt) _____ VDC

☐ Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. ☑ Calibrated in accordance with LMI SOP 14.9 rev 12/19/89.

Instrument Volt Set _____ V Input Sens. _____ mV Det. Oper. _____ V at _____ mV Threshold Dial Ratio _____ = _____

☐ HV Readout (2 points) Ref./Inst. _____ / _____ V Ref./Inst. _____ / _____ V

COMMENTS:

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the front of probe faces source.

RANGE/MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT REC'D "AS FOUND READING"	INSTRUMENT METER READING*
x 1000	150 mR/hr	160	150
x 1000	50 mR/hr	55	50
x 100	15 mR/hr	155	150
x 100	5 mR/hr	52	50
x 10	1500 uR/hr	140	150
x 10	500 uR/hr	50	50
x 1	150 uR/hr	140	150
x 1	100 uR/hr	90	100
x0.1	15 uR/hr	140	150
x0.1			

*Uncertainty within ± 10% C.F. within ± 20% _____ Range(s) Calibrated Electronically

	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*		REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
Digital Readout				Log Scale			

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of ANSI/NCSL Z540-1-1994 and ANSI N323-1978 State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources:

Cs-137 Gamma S/N ☐ 1162 ☑ G112 ☑ M565 ☐ 5105 ☐ T1008 ☐ T879 ☐ E552 ☑ E551 ☐ Neutron Am-241 Be S/N T-30

☐ Alpha S/N _____ ☐ Beta S/N _____ ☐ Other _____

m 500 S/N _____ ☐ Oscilloscope S/N _____ ☐ Multimeter S/N _____

Calibrated By: Conrad Salinas Date 14 Oct 99

Reviewed By: Rhonda Hall Date 15 Oct 99

FORM C22A 07/30/99

This certificate shall not be reproduced except in full, without the written approval of Ludlum Measurements, Inc.

SAFETY AND ECOLOGY CORPORATION

CALIBRATION CERTIFICATE FOR 43-68 PROBE # PR134485

SECTION 1: GENERAL INFORMATION

DATE: 06/02/00 **LOCATION:** SEC Lab
TECH: Shane Day **DATE LAST CAL EXPIRES:**

REASON FOR CALIBRATION:

(●) Due For Calibration ( ) Repair (See Remarks) ( ) Other (See Remarks) ( ) Due and Repair

EQUIPMENT USED DURING CALIBRATION

MODEL:	2221	**SERIAL #:**	149951	**CAL. DUE:**	07/15/00
MODEL:		**SERIAL #:**		**CAL. DUE:**	

SOURCES

SOURCE #:	99TC470-0276	**SOURCE #:**	99SR470-0283
ISOTOPE:	Tc-99	**ISOTOPE:**	Sr-90
ACTIVITY:	17,900 dpm	**ACTIVITY:**	39,500 dpm
ASSAY DATE:	03/13/99	**ASSAY DATE:**	03/08/99

SECTION 2: AS FOUND DATA

Condition: (●) Sat ( ) Unsat **Efficiency from last cal.:** **Pu:** **Tc:** **Th:** **Sr:**

	HV	Vernier		
Setpoints from last cal.:	1050	1600		
Source	**Alpha Response CPM**	**Beta Response CPM**		
Background:	0	0		
Pu-239:	0	0	**A-B XTLK:**	#Num!
Tc-99:	0	0	**B-A XTLK:**	
As Found Efficiencies Pu, Tc:	**0.00%**	**0.00%**		
Th-230 / Sr-90	0 /	0	**0.00%** /	**0.00%**
Background:	2	144		
Pu-239:	4030		**A-B XTLK:**	
Tc-99:		4710	**B-A XTLK:**	
As Found Efficiencies Pu, Tc:	**21.31%**	**25.51%**		
Th-230 / Sr-90	6280 /	10120	**21.65%** /	**25.26%**

Is as found efficiency within 20% of the efficiency from the last cal? ( ) Yes (●) No (See Remarks)

Reproducibity (Beta): 10120 10070 10380 **Average:** 10190.0

Are the individual counts within 10% of the average? (●) Yes ( ) No

If the as found data is within 10% of the last calibration and the B-A Xtalk is <15% and the A-B Xtalk is <10%, then the technician may N/A Section 3 and go directly to remarks.

SECTION 3: CALIBRATION DATA

PROBE #: PR134485

PLATEAU AND SET POINT DATA

Date: 06/02/00

HV / Vernier:	Tc-99 Source Response (CPM):			Th-230 Source Response (CPM):			Background (CPM):		Net A to B Xtalk: <10%	B to A Xtalk: <1%
	A ch.	B ch.	Net Eff.	A ch.	B ch.	Net Eff.	A ch.	B ch.		
950				1980		6.8%	1			<1%
975				3690		12.7%	0			<1%
1000				5170		17.8%	5			<1%
1025				5980		20.6%	3			<1%
1050				6280		21.6%	2			<1%
1100				6120		21.1%	2			<1%

Heel CPM: **Center CPM:** **Toe CPM:** **Uniformity:**

Alpha / Beta Bkg (cpm) 2

HV / Vernier		Pu-239	Tc-99	Th-230	Sr-90
1050	CPM:	4030		6280	
	AL Efficiencies:	21.31%		21.65%	

Th-230 Source #99TH470-0733 3/13/99 29,000 dpm Pu-239 Source #99PU470-0268 5/2/00 18,900dpm

SECTION 3: CALIBRATION DATA

PROBE #: PR134485

PLATEAU AND SET POINT DATA

Date: 06/02/00

HV / Vernier:	Tc-99 Source Response (CPM):			Th-230 Source Response (CPM):			Background (CPM):		Net A to B Xtalk: <10%	B to A Xtalk: <1%
	A ch.	B ch.	Net Eff.	A ch.	B ch.	Net Eff.	A ch.	B ch.		
1500		2760	15.2%					41		<1%
1550		3770	20.5%					101		<1%
1600		4710	25.5%					144		<1%
1650		4700	25.2%					190		<1%
1700		4900	26.1%					233		<1%
										<1%

Heel CPM: **Center CPM:** **Toe CPM:** **Uniformity:**

Alpha / Beta Bkg (cpm) 0 144

HV / Vernier		Pu-239	Tc-99	Th-230	Sr-90
1600	CPM:		4710		10120

SAFETY AND ECOLOGY CORPORATION

AL Efficiencies:	25.51%	25.26%
Th-230 Source #99TH470-0733 3/13/99 29,000 dpm	Pu-239 Source #99PU470-0268 5/2/00 18,900dpm	

SECTION 4: FINAL ACCEPTANCE

Remarks: Replaced Mylar Window.

Does Instrument Meet Final Acceptance Criteria?:	(•) Yes	( ) No
Calibration Sticker Attached?:	(•) Yes	( ) No
Date Instrument is Due For Next Calibration:	**06/02/01**	

Performed by: Steve Day **Reviewed by:** James Glenn **Date:** 6/2/00

Entered in Computer Inventory By: James Glenn Date: 6/2/00

SAFETY AND ECOLOGY CORPORATION

CALIBRATION CERTIFICATE FOR 43-37 PROBE # PR088824

SECTION 1: GENERAL INFORMATION

DATE: 06/02/00
TECH: Shane Day
LOCATION: SEC Lab
DATE LAST CAL EXPIRES:

REASON FOR CALIBRATION:

(●) Due For Calibration ( ) Repair (See Remarks) ( ) Other (See Remarks) ( ) Due and Repair

EQUIPMENT USED DURING CALIBRATION

MODEL:	2221	**SERIAL #:**	14951	**CAL. DUE:**	07/15/00
MODEL:		**SERIAL #:**		**CAL. DUE:**	

SOURCES

SOURCE #:	99TC470-0276	**SOURCE #:**	99SR470-0283
ISOTOPE:	Tc-99	**ISOTOPE:**	Sr-90
ACTIVITY:	17,900 dpm	**ACTIVITY:**	39,500 dpm
ASSAY DATE:	03/13/99	**ASSAY DATE:**	03/08/99

SECTION 2: AS FOUND DATA

Condition: (●) Sat ( ) Unsat **Efficiency from last cal.:** **Pu:** **Tc:** **Th:** **Sr:**

	HV	Vernier		
Setpoints from last cal.:	1200	1750		
Source	**Alpha Response CPM**	**Beta Response CPM**		
Background:	0	0		
Pu-239:	0	0	**A-B XTLK:**	#Num!
Tc-99:	0	0	**B-A XTLK:**	
As Found Efficiencies Pu, Tc:	**0.00%**	**0.00%**		
Th-230 / Sr-90	0 /	0	**0.00% / 0.00%**	
Background:	10	1040		
Pu-239:	4100		**A-B XTLK:**	
Tc-99:		5270	**B-A XTLK:**	
As Found Efficiencies Pu, Tc:	**21.64%**	**23.63%**		
Th-230 / Sr-90	5450 /	12130	**18.76% / 28.08%**	

Is as found efficiency within 20% of the efficiency from the last cal? ( ) Yes (●) No (See Remarks)

Reproducibity (Beta): 12130 13510 12760 **Average:** 12800.0

Are the individual counts within 10% of the average? (●) Yes ( ) No

If the as found data is within 10% of the last calibration and the B-A xtalk is <1% and the A-B xtalk is <10% then the technician may N/A Section 3 and go directly to remarks.

SECTION 3: CALIBRATION DATA

PROBE #: PR088824

PLATEAU AND SET POINT DATA

Date: 06/02/00

HV / Vernier:	Tc-99 Source Response (CPM):			Th-230 Source Response (CPM):			Background (CPM):		Net A to B Xtalk: <10%	B to A Xtalk: <1%
	A ch.	B ch.	Net Eff.	A ch.	B ch.	Net Eff.	A ch.	B ch.		
1000				1910		6.6%	4			<1%
1050				4540		15.6%	15			<1%
1100				4830		16.6%	10			<1%
1150				5000		17.2%	12			<1%
1200				5450		18.8%	10			<1%
1250				5240		18.0%	11			<1%

Alpha / Beta Bkg (cpm) 10

HV / Vernier		Pu-239	Tc-99	Th-230	Sr-90
1200	CPM:	4100		5450	
	AL Efficiencies:	**21.64%**		**18.76%**	

Th-230 Source #98TH470-0733 3/13/99 29,000 dpm Pu-239 Source #99PU470-0268 5/2/00 18,9000dpm

SECTION 3: CALIBRATION DATA

PROBE #: PR088824

PLATEAU AND SET POINT DATA

Date: 06/02/00

HV / Vernier:	Tc-99 Source Response (CPM):			Th-230 Source Response (CPM):			Background (CPM):		Net A to B Xtalk: <10%	B to A Xtalk: <1%
	A ch.	B ch.	Net Eff.	A ch.	B ch.	Net Eff.	A ch.	B ch.		
1550		2590	13.7%					142		<1%
1600		3440	17.9%					234		<1%
1650		4190	21.1%					420		<1%
1700		4970	24.2%					630		<1%
1750		5270	23.6%					1040		<1%
1800		5620	23.9%					1340		<1%

Alpha / Beta Bkg (cpm) 1040

HV / Vernier		Pu-239	Tc-99	Th-230	Sr-90
1750	CPM:		5270		12130
	AL Efficiencies:		**23.63%**		**28.08%**

Th-230 Source #98TH470-0733 3/13/99 29,000 dpm Pu-239 Source #99PU470-0268 5/2/00 18,9000dpm

SECTION 4: FINAL ACCEPTANCE

Remarks: Replaced Mylar Window. Calibrated @ 4 mV.

Does Instrument Meet Final Acceptance Criteria?:	(•) Yes ( ) No
Calibration Sticker Attached?:	(•) Yes ( ) No
Date Instrument is Due For Next Calibration:	**06/02/01**

Performed by: Diane Day **Reviewed by:** Joanne Blew **Date:** 6/2/00

Entered in Computer Inventory By: Joanne Blew Date: 6/2/00

Control Chart Information Sheet

Control Chart Name: BKG
Tracking: Total CPM

Instrument ID: PIC WPC-9550 Instrument Number: 1
Operator ID:

Count Time: 30 Chart Number: 1
Reference Date: 6/18/00

Source Data

Activity:	0.0 *dpm*	Activity at Ref. Date:	0.0 *dpm*
error:	0.0 *dpm*		
half life:	0 *days*	Calibration Date:	1/1/94

Limits Database	
decay corr. mean	0.88 *cpm*
std dev	0.22 *cpm*
Number of Samples	3 *pts*
Gross Alpha	
mean	0.03 *cpm*
std dev	0.00 *cpm*
Gross Beta	
mean	0.84 *cpm*
std dev	0.22 *cpm*

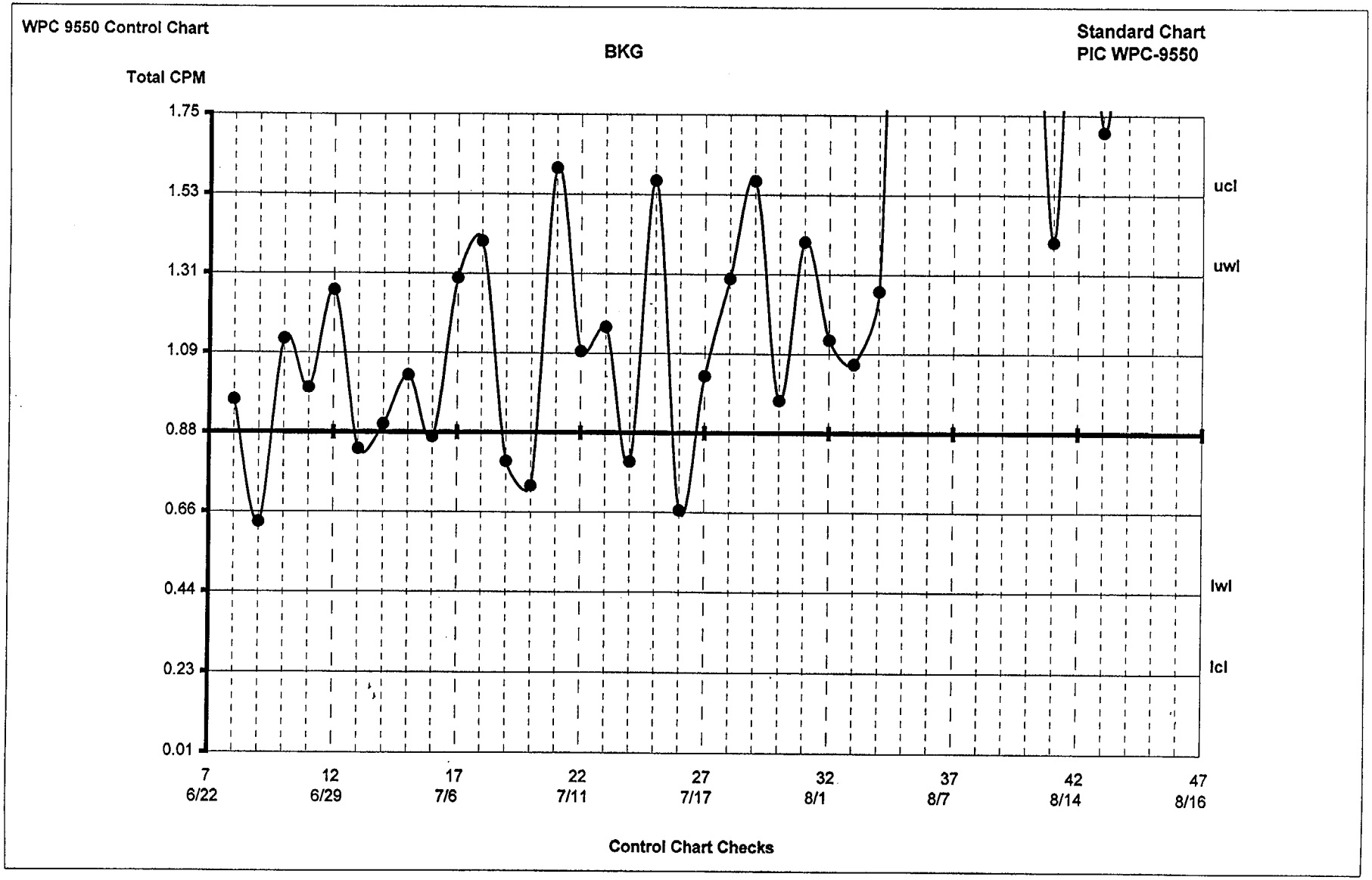
Checks Database	
Upper Control Limit	1.53 *cpm*
Upper Warning Limit	1.31 *cpm*
Lower Warning Limit	0.44 *cpm*
Lower Control Limit	0.23 *cpm*
Exceeding Control	15 *pts*
Exceeding Warning	3 *pts*
Number of Samples	47 *pts*
Gross Alpha	
mean	0.17 *cpm*
std dev	0.20 *cpm*
Gross Beta	
mean	1.32 *cpm*
std dev	0.66 *cpm*

te: Data designated by the Tracking Mode is decay corrected to the Reference Date. Gross Alpha and Beta data is not decay corrected.

WPC 9550 Control Chart — **BKG Checks** — **Total CPM**

PIC WPC-9550 — **Decay Corrected**

Point	Date	Time	Alpha cpm	Beta cpm	Counts	CPM	
8	06/23/00	7:54:01	0.03	0.93	29.00	0.97	
9	06/26/00	7:53:02	0.00	0.63	19.00	0.63	
10	06/27/00	7:22:58	0.03	1.10	34.00	1.13	
11	06/28/00	8:11:26	0.07	0.93	30.00	1.00	
12	06/29/00	8:07:33	0.03	1.23	38.00	1.27	
13	06/30/00	7:33:40	0.03	0.80	25.00	0.83	
14	07/03/00	12:22:22	0.00	0.90	27.00	0.90	
15	07/04/00	8:13:38	0.03	1.00	31.00	1.03	
16	07/05/00	7:24:40	0.03	0.83	26.00	0.87	
17	07/06/00	8:41:34	0.03	1.27	39.00	1.30	
18	07/07/00	8:23:37	0.13	1.27	42.00	1.40	>UWL
19	07/07/00	8:53:37	0.03	0.77	24.00	0.80	
20	07/10/00	7:32:38	0.03	0.70	22.00	0.73	
21	07/11/00	8:15:42	0.10	1.50	48.00	1.60	>UCL
22	07/11/00	8:45:43	0.03	1.07	33.00	1.10	
23	07/12/00	7:21:20	0.10	1.07	35.00	1.17	
24	07/13/00	7:29:35	0.03	0.77	24.00	0.80	
25	07/14/00	5:19:22	0.27	1.30	47.00	1.57	>UCL
26	07/15/00	5:39:38	0.13	0.53	20.00	0.67	
27	07/17/00	5:28:54	0.00	1.03	31.00	1.03	
28	07/18/00	6:02:57	0.17	1.13	39.00	1.30	
29	07/19/00	6:16:53	0.17	1.40	47.00	1.57	>UCL
30	07/19/00	6:46:55	0.10	0.87	29.00	0.97	
31	07/31/00	16:59:11	0.17	1.23	42.00	1.40	>UWL
32	08/01/00	7:06:41	0.17	0.97	34.00	1.13	
33	08/02/00	7:39:52	0.00	1.07	32.00	1.07	
34	08/03/00	9:40:50	0.10	1.17	38.00	1.27	
35	08/04/00	8:34:10	0.60	2.80	102.00	3.40	>UCL
36	08/04/00	9:04:12	0.37	1.93	69.00	2.30	>UCL
37	08/07/00	7:10:12	0.23	2.27	75.00	2.50	>UCL
38	08/09/00	7:42:18	0.83	3.30	124.00	4.13	>UCL
39	08/09/00	8:12:20	0.33	2.33	80.00	2.67	>UCL
40	08/11/00	6:54:55	0.50	2.03	76.00	2.53	>UCL
41	08/11/00	7:24:57	0.20	1.20	42.00	1.40	>UWL
42	08/14/00	7:28:44	0.40	2.20	78.00	2.60	>UCL
43	08/14/00	7:58:46	0.30	1.40	51.00	1.70	>UCL
44	08/15/00	7:13:12	0.60	1.70	69.00	2.30	>UCL
45	08/15/00	7:43:14	0.30	1.57	56.00	1.87	>UCL
46	08/16/00	7:16:48	0.53	3.00	106.00	3.53	>UCL
47	08/16/00	7:46:50	0.47	2.60	92.00	3.07	>UCL


WPC 9550 Control Chart
BKG
Standard Chart
PIC WPC-9550
Total CPM
1.75
1.53
1.31
1.09
0.88
0.66
0.44
0.23
0.01
ucl
uwl
lwl
lcl
7
6/22
12
6/29
17
7/6
22
7/11
27
7/17
32
8/1
37
8/7
42
8/14
47
8/16
Control Chart Checks

Control Chart Information Sheet

Control Chart Name: Th 230
Tracking: Alpha Efficiency

Instrument ID: PIC WPC-9550 Instrument Number: 1
Operator ID:

Count Time: 1 Chart Number: 2
Reference Date: 6/18/00

Source Data

Activity:	30300.0 *dpm*	Activity at Ref. Date:	30300.0 *dpm*
error:	3030.0 *dpm*		
half life:	0 *days*	Calibration Date:	1/1/70

Limits Database

efficiency mean	21.81 %
std dev	2.20 %
decay corr. mean	6608.00 *cpm*
std dev	77.97 *cpm*
Number of Samples	4 *pts*
Gross Alpha	
mean	6608.00 *cpm*
std dev	77.97 *cpm*
Gross Beta	
mean	2663.50 *cpm*
std dev	79.32 *cpm*

Checks Database

Upper Control Limit	28.40 %
Upper Warning Limit	26.20 %
Lower Warning Limit	17.42 %
Lower Control Limit	15.22 %
Exceeding Control	2 *pts*
Exceeding Warning	2 *pts*
Number of Samples	76 *pts*
Gross Alpha	
mean	6605.41 *cpm*
std dev	1156.62 *cpm*
Gross Beta	
mean	2698.29 *cpm*
std dev	542.10 *cpm*

te: Data designated by the Tracking Mode is decay corrected to the Reference Date. Gross Alpha and Beta data is not decay corrected.

WPC 9550 Control Chart **Th 230** **Alpha Efficiency**

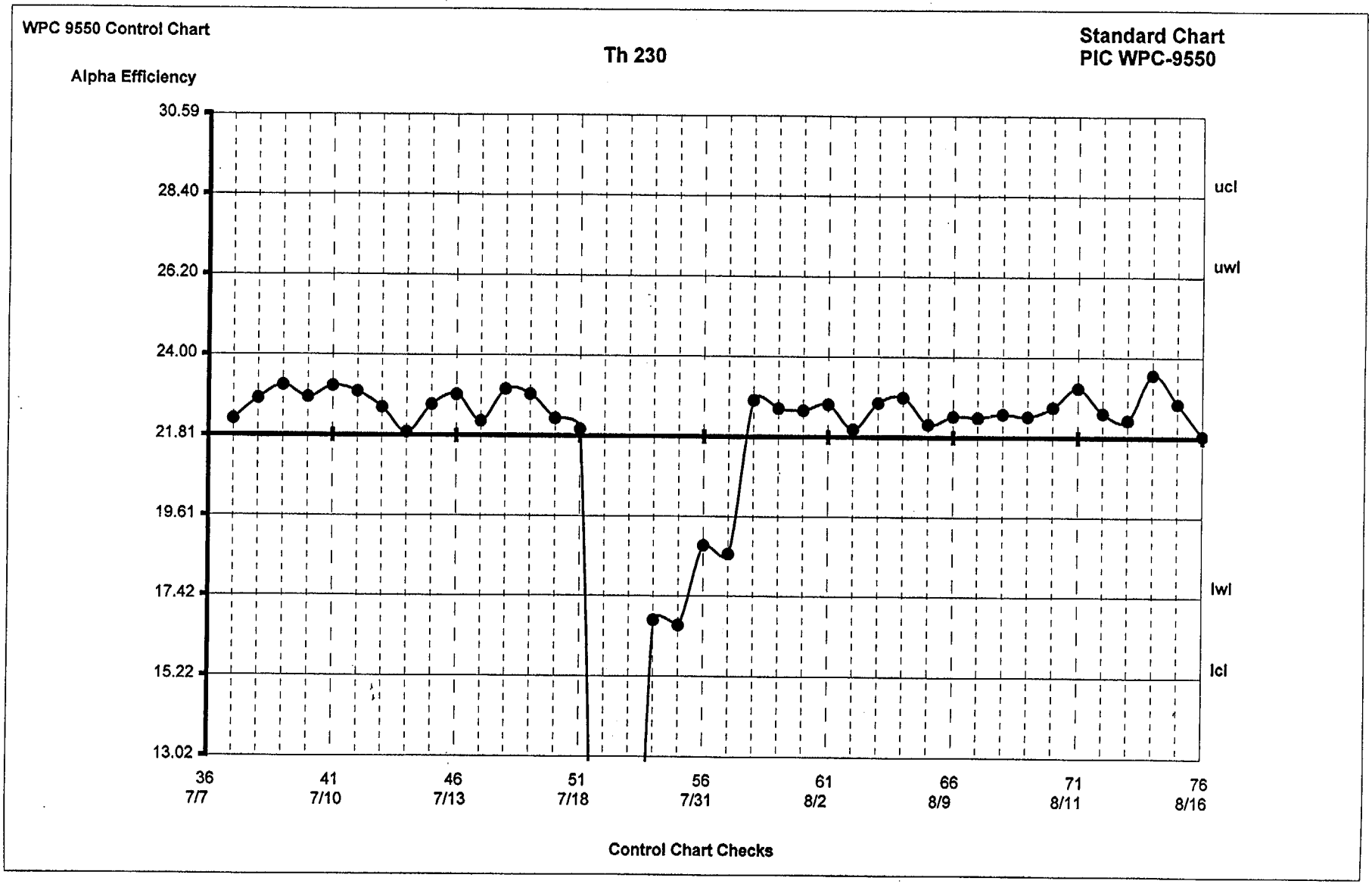
PIC WPC-9550 **Checks** **Decay Corrected**

Point	Date	Time	Alpha cpm	Beta cpm	Counts	% Eff	
37	07/07/00	8:22:14	6744.00	2683.00	6744.00	22.26	
38	07/10/00	7:23:18	6913.00	2673.00	6913.00	22.82	
39	07/10/00	7:24:20	7022.00	2757.00	7022.00	23.17	
40	07/10/00	7:29:09	6924.00	2721.00	6924.00	22.85	
41	07/10/00	7:30:11	7015.00	2652.00	7015.00	23.15	
42	07/11/00	8:08:18	6970.00	2694.00	6970.00	23.00	
43	07/11/00	8:09:20	6838.00	2671.00	6838.00	22.57	
44	07/12/00	7:19:58	6633.00	2613.00	6633.00	21.89	
45	07/13/00	7:27:00	6863.00	2656.00	6863.00	22.65	
46	07/13/00	7:28:02	6946.00	2601.00	6946.00	22.92	
47	07/14/00	5:18:00	6727.00	2638.00	6727.00	22.20	
48	07/15/00	5:34:03	6992.00	2710.00	6992.00	23.08	
49	07/15/00	5:35:04	6951.00	2743.00	6951.00	22.94	
50	07/17/00	5:27:32	6751.00	2655.00	6751.00	22.28	
51	07/18/00	6:01:34	6664.00	2692.00	6664.00	21.99	
52	07/19/00	6:09:31	14.00	11.00	14.00	0.05	<LCL
53	07/19/00	6:10:32	8.00	8.00	8.00	0.03	<LCL
54	07/31/00	16:46:42	5076.00	4232.00	5076.00	16.75	<LWL
55	07/31/00	16:47:44	5034.00	4179.00	5034.00	16.61	<LWL
56	07/31/00	16:56:28	5699.00	3883.00	5699.00	18.81	
57	07/31/00	16:57:30	5628.00	3885.00	5628.00	18.57	
58	08/01/00	6:59:16	6909.00	2749.00	6909.00	22.80	
59	08/01/00	7:00:18	6842.00	2772.00	6842.00	22.58	
60	08/02/00	7:32:28	6827.00	2663.00	6827.00	22.53	
61	08/02/00	7:33:30	6876.00	2771.00	6876.00	22.69	
62	08/03/00	9:39:28	6672.00	2765.00	6672.00	22.02	
63	08/04/00	8:26:46	6891.00	2721.00	6891.00	22.74	
64	08/04/00	8:27:48	6937.00	2706.00	6937.00	22.89	
65	08/07/00	7:08:50	6713.00	2696.00	6713.00	22.16	
66	08/09/00	7:32:10	6781.00	2668.00	6781.00	22.38	
67	08/09/00	7:33:12	6771.00	2697.00	6771.00	22.35	
68	08/09/00	7:39:33	6800.00	2691.00	6800.00	22.44	
69	08/09/00	7:40:35	6781.00	2809.00	6781.00	22.38	
70	08/11/00	6:50:47	6856.00	2670.00	6856.00	22.63	
71	08/11/00	6:51:49	7015.00	2646.00	7015.00	23.15	
72	08/14/00	7:26:20	6809.00	2731.00	6809.00	22.47	
73	08/14/00	7:27:22	6753.00	2720.00	6753.00	22.29	
74	08/15/00	7:05:47	7126.00	2638.00	7126.00	23.52	
75	08/15/00	7:06:50	6886.00	2648.00	6886.00	22.73	
76	08/16/00	7:15:26	6622.00	2633.00	6622.00	21.85	

WPC 9550 Control Chart

Th 230

Standard Chart
PIC WPC-9550



Control Chart Information Sheet

Control Chart Name: Tc 99
Tracking: Beta Efficiency

Instrument ID: PIC WPC-9550 Instrument Number: 1
Operator ID:

Count Time: 0.5 Chart Number: 3
Reference Date: 6/18/00

Source Data

Activity:	40200.0 *dpm*	Activity at Ref. Date:	40200.0 *dpm*
error:	4020.0 *dpm*		
half life:	0 *days*	Calibration Date:	1/1/94

Limits Database

efficiency mean	24.58 %
std dev	2.53 %
decay corr. mean	9879.33 *cpm*
std dev	234.23 *cpm*
Number of Samples	6 *pts*

Gross Alpha

mean	0.00 *cpm*
std dev	0.00 *cpm*

Gross Beta

mean	9879.33 *cpm*
std dev	234.23 *cpm*

Checks Database

Upper Control Limit	32.15 %
Upper Warning Limit	29.63 %
Lower Warning Limit	19.52 %
Lower Control Limit	17.00 %
Exceeding Control	4 *pts*
Exceeding Warning	0 *pts*
Number of Samples	53 *pts*

Gross Alpha

mean	0.45 *cpm*
std dev	1.08 *cpm*

Gross Beta

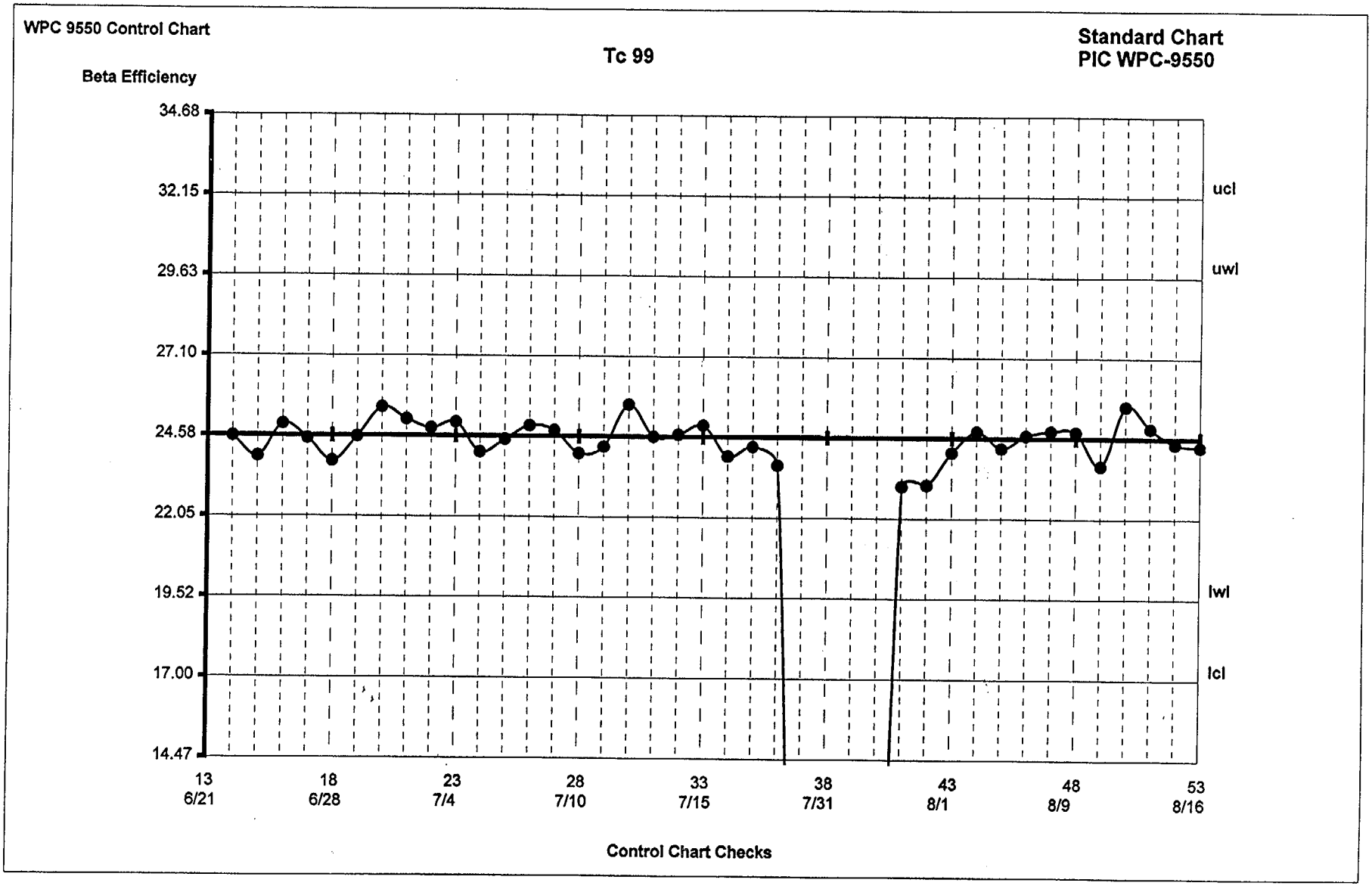
mean	9114.68 *cpm*
std dev	2639.08 *cpm*

te: Data designated by the Tracking Mode is decay corrected to the Reference Date. Gross Alpha and Beta data is not decay corrected.

WPC 9550 Control Chart **Tc 99** **Beta Efficiency**

PIC WPC-9550 **Checks** **Decay Corrected**

Point	Date	Time	Alpha cpm	Beta cpm	Counts	% Eff	
14	06/22/00	7:17:53	0.00	9876.00	4938.00	24.57	
15	06/23/00	7:45:47	0.00	9624.00	4812.00	23.94	
16	06/26/00	7:44:48	0.00	10028.00	5014.00	24.95	
17	06/27/00	7:19:44	0.00	9846.00	4923.00	24.49	
18	06/28/00	8:03:11	2.00	9566.00	4783.00	23.80	
19	06/29/00	7:59:18	0.00	9872.00	4936.00	24.56	
20	06/30/00	7:24:03	0.00	10240.00	5120.00	25.47	
21	06/30/00	7:30:09	0.00	10090.00	5045.00	25.10	
22	07/03/00	12:20:09	2.00	9978.00	4989.00	24.82	
23	07/04/00	8:11:24	0.00	10054.00	5027.00	25.01	
24	07/05/00	7:22:27	0.00	9680.00	4840.00	24.08	
25	07/06/00	8:39:20	0.00	9842.00	4921.00	24.48	
26	07/07/00	8:20:21	0.00	10012.00	5006.00	24.91	
27	07/10/00	7:22:26	0.00	9956.00	4978.00	24.77	
28	07/10/00	7:28:17	0.00	9670.00	4835.00	24.05	
29	07/11/00	8:07:27	2.00	9756.00	4878.00	24.27	
30	07/12/00	7:19:06	0.00	10284.00	5142.00	25.58	
31	07/13/00	7:26:08	0.00	9882.00	4941.00	24.58	
32	07/14/00	5:17:08	0.00	9910.00	4955.00	24.65	
33	07/15/00	5:33:11	0.00	10024.00	5012.00	24.94	
34	07/17/00	5:26:42	0.00	9642.00	4821.00	23.99	
35	07/18/00	6:00:43	0.00	9764.00	4882.00	24.29	
36	07/19/00	6:08:40	0.00	9532.00	4766.00	23.71	
37	07/31/00	16:37:54	0.00	12.00	6.00	0.03	<LCL
38	07/31/00	16:38:24	0.00	4.00	2.00	0.01	<LCL
39	07/31/00	16:40:51	0.00	2.00	1.00	0.00	<LCL
40	07/31/00	16:41:22	0.00	0.00	0.00	0.00	<LCL
41	07/31/00	16:54:39	0.00	9272.00	4636.00	23.06	
42	07/31/00	16:55:10	2.00	9288.00	4644.00	23.10	
43	08/01/00	6:58:25	0.00	9702.00	4851.00	24.13	
44	08/02/00	7:31:37	2.00	9964.00	4982.00	24.79	
45	08/03/00	9:38:37	4.00	9758.00	4879.00	24.27	
46	08/04/00	8:25:54	2.00	9916.00	4958.00	24.67	
47	08/07/00	7:07:58	0.00	9970.00	4985.00	24.80	
48	08/09/00	7:31:19	0.00	9958.00	4979.00	24.77	
49	08/09/00	7:38:41	0.00	9536.00	4768.00	23.72	
50	08/11/00	6:49:56	0.00	10282.00	5141.00	25.58	
51	08/14/00	7:25:29	0.00	10006.00	5003.00	24.89	
52	08/15/00	7:04:56	0.00	9814.00	4907.00	24.41	
53	08/16/00	7:14:35	0.00	9778.00	4889.00	24.32	



Protean Instrument Corporation

8/16/00

Prepared by: M. Knaysik

100cm2 SMEAR		Count Time: 1		Alpha				Beta				
P2 211510 08-28-00 Instr No 2 M.KN/ Count Started												
Carrier No.	Sample ID	Date	Time	Bkg cpm	Net cpm	dpm	MDA	Bkg cpm	Net cpm	dpm	MDA	Comment
1	3182QA01	08/15/00	14:17:11	0.200	-0.20	-0.72	15.37	2.100	-1.10	-3.34	23.39	
2	3182QA02	08/15/00	14:18:41	0.200	-0.20	-0.72	15.37	2.100	0.90	2.73	23.39	
3	3182QA03	08/15/00	14:20:11	0.200	-0.20	-0.72	15.37	2.100	-2.10	-6.37	23.39	
4	3182QA04	08/15/00	14:21:41	0.200	-0.20	-0.72	15.37	2.100	5.90	17.90	23.39	
5	3182QA05	08/15/00	14:23:11	0.200	-0.20	-0.72	15.37	2.100	-0.10	-0.30	23.39	
6	3182QA06	08/15/00	14:24:41	0.200	-0.20	-0.72	15.37	2.100	3.90	11.83	23.39	
7	3182QA07	08/15/00	14:26:11	0.200	-0.20	-0.72	15.37	2.100	1.90	5.76	23.39	
8	3182QA08	08/15/00	14:27:41	0.200	-0.20	-0.72	15.37	2.100	-1.10	-3.34	23.39	
9	3182QA09	08/15/00	14:29:11	0.200	-0.20	-0.72	15.37	2.100	0.90	2.73	23.39	
10	3182QA10	08/15/00	14:30:41	0.200	-0.20	-0.72	15.37	2.100	-0.10	-0.30	23.39	
11	3182QA11	08/15/00	14:32:11	0.200	-0.20	-0.72	15.37	2.100	0.90	2.73	23.39	
12	3182QA12	08/15/00	14:33:41	0.200	-0.20	-0.72	15.37	2.100	0.90	2.73	23.39	
13	3182QA13	08/15/00	14:35:11	0.200	-0.20	-0.72	15.37	2.100	3.90	11.83	23.39	
14	3182QA14	08/15/00	14:36:41	0.200	-0.20	-0.72	15.37	2.100	0.90	2.73	23.39	
15	3182QA15	08/15/00	14:38:11	0.200	-0.20	-0.72	15.37	2.100	0.90	2.73	23.39	
16	3182QA16	08/15/00	14:39:41	0.200	-0.20	-0.72	15.37	2.100	4.90	14.86	23.39	
17	3182QA17	08/15/00	14:41:11	0.200	-0.20	-0.72	15.37	2.100	3.90	11.83	23.39	
18	3182QA18	08/15/00	14:42:41	0.200	-0.20	-0.72	15.37	2.100	2.90	8.80	23.39	
19	3182QA19	08/15/00	14:44:11	0.200	-0.20	-0.72	15.37	2.100	0.90	2.73	23.39	
20	3182QA20	08/15/00	14:45:41	0.200	-0.20	-0.72	15.37	2.100	10.90	33.06	23.39	
21	3182QA21	08/15/00	14:47:11	0.200	-0.20	-0.72	15.37	2.100	0.90	2.73	23.39	
22	3182QA22	08/15/00	14:48:41	0.200	-0.20	-0.72	15.37	2.100	-1.10	-3.34	23.39	
23	3182QA23	08/15/00	14:50:11	0.200	-0.20	-0.72	15.37	2.100	-2.10	-6.37	23.39	
24	3182QA24	08/15/00	14:51:41	0.200	-0.20	-0.72	15.37	2.100	0.90	2.73	23.39	
25	3182QA25	08/15/00	14:53:11	0.200	-0.20	-0.72	15.37	2.100	-0.10	-0.30	23.39	
26	3182QA26	08/15/00	14:54:41	0.200	-0.20	-0.72	15.37	2.100	-0.10	-0.30	23.39	
27	3182QA27	08/15/00	14:56:11	0.200	-0.20	-0.72	15.37	2.100	-1.10	-3.34	23.39	
28	3182QA28	08/15/00	14:57:41	0.200	-0.20	-0.72	15.37	2.100	0.90	2.73	23.39	
29	3182QA29	08/15/00	14:59:11	0.200	-0.20	-0.72	15.37	2.100	-0.10	-0.30	23.39	
30	3182QA30	08/15/00	15:00:41	0.200	-0.20	-0.72	15.37	2.100	-2.10	-6.37	23.39	
31	318201B5	08/15/00	15:02:11	0.200	-0.20	-0.72	15.37	2.100	2.90	8.80	23.39	
32	318202D5	08/15/00	15:03:41	0.200	-0.20	-0.72	15.37	2.100	1.90	5.76	23.39	
33	318202F5	08/15/00	15:05:11	0.200	-0.20	-0.72	15.37	2.100	5.90	17.90	23.39	
34	318203H5	08/15/00	15:06:41	0.200	-0.20	-0.72	15.37	2.100	0.90	2.73	23.39	
35	318206A5	08/15/00	15:08:11	0.200	-0.20	-0.72	15.37	2.100	3.90	11.83	23.39	
36	318206D2	08/15/00	15:09:41	0.200	-0.20	-0.72	15.37	2.100	-0.10	-0.30	23.39	
37	318208C2	08/15/00	15:11:11	0.200	-0.20	-0.72	15.37	2.100	1.90	5.76	23.39	
38	318211A5	08/15/00	15:12:41	0.200	-0.20	-0.72	15.37	2.100	-1.10	-3.34	23.39	
39	318211C5	08/15/00	15:14:12	0.200	-0.20	-0.72	15.37	2.100	1.90	5.76	23.39	
40	318204C4	08/15/00	15:15:43	0.200	-0.20	-0.72	15.37	2.100	-2.10	-6.37	23.39	
41	318210B2	08/15/00	15:17:13	0.200	-0.20	-0.72	15.37	2.100	-2.10	-6.37	23.39	
42	318210 E3	08/15/00	15:18:43	0.200	-0.20	-0.72	15.37	2.100	2.90	8.80	23.39	
43	3182 Q10	08/15/00	15:20:14	0.200	-0.20	-0.72	15.37	2.100	2.90	8.80	23.39	
44	3182 Q20	08/15/00	15:21:45	0.200	-0.20	-0.72	15.37	2.100	0.90	2.73	23.39	
45	3182 Q30	08/15/00	15:23:16	0.200	-0.20	-0.72	15.37	2.100	-2.10	-6.37	23.39	

REVIEWED BY: 9/20/00

Prepared by: Monica Knapik

100cm2 SMEAR	Count Info		Alpha				Beta				
R1716050 07-01-01 Instr. No 1 M. Kh Count Started			2 Eff: 27.0% 4 pi: 15.71 dpm				2 Eff: 40.0% 4 pi: 46.75 dpm				
Carrier No	Sample ID	Date	Time	Bkg cpm	Net cpm	dpm	MDA	Bkg cpm	Net cpm	dpm	MDA	Comment
1	T810QA01	08/22/00	11:01:59	0.200	-0.20	-0.74	15.71	10.800	3.20	10.65	46.75	
2	T810QA02	08/22/00	11:03:29	0.200	-0.20	-0.74	15.71	10.800	-2.80	-9.32	46.75	
3	T810QA03	08/22/00	11:04:59	0.200	0.80	2.96	15.71	10.800	-2.09	-6.95	46.75	
4	T810QA04	08/22/00	11:06:28	0.200	-0.20	-0.74	15.71	10.800	-1.80	-5.99	46.75	
5	T810QA05	08/22/00	11:07:59	0.200	-0.20	-0.74	15.71	10.800	3.20	10.65	46.75	
6	T810QA06	08/22/00	11:09:28	0.200	-0.20	-0.74	15.71	10.800	-3.80	-12.65	46.75	
7	T810QA07	08/22/00	11:10:58	0.200	-0.20	-0.74	15.71	10.800	6.20	20.63	46.75	
8	T810QA08	08/22/00	11:12:28	0.200	1.80	6.65	15.71	10.800	-3.45	-11.47	46.75	
9	T810QA09	08/22/00	11:13:58	0.200	-0.20	-0.74	15.71	10.800	4.20	13.98	46.75	
10	T810QA10	08/22/00	11:15:28	0.200	-0.20	-0.74	15.71	10.800	4.20	13.98	46.75	
11	3185D3	08/22/00	11:16:58	0.200	0.80	2.96	15.71	10.800	3.91	13.02	46.75	
12	3185QA01	08/22/00	11:18:28	0.200	-0.20	-0.74	15.71	10.800	-2.80	-9.32	46.75	
13	3185QA02	08/22/00	11:19:59	0.200	-0.20	-0.74	15.71	10.800	2.20	7.32	46.75	
14	3182QA31	08/22/00	11:21:28	0.200	-0.20	-0.74	15.71	10.800	-6.80	-22.63	46.75	
15	3182QA32	08/22/00	11:22:58	0.200	-0.20	-0.74	15.71	10.800	0.20	0.67	46.75	
16	3182QA33	08/22/00	11:24:28	0.200	0.80	2.96	15.71	10.800	1.91	6.36	46.75	
17	3182QA34	08/22/00	11:25:58	0.200	-0.20	-0.74	15.71	10.800	9.20	30.62	46.75	
18	3182QA35	08/22/00	11:27:28	0.200	-0.20	-0.74	15.71	10.800	39.20	130.45	46.75	
19	3182QA36	08/22/00	11:28:59	0.200	-0.20	-0.74	15.71	10.800	-5.80	-19.30	46.75	
20	T812D3	08/22/00	11:30:28	0.200	-0.20	-0.74	15.71	10.800	0.20	0.67	46.75	
21	T811F3	08/22/00	11:31:59	0.200	-0.20	-0.74	15.71	10.800	13.20	43.93	46.75	
22	T811B3	08/22/00	11:33:29	0.200	-0.20	-0.74	15.71	10.800	-4.80	-15.97	46.75	
23	T810D3	08/22/00	11:34:59	0.200	0.80	2.96	15.71	10.800	1.91	6.36	46.75	
24	T837F2U	08/22/00	11:36:28	0.200	-0.20	-0.74	15.71	10.800	1.20	3.99	46.75	
25	T837C1U	08/22/00	11:37:59	0.200	0.80	2.96	15.71	10.800	1.91	6.36	46.75	
26	T837E3L	08/22/00	11:39:29	0.200	0.80	2.96	15.71	10.800	-2.09	-6.95	46.75	

Prote[illegible]strument Corporation

8/[illegible]/00

REVIEWED BY: 9/20/00

Prepared by: M. Knapik

100cm2 SMEAR P1716050 07-01-01 Instr No 1 M. Kl	Count Mins: 1 Count Started		Alpha 2-Eff: 27.07 LLD: 15.71dpm				Beta 2-Eff: 0.05 LLD: 46.75 dpm				
Carrier No.	Sample ID	Date	Time	Bkg cpm	Net cpm	dpm	MDA	Bkg cpm	Net cpm	dpm	MDA	Comment
1	T837B2L	08/22/00	12:04:15	0.200	1.80	6.65	15.71	10.800	-4.45	-14.80	46.75	
2	318205C10	08/22/00	12:05:45	0.200	-0.20	-0.74	15.71	10.800	1.20	3.99	46.75	
3	318205B20	08/22/00	12:07:15	0.200	0.80	2.96	15.71	10.800	-9.09	-30.24	46.75	
4	318205B10	08/22/00	12:08:45	0.200	-0.20	-0.74	15.71	10.800	-3.80	-12.65	46.75	
5	318205A20	08/22/00	12:10:15	0.200	0.80	2.96	15.71	10.800	-2.09	-6.95	46.75	
6	318205A10	08/22/00	12:11:45	0.200	0.80	2.96	15.71	10.800	-2.09	-6.95	46.75	
7	318205H3	08/22/00	12:13:15	0.200	-0.20	-0.74	15.71	10.800	4.20	13.98	46.75	
8	318205F2	08/22/00	12:14:45	0.200	-0.20	-0.74	15.71	10.800	4.20	13.98	46.75	
9	318205 E16	08/22/00	12:16:14	0.200	-0.20	-0.74	15.71	10.800	-3.80	-12.65	46.75	
10	318205 E6	08/22/00	12:17:45	0.200	0.80	2.96	15.71	10.800	-3.09	-10.28	46.75	
11	318205C20	08/22/00	12:19:14	0.200	-0.20	-0.74	15.71	10.800	-3.80	-12.65	46.75	
12	318205P14	08/22/00	12:20:44	0.200	-0.20	-0.74	15.71	10.800	-8.80	-29.28	46.75	
13	318205P4	08/22/00	12:22:14	0.200	-0.20	-0.74	15.71	10.800	-4.80	-15.97	46.75	
14	318205N1	08/22/00	12:23:44	0.200	-0.20	-0.74	15.71	10.800	1.20	3.99	46.75	
15	318205K5	08/22/00	12:25:14	0.200	0.80	2.96	15.71	10.800	8.91	29.66	46.75	
16	318205J2	08/22/00	12:26:44	0.200	-0.20	-0.74	15.71	10.800	-1.80	-5.99	46.75	
17	318213D6	08/22/00	12:28:15	0.200	0.80	2.96	15.71	10.800	-4.09	-13.60	46.75	
18	318207 E1	08/22/00	12:29:44	0.200	-0.20	-0.74	15.71	10.800	3.20	10.65	46.75	
19	318207A1	08/22/00	12:31:14	0.200	-0.20	-0.74	15.71	10.800	6.20	20.63	46.75	
20	318205D15	08/22/00	12:32:44	0.200	-0.20	-0.74	15.71	10.800	1.20	3.99	46.75	
21	318205D5	08/22/00	12:34:15	0.200	-0.20	-0.74	15.71	10.800	-1.80	-5.99	46.75	
22	318214 I6	08/22/00	12:35:45	0.200	-0.20	-0.74	15.71	10.800	-3.80	-12.65	46.75	
23	318214H2	08/22/00	12:37:15	0.200	-0.20	-0.74	15.71	10.800	12.20	40.60	46.75	
24	318213F4	08/22/00	12:38:44	0.200	-0.20	-0.74	15.71	10.800	0.20	0.67	46.75	
25	318212C6	08/22/00	12:40:14	0.200	-0.20	-0.74	15.71	10.800	3.20	10.65	46.75	
26	318212B4	08/22/00	12:41:45	0.200	-0.20	-0.74	15.71	10.800	-0.80	-2.66	46.75	

REVIEWED BY: 9/22/0[illegible]

[illegible]
[illegible]

			ALPHA				BETA					
			Eff: [illegible] Bkg: 0.20 cpm MDA: [illegible] dpm				Eff: [illegible] Bkg: 10.80 cpm MDA: [illegible] dpm					
SN	PRT	ID	COUNTS	NET CPM	DPM	LIMITS	COUNTS	NET CPM	DPM	LIMITS	DATE	TIME
001	00	FT. McCLELLAN	0	-0.20	-0.74		14	3.20	10.65		08-22-2000	11:01:59
002	00		0	-0.20	-0.74		8	-2.80	-9.32		08-22-2000	11:03:29
003	00		1	0.80	2.96		9	-2.09	-6.95		08-22-2000	11:04:59
004	00		0	-0.20	-0.74		9	-1.80	-5.99		08-22-2000	11:06:28
005	00		0	-0.20	-0.74		14	3.20	10.65		08-22-2000	11:07:59
006	00		0	-0.20	-0.74		7	-3.80	-12.65		08-22-2000	11:09:28
007	00		0	-0.20	-0.74		17	6.20	20.63		08-22-2000	11:10:58
008	00		2	1.80	6.65		8	-3.45	-11.47		08-22-2000	11:12:28
009	00		0	-0.20	-0.74		15	4.20	13.98		08-22-2000	11:13:58
010	00		0	-0.20	-0.74		15	4.20	13.98		08-22-2000	11:15:28
011	00		1	0.80	2.96		15	3.51	11.68		08-22-2000	11:16:58
012	00		0	-0.20	-0.74		8	-2.80	-9.32		08-22-2000	11:18:28
013	00		0	-0.20	-0.74		13	2.20	7.32		08-22-2000	11:19:58
[illegible]	00		0	-0.20	-0.74		4	-6.80	-22.63		08-22-2000	11:21:28
015	00		0	-0.20	-0.74		11	0.20	0.67		08-22-2000	11:22:58
016	00		1	0.80	2.96		13	1.91	6.36		08-22-2000	11:24:28
017	00		0	-0.20	-0.74		20	9.20	30.62		08-22-2000	11:25:58
018	00		0	-0.20	-0.74		50	39.20	130.45		08-22-2000	11:27:28
019	00		0	-0.20	-0.74		5	-5.80	-19.31		08-22-2000	11:28:58
020	00		0	-0.20	-0.74		11	0.20	0.67		08-22-2000	11:30:28
021	00		0	-0.20	-0.74		24	13.20	43.93		08-22-2000	11:31:59
022	00		0	-0.20	-0.74		6	-4.80	-15.97		08-22-2000	11:33:29
023	00		1	0.80	2.96		13	1.91	6.36		08-22-2000	11:34:59
024	00		0	-0.20	-0.74		12	1.20	3.99		08-22-2000	11:36:28
025	00		1	0.80	2.96		13	1.91	6.36		08-22-2000	11:37:59
026	00		1	0.80	2.96		9	-2.09	-6.95		08-22-2000	11:39:29

		ALPHA				BETA			
		Eff: 20.07% Bkg: 0.20 cpm MDA: 15.71 cpm				Eff: 30.35% Bkg: 10.80 cpm MDA: 46.75 cpm			
-SN-	-ART-	-Aa- ID	-+- COUNTS	-+- NET CPM	-+- CPM	-+- LIMITS	-+- COUNTS	-+- NET CPM	-+- CPM	-+- LIMITS	-+- DATE -+- TIME -+
001	00		2	1.60	6.65		7	-4.45	-14.80		08-22-2000 12:04:15
002	10		0	-0.20	-0.74		10	1.20	2.49		08-22-2000 12:05:45
003	60		1	0.80	2.96		2	-9.00	-30.24		08-22-2000 12:07:15
004	50		0	-0.20	-0.74		7	-3.80	-12.65		08-22-2000 12:08:45
005	30		1	0.80	2.96		9	-0.80	-6.65		08-22-2000 12:10:15
006	00		1	0.80	2.96		8	-2.00	-8.45		08-22-2000 12:11:45
007	10		1	-0.20	-0.74		14	4.20	17.88		08-22-2000 12:13:15
008	60		0	-0.20	-0.74		13	4.20	17.48		08-22-2000 12:14:45
009	50		0	-0.20	-0.74		7	-1.80	-10.25		08-22-2000 12:16:14
010	30		1	0.80	2.96		8	-1.00	-11.05		08-22-2000 12:17:45
011	00		0	-0.20	-0.74		7	-3.80	-12.65		08-22-2000 12:19:14
012	00		0	-0.20	-0.74		3	-8.80	-19.29		08-22-2000 12:20:44
013	10		0	-0.20	-0.74		5	-4.60	-14.67		08-22-2000 12:22:14
014	01		0	-0.20	-0.74		12	1.20	1.93		08-22-2000 12:23:44
015	00		1	0.80	2.96		27	8.41	35.05		08-22-2000 12:25:14
016	10		0	-0.20	-0.74		4	-1.80	-8.45		08-22-2000 12:26:44
017	01		1	0.80	2.96		7	-4.05	-12.65		08-22-2000 12:28:15
018	10		0	-0.20	-0.74		14	1.21	13.69		08-22-2000 12:29:44
019	01		0	-0.20	-0.74		17	6.21	23.03		08-22-2000 12:31:14
020	00		0	-0.20	-0.74		11	1.20	7.49		08-22-2000 12:32:44
021	00		1	-0.20	-0.74		9	-1.80	-8.45		08-22-2000 12:34:15
022	10		1	-0.20	-0.74		7	-3.80	-12.65		08-22-2000 12:35:45
023	01		0	-0.20	-0.74		27	10.20	40.60		08-22-2000 12:37:15
024	10		1	-0.20	-0.74		1	-9.79	-9.67		08-22-2000 12:38:44
025	01		1	-0.20	-0.74		14	-1.20	1.69		08-22-2000 12:40:14

BARRINGER LABORATORIES, INC.

15000 W 6TH AVE, STE 300 GOLDEN, CO 80401 (303) 277-1687 FAX (303) 277-1689

Telecopy Transmittal

To: Lee Young
ATG

Date: 10/12/00

We are sending 13 pages (including cover sheet)

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If there is an issue regarding the facsimile, i.e., you received an incomplete or illegible fax, please call 303-590-2083. Thank You.

Barringer Laboratories, Inc.

15000 W 6th Avenue Suite 300 Golden, Colorado 80401-5047 (800) 654-0506 (303) 277-1687 Fax (303) 277-1689

Date: 12-Oct-00

Client: ATG, Inc.
Project: FT. McCLELLAN COMMODITY SITE
Work Order: 0009053

CASE NARRATIVE

All reported values in this report have been rounded to the correct number of significant figures. All calculations have been performed before applying significant figures, therefore, not all calculations may be reproducible with the results printed in this report.

Liquid Scintillation vials containing cocktail and smears were sent in ready to count for H3 by LSC. Blank smears and vials sent in were used to generate the quench curve for these samples. No blanks, duplicates, or spikes were provided for counting.

Barringer Laboratories, Inc.
15000 W 6th Avenue Suite 300 Golden, Colorado 80401-5047 (800) 654-0506 (303) 277-1687 Fax (303) 277-1689

Date: 12-Oct-00

CLIENT SAMPLE REPORT

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318214G1

Tag Number:

Lab Sample ID: 0009053-01A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-3.3 ± 4.2	7		pCi/l	1	09/21/2000	10/02/2000	AGM	P7057

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318205B8

Tag Number:

Lab Sample ID: 0009053-02A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-3.3 ± 4.6	8		pCi/l	1	09/21/2000	10/02/2000	AGM	P7057

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 31820501

Tag Number:

Lab Sample ID: 0009053-03A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-6.6 ± 4.0	7		pCi/l	1	09/21/2000	10/02/2000	AGM	P7057

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318205P4

Tag Number:

Lab Sample ID: 0009053-04A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-4.7 ± 3.9	7		pCi/l	1	09/21/2000	10/02/2000	AGM	P7057

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318205B10

Tag Number:

Lab Sample ID: 0009053-05A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-2.3 ± 4.1	7		pCi/l	1	09/21/2000	10/02/2000	AGM	P7057

Qualifiers:
ND - Not detected at the reporting limit
B - Analyte detected in method blank
Z - Sample > 10 times blank result
J - Analyte detected below reporting limit
L - Contract/Client reporting limit exceeded
M - Maximum contaminant level exceeded
E - Value above quantitation range
R - RPD outside accepted recovery limits
X - Duplicate sample(s) < 5 times limit
S - Spike outside accepted recovery limits
Y - Unspiked sample > 4 times amount spiked

OCT-12-2000 12:45 BARRINGER LABORATORIES 303 277 1689 P.03

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Date: 12-Oct-00

CLIENT SAMPLE REPORT

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318205D1

Tag Number:

Lab Sample ID: 0009053-06A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-2.2 ± 4.1	7		pCi/l	1	09/21/2000	10/02/2000	AGM	P7057

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318205B4

Tag Number:

Lab Sample ID: 0009053-07A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-4.1 ± 3.9	7		pCi/l	1	09/21/2000	10/02/2000	AGM	P7057

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318205B6

Tag Number:

Lab Sample ID: 0009053-08A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-2.8 ± 4.0	7		pCi/l	1	09/21/2000	10/02/2000	AGM	P7057

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318207B2

Tag Number:

Lab Sample ID: 0009053-09A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-2.2 ± 4.3	7		pCi/l	1	09/21/2000	10/02/2000	AGM	P7057

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318205B2

Tag Number:

Lab Sample ID: 0009053-10A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-2.6 ± 4.3	7		pCi/l	1	09/21/2000	10/02/2000	AGM	P7057

Qualifiers:
ND - Not detected at the reporting limit
B - Analyte detected in method blank
Z - Sample > 10 times blank result
J - Analyte detected below reporting limit
L - Contract/Client reporting limit exceeded
M - Maximum contaminant level exceeded
E - Value above quantitation range
R - RPD outside accepted recovery limits
X - Duplicate sample(s) < 5 times limit
S - Spike outside accepted recovery limits
Y - Unspiked sample > 4 times amount spiked

OCT-12-2000 12:45 BARRINGER LABORATORIES 303 277 1689 P.04

Barringer Laboratories, Inc.
15000 W 6th Avenue Suite 300 Golden, Colorado 80401-5047 (800) 654-0506 (303) 277-1687 Fax (303) 277-1689

Date: 12-Oct-00

CLIENT SAMPLE REPORT

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318214G6

Tag Number:

Lab Sample ID: 0009053-11A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-5.1 ± 4.1	7		pCi/f	1	09/21/2000	10/02/2000	AGM	P7058

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318205D4

Tag Number:

Lab Sample ID: 0009053-12A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-1.6 ± 4.1	7		pCi/f	1	09/21/2000	10/02/2000	AGM	P7058

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318207C1

Tag Number:

Lab Sample ID: 0009053-13A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-4.1 ± 4.4	8		pCi/f	1	09/21/2000	10/02/2000	AGM	P7058

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318213D4

Tag Number:

Lab Sample ID: 0009053-14A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-2.6 ± 4.2	7		pCi/f	1	09/21/2000	10/02/2000	AGM	P7058

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318214G5

Tag Number:

Lab Sample ID: 0009053-15A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-1.7 ± 4.2	7		pCi/f	1	09/21/2000	10/02/2000	AGM	P7058

Qualifiers:
ND - Not detected at the reporting limit
B - Analyte detected in method blank
Z - Sample > 10 times blank result
J - Analyte detected below reporting limit
L - Contract/Client reporting limit exceeded
M - Maximum contaminant level exceeded
E - Value above quantitation range
R - RPD outside accepted recovery limits
X - Duplicate sample(s) < 5 times limit
S - Spike outside accepted recovery limits
Y - Unspiked sample > 4 times amount spiked

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Date: 12-Oct-00

CLIENT SAMPLE REPORT

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318205P19
Tag Number:

Lab Sample ID: 0009053-16A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-5.3 ± 4.4	8		pCi/f	1	09/21/2000	10/02/2000	AGM	P7058

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318205P1
Tag Number:

Lab Sample ID: 0009053-17A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-2.4 ± 4.2	7		pCi/f	1	09/21/2000	10/02/2000	AGM	P7058

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318205D5
Tag Number:

Lab Sample ID: 0009053-18A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-4.8 ± 4.0	7		pCi/f	1	09/21/2000	10/02/2000	AGM	P7058

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318207B1
Tag Number:

Lab Sample ID: 0009053-19A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-6.4 ± 4.0	7		pCi/f	1	09/21/2000	10/02/2000	AGM	P7058

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318207B3
Tag Number:

Lab Sample ID: 0009053-20A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-4.2 ± 4.4	8		pCi/f	1	09/21/2000	10/02/2000	AGM	P7058

Qualifiers:
ND - Not detected at the reporting limit
B - Analyte detected in method blank
Z - Sample > 10 times blank result
J - Analyte detected below reporting limit
L - Contract/Client reporting limit exceeded
M - Maximum contaminant level exceeded
E - Value above quantitation range
R - RPD outside accepted recovery limits
X - Duplicate sample(s) < 5 times limit
S - Spike outside accepted recovery limits
Y - Unspiked sample > 4 times amount spiked

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Date: 12-Oct-00

CLIENT SAMPLE REPORT

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: **318205D2**
Tag Number:

Lab Sample ID: 0009053-21A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-5.1 ± 3.9	7		pCi/l	1	09/21/2000	10/02/2000	AGM	P7059

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: **318207D1**
Tag Number:

Lab Sample ID: 0009053-22A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-5.3 ± 4.4	8		pCi/l	1	09/21/2000	10/02/2000	AGM	P7059

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: **318205B1**
Tag Number:

Lab Sample ID: 0009053-23A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-4.9 ± 4.0	7		pCi/l	1	09/21/2000	10/02/2000	AGM	P7059

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: **318205P2**
Tag Number:

Lab Sample ID: 0009053-24A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-4.5 ± 4.0	7		pCi/l	1	09/21/2000	10/02/2000	AGM	P7059

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: **318205N4**
Tag Number:

Lab Sample ID: 0009053-25A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-4.7 ± 4.2	7		pCi/l	1	09/21/2000	10/02/2000	AGM	P7059

Qualifiers:
ND - Not detected at the reporting limit
B - Analyte detected in method blank
Z - Sample > 10 times blank result
J - Analyte detected below reporting limit
L - Contract/Client reporting limit exceeded
M - Maximum contaminant level exceeded
E - Value above quantitation range
R - RPD outside accepted recovery limits
X - Duplicate sample(s) < 5 times limit
S - Spike outside accepted recovery limits
Y - Unspiked sample > 4 times amount spiked

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CLIENT SAMPLE REPORT

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: **318205P16**
Tag Number:

Lab Sample ID: 0009053-26A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-7.3 ± 4.2	8		pCi/l	1	09/21/2000	10/02/2000	AGM	P7059

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: **318205N2**
Tag Number:

Lab Sample ID: 0009053-27A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-3.3 ± 4.1	7		pCi/l	1	09/21/2000	10/02/2000	AGM	P7059

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: **318205P17**
Tag Number:

Lab Sample ID: 0009053-28A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-5.2 ± 4.2	8		pCi/l	1	09/21/2000	10/02/2000	AGM	P7059

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: **318214G4**
Tag Number:

Lab Sample ID: 0009053-29A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-4.6 ± 4.3	8		pCi/l	1	09/21/2000	10/02/2000	AGM	P7059

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: **318205P3**
Tag Number:

Lab Sample ID: 0009053-30A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-3.2 ± 3.9	7		pCi/l	1	09/21/2000	10/02/2000	AGM	P7059

Qualifiers:
ND - Not detected at the reporting limit
B - Analyte detected in method blank
Z - Sample > 10 times blank result
J - Analyte detected below reporting limit
L - Contract/Client reporting limit exceeded
M - Maximum contaminant level exceeded
E - Value above quantitation range
R - RPD outside accepted recovery limits
X - Duplicate sample(s) < 5 times limit
S - Spike outside accepted recovery limits
Y - Unspiked sample > 4 times amount spiked

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CLIENT SAMPLE REPORT

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: **31820502**
Tag Number:

Lab Sample ID: 0009053-31A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-3.7 ± 4.0	7		pCi/l	1	09/21/2000	10/02/2000	AGM	P7060

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: **318214G3**
Tag Number:

Lab Sample ID: 0009053-32A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-2.6 ± 4.1	7		pCi/l	1	09/21/2000	10/02/2000	AGM	P7060

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: **318214H2**
Tag Number:

Lab Sample ID: 0009053-33A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-4.6 ± 4.4	8		pCi/l	1	09/21/2000	10/02/2000	AGM	P7060

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: **318214G2**
Tag Number:

Lab Sample ID: 0009053-34A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-5.4 ± 4.4	8		pCi/l	1	09/21/2000	10/02/2000	AGM	P7060

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: **318205D3**
Tag Number:

Lab Sample ID: 0009053-35A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-5.5 ± 4.2	8		pCi/l	1	09/21/2000	10/02/2000	AGM	P7060

Qualifiers:
ND - Not detected at the reporting limit
B - Analyte detected in method blank
Z - Sample > 10 times blank result
J - Analyte detected below reporting limit
L - Contract/Client reporting limit exceeded
M - Maximum contaminant level exceeded
E - Value above quantitation range
R - RPD outside accepted recovery limits
X - Duplicate sample(s) < 5 times limit
S - Spike outside accepted recovery limits
Y - Unspiked sample > 4 times amount spiked

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CLIENT SAMPLE REPORT

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: **318207C2**
Tag Number:

Lab Sample ID: 0009053-36A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-5.1 ± 4.2	8		pCi/l	1	09/21/2000	10/02/2000	AGM	P7060

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: **318205B3**
Tag Number:

Lab Sample ID: 0009053-37A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-6.2 ± 4.2	8		pCi/l	1	09/21/2000	10/02/2000	AGM	P7060

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: **318205P18**
Tag Number:

Lab Sample ID: 0009053-38A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-3.6 ± 4.0	7		pCi/l	1	09/21/2000	10/02/2000	AGM	P7060

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: **318205B7**
Tag Number:

Lab Sample ID: 0009053-39A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-4.9 ± 4.5	8		pCi/l	1	09/21/2000	10/02/2000	AGM	P7060

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: **318213D3**
Tag Number:

Lab Sample ID: 0009053-40A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-5.1 ± 3.9	7		pCi/l	1	09/21/2000	10/02/2000	AGM	P7060

Qualifiers:
ND - Not detected at the reporting limit
B - Analyte detected in method blank
Z - Sample > 10 times blank result
J - Analyte detected below reporting limit
L - Contract/Client reporting limit exceeded
M - Maximum contaminant level exceeded
E - Value above quantitation range
R - RPD outside accepted recovery limits
X - Duplicate sample(s) < 5 times limit
S - Spike outside accepted recovery limits
Y - Unspiked sample > 4 times amount spiked

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Date: 12-Oct-00

CLIENT SAMPLE REPORT

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318205B5
Tag Number:

Lab Sample ID: 0009053-41A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-5.6 ± 4.2	8		pCi/f	1	09/21/2000	10/02/2000	AGM	P7061

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318207F1
Tag Number:

Lab Sample ID: 0009053-42A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-3.8 ± 4.0	7		pCi/f	1	09/21/2000	10/02/2000	AGM	P7061

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318205B15
Tag Number:

Lab Sample ID: 0009053-43A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-4.7 ± 4.4	8		pCi/f	1	09/21/2000	10/02/2000	AGM	P7061

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318207E1
Tag Number:

Lab Sample ID: 0009053-44A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-3.2 ± 4.0	7		pCi/f	1	09/21/2000	10/02/2000	AGM	P7061

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318213D6
Tag Number:

Lab Sample ID: 0009053-45A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-3.0 ± 4.3	7		pCi/f	1	09/21/2000	10/02/2000	AGM	P7061

Qualifiers:
ND - Not detected at the reporting limit
B - Analyte detected in method blank
Z - Sample > 10 times blank result
J - Analyte detected below reporting limit
L - Contract/Client reporting limit exceeded
M - Maximum contaminant level exceeded
E - Value above quantitation range
R - RPD outside accepted recovery limits
X - Duplicate sample(s) < 5 times limit
S - Spike outside accepted recovery limits
Y - Unspiked sample > 4 times amount spiked

Barringer Laboratories, Inc.

15000 W 6th Avenue Suite 300 Golden, Colorado 80401-5047 (800) 654-0506 (303) 277-1687 Fax (303) 277-1689

Date: 12-Oct-00

CLIENT SAMPLE REPORT

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318213D1
Tag Number:

Lab Sample ID: 0009053-46A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-3.7 ± 4.0	7		pCi/f	1	09/21/2000	10/02/2000	AGM	P7061

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318207G1
Tag Number:

Lab Sample ID: 0009053-47A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-5.9 ± 4.3	8		pCi/f	1	09/21/2000	10/02/2000	AGM	P7061

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318207D2
Tag Number:

Lab Sample ID: 0009053-48A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-5.4 ± 4.5	8		pCi/f	1	09/21/2000	10/02/2000	AGM	P7061

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318207F2
Tag Number:

Lab Sample ID: 0009053-49A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-4.6 ± 4.0	7		pCi/f	1	09/21/2000	10/02/2000	AGM	P7061

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: 318207E2
Tag Number:

Lab Sample ID: 0009053-50A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-4.7 ± 3.8	7		pCi/f	1	09/21/2000	10/02/2000	AGM	P7061

Qualifiers:
ND - Not detected at the reporting limit
B - Analyte detected in method blank
Z - Sample > 10 times blank result
J - Analyte detected below reporting limit
L - Contract/Client reporting limit exceeded
M - Maximum contaminant level exceeded
E - Value above quantitation range
R - RPD outside accepted recovery limits
X - Duplicate sample(s) < 5 times limit
S - Spike outside accepted recovery limits
Y - Unspiked sample > 4 times amount spiked

Barringer Laboratories, Inc.
15000 W 6th Avenue Suite 300 Golden, Colorado 80401-3047 (800) 654-0506 (303) 277-1687 Fax (303) 277-1689

Date: 12-Oct-00

CLIENT SAMPLE REPORT

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: **318213D2**
Tag Number:

Lab Sample ID: 0009053-51A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-5.4 ± 4.3	8		pCi/l	1	09/21/2000	10/02/2000	AGM	P7062

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: **318205N5**
Tag Number:

Lab Sample ID: 0009053-52A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-6.0 ± 4.0	7		pCi/l	1	09/21/2000	10/02/2000	AGM	P7062

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: **318207D3**
Tag Number:

Lab Sample ID: 0009053-53A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-3.0 ± 4.3	7		pCi/l	1	09/21/2000	10/02/2000	AGM	P7062

Client: ATG, Inc.
Work Order: 0009053
Project: FT. McCLELLAN COMMODITY SITE

Client Sample ID: **318213F5**
Tag Number:

Lab Sample ID: 0009053-54A
Date Collected: 09/05/2000
Matrix: Liquid

Analyte	CAS#	Method	Result ± 2 sigma	Limit	Qual	Unit	DF	Prepped	Analyzed	Analyst	Batch
Tritium, total	10028-17-8	EPA 906.0	-5.0 ± 4.5	8		pCi/l	1	09/21/2000	10/02/2000	AGM	P7062

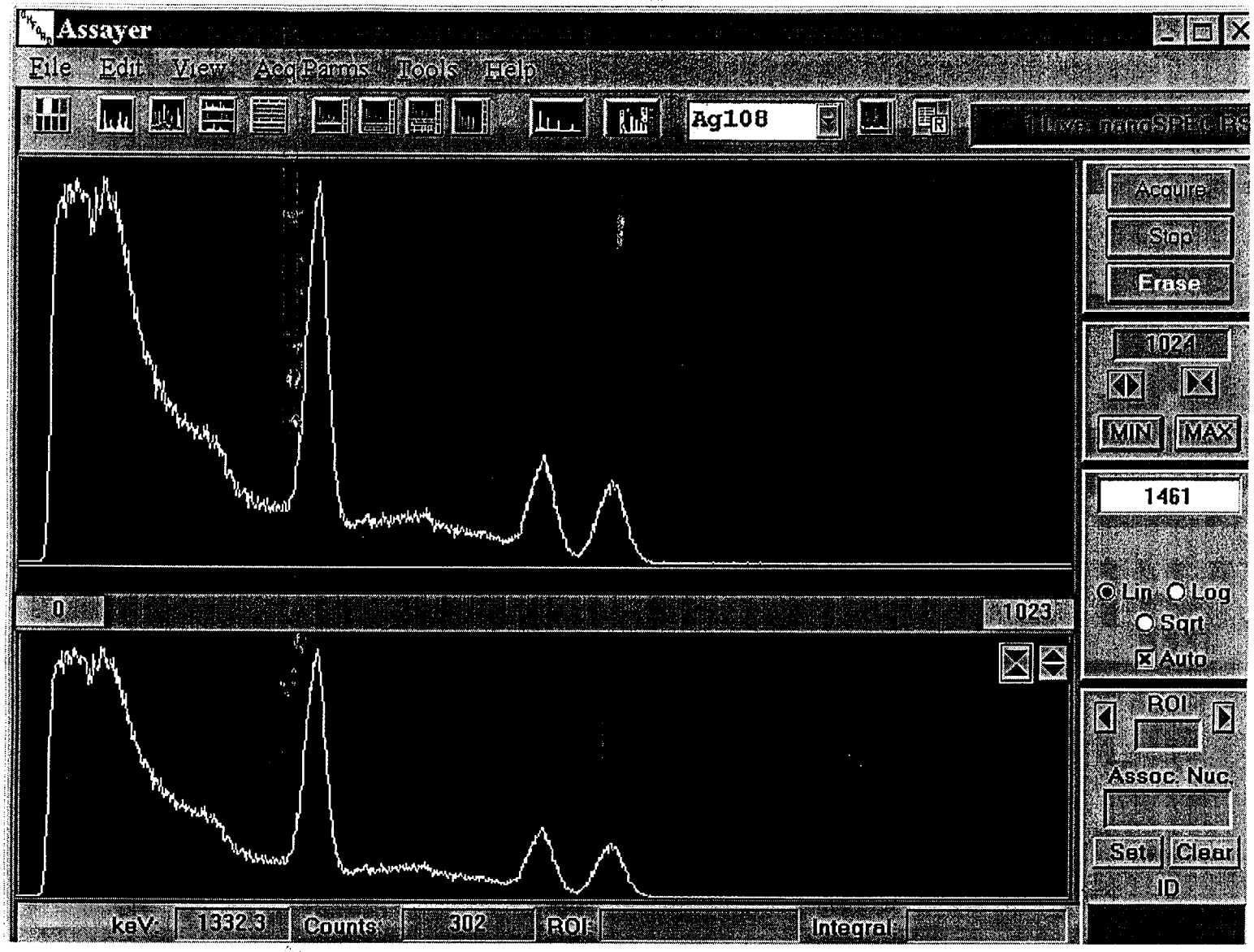
Qualifiers:
ND - Not detected at the reporting limit
B - Analyte detected in method blank
Z - Sample > 10 times blank result
J - Analyte detected below reporting limit
L - Contract/Client reporting limit exceeded
M - Maximum contaminant level exceeded
E - Value above quantitation range
R - RPD outside accepted recovery limits
X - Duplicate sample(s) < 5 times limit
S - Spike outside accepted recovery limits
Y - Unspiked sample > 4 times amount spiked

TOTAL P.13

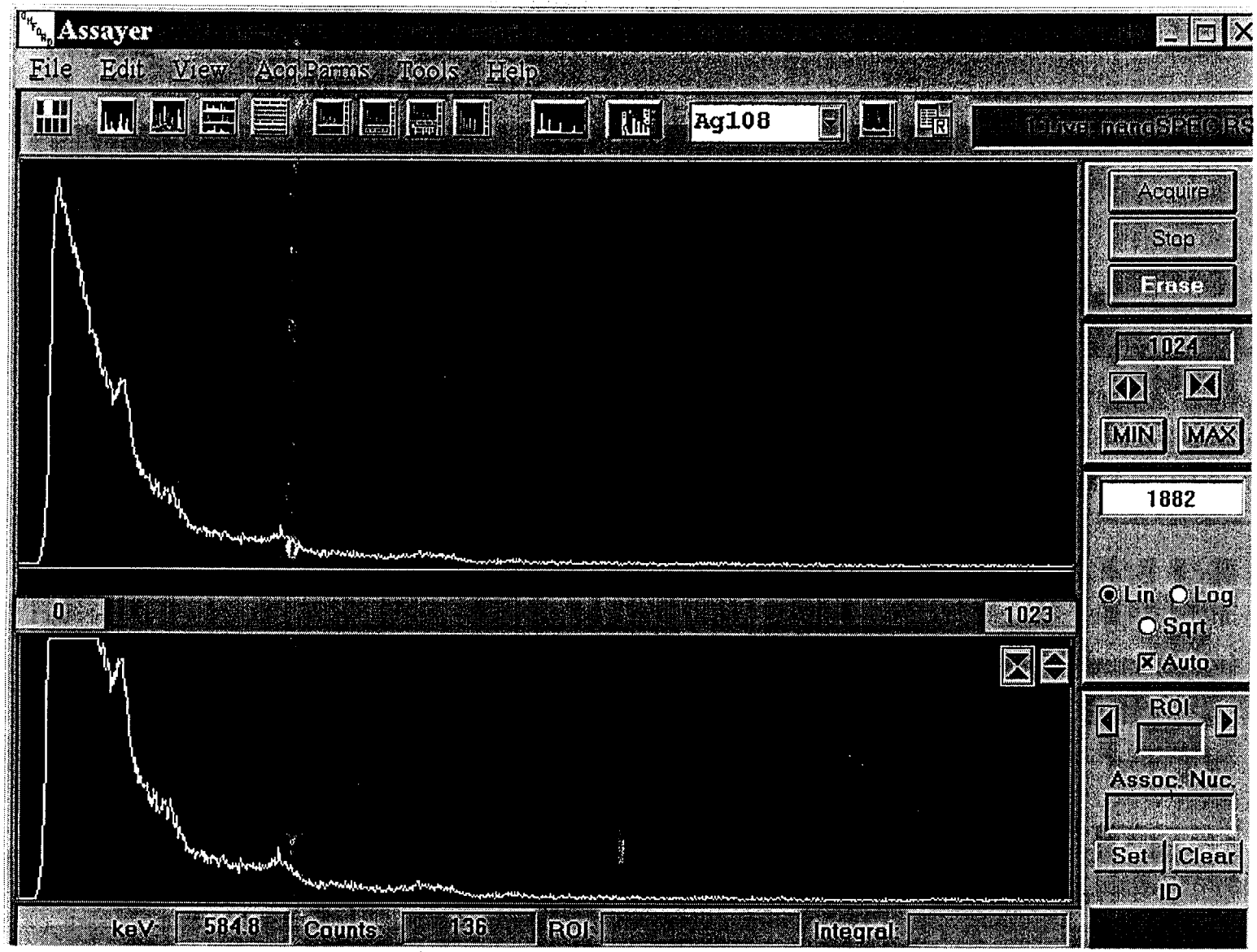
APPENDIX F

IN SITU AND LABORATORY γ SPECTROMETRY RECORDS

In Situ Energy Calibration Check using $^{137}Cs(^{137m}Ba)$ and ^{60}Co Sources (August 1, 2000)



In Situ Analysis of Area of Soil Generating Elevated μR-Meter Readings (August 1, 2000)



ATG Catalytics, Inc.
Aug/25/2000 2:58:45PM

HEADER INFORMATION in SLD00171.S0 HOT SPOT SURFACE

Identification
- r : KSW
- ard : 1
- Detector : GEM-20200
- Geometry : Soil Marinell
- Sample : SS-01
- Channels : 8192

Acquisition
- Started : Aug/25/2000 2:41:51PM
- Stopped : Aug/25/2000 2:58:32PM
- True Time : 1000.753 sec
- Live Time : 1000.000 sec
- Dead Time : 0.08 %
- Gross Count : 41824 counts
- Gross Rate : 41.824 cps

Sample
Sample Quantity 743.7 ± 74.37 g

Energy Calibration Jun/21/2000 10:32:38AM 00D01G01.S0
Resolution Calibration Jun/21/2000 10:34:57AM 00D01G01.S0
Efficiency Calibration Aug/21/2000 2:57:32PM 00D01G03.S0
Isotope Library SOIL.LIB Jun/30/2000 12:08:34PM

Rn daughters were not in equilibrium.

8-25-00

ROI COUNT INFORMATION in SLD00171.SU HOT SPOT SURFACE

ROI (#)	Channels Start	Stop	Energy keV Start	Stop	Net Counts	Background Counts	Gross Counts
1	295	304	73.82	76.07	345	301	646
	304	314	76.07	78.57	556	307	863
	362	378	90.57	94.58	14	759	773
4	366	384	91.57	96.08	65	739	804
5	510	522	127.59	130.59	117	397	513
6	567	583	141.84	145.85	14	447	461
7	738	749	184.61	187.36	134	257	391
8	832	844	208.12	211.12	192	234	426
9	948	961	237.13	240.38	2245	240	2485
10	1073	1087	268.39	271.89	159	147	306
11	1105	1115	276.39	278.89	66	133	199
12	1173	1187	293.39	296.89	284	129	413
13	1195	1205	298.89	301.40	99	108	207
14	1305	1318	326.40	329.65	140	109	249
15	1345	1361	336.40	340.41	387	148	535
16	1401	1417	350.41	354.41	462	134	596
17	1632	1643	408.17	410.92	44	64	108
18	1846	1857	461.68	464.43	119	35	154
19	2035	2052	508.94	513.19	211	68	279
20	2324	2339	581.20	584.95	637	80	717
21	2431	2446	607.95	611.70	336	45	381
22	2900	2917	725.21	729.46	156	36	192
23	3018	3025	754.71	756.46	27	18	45
24	3173	3186	793.46	796.71	72	22	94
25	3339	3347	834.96	836.96	25	14	39
26	3436	3447	859.21	861.96	65	19	84
27	3635	3654	908.95	913.70	441	24	465
28	3853	3865	963.45	966.45	69	10	80
29	3868	3884	967.20	971.20	259	12	271
30	4480	4488	1120.17	1122.17	32	24	56
31	5825	5861	1456.32	1465.31	19	14	33

ROI STATISTICS INFORMATION in SLD001/1.SU HOT SPOT SURFACE

ROI (#)	Error	Centroid keV	FWHM keV	FWTM keV	FWTM/FWHM ratio	H/L ratio
1	19.17 %	74.97	0.91	1.66	1.82	3.324/3.324
	13.98 %	77.24	0.91	1.67	1.82	3.332/3.332
	551.95 %	93.44	0.84			
4	121.38 %	93.44	0.84			
5	51.77 %	129.25	0.76	1.65	2.18	2.631/3.972
6	433.59 %	143.84				
7	37.93 %	186.27	0.97	2.11	2.16	3.536/4.892
8	26.76 %	209.45	0.88	1.52	1.74	3.151/2.944
9	11.61 %	238.84	1.07	1.96	1.82	3.912/3.912
10	26.77 %	270.43	1.05	1.98	1.89	3.415/4.515
11	55.31 %	277.65	0.41	1.58	3.83	2.553/3.757
12	16.39 %	295.32	1.02	1.86	1.83	4.227/3.201
13	35.77 %	300.20	0.70	1.63	2.33	3.662/2.837
14	27.08 %	328.19	1.41	2.08	1.48	4.115/4.211
15	13.50 %	338.44	0.93	1.94	2.09	4.238/3.530
16	11.71 %	352.03	1.11	1.92	1.72	4.175/3.498
17	59.01 %	409.21	0.33	2.35	7.12	5.974/3.438
18	23.05 %	463.07	1.11	2.40	2.16	4.850/4.745
19	17.70 %	510.94	0.78	2.33	2.97	5.200/4.109
20	8.86 %	583.30	1.32	2.26	1.71	4.586/4.464
21	12.28 %	609.42	1.44	2.44	1.70	4.833/4.927
22	19.36 %	727.31	1.53	2.92	1.91	6.736/4.943
23	59.87 %	755.58	1.04			
24	30.14 %	794.90	1.32	2.37	1.80	5.728/3.741
25	56.83 %	835.98	0.31	1.79	5.76	3.274/3.873
26	31.35 %	860.79	1.20	2.44	2.03	3.913/5.834
27	10.03 %	911.38	1.50	3.18	2.12	5.981/6.754
28	29.08 %	964.95	1.76	3.21	1.82	6.423/6.423
29	13.40 %	969.13	1.77	3.22	1.82	6.437/6.437
30	55.12 %	1120.99	0.53			
31	71.60 %	1461.20	0.53	2.26	4.30	1.869/7.180

Errors Quoted at 2 Sigma

ACTIVITY INFORMATION With MDA's for SLD00171.SU HOT SPOT SURFACE

Name	Energy keV	Activity Flag	uCi/g	Error uCi/g	MDA uCi/g	Error uCi/g
Ac-228	93.35	<	5.701e-006	± 6.567e-007	5.701e-006	± 6.567
Ac-228	129.03		7.300e-006	± 3.861e-006	5.975e-006	± 6.487
Ac-228	209.39		9.442e-006	± 2.732e-006	3.633e-006	± 3.997
Ac-228	270.26		9.971e-006	± 2.879e-006	3.707e-006	± 4.01e
Ac-228	328.07		1.099e-005	± 3.2e-006	4.035e-006	± 4.319
Ac-228	338.42		8.793e-006	± 1.515e-006	1.347e-006	± 1.441
Ac-228	409.62		6.587e-006	± 3.951e-006	5.907e-006	± 6.366
Ac-228	463.10		9.325e-006	± 2.377e-006	2.359e-006	± 2.563
Ac-228	755.28		1.086e-005	± 6.602e-006	9.252e-006	± 9.794
Ac-228	794.79		8.765e-006	± 2.798e-006	3.027e-006	± 3.189
Ac-228	835.60		8.776e-006	± 5.072e-006	6.815e-006	± 7.158
Ac-228	911.16		9.662e-006	± 1.404e-006	5.587e-007	± 5.873
Ac-228	964.64	m	7.986e-006	± 2.471e-006	2.031e-006	± 2.146
Ac-228	968.97	m	9.995e-006	± 1.706e-006	7.230e-007	± 7.646
Weighted Average			9.351e-006	± 2.174e-006		
Bi-212	727.25		1.223e-005	± 2.702e-006	2.401e-006	± 2.553
Bi-214	609.31		3.277e-006	± 5.368e-007	3.300e-007	± 3.578
Bi-214	1120.27		1.652e-006	± 9.284e-007	1.292e-006	± 1.405
Weighted Average			2.878e-006	± 7.528e-007		
K-40	1460.75	*<	1.808e-006	± 2.01e-007	1.808e-006	± 2.01e
Pb-212	74.81	m	1.392e-005	± 3.135e-006	3.363e-006	± 3.973
Pb-212	77.11	m	1.212e-005	± 2.217e-006	1.836e-006	± 2.167
Pb-212	238.58	s	1.126e-005	± 1.796e-006	3.751e-007	± 4.098
Pb-212	300.03		7.641e-006	± 2.854e-006	3.929e-006	± 4.219
Weighted Average			1.168e-005	± 2.144e-006		
Pb-214	295.01		3.759e-006	± 7.369e-007	7.353e-007	± 7.902
Pb-214	351.87		3.613e-006	± 5.731e-007	4.431e-007	± 4.744
Weighted Average			3.663e-006	± 6.278e-007		
Ra-226	185.99		7.770e-006	± 3.069e-006	4.474e-006	± 4.919
Th-234	92.58	*<	5.977e-006	± 6.884e-007	5.977e-006	± 6.884
Tl-208	277.28		2.354e-006	± 1.326e-006	2.014e-006	± 2.174
Tl-208	510.72		3.644e-006	± 7.575e-007	7.126e-007	± 7.771
Tl-208	583.02		3.211e-006	± 4.505e-007	2.234e-007	± 2.43e
Tl-208	860.30		3.261e-006	± 1.078e-006	1.162e-006	± 1.22e
Weighted Average			3.246e-006	± 6.259e-007		
U-235	143.79	*<	1.719e-006	± 1.865e-007	1.719e-006	± 1.865
Grand Total			5.082e-005	± 5.234e-006		

Activity (uCi) at Aug/25/2000 12:00:00PM
Divided by Sample Quantity 743.7 ± 74.37 g
Errors Quoted at 2 Sigma
MDA's Quoted at 1.645 Sigma

Flags	Meaning
s	Fitted Singlet
m	Fitted Multiplet
*	Forced MDA from identification
	MDA value

ATG Catalytics, Inc.
Aug/25/2000 3:21:03PM

HEADER INFORMATION in SLD00172.S0 HOT SPOT 3"

Identification		Acquisition	
r	: KSW	Started	: Aug/25/2000 3:04:07PM
ard	: 1	Stopped	: Aug/25/2000 3:20:48PM
Detector	: GEM-20200	True Time	: 1000.702 sec
Geometry	: Soil Marinell	Live Time	: 1000.000 sec
Sample	: SS-02	Dead Time	: 0.07 %
Channels	: 8192	Gross Count	: 38802 counts
		Gross Rate	: 38.802 cps

Sample
Sample Quantity 739 ± 73.9 g

Energy Calibration Jun/21/2000 10:32:38AM 00D01G01.S0
Resolution Calibration Jun/21/2000 10:34:57AM 00D01G01.S0
Efficiency Calibration Aug/21/2000 2:57:32PM 00D01G03.S0
Isotope Library SOIL.LIB Jun/30/2000 12:08:34PM

Ra daughters were not in equilibrium.
8-25-00

ROI COUNT INFORMATION in SLD00172.SU HOT SPOT 3"

ROI (#)	Channels Start	Stop	Energy keV Start	Stop	Net Counts	Background Counts	Gross Counts
3	295	304	73.82	76.07	349	269	618
	304	314	76.07	78.57	513	270	783
	345	354	86.32	88.57	202	294	495
4	356	364	89.07	91.07	172	246	418
5	362	378	90.57	94.58	308	416	724
6	369	378	92.32	94.58	179	248	427
7	509	522	127.34	130.59	152	358	510
8	567	583	141.84	145.85	20	398	418
9	738	752	184.61	188.11	158	310	468
10	830	843	207.62	210.87	180	249	429
11	949	961	237.38	240.38	2006	192	2199
12	960	970	240.13	242.63	238	147	385
13	1075	1090	268.89	272.64	148	160	308
14	1173	1187	293.39	296.89	239	130	369
15	1193	1206	298.39	301.65	104	113	217
16	1303	1316	325.90	329.15	105	122	227
17	1345	1359	336.40	339.91	413	122	534
18	1396	1415	349.16	353.91	471	104	575
19	1631	1644	407.92	411.17	72	76	148
20	1845	1860	461.43	465.18	123	62	185
21	2033	2049	508.44	512.44	202	75	277
22	2325	2341	581.45	585.45	624	56	680
23	2428	2443	607.20	610.95	327	46	373
24	2901	2916	725.46	729.21	115	51	166
25	3069	3077	767.46	769.46	31	18	49
26	3172	3186	793.21	796.71	64	27	91
27	3635	3654	908.95	913.70	386	32	418
28	3852	3865	963.20	966.45	65	12	76
29	3868	3883	967.20	970.95	180	13	193
30	5825	5861	1456.32	1465.31	21	9	30

ROI STATISTICS INFORMATION in SLD00172.SU HOT SPOT 3"

ROI (#)	Error	Centroid keV	FWHM keV	FWTM keV	FWTM/FWHM ratio	H/L ratio
1	17.70 %	74.97	0.91	1.66	1.82	3.324/3.324
	13.81 %	77.27	0.91	1.67	1.82	3.332/3.332
	27.86 %	87.38	0.92	1.68	1.82	3.369/3.369
4	30.26 %	90.11	0.93	1.69	1.82	3.378/3.378
5	21.92 %	93.30	1.71			
6	27.84 %	93.37	0.93	1.70	1.82	3.390/3.390
7	38.88 %	129.12	0.95	2.50	2.64	3.524/6.489
8	282.79 %	143.68	0.46	1.59	3.46	3.398/2.968
9	35.43 %	186.04	0.68	1.93	2.86	4.304/3.411
10	28.97 %	209.48	0.89			
11	8.37 %	238.85	1.07	1.96	1.82	3.912/3.912
12	28.13 %	241.45	1.08	1.96	1.82	3.921/3.921
13	29.23 %	270.39	1.41	2.42	1.72	5.121/4.567
14	18.74 %	295.41	1.11	1.93	1.73	3.772/3.951
15	35.09 %	300.16	0.94	1.87	1.98	3.196/4.264
16	35.51 %	328.13	0.99	1.89	1.91	2.789/4.774
17	12.41 %	338.47	1.19	2.09	1.76	3.738/4.622
18	11.06 %	352.05	1.21	2.56	2.12	4.562/5.688
19	41.31 %	409.61	1.25	2.62	2.10	5.074/5.411
20	25.66 %	463.22	1.29	1.97	1.52	3.827/4.049
21	18.55 %	510.88	1.23	2.28	1.86	3.982/5.156
22	8.70 %	583.33	1.06	2.48	2.34	4.584/5.332
23	12.54 %	609.37	1.09	2.60	2.38	5.039/5.349
24	25.68 %	727.37	1.52	2.73	1.80	5.109/5.827
25	52.81 %	768.36	1.16			
26	33.95 %	794.87	0.75	2.95	3.93	6.756/5.055
27	10.99 %	911.28	1.49	2.90	1.94	5.651/5.967
28	32.50 %	964.83	1.76	3.21	1.82	6.423/6.423
29	16.29 %	969.05	1.77	3.22	1.82	6.437/6.437
30	60.39 %	1460.19	0.59	3.30	5.61	7.024/6.194

Errors Quoted at 2 Sigma

ACTIVITY INFORMATION with MDA's for SLD001/2.5U HOT SPOT 3"

Name	Energy keV	Activity Flag	uCi/g	Error uCi/g	MDA uCi/g	Error uCi/g
Ac-228	89.96	m	1.341e-005	± 4.345e-006	5.919e-006	± 6.867
Ac-228	93.35	m	7.956e-006	± 2.397e-006	3.378e-006	± 3.891
Ac-228	129.03		9.563e-006	± 3.86e-006	5.727e-006	± 6.218
Ac-228	209.39		8.900e-006	± 2.758e-006	3.769e-006	± 4.146
Ac-228	270.26		9.340e-006	± 2.911e-006	3.885e-006	± 4.201
Ac-228	328.07		8.322e-006	± 3.086e-006	4.276e-006	± 4.576
Ac-228	338.42		9.431e-006	± 1.546e-006	1.234e-006	± 1.321
Ac-228	409.62		1.082e-005	± 4.618e-006	6.449e-006	± 6.952
Ac-228	463.10		9.655e-006	± 2.69e-006	3.108e-006	± 3.376
Ac-228	794.79		7.884e-006	± 2.802e-006	3.312e-006	± 3.489
Ac-228	911.16		8.510e-006	± 1.294e-006	6.399e-007	± 6.727
Ac-228	964.64	m	7.498e-006	± 2.562e-006	2.161e-006	± 2.284
Ac-228	968.97	m	7.004e-006	± 1.36e-006	7.558e-007	± 7.993
Weighted Average			8.586e-006	± 2.021e-006		
Bi-212	727.25		9.060e-006	± 2.518e-006	2.841e-006	± 3.021
Bi-214	609.31		3.204e-006	± 5.311e-007	3.374e-007	± 3.659
Bi-214	768.35		3.495e-006	± 1.882e-006	2.531e-006	± 2.674
Weighted Average			3.232e-006	± 6.511e-007		
K-40	1460.75	*	1.883e-006	± 1.156e-006	1.529e-006	± 1.701
Pb-212	74.81	m	1.416e-005	± 3.013e-006	3.209e-006	± 3.792
Pb-212	77.11	m	1.123e-005	± 2.039e-006	1.735e-006	± 2.047
Pb-212	87.19	m	9.100e-006	± 2.748e-006	3.720e-006	± 4.339
Pb-212	238.58	m	1.013e-005	± 1.394e-006	3.393e-007	± 3.707
Pb-212	300.03		8.029e-006	± 2.947e-006	4.050e-006	± 4.348
Weighted Average			1.072e-005	± 1.919e-006		
Pb-214	241.92	m	7.075e-006	± 2.135e-006	1.755e-006	± 1.916
Pb-214	295.01		3.178e-006	± 6.865e-007	7.442e-007	± 7.997
Pb-214	351.87		3.709e-006	± 5.711e-007	3.950e-007	± 4.228
Weighted Average			3.943e-006	± 7.49e-007		
Ra-226	185.99		9.172e-006	± 3.403e-006	4.932e-006	± 5.423
Th-234	92.58	*	1.419e-005	± 3.515e-006	4.498e-006	± 5.182
Tl-208	510.72		3.520e-006	± 7.576e-007	7.477e-007	± 8.154
Tl-208	583.02		3.165e-006	± 4.407e-007	1.905e-007	± 2.072
Weighted Average			3.239e-006	± 5.02e-007		
U-235	143.79	*<	1.635e-006	± 1.773e-007	1.635e-006	± 1.773
Grand Total			6.403e-005	± 6.373e-006		

Activity (uCi) at Aug/25/2000 12:00:00PM
Divided by Sample Quantity 739 ± 73.9 g
Errors Quoted at 2 Sigma
MDA's Quoted at 1.645 Sigma

Flags	Meaning
m	Fitted Multiplet
*	Forced MDA from identification
<	MDA value

ATG Catalytics, Inc.
Aug/25/2000 12:27:54PM

HEADER INFORMATION in SLD00169.S0 Hot Spot 6"

Identification
- r : KSW
- rd : 1
- Detector : GEM-20200
- Geometry : Soil Marinell
- Sample : SS-03
- Channels : 8192

Acquisition
- Started : Aug/25/2000 12:11:01PM
- Stopped : Aug/25/2000 12:27:41PM
- True Time : 1000.683 sec
- Live Time : 1000.000 sec
- Dead Time : 0.07 %
- Gross Count : 37700 counts
- Gross Rate : 37.7 cps

Sample
Sample Quantity 704.7 ± 70.47 g

Energy Calibration Jun/21/2000 10:32:38AM 00D01G01.S0
Resolution Calibration Jun/21/2000 10:34:57AM 00D01G01.S0
Efficiency Calibration Aug/21/2000 2:57:32PM 00D01G03.S0
Isotope Library SOIL.LIB Jun/30/2000 12:08:34PM

Rn: daughters were not in equilibrium 8-25-00

ROI COUNT INFORMATION in SLD00169.SU Hot Spot 6"

ROI (#)	Channels Start	Stop	Energy keV Start	Stop	Net Counts	Background Counts	Gross Counts
1	295	304	73.82	76.07	345	269	614
	304	314	76.07	78.57	512	273	786
	356	364	89.07	91.07	173	229	402
4	362	378	90.57	94.58	190	466	656
5	369	377	92.32	94.33	183	215	398
6	510	522	127.59	130.59	97	342	439
7	567	583	141.84	145.85	-15	410	395
8	733	749	183.36	187.36	145	318	463
9	831	843	207.87	210.87	154	221	375
10	949	961	237.38	240.38	1834	163	1996
11	960	970	240.13	242.63	255	124	379
12	1074	1085	268.64	271.39	125	136	261
13	1104	1117	276.14	279.39	68	144	212
14	1175	1186	293.89	296.64	243	87	330
15	1196	1205	299.14	301.40	115	70	185
16	1307	1317	326.90	329.40	77	103	180
17	1345	1362	336.40	340.66	393	122	515
18	1400	1416	350.16	354.16	417	92	509
19	1844	1858	461.18	464.68	108	51	159
20	2034	2051	508.69	512.94	202	77	279
21	2324	2342	581.20	585.70	620	67	687
22	2428	2445	607.20	611.45	312	41	353
23	2901	2916	725.46	729.21	143	38	181
24	3175	3185	793.96	796.46	46	24	70
25	3436	3448	859.21	862.21	63	11	75
26	3633	3654	908.45	913.70	367	18	385
27	3853	3865	963.45	966.45	49	12	61
28	3868	3883	967.20	970.95	190	15	204
29	5825	5861	1456.32	1465.31	38	9	47

ROI STATISTICS INFORMATION in SLD00169.SO Hot Spot 6"

ROI (#)	Error	Centroid keV	FWHM keV	FWTM keV	FWTM/FWHM ratio	H/L ratio
1	17.63 %	74.99	0.91	1.66	1.82	3.324/3.324
	13.48 %	77.26	0.91	1.67	1.82	3.332/3.332
	35.35 %	90.07	0.93	1.69	1.82	3.378/3.378
4	35.34 %	93.36	0.98	2.07	2.12	3.640/4.646
5	31.46 %	93.34	0.93	1.70	1.82	3.390/3.390
6	57.56 %	129.06	0.74	1.52	2.05	3.823/2.266
7	2000.00 %	143.84				
8	38.52 %	186.33	0.81	2.01	2.47	3.201/4.849
9	31.71 %	209.42	0.90	1.36	1.52	2.603/2.852
10	8.98 %	238.85	1.07	1.96	1.82	3.912/3.912
11	27.04 %	241.46	1.08	1.96	1.82	3.921/3.921
12	31.76 %	270.42	1.21	1.80	1.48	3.420/3.770
13	55.67 %	277.68	0.57	1.58	2.76	2.202/4.105
14	14.97 %	295.30	1.13	2.06	1.82	4.113/4.113
15	24.42 %	300.26	1.13	2.07	1.82	4.130/4.130
16	43.95 %	328.17	0.90	1.72	1.91	4.088/2.803
17	12.86 %	338.48	1.01	2.11	2.09	4.112/4.316
18	11.75 %	352.04	1.08	2.10	1.95	4.281/4.122
19	26.84 %	463.13	0.70	2.34	3.37	5.015/4.340
20	18.73 %	510.88	1.03	2.78	2.70	4.911/6.190
21	8.85 %	583.30	1.21	2.62	2.17	4.873/5.621
22	12.75 %	609.46	1.49	2.46	1.65	4.147/5.707
23	20.77 %	727.35	1.67	2.99	1.80	6.784/5.190
24	42.38 %	795.20	0.95	1.78	1.88	2.825/4.309
25	23.75 %	860.75	1.67	3.04	1.82	6.072/6.072
26	10.92 %	911.36	1.84	3.26	1.77	6.301/6.734
27	21.89 %	965.02	1.76	3.21	1.82	6.423/6.423
28	10.24 %	968.99	1.77	3.22	1.82	6.437/6.437
29	39.74 %	1462.06	1.64	2.74	1.67	6.473/4.474

Errors Quoted at 2 Sigma

ACTIVITY INFORMATION with MDA's for SLD00169.SU Hot Spot 6"

Name	Energy keV	Activity Flag	uCi/g	Error uCi/g	MDA uCi/g	Error uCi/g
Ac-228	89.96	m	1.421e-005	± 5.287e-006	5.999e-006	± 6.96e
Ac-228	93.35	m	8.548e-006	± 2.864e-006	3.306e-006	± 3.80e
Ac-228	129.03		6.424e-006	± 3.763e-006	5.871e-006	± 6.37e
Ac-228	209.39		7.992e-006	± 2.682e-006	3.730e-006	± 4.103
Ac-228	270.26		8.299e-006	± 2.785e-006	3.765e-006	± 4.072
Ac-228	328.07		6.355e-006	± 2.875e-006	4.149e-006	± 4.441
Ac-228	338.42		9.413e-006	± 1.575e-006	1.299e-006	± 1.39e
Ac-228	463.10		8.917e-006	± 2.582e-006	2.967e-006	± 3.223
Ac-228	794.79		5.919e-006	± 2.585e-006	3.308e-006	± 3.484
Ac-228	911.16		8.495e-006	± 1.288e-006	5.139e-007	± 5.402
Ac-228	964.64	m	6.022e-006	± 1.464e-006	2.283e-006	± 2.413
Ac-228	968.97	m	7.726e-006	± 1.137e-006	8.354e-007	± 8.834
Weighted Average			8.260e-006	± 1.944e-006		
Bi-212	727.25		1.180e-005	± 2.754e-006	2.610e-006	± 2.775
Bi-214	609.31		3.206e-006	± 5.365e-007	3.358e-007	± 3.641
K-40	1460.75	*	3.596e-006	± 1.484e-006	1.606e-006	± 1.785
Pb-212	238.58	m	9.706e-006	± 1.372e-006	3.287e-007	± 3.591
Pb-212	300.03	m	9.343e-006	± 2.492e-006	3.376e-006	± 3.624
Weighted Average			9.680e-006	± 1.455e-006		
Pb-214	74.84	m	2.365e-005	± 5.02e-006	5.416e-006	± 6.399
Pb-214	77.11	m	1.895e-005	± 3.394e-006	2.944e-006	± 3.474
Pb-214	241.92	m	7.933e-006	± 2.313e-006	1.700e-006	± 1.855
Pb-214	295.01	m	3.390e-006	± 6.247e-007	6.445e-007	± 6.926
Pb-214	351.87		3.446e-006	± 5.477e-007	3.905e-007	± 4.18e
Weighted Average			7.563e-006	± 1.392e-006		
Ra-226	185.99		8.867e-006	± 3.552e-006	5.235e-006	± 5.757
Th-234	92.58	*	9.151e-006	± 3.402e-006	4.981e-006	± 5.738
Tl-208	277.28		2.556e-006	± 1.449e-006	2.208e-006	± 2.383
Tl-208	510.72		3.681e-006	± 7.977e-007	7.968e-007	± 8.688
Tl-208	583.02		3.301e-006	± 4.628e-007	2.162e-007	± 2.352
Tl-208	860.30	s	3.371e-006	± 8.753e-007	9.804e-007	± 1.029
Weighted Average			3.335e-006	± 6.262e-007		
U-235	143.79	*<	1.739e-006	± 1.886e-007	1.739e-006	± 1.886
Grand Total			6.546e-005	± 6.519e-006		

Activity (uCi) at Aug/25/2000 12:00:00PM
Divided by Sample Quantity 704.7 ± 70.47 g
Errors Quoted at 2 Sigma
MDA's Quoted at 1.645 Sigma

Flags	Meaning
s	Fitted Singlet
m	Fitted Multiplet
*	Forced MDA from identification
	MDA value

ATG Catalytics, Inc.
Aug/25/2000 2:39:50PM

HEADER INFORMATION in SLD00170.S0 Hot Spot 8"

Identification		Acquisition	
r	: KSW	Started	: Aug/25/2000 2:22:56PM
rd	: 1	Stopped	: Aug/25/2000 2:39:37PM
Detector	: GEM-20200	True Time	: 1000.720 sec
Geometry	: Soil Marinell	Live Time	: 1000.000 sec
Sample	: SS-04	Dead Time	: 0.07 %
Channels	: 8192	Gross Count	: 40031 counts
		Gross Rate	: 40.031 cps

Sample
Sample Quantity 685 ± 68.5 g

Energy Calibration Jun/21/2000 10:32:38AM 00D01G01.S0
Resolution Calibration Jun/21/2000 10:34:57AM 00D01G01.S0
Efficiency Calibration Aug/21/2000 2:57:32PM 00D01G03.S0
Isotope Library SOIL.LIB Jun/30/2000 12:08:34PM

Rn daughters were not in equilibrium.
8-25-00

ROI COUNT INFORMATION in SLD00170.SD Hot Spot 8"

ROI (#)	Channels Start	Stop	Energy keV Start	Stop	Net Counts	Background Counts	Gross Counts
1	295	304	73.82	76.07	335	303	638
	304	314	76.07	78.57	528	300	828
	334	341	83.57	85.32	85	195	280
4	345	354	86.32	88.57	229	251	480
5	356	364	89.07	91.07	165	231	397
6	362	378	90.57	94.58	317	419	736
7	368	377	92.07	94.33	223	264	487
8	511	523	127.84	130.84	159	329	488
9	567	583	141.84	145.85	14	437	451
10	610	625	152.60	156.35	113	339	452
11	735	750	183.86	187.61	157	339	496
12	830	843	207.62	210.87	189	248	437
13	949	961	237.38	240.38	2153	162	2314
14	960	970	240.13	242.63	246	133	379
15	1075	1087	268.89	271.89	174	130	304
16	1102	1115	275.64	278.89	102	154	256
17	1175	1188	293.89	297.14	229	127	356
18	1194	1205	298.64	301.40	125	104	229
19	1303	1322	325.90	330.65	100	164	264
20	1345	1361	336.40	340.41	381	148	529
21	1400	1416	350.16	354.16	416	124	540
22	1847	1861	461.93	465.43	93	71	163
23	2035	2050	508.94	512.69	212	80	292
24	2324	2340	581.20	585.20	590	66	656
25	2429	2445	607.45	611.45	296	70	366
26	2901	2915	725.46	728.96	139	32	170
27	3173	3187	793.46	796.96	72	16	88
28	3339	3348	834.96	837.21	26	9	35
29	3439	3449	859.96	862.46	62	14	76
30	3635	3654	908.95	913.70	407	22	429
31	3853	3865	963.45	966.45	63	8	72
32	3868	3883	967.20	970.95	222	8	230
33	5825	5861	1456.32	1465.31	10	14	24

ROI STATISTICS INFORMATION in SLD001/0.50 Hot Spot 8"

ROI (#)	Error	Centroid keV	FWHM keV	FWTM keV	FWTM/FWHM ratio	H/L ratio
1	14.65 %	74.98	0.91	1.66	1.82	3.324/3.324
	10.77 %	77.28	0.91	1.67	1.82	3.332/3.332
	54.02 %	84.44	0.92	1.68	1.82	3.358/3.358
4	24.58 %	87.42	0.92	1.69	1.82	3.369/3.369
5	31.53 %	90.05	0.93	1.69	1.82	3.378/3.378
6	21.48 %	93.30	1.40			
7	25.81 %	93.26	0.93	1.70	1.82	3.390/3.390
8	35.93 %	129.23	0.94	1.55	1.65	3.094/3.113
9	422.66 %	143.84				
10	49.87 %	154.25	0.58	2.00	3.42	6.124/1.860
11	36.86 %	186.16	1.32	1.83	1.39	3.477/3.848
12	27.66 %	209.40	1.04	1.94	1.87	2.892/4.882
13	7.75 %	238.87	1.07	1.96	1.82	3.912/3.912
14	26.55 %	241.44	1.08	1.96	1.82	3.921/3.921
15	23.95 %	270.42	0.90	2.29	2.54	5.111/4.056
16	39.70 %	277.56	0.80	1.87	2.35	3.953/3.539
17	19.24 %	295.44	0.85	1.81	2.13	3.476/3.746
18	29.31 %	300.25	0.83	1.62	1.96	3.219/3.276
19	41.38 %	327.94	0.42	1.71	4.10	3.817/3.036
20	13.65 %	338.47	1.07	1.90	1.77	4.147/3.437
21	12.39 %	352.08	1.09	1.98	1.83	3.516/4.421
22	33.04 %	463.33	1.06	1.88	1.78	3.421/4.079
23	18.20 %	510.97	1.33	2.32	1.75	4.779/4.508
24	9.12 %	583.40	1.08	2.38	2.22	4.713/4.817
25	14.09 %	609.61	1.21	2.54	2.09	4.957/5.188
26	20.50 %	727.61	1.06	1.73	1.64	3.446/3.481
27	28.59 %	794.88	0.61	2.47	4.05	5.154/4.746
28	51.02 %	836.16	0.76	1.70	2.25	2.519/4.281
29	30.80 %	861.38	1.18			
30	10.44 %	911.43	1.60	3.02	1.89	5.722/6.348
31	31.22 %	964.99	1.76	3.21	1.82	6.423/6.423
32	14.60 %	969.11	1.77	3.22	1.82	6.437/6.437
33	121.57 %	1460.82				

s Quoted at 2 Sigma

ACTIVITY INFORMATION With MDA's for SLD001/0.50 Hot Spot 8"

Name	Energy keV	Activity Flag	uCi/g	Error uCi/g	MDA uCi/g	Error uCi/g
Ac-228	89.96	m	1.397e-005	± 4.695e-006	6.201e-006	± 7.19
Ac-228	93.35	m	1.071e-005	± 3.028e-006	3.762e-006	± 4.33
Ac-228	129.03		1.082e-005	± 4.062e-006	5.924e-006	± 6.43
Ac-228	209.39		1.010e-005	± 3.007e-006	4.054e-006	± 4.46
Ac-228	270.26		1.185e-005	± 3.113e-006	3.796e-006	± 4.10
Ac-228	328.07		8.530e-006	± 3.645e-006	5.313e-006	± 5.68
Ac-228	338.42		9.399e-006	± 1.631e-006	1.462e-006	± 1.56
Ac-228	463.10		7.860e-006	± 2.734e-006	3.549e-006	± 3.85
Ac-228	794.79		9.502e-006	± 2.896e-006	2.871e-006	± 3.02
Ac-228	835.60		9.717e-006	± 5.062e-006	6.228e-006	± 6.54
Ac-228	911.16		9.681e-006	± 1.434e-006	5.835e-007	± 6.13
Ac-228	964.64	m	7.920e-006	± 2.611e-006	2.016e-006	± 2.13
Ac-228	968.97	m	9.289e-006	± 1.674e-006	6.560e-007	± 6.93
Weighted Average			9.680e-006	± 2.245e-006		
Bi-212	727.25		1.180e-005	± 2.724e-006	2.454e-006	± 2.60
Bi-214	609.31		3.137e-006	± 5.577e-007	4.399e-007	± 4.76
K-40	1460.75	*<	1.962e-006	± 2.182e-007	1.962e-006	± 2.18
Pb-212	74.81	m	1.464e-005	± 2.756e-006	3.664e-006	± 4.32
Pb-212	77.11	m	1.248e-005	± 1.994e-006	1.967e-006	± 2.32
Pb-212	87.19	m	1.116e-005	± 3.035e-006	3.716e-006	± 4.33
Pb-212	238.58	m	1.172e-005	± 1.57e-006	3.371e-007	± 3.68
Pb-212	300.03		1.042e-005	± 3.252e-006	4.202e-006	± 4.51
Weighted Average			1.217e-005	± 2.002e-006		
Pb-214	241.92	m	7.889e-006	± 2.265e-006	1.806e-006	± 1.97
Pb-214	295.01		3.286e-006	± 7.24e-007	7.938e-007	± 8.53
Pb-214	351.87		3.534e-006	± 5.787e-007	4.634e-007	± 4.96
Weighted Average			3.969e-006	± 7.748e-007		
Ra-226	185.99		9.854e-006	± 3.791e-006	5.555e-006	± 6.10
Th-234	92.58	*	1.574e-005	± 3.836e-006	4.872e-006	± 5.61
Tl-208	84.79	m	2.330e-005	± 1.288e-005	1.861e-005	± 2.18
Tl-208	277.28		3.954e-006	± 1.627e-006	2.343e-006	± 2.52
Tl-208	510.72		3.982e-006	± 8.448e-007	8.326e-007	± 9.07
Tl-208	583.02		3.227e-006	± 4.58e-007	2.222e-007	± 2.41
Weighted Average			3.622e-006	± 6.355e-007		
U-235	143.79	*<	1.846e-006	± 2.002e-007	1.846e-006	± 2.00
Grand Total			6.996e-005	± 6.845e-006		

Activity (uCi) at Aug/25/2000 12:00:00PM
Divided by Sample Quantity 685 ± 68.5 g
Errors Quoted at 2 Sigma
MDA's Quoted at 1.645 Sigma

PEAKS NOT IDENTIFIED in SDD00170.SO| Hot Spot 8"

ROI (#)	Centroid keV	Net Count Rate Flag	cps	Error cps	MDA Rate cps	Error cps
10	154.25		0.1128	± 0.05626	0.08840	
	861.38		0.06170	± 0.01901	0.02030	

Errors Quoted at 2 Sigma

Flags	Meaning
m	Fitted Multiplet
*	Forced MDA from identification
<	MDA value

ATG Catalytics, Inc.
Aug/25/2000 3:40:06PM

HEADER INFORMATION in SLD00173.S0 REFERENCE POINT #1

Identification		Acquisition	
Operator	: KSW	Started	: Aug/25/2000 3:23:13PM
Board	: 1	Stopped	: Aug/25/2000 3:39:53PM
Detector	: GEM-20200	True Time	: 1000.229 sec
Geometry	: Soil Marinell	Live Time	: 1000.000 sec
Sample	: SS-05	Dead Time	: 0.02 %
Channels	: 8192	Gross Count	: 11269 counts
		Gross Rate	: 11.269 cps

Sample
Sample Quantity 620 ± 62 g

Energy Calibration Jun/21/2000 10:32:38AM 00D01G01.S0
Resolution Calibration Jun/21/2000 10:34:57AM 00D01G01.S0
Efficiency Calibration Aug/21/2000 2:57:32PM 00D01G03.S0
Isotope Library SOIL.LIB Jun/30/2000 12:08:34PM

Radaughters were not in equilibrium

8-25-00

ROI COUNT INFORMATION in SBD00173.SO REFERENCE POINT #1

ROI (#)	Channels Start	Stop	Energy keV Start	Stop	Net Counts	Background Counts	Gross Counts
1	295	303	73.82	75.82	112	52	164
2	305	313	76.32	78.32	154	48	202
3	344	353	86.07	88.32	69	83	152
4	362	378	90.57	94.58	32	178	210
5	567	583	141.84	145.85	16	112	128
6	740	750	185.11	187.61	58	55	113
7	949	961	237.38	240.38	504	44	548
8	964	972	241.13	243.13	62	26	88
9	1174	1185	293.64	296.39	69	26	95
10	1196	1204	299.14	301.15	28	22	50
11	1346	1359	336.65	339.91	86	45	131
12	1402	1415	350.66	353.91	129	20	149
13	1849	1857	462.43	464.43	28	13	41
14	2039	2048	509.94	512.19	48	16	64
15	2325	2340	581.45	585.20	146	14	160
16	2431	2442	607.95	610.70	100	17	117
17	3639	3653	909.95	913.45	85	13	98
18	3871	3883	967.95	970.95	54	5	59
19	5825	5861	1456.32	1465.31	15	5	20

ROI STATISTICS INFORMATION in SLD001/3.SU REFERENCE POINT #1

ROI (#)	Error	Centroid keV	FWHM keV	FWTM keV	FWTM/FWHM ratio	H/L ratio
1	37.72 %	74.80	0.91	1.66	1.82	3.323/3.323
	31.19 %	77.25	0.91	1.67	1.82	3.332/3.332
	44.43 %	87.44	1.21	1.86	1.54	2.54[illegible]/4.893
4	125.15 %	92.87	0.38	1.93	5.03	4.771/2.955
5	196.18 %	143.84				
6	44.69 %	186.15	0.80	1.73	2.16	3.841/3.060
7	15.42 %	238.86	1.07	1.96	1.82	3.912/3.912
8	50.67 %	242.20	1.08	1.96	1.82	3.924/3.924
9	32.12 %	295.36	0.94	1.86	1.98	3.233/4.191
10	59.59 %	300.25	1.09	1.71	1.57	3.326/3.531
11	30.76 %	338.54	0.75	1.94	2.57	3.441/4.300
12	20.07 %	352.05	1.09	2.16	1.98	5.104/3.522
13	51.56 %	463.19	1.22			
14	37.27 %	511.05	0.78	2.02	2.58	3.994/4.092
15	18.14 %	583.32	1.13	2.53	2.23	4.214/5.918
16	23.09 %	609.38	1.06	2.32	2.20	4.455/4.826
17	24.99 %	911.55	1.56	2.73	1.75	5.183/5.720
18	29.79 %	969.15	0.84	2.31	2.74	4.626/4.600
19	64.55 %	1460.36	0.36	2.59	7.12	3.635/6.732

Errors Quoted at 2 Sigma

ACTIVITY INFORMATION with MDA's for SLD001/3.50 REFERENCE POINT #1

Name	Energy keV	Activity Flag	uCi/g	Error uCi/g	MDA uCi/g	Error uCi/g
Ac-228	338.42		2.349e-006	± 7.652e-007	9.225e-007	± 9.871
Ac-228	463.10		2.665e-006	± 1.404e-006	1.804e-006	± 1.96e
Ac-228	911.16		2.221e-006	± 6.022e-007	5.205e-007	± 5.472
Ac-228	968.97		2.490e-006	± 7.87e-007	6.163e-007	± 6.517
Weighted Average			2.352e-006	± 7.355e-007		
Bi-214	609.31		1.172e-006	± 2.988e-007	2.546e-007	± 2.761
K-40	1460.75	*	1.663e-006	± 1.089e-006	1.375e-006	± 1.529
Pb-212	238.58	m	3.032e-006	± 5.731e-007	2.024e-007	± 2.211
Pb-212	300.03		2.624e-006	± 1.589e-006	2.248e-006	± 2.414
Weighted Average			3.003e-006	± 6.566e-007		
Pb-214	74.84	m	8.824e-006	± 3.488e-006	2.846e-006	± 3.363
Pb-214	77.11	m	6.454e-006	± 2.152e-006	1.471e-006	± 1.735
Pb-214	87.19		5.989e-006	± 2.751e-006	3.914e-006	± 4.564
Pb-214	241.92	m	2.187e-006	± 1.134e-006	9.368e-007	± 1.022
Pb-214	295.01		1.089e-006	± 3.69e-007	4.226e-007	± 4.541
Pb-214	351.87		1.215e-006	± 2.763e-007	2.188e-007	± 2.342
Weighted Average			2.748e-006	± 8.661e-007		
Ra-226	185.99		4.027e-006	± 1.854e-006	2.584e-006	± 2.841
Th-234	92.58	*<	3.592e-006	± 4.143e-007	3.592e-006	± 4.143
Tl-208	510.72		9.963e-007	± 3.869e-007	4.425e-007	± 4.825
Tl-208	583.02		8.803e-007	± 1.862e-007	1.231e-007	± 1.339
Weighted Average			9.044e-007	± 2.244e-007		
U-235	143.79	*<	1.061e-006	± 1.151e-007	1.061e-006	± 1.151
Grand Total			1.587e-005	± 2.546e-006		

Activity (uCi) at Aug/25/2000 12:00:00PM
Divided by Sample Quantity 620 ± 62 g
Errors Quoted at 2 Sigma
MDA's Quoted at 1.645 Sigma

Flags	Meaning
m	Fitted Multiplet
*	Forced MDA from identification
<	MDA value

AIG Calibrics, Inc.
Aug/25/2000 3:59:15PM

HEADER INFORMATION in SLD00174.S0 REFERENCE POINT #2

Identification		Acquisition	
User	: KSW	Started	: Aug/25/2000 3:42:22PM
Method	: 1	Stopped	: Aug/25/2000 3:59:03PM
Detector	: GEM-20200	True Time	: 1000.218 sec
Geometry	: Soil Marinell	Live Time	: 1000.000 sec
Sample	: SS-06	Dead Time	: 0.02 %
Channels	: 8192	Gross Count	: 10597 counts
		Gross Rate	: 10.597 cps

Sample
Sample Quantity 643 ± 64.3 g

Energy Calibration Jun/21/2000 10:32:38AM 00D01G01.S0
Resolution Calibration Jun/21/2000 10:34:57AM 00D01G01.S0
Efficiency Calibration Aug/21/2000 2:57:32PM 00D01G03.S0
Isotope Library SOIL.LIB Jun/30/2000 12:08:34PM

Rn daughters were not in equilibrium
8-28-00

ROI (#)	Channels Start	Stop	Energy keV Start	Stop	Net Counts	Background Counts	Gross Counts
1	296	304	74.07	76.07	73	72	145
2	304	312	76.07	78.07	126	53	179
	345	353	86.32	88.32	66	48	115
	357	364	89.32	91.07	54	40	94
5	362	378	90.57	94.58	74	99	173
6	368	376	92.07	94.08	65	41	107
7	567	583	141.84	145.85	-15	128	113
8	736	752	184.11	188.11	45	85	130
9	948	962	237.13	240.63	349	167	516
10	1076	1085	269.14	271.39	38	33	71
11	1176	1186	294.14	296.64	69	31	100
12	1307	1315	326.90	328.90	27	17	44
13	1348	1359	337.15	339.91	90	30	120
14	1402	1414	350.66	353.66	126	33	158
15	2039	2049	509.94	512.44	41	20	61
16	2325	2341	581.45	585.45	147	17	164
17	2431	2442	607.95	610.70	68	16	84
18	2907	2914	726.96	728.71	25	10	35
19	3638	3653	909.70	913.45	98	10	108
20	3871	3882	967.95	970.70	52	7	59
21	5825	5861	1456.32	1465.31	16	0	16

Activity Information with MDA's for SDD00174.30 REFERENCE POINT #2

Name	Energy keV	Activity Flag	uCi/g	Error uCi/g	MDA uCi/g	Error uCi/g
Ac-228	89.96	m	4.862e-006	± 1.87e-006	2.880e-006	± 3.341
Ac-228	93.35	m	3.350e-006	± 1.121e-006	1.679e-006	± 1.935
Ac-228	270.26		2.757e-006	± 1.509e-006	2.135e-006	± 2.309
Ac-228	328.07		2.443e-006	± 1.444e-006	1.993e-006	± 2.133
Ac-228	338.42		2.364e-006	± 6.915e-007	7.406e-007	± 7.925
Ac-228	911.16		2.493e-006	± 6.089e-007	4.339e-007	± 4.561
Ac-228	968.97		2.311e-006	± 7.66e-007	6.777e-007	± 7.167
Weighted Average			2.612e-006	± 8.28e-007		
Bi-212	727.25		2.232e-006	± 1.246e-006	1.607e-006	± 1.708
Bi-214	609.31		7.710e-007	± 2.4e-007	2.376e-007	± 2.577
K-40	1460.75	*	1.669e-006	± 8.547e-007	2.822e-007	± 3.139
Pb-212	238.58		2.028e-006	± 3.755e-007	3.640e-007	± 3.977
Pb-214	74.84	m	5.500e-006	± 1.907e-006	3.163e-006	± 3.737
Pb-214	77.11	m	5.122e-006	± 1.267e-006	1.495e-006	± 1.764
Pb-214	87.19	m	5.577e-006	± 1.969e-006	2.946e-006	± 3.436
Pb-214	295.01		1.059e-006	± 3.682e-007	4.367e-007	± 4.693
Pb-214	351.87		1.136e-006	± 2.779e-007	2.646e-007	± 2.833
Weighted Average			2.269e-006	± 6.455e-007		
Ra-226	185.99	*<	3.054e-006	± 3.359e-007	3.054e-006	± 3.359
Th-234	92.58	*	3.920e-006	± 1.813e-006	2.610e-006	± 3.008
Tl-208	510.61		8.590e-007	± 3.864e-007	4.881e-007	± 5.322
Tl-208	583.02		8.570e-007	± 1.825e-007	1.276e-007	± 1.388
Weighted Average			8.574e-007	± 2.233e-007		
U-235	143.79	*<	1.087e-006	± 1.179e-007	1.087e-006	± 1.179
Grand Total			1.636e-005	± 2.63e-006		

Activity (uCi) at Aug/25/2000 12:00:00PM
Divided by Sample Quantity 643 ± 64.3 g
Errors Quoted at 2 Sigma
MDA's Quoted at 1.645 Sigma

Flags	Meaning
m	Fitted Multiplet
*	Forced MDA from identification
<	MDA value

APPENDIX G

REMOVABLE α/β EMITTING ACTIVITY ANALYSIS RECORDS

Smears

PIC WPC-9550 Instr No 1

Carrier No.	Sample ID	Count Started Date	Time	Location ID	Comment	Sample Collected Date	Time	DF	dpm Alpha Limits	dpm Beta Limits
1	318201(A1)	08/03/00	19:07:49	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
2	318201(A1)	08/03/00	19:06:59	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
3	318201(A1)	08/03/00	19:06:09	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
4	318201(A1)	08/03/00	19:05:19	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
5	318201(A1)	08/03/00	19:04:29	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
6	318201(B1)	08/03/00	19:03:39	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
7	318201(B1)	08/03/00	19:02:49	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
8	318201(B1)	08/03/00	19:02:00	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
9	318201(B1)	08/03/00	19:01:10	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
10	318201(B1)	08/03/00	19:00:20	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
11	318201(C1)	08/03/00	18:59:30	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
12	318201(C1)	08/03/00	18:58:40	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
13	318201(C1)	08/03/00	18:57:50	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
14	318201(C1)	08/03/00	18:57:00	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
15	318201(C1)	08/03/00	18:56:10	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
16	318202(D1)	08/03/00	18:55:21	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
17	318202(D1)	08/03/00	18:54:31	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
18	318202(D1)	08/03/00	18:53:41	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
19	318202(D1)	08/03/00	18:52:51	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
20	318202(D1)	08/03/00	18:52:02	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
21	318202(E1)	08/03/00	18:51:12	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
22	318202(E1)	08/03/00	18:50:22	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
23	318202(E1)	08/03/00	18:49:33	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
24	318202(E1)	08/03/00	18:48:43	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
25	318202(E1)	08/03/00	18:47:53	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
26	318202(F1)	08/03/00	18:47:04	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
27	318202(F1)	08/03/00	18:46:14	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
28	318202(F1)	08/03/00	18:45:25	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
29	318202(F1)	08/03/00	18:44:35	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
30	318202(F1)	08/03/00	18:43:45	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
31	318203(G1)	08/03/00	18:42:56	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
32	318203(G1)	08/03/00	18:42:06	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
33	318203(G1)	08/03/00	18:41:17	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
34	318203(G1)	08/03/00	18:40:27	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
35	318203(G1)	08/03/00	18:39:37	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
36	318203(H1)	08/03/00	18:38:48	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
37	318203(H1)	08/03/00	18:37:58	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
38	318203(H1)	08/03/00	18:37:08	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
39	318203(H1)	08/03/00	18:36:18	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
40	318203(H1)	08/03/00	18:35:29	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02

Smears

PIC WPC-9550 Instr No 1

Carrier No.	Sample ID	Count Started Date	Count Started Time	Location ID	Comment	Sample Collected Date	Sample Collected Time	DF	dpm Alpha Limits	dpm Beta Limits
41	318203(I1)	08/03/00	18:34:39	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
42	318203(I1)	08/03/00	18:33:49	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
43	318203(I1)	08/03/00	18:32:59	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
44	318203(I1)	08/03/00	18:32:10	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
45	318203(I1)	08/03/00	18:31:20	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
46	318206(A1)	08/03/00	18:30:30	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
47	318206(A1)	08/03/00	18:29:40	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
48	318206(A1)	08/03/00	18:28:51	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
49	318206(A1)	08/03/00	18:28:01	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
50	318206(A1)	08/03/00	18:27:11	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02

Smears				Alpha										
PIC WPC-9550 Instr No 1		Count Started												
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
1	318201(A1)	08/03/00	19:07:49	1.00	2.00	0.070	1.93	21.63	8.92	30.78	8.92	18.52	30.78	Less Than MDA
2	318201(A1)	08/03/00	19:06:59	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
3	318201(A1)	08/03/00	19:06:09	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
4	318201(A1)	08/03/00	19:05:19	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
5	318201(A1)	08/03/00	19:04:29	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
6	318201(B1)	08/03/00	19:03:39	1.00	2.00	0.070	1.93	21.63	8.92	30.78	8.92	18.52	30.78	Less Than MDA
7	318201(B1)	08/03/00	19:02:49	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
8	318201(B1)	08/03/00	19:02:00	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
9	318201(B1)	08/03/00	19:01:10	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
10	318201(B1)	08/03/00	19:00:20	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
11	318201(C1)	08/03/00	18:59:30	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
12	318201(C1)	08/03/00	18:58:40	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
13	318201(C1)	08/03/00	18:57:50	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
14	318201(C1)	08/03/00	18:57:00	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
15	318201(C1)	08/03/00	18:56:10	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
16	318202(D1)	08/03/00	18:55:21	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
17	318202(D1)	08/03/00	18:54:31	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
18	318202(D1)	08/03/00	18:53:41	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
19	318202(D1)	08/03/00	18:52:51	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
20	318202(D1)	08/03/00	18:52:02	1.00	2.00	0.070	1.93	21.63	8.92	30.78	8.92	18.52	30.78	Less Than MDA
21	318202(E1)	08/03/00	18:51:12	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
22	318202(E1)	08/03/00	18:50:22	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
23	318202(E1)	08/03/00	18:49:33	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
24	318202(E1)	08/03/00	18:48:43	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
25	318202(E1)	08/03/00	18:47:53	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
26	318202(F1)	08/03/00	18:47:04	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
27	318202(F1)	08/03/00	18:46:14	1.00	2.00	0.070	1.93	21.63	8.92	30.78	8.92	18.52	30.78	Less Than MDA
28	318202(F1)	08/03/00	18:45:25	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
29	318202(F1)	08/03/00	18:44:35	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
30	318202(F1)	08/03/00	18:43:45	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
31	318203(G1)	08/03/00	18:42:56	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
32	318203(G1)	08/03/00	18:42:06	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
33	318203(G1)	08/03/00	18:41:17	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
34	318203(G1)	08/03/00	18:40:27	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
35	318203(G1)	08/03/00	18:39:37	1.00	2.00	0.070	1.93	21.63	8.92	30.78	8.92	18.52	30.78	Less Than MDA
36	318203(H1)	08/03/00	18:38:48	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
37	318203(H1)	08/03/00	18:37:58	1.00	2.00	0.070	1.93	21.63	8.92	30.78	8.92	18.52	30.78	Less Than MDA
38	318203(H1)	08/03/00	18:37:08	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
39	318203(H1)	08/03/00	18:36:18	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
40	318203(H1)	08/03/00	18:35:29	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
41	318203(I1)	08/03/00	18:34:39	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
42	318203(I1)	08/03/00	18:33:49	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
43	318203(I1)	08/03/00	18:32:59	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
44	318203(I1)	08/03/00	18:32:10	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
45	318203(I1)	08/03/00	18:31:20	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
46	318206(A1)	08/03/00	18:30:30	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
47	318206(A1)	08/03/00	18:29:40	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
48	318206(A1)	08/03/00	18:28:51	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA
49	318206(A1)	08/03/00	18:28:01	0.00	0.00	0.070	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA

Smears				Alpha										
PIC WPC-9550 Instr No 1		Count Started												
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
50	318206(A1)	08/03/00	18:27:11	0.00	0.00	0.000	-0.07	21.63	-0.33	30.78	-0.33	0.16	30.78	Less Than MDA

Smears				Beta											
PIC WPC-9550 Instr No 1		Count Started													
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Alpha Xtlk	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
1	318201(A1)	08/03/00	19:07:49	5.00	10.00	0.990	43.28	8.18	22.32	36.64	44.97	36.64	46.65	44.97	Less Than MDA
2	318201(A1)	08/03/00	19:06:59	2.00	4.00	0.990	43.28	3.05	22.32	13.64	44.97	13.64	26.46	44.97	Less Than MDA
3	318201(A1)	08/03/00	19:06:09	0.00	0.00	0.990	43.28	-0.95	22.32	-4.28	44.97	-4.28	2.80	44.97	Less Than MDA
4	318201(A1)	08/03/00	19:05:19	2.00	4.00	0.990	43.28	3.05	22.32	13.64	44.97	13.64	26.46	44.97	Less Than MDA
5	318201(A1)	08/03/00	19:04:29	0.00	0.00	0.990	43.28	-0.95	22.32	-4.28	44.97	-4.28	2.80	44.97	Less Than MDA
6	318201(B1)	08/03/00	19:03:39	0.00	0.00	0.990	43.28	-1.82	22.32	-8.15	44.97	-8.15	9.53	44.97	Less Than MDA
7	318201(B1)	08/03/00	19:02:49	3.00	6.00	0.990	43.28	5.05	22.32	22.60	44.97	22.60	33.71	44.97	Less Than MDA
8	318201(B1)	08/03/00	19:02:00	0.00	0.00	0.990	43.28	-0.95	22.32	-4.28	44.97	-4.28	2.80	44.97	Less Than MDA
9	318201(B1)	08/03/00	19:01:10	2.00	4.00	0.990	43.28	3.05	22.32	13.64	44.97	13.64	26.46	44.97	Less Than MDA
10	318201(B1)	08/03/00	19:00:20	1.00	2.00	0.990	43.28	1.05	22.32	4.68	44.97	4.68	17.82	44.97	Less Than MDA
11	318201(C1)	08/03/00	18:59:30	0.00	0.00	0.990	43.28	-0.95	22.32	-4.28	44.97	-4.28	2.80	44.97	Less Than MDA
12	318201(C1)	08/03/00	18:58:40	0.00	0.00	0.990	43.28	-0.95	22.32	-4.28	44.97	-4.28	2.80	44.97	Less Than MDA
13	318201(C1)	08/03/00	18:57:50	0.00	0.00	0.990	43.28	-0.95	22.32	-4.28	44.97	-4.28	2.80	44.97	Less Than MDA
14	318201(C1)	08/03/00	18:57:00	4.00	8.00	0.990	43.28	7.05	22.32	31.56	44.97	31.56	40.77	44.97	Less Than MDA
15	318201(C1)	08/03/00	18:56:10	0.00	0.00	0.990	43.28	-0.95	22.32	-4.28	44.97	-4.28	2.80	44.97	Less Than MDA
16	318202(D1)	08/03/00	18:55:21	0.00	0.00	0.990	43.28	-0.95	22.32	-4.28	44.97	-4.28	2.80	44.97	Less Than MDA
17	318202(D1)	08/03/00	18:54:31	0.00	0.00	0.990	43.28	-0.95	22.32	-4.28	44.97	-4.28	2.80	44.97	Less Than MDA
18	318202(D1)	08/03/00	18:53:41	1.00	2.00	0.990	43.28	1.05	22.32	4.68	44.97	4.68	17.82	44.97	Less Than MDA
19	318202(D1)	08/03/00	18:52:51	2.00	4.00	0.990	43.28	3.05	22.32	13.64	44.97	13.64	26.46	44.97	Less Than MDA
20	318202(D1)	08/03/00	18:52:02	0.00	0.00	0.990	43.28	-1.82	22.32	-8.15	44.97	-8.15	9.53	44.97	Less Than MDA
21	318202(E1)	08/03/00	18:51:12	0.00	0.00	0.990	43.28	-0.95	22.32	-4.28	44.97	-4.28	2.80	44.97	Less Than MDA
22	318202(E1)	08/03/00	18:50:22	0.00	0.00	0.990	43.28	-0.95	22.32	-4.28	44.97	-4.28	2.80	44.97	Less Than MDA
23	318202(E1)	08/03/00	18:49:33	4.00	8.00	0.990	43.28	7.05	22.32	31.56	44.97	31.56	40.77	44.97	Less Than MDA
24	318202(E1)	08/03/00	18:48:43	5.00	10.00	0.990	43.28	9.05	22.32	40.52	44.97	40.52	47.24	44.97	Less Than MDA
25	318202(E1)	08/03/00	18:47:53	1.00	2.00	0.990	43.28	1.05	22.32	4.68	44.97	4.68	17.82	44.97	Less Than MDA
26	318202(F1)	08/03/00	18:47:04	1.00	2.00	0.990	43.28	1.05	22.32	4.68	44.97	4.68	17.82	44.97	Less Than MDA
27	318202(F1)	08/03/00	18:46:14	3.00	6.00	0.990	43.28	4.18	22.32	18.72	44.97	18.72	33.71	44.97	Less Than MDA
28	318202(F1)	08/03/00	18:45:25	2.00	4.00	0.990	43.28	3.05	22.32	13.64	44.97	13.64	26.46	44.97	Less Than MDA
29	318202(F1)	08/03/00	18:44:35	1.00	2.00	0.990	43.28	1.05	22.32	4.68	44.97	4.68	17.82	44.97	Less Than MDA
30	318202(F1)	08/03/00	18:43:45	3.00	6.00	0.990	43.28	5.05	22.32	22.60	44.97	22.60	33.71	44.97	Less Than MDA
31	318203(G1)	08/03/00	18:42:56	2.00	4.00	0.990	43.28	3.05	22.32	13.64	44.97	13.64	26.46	44.97	Less Than MDA
32	318203(G1)	08/03/00	18:42:06	1.00	2.00	0.990	43.28	1.05	22.32	4.68	44.97	4.68	17.82	44.97	Less Than MDA
33	318203(G1)	08/03/00	18:41:17	2.00	4.00	0.990	43.28	3.05	22.32	13.64	44.97	13.64	26.46	44.97	Less Than MDA
34	318203(G1)	08/03/00	18:40:27	1.00	2.00	0.990	43.28	1.05	22.32	4.68	44.97	4.68	17.82	44.97	Less Than MDA
35	318203(G1)	08/03/00	18:39:37	0.00	0.00	0.990	43.28	-1.82	22.32	-8.15	44.97	-8.15	9.53	44.97	Less Than MDA
36	318203(H1)	08/03/00	18:38:48	0.00	0.00	0.990	43.28	-0.95	22.32	-4.28	44.97	-4.28	2.80	44.97	Less Than MDA
37	318203(H1)	08/03/00	18:37:58	2.00	4.00	0.990	43.28	2.18	22.32	9.76	44.97	9.76	26.85	44.97	Less Than MDA
38	318203(H1)	08/03/00	18:37:08	1.00	2.00	0.990	43.28	1.05	22.32	4.68	44.97	4.68	17.82	44.97	Less Than MDA
39	318203(H1)	08/03/00	18:36:18	0.00	0.00	0.990	43.28	-0.95	22.32	-4.28	44.97	-4.28	2.80	44.97	Less Than MDA
40	318203(H1)	08/03/00	18:35:29	0.00	0.00	0.990	43.28	-0.95	22.32	-4.28	44.97	-4.28	2.80	44.97	Less Than MDA
41	318203(I1)	08/03/00	18:34:39	1.00	2.00	0.990	43.28	1.05	22.32	4.68	44.97	4.68	17.82	44.97	Less Than MDA
42	318203(I1)	08/03/00	18:33:49	0.00	0.00	0.990	43.28	-0.95	22.32	-4.28	44.97	-4.28	2.80	44.97	Less Than MDA
43	318203(I1)	08/03/00	18:32:59	1.00	2.00	0.990	43.28	1.05	22.32	4.68	44.97	4.68	17.82	44.97	Less Than MDA
44	318203(I1)	08/03/00	18:32:10	0.00	0.00	0.990	43.28	-0.95	22.32	-4.28	44.97	-4.28	2.80	44.97	Less Than MDA
45	318203(I1)	08/03/00	18:31:20	0.00	0.00	0.990	43.28	-0.95	22.32	-4.28	44.97	-4.28	2.80	44.97	Less Than MDA
46	318206(A1)	08/03/00	18:30:30	1.00	2.00	0.990	43.28	1.05	22.32	4.68	44.97	4.68	17.82	44.97	Less Than MDA
47	318206(A1)	08/03/00	18:29:40	2.00	4.00	0.990	43.28	3.05	22.32	13.64	44.97	13.64	26.46	44.97	Less Than MDA
48	318206(A1)	08/03/00	18:28:51	1.00	2.00	0.990	43.28	1.05	22.32	4.68	44.97	4.68	17.82	44.97	Less Than MDA
49	318206(A1)	08/03/00	18:28:01	1.00	2.00	0.990	43.28	1.05	22.32	4.68	44.97	4.68	17.82	44.97	Less Than MDA
50	318206(A1)	08/03/00	18:27:11	3.00	6.00	0.990	43.28	5.05	22.32	22.60	44.97	22.60	33.71	44.97	Less Than MDA

Smears

PIC WPC-9550 Instr No 1

Carrier No.	Sample ID	Count Started Date	Time	Location ID	Comment	Sample Collected Date	Time	DF	dpm Alpha Limits	dpm Beta Limits
1	318204(C5)	08/07/00	8:41:59	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
2	318204(D1)	08/07/00	8:41:09	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
3	318204(D2)	08/07/00	8:40:20	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
4	318204(D3)	08/07/00	8:39:30	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
5	318204(D4)	08/07/00	8:38:40	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
6	318210(A1)	08/07/00	8:37:51	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
7	318210(A2)	08/07/00	8:37:01	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
8	318210(A3)	08/07/00	8:36:11	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
9	318210(B1)	08/07/00	8:35:22	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
10	318210(B2)	08/07/00	8:34:32	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
11	318210(B3)	08/07/00	8:33:42	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
12	318210(C1)	08/07/00	8:32:53	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
13	318210(C2)	08/07/00	8:32:03	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
14	318210(C3)	08/07/00	8:31:13	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
15	318210(D1)	08/07/00	8:30:24	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
16	318210(D2)	08/07/00	8:29:34	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
17	318210(D3)	08/07/00	8:28:45	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
18	318210(E1)	08/07/00	8:27:55	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
19	318210(E2)	08/07/00	8:27:05	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
20	318210(E3)	08/07/00	8:26:16	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
21	3182(Q01)	08/07/00	8:25:26	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
22	3182(Q02)	08/07/00	8:24:36	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
23	3182(Q03)	08/07/00	8:23:47	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
24	3182(Q04)	08/07/00	8:22:57	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
25	3182(Q05)	08/07/00	8:22:08	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
26	3182(Q06)	08/07/00	8:21:18	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
27	3182(Q07)	08/07/00	8:20:28	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
28	3182(Q08)	08/07/00	8:19:39	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
29	3182(Q09)	08/07/00	8:18:49	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
30	3182(Q10)	08/07/00	8:17:59	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
31	3182(Q11)	08/07/00	8:17:10	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
32	3182(Q12)	08/07/00	8:16:20	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
33	3182(Q13)	08/07/00	8:15:31	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
34	3182(Q14)	08/07/00	8:14:41	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
35	3182(Q15)	08/07/00	8:13:52	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
36	3182(Q16)	08/07/00	8:13:02	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
37	3182(Q17)	08/07/00	8:12:12	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
38	3182(Q18)	08/07/00	8:11:23	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
39	3182(Q19)	08/07/00	8:10:33	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
40	3182(Q20)	08/07/00	8:09:44	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02

Smears

PIC WPC-9550 Instr No 1		Count Started				Sample Collected			dpm	dpm
Carrier No.	Sample ID	Date	Time	Location ID	Comment	Date	Time	DF	Alpha Limits	Beta Limits
41	3182(Q21)	08/07/00	8:08:54	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
42	3182(Q22)	08/07/00	8:08:04	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
43	3182(Q23)	08/07/00	8:07:15	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
44	3182(Q24)	08/07/00	8:06:25	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
45	3182(Q25)	08/07/00	8:05:36	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
46	3182(Q26)	08/07/00	8:04:46	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
47	3182(Q27)	08/07/00	8:03:56	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
48	3182(Q28)	08/07/00	8:03:07	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
49	3182(Q29)	08/07/00	8:02:17	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
50	3182(Q30)	08/07/00	8:01:27	Ft. McClellan (AL)	Release Survey	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02

Smears				Alpha										
PIC WPC-9550 Instr No 1		Count Started												
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
1	318204(C5)	08/07/00	8:41:59	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
2	318204(D1)	08/07/00	8:41:09	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
3	318204(D2)	08/07/00	8:40:20	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
4	318204(D3)	08/07/00	8:39:30	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
5	318204(D4)	08/07/00	8:38:40	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
6	318210(A1)	08/07/00	8:37:51	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
7	318210(A2)	08/07/00	8:37:01	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
8	318210(A3)	08/07/00	8:36:11	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
9	318210(B1)	08/07/00	8:35:22	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
10	318210(B2)	08/07/00	8:34:32	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
11	318210(B3)	08/07/00	8:33:42	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
12	318210(C1)	08/07/00	8:32:53	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
13	318210(C2)	08/07/00	8:32:03	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
14	318210(C3)	08/07/00	8:31:13	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
15	318210(D1)	08/07/00	8:30:24	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
16	318210(D2)	08/07/00	8:29:34	1.00	2.00	0.100	1.90	21.67	8.78	31.71	8.78	18.46	31.71	Less Than MDA
17	318210(D2)	08/07/00	8:28:45	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
18	318210(E1)	08/07/00	8:27:55	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
19	318210(E2)	08/07/00	8:27:05	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
20	318210(E3)	08/07/00	8:26:16	1.00	2.00	0.100	1.90	21.67	8.78	31.71	8.78	18.46	31.71	Less Than MDA
21	3182(Q01)	08/07/00	8:25:26	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
22	3182(Q02)	08/07/00	8:24:36	1.00	2.00	0.100	1.90	21.67	8.78	31.71	8.78	18.46	31.71	Less Than MDA
23	3182(Q03)	08/07/00	8:23:47	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
24	3182(Q04)	08/07/00	8:22:57	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
25	3182(Q05)	08/07/00	8:22:08	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
26	3182(Q06)	08/07/00	8:21:18	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
27	3182(Q07)	08/07/00	8:20:28	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
28	3182(Q08)	08/07/00	8:19:39	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
29	3182(Q09)	08/07/00	8:18:49	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
30	3182(Q10)	08/07/00	8:17:59	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
31	3182(Q11)	08/07/00	8:17:10	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
32	3182(Q12)	08/07/00	8:16:20	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
33	3182(Q13)	08/07/00	8:15:31	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
34	3182(Q14)	08/07/00	8:14:41	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
35	3182(Q15)	08/07/00	8:13:52	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
36	3182(Q16)	08/07/00	8:13:02	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
37	3182(Q17)	08/07/00	8:12:12	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
38	3182(Q18)	08/07/00	8:11:23	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
39	3182(Q19)	08/07/00	8:10:33	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
40	3182(Q20)	08/07/00	8:09:44	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
41	3182(Q21)	08/07/00	8:08:54	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
42	3182(Q22)	08/07/00	8:08:04	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
43	3182(Q23)	08/07/00	8:07:15	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
44	3182(Q24)	08/07/00	8:06:25	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
45	3182(Q25)	08/07/00	8:05:36	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
46	3182(Q26)	08/07/00	8:04:46	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
47	3182(Q27)	08/07/00	8:03:56	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
48	3182(Q28)	08/07/00	8:03:07	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
49	3182(Q29)	08/07/00	8:02:17	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA

Smears				Alpha										
PIC WPC-9550 Instr No 1		Count Started												
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
50	3182(Q30)	08/07/00	8:01:27	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA

Smears				Beta											
PIC WPC-9550 Instr No 1		Count Started													
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Alpha Xtlk	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
1	318204(C5)	08/07/00	8:41:59	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
2	318204(D1)	08/07/00	8:41:09	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
3	318204(D2)	08/07/00	8:40:20	4.00	8.00	1.090	43.11	6.95	22.43	30.98	45.88	30.98	40.18	45.88	Less Than MDA
4	318204(D3)	08/07/00	8:39:30	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
5	318204(D4)	08/07/00	8:38:40	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
6	318210(A1)	08/07/00	8:37:51	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
7	318210(A2)	08/07/00	8:37:01	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
8	318210(A3)	08/07/00	8:36:11	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
9	318210(B1)	08/07/00	8:35:22	3.00	6.00	1.090	43.11	4.95	22.43	22.06	45.88	22.06	33.32	45.88	Less Than MDA
10	318210(B2)	08/07/00	8:34:32	3.00	6.00	1.090	43.11	4.95	22.43	22.06	45.88	22.06	33.32	45.88	Less Than MDA
11	318210(B3)	08/07/00	8:33:42	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
12	318210(C1)	08/07/00	8:32:53	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
13	318210(C2)	08/07/00	8:32:03	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
14	318210(C3)	08/07/00	8:31:13	2.00	4.00	1.090	43.11	2.95	22.43	13.14	45.88	13.14	26.07	45.88	Less Than MDA
15	318210(D1)	08/07/00	8:30:24	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
16	318210(D2)	08/07/00	8:29:34	3.00	6.00	1.090	43.11	4.09	22.43	18.22	45.88	18.22	33.32	45.88	Less Than MDA
17	318210(D2)	08/07/00	8:28:45	3.00	6.00	1.090	43.11	4.95	22.43	22.06	45.88	22.06	33.32	45.88	Less Than MDA
18	318210(E1)	08/07/00	8:27:55	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
19	318210(E2)	08/07/00	8:27:05	2.00	4.00	1.090	43.11	2.95	22.43	13.14	45.88	13.14	26.07	45.88	Less Than MDA
20	318210(E3)	08/07/00	8:26:16	2.00	4.00	1.090	43.11	2.09	22.43	9.30	45.88	9.30	26.66	45.88	Less Than MDA
21	3182(Q01)	08/07/00	8:25:26	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
22	3182(Q02)	08/07/00	8:24:36	0.00	0.00	1.090	43.11	-1.91	22.43	-8.54	45.88	-8.54	9.53	45.88	Less Than MDA
23	3182(Q03)	08/07/00	8:23:47	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
24	3182(Q04)	08/07/00	8:22:57	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
25	3182(Q05)	08/07/00	8:22:08	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
26	3182(Q06)	08/07/00	8:21:18	3.00	6.00	1.090	43.11	4.95	22.43	22.06	45.88	22.06	33.32	45.88	Less Than MDA
27	3182(Q07)	08/07/00	8:20:28	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
28	3182(Q08)	08/07/00	8:19:39	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
29	3182(Q09)	08/07/00	8:18:49	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
30	3182(Q10)	08/07/00	8:17:59	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
31	3182(Q11)	08/07/00	8:17:10	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
32	3182(Q12)	08/07/00	8:16:20	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
33	3182(Q13)	08/07/00	8:15:31	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
34	3182(Q14)	08/07/00	8:14:41	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
35	3182(Q15)	08/07/00	8:13:52	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
36	3182(Q16)	08/07/00	8:13:02	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
37	3182(Q17)	08/07/00	8:12:12	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
38	3182(Q18)	08/07/00	8:11:23	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
39	3182(Q19)	08/07/00	8:10:33	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
40	3182(Q20)	08/07/00	8:09:44	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
41	3182(Q21)	08/07/00	8:08:54	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
42	3182(Q22)	08/07/00	8:08:04	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
43	3182(Q23)	08/07/00	8:07:15	3.00	6.00	1.090	43.11	4.95	22.43	22.06	45.88	22.06	33.32	45.88	Less Than MDA
44	3182(Q24)	08/07/00	8:06:25	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
45	3182(Q25)	08/07/00	8:05:36	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
46	3182(Q26)	08/07/00	8:04:46	4.00	8.00	1.090	43.11	6.95	22.43	30.98	45.88	30.98	40.18	45.88	Less Than MDA
47	3182(Q27)	08/07/00	8:03:56	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
48	3182(Q28)	08/07/00	8:03:07	3.00	6.00	1.090	43.11	4.95	22.43	22.06	45.88	22.06	33.32	45.88	Less Than MDA
49	3182(Q29)	08/07/00	8:02:17	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
50	3182(Q30)	08/07/00	8:01:27	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA

Smears

PIC WPC-9550 Instr No 1

Carrier No.	Sample ID	Count Started Date	Time	Location ID	Comment	Sample Collected Date	Time	DF	dpm Alpha Limits	dpm Beta Limits
1	318205(H4)	08/14/00	10:47:36	Ft. McClellan (AL)	Release Surveys	08/10/00	12:12:44	1.000	1.000E+01	5.000E+02
2	318205(H5)	08/14/00	10:46:47	Ft. McClellan (AL)	Release Surveys	08/10/00	12:12:45	1.000	1.000E+01	5.000E+02
3	318205(I1)	08/14/00	10:45:57	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:19	1.000	1.000E+01	5.000E+02
4	318205(I2)	08/14/00	10:45:07	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:19	1.000	1.000E+01	5.000E+02
5	318205(I3)	08/14/00	10:44:17	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:18	1.000	1.000E+01	5.000E+02
6	318205(I4)	08/14/00	10:43:27	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:18	1.000	1.000E+01	5.000E+02
7	318205(I5)	08/14/00	10:42:38	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:17	1.000	1.000E+01	5.000E+02
8	318205(I6)	08/14/00	10:41:48	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:17	1.000	1.000E+01	5.000E+02
9	318205(J1)	08/14/00	10:40:58	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:17	1.000	1.000E+01	5.000E+02
10	318205(J2)	08/14/00	10:40:08	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:16	1.000	1.000E+01	5.000E+02
11	318205(J3)	08/14/00	10:39:19	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:16	1.000	1.000E+01	5.000E+02
12	318205(J4)	08/14/00	10:38:29	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:15	1.000	1.000E+01	5.000E+02
13	318205(J5)	08/14/00	10:37:39	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:15	1.000	1.000E+01	5.000E+02
14	318205(J6)	08/14/00	10:36:50	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:15	1.000	1.000E+01	5.000E+02
15	318205(J7)	08/14/00	10:36:00	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:14	1.000	1.000E+01	5.000E+02
16	318205(K1)	08/14/00	10:35:11	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:14	1.000	1.000E+01	5.000E+02
17	318205(K2)	08/14/00	10:34:21	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:13	1.000	1.000E+01	5.000E+02
18	318205(K3)	08/14/00	10:33:31	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:13	1.000	1.000E+01	5.000E+02
19	318205(K4)	08/14/00	10:32:42	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:13	1.000	1.000E+01	5.000E+02
20	318205(K5)	08/14/00	10:31:52	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:12	1.000	1.000E+01	5.000E+02
21	318205(L1)	08/14/00	10:31:02	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:12	1.000	1.000E+01	5.000E+02
22	318205(L2)	08/14/00	10:30:13	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:11	1.000	1.000E+01	5.000E+02
23	318205(L3)	08/14/00	10:29:23	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:11	1.000	1.000E+01	5.000E+02
24	318205(L4)	08/14/00	10:28:34	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:11	1.000	1.000E+01	5.000E+02
25	318205(L5)	08/14/00	10:27:44	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:10	1.000	1.000E+01	5.000E+02
26	318205(M1)	08/14/00	10:26:54	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:10	1.000	1.000E+01	5.000E+02
27	318205(M2)	08/14/00	10:26:05	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:09	1.000	1.000E+01	5.000E+02
28	318205(M3)	08/14/00	10:25:15	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:09	1.000	1.000E+01	5.000E+02
29	318205(M4)	08/14/00	10:24:26	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:09	1.000	1.000E+01	5.000E+02
30	318205(N1)	08/14/00	10:23:36	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:08	1.000	1.000E+01	5.000E+02
31	318205(N2)	08/14/00	10:22:46	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:08	1.000	1.000E+01	5.000E+02
32	318205(N3)	08/14/00	10:21:57	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:07	1.000	1.000E+01	5.000E+02
33	318205(N4)	08/14/00	10:21:07	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:07	1.000	1.000E+01	5.000E+02
34	318205(N5)	08/14/00	10:20:18	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:06	1.000	1.000E+01	5.000E+02
35	318205(O1)	08/14/00	10:19:28	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:06	1.000	1.000E+01	5.000E+02
36	318205(O2)	08/14/00	10:18:38	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:05	1.000	1.000E+01	5.000E+02
37	318205(P1)	08/14/00	10:17:49	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:05	1.000	1.000E+01	5.000E+02
38	318205(P2)	08/14/00	10:16:59	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:04	1.000	1.000E+01	5.000E+02
39	318205(P3)	08/14/00	10:16:10	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:04	1.000	1.000E+01	5.000E+02
40	318205(P4)	08/14/00	10:15:20	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:03	1.000	1.000E+01	5.000E+02

Smears

PIC WPC-9550 Instr No 1

Carrier No.	Sample ID	Count Started Date	Count Started Time	Location ID	Comment	Sample Collected Date	Sample Collected Time	DF	dpm Alpha Limits	dpm Beta Limits
41	318205(P5)	08/14/00	10:14:30	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:03	1.000	1.000E+01	5.000E+02
42	318205(P6)	08/14/00	10:13:41	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:02	1.000	1.000E+01	5.000E+02
43	318205(P7)	08/14/00	10:12:51	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:02	1.000	1.000E+01	5.000E+02
44	318205(P8)	08/14/00	10:12:02	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:01	1.000	1.000E+01	5.000E+02
45	318205(P9)	08/14/00	10:11:12	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:01	1.000	1.000E+01	5.000E+02
46	318205(P10)	08/14/00	10:10:23	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:00	1.000	1.000E+01	5.000E+02
47	318205(P11)	08/14/00	10:09:34	Ft. McClellan (AL)	Release Surveys	08/10/00	12:13:00	1.000	1.000E+01	5.000E+02
48	318205(P12)	08/14/00	10:08:44	Ft. McClellan (AL)	Release Surveys	08/10/00	12:12:59	1.000	1.000E+01	5.000E+02
49	318205(P13)	08/14/00	10:07:54	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
50	318205(P14)	08/14/00	10:07:05	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02

Smears				Alpha										
PIC WPC-9550 Instr No 1		Count Started												
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
1	318205(H4)	08/14/00	10:47:36	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
2	318205(H5)	08/14/00	10:46:47	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
3	318205(I1)	08/14/00	10:45:57	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
4	318205(I2)	08/14/00	10:45:07	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
5	318205(I3)	08/14/00	10:44:17	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
6	318205(I4)	08/14/00	10:43:27	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
7	318205(I5)	08/14/00	10:42:38	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
8	318205(I6)	08/14/00	10:41:48	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
9	318205(J1)	08/14/00	10:40:58	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
10	318205(J2)	08/14/00	10:40:08	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
11	318205(J3)	08/14/00	10:39:19	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
12	318205(J4)	08/14/00	10:38:29	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
13	318205(J5)	08/14/00	10:37:39	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
14	318205(J6)	08/14/00	10:36:50	1.00	2.00	0.140	1.86	21.76	8.53	33.00	8.53	18.33	33.00	Less Than MDA
15	318205(J7)	08/14/00	10:36:00	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
16	318205(K1)	08/14/00	10:35:11	1.00	2.00	0.140	1.86	21.76	8.53	33.00	8.53	18.33	33.00	Less Than MDA
17	318205(K2)	08/14/00	10:34:21	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
18	318205(K3)	08/14/00	10:33:31	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
19	318205(K4)	08/14/00	10:32:42	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
20	318205(K5)	08/14/00	10:31:52	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
21	318205(L1)	08/14/00	10:31:02	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
22	318205(L2)	08/14/00	10:30:13	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
23	318205(L3)	08/14/00	10:29:23	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
24	318205(L4)	08/14/00	10:28:34	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
25	318205(L5)	08/14/00	10:27:44	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
26	318205(M1)	08/14/00	10:26:54	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
27	318205(M2)	08/14/00	10:26:05	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
28	318205(M3)	08/14/00	10:25:15	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
29	318205(M4)	08/14/00	10:24:26	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
30	318205(N1)	08/14/00	10:23:36	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
31	318205(N2)	08/14/00	10:22:46	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
32	318205(N3)	08/14/00	10:21:57	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
33	318205(N4)	08/14/00	10:21:07	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
34	318205(N5)	08/14/00	10:20:18	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
35	318205(O1)	08/14/00	10:19:28	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
36	318205(O2)	08/14/00	10:18:38	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
37	318205(P1)	08/14/00	10:17:49	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
38	318205(P2)	08/14/00	10:16:59	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
39	318205(P3)	08/14/00	10:16:10	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
40	318205(P4)	08/14/00	10:15:20	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
41	318205(P5)	08/14/00	10:14:30	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
42	318205(P6)	08/14/00	10:13:41	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
43	318205(P7)	08/14/00	10:12:51	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
44	318205(P8)	08/14/00	10:12:02	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
45	318205(P9)	08/14/00	10:11:12	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
46	318205(P10)	08/14/00	10:10:23	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
47	318205(P11)	08/14/00	10:09:34	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
48	318205(P12)	08/14/00	10:08:44	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
49	318205(P13)	08/14/00	10:07:54	1.00	2.00	0.140	1.86	21.76	8.53	33.00	8.53	18.33	33.00	Less Than MDA

Smears				Alpha										
PIC WPC-9550 Instr No 1		Count Started												
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
50	318205(P14)	08/14/00	10:07:05	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA

Smears				Beta											
PIC WPC-9550 Instr No 1		Count Started													
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Alpha Xtlk	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
1	318205(H4)	08/14/00	10:47:36	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
2	318205(H5)	08/14/00	10:46:47	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
3	318205(I1)	08/14/00	10:45:57	4.00	8.00	1.230	42.73	6.83	22.61	30.21	46.82	30.21	39.40	46.82	Less Than MDA
4	318205(I2)	08/14/00	10:45:07	2.00	4.00	1.230	42.73	2.83	22.61	12.52	46.82	12.52	25.68	46.82	Less Than MDA
5	318205(I3)	08/14/00	10:44:17	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
6	318205(I4)	08/14/00	10:43:27	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
7	318205(I5)	08/14/00	10:42:38	3.00	6.00	1.230	42.73	4.83	22.61	21.36	46.82	21.36	32.73	46.82	Less Than MDA
8	318205(I6)	08/14/00	10:41:48	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
9	318205(J1)	08/14/00	10:40:58	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
10	318205(J2)	08/14/00	10:40:08	2.00	4.00	1.230	42.73	2.83	22.61	12.52	46.82	12.52	25.68	46.82	Less Than MDA
11	318205(J3)	08/14/00	10:39:19	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
12	318205(J4)	08/14/00	10:38:29	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
13	318205(J5)	08/14/00	10:37:39	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
14	318205(J6)	08/14/00	10:36:50	0.00	0.00	1.230	42.73	-2.03	22.61	-8.96	46.82	-8.96	9.41	46.82	Less Than MDA
15	318205(J7)	08/14/00	10:36:00	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
16	318205(K1)	08/14/00	10:35:11	0.00	0.00	1.230	42.73	-2.03	22.61	-8.96	46.82	-8.96	9.41	46.82	Less Than MDA
17	318205(K2)	08/14/00	10:34:21	2.00	4.00	1.230	42.73	2.83	22.61	12.52	46.82	12.52	25.68	46.82	Less Than MDA
18	318205(K3)	08/14/00	10:33:31	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
19	318205(K4)	08/14/00	10:32:42	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
20	318205(K5)	08/14/00	10:31:52	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Th[illegible] MDA
21	318205(L1)	08/14/00	10:31:02	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
22	318205(L2)	08/14/00	10:30:13	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
23	318205(L3)	08/14/00	10:29:23	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
24	318205(L4)	08/14/00	10:28:34	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
25	318205(L5)	08/14/00	10:27:44	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
26	318205(M1)	08/14/00	10:26:54	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
27	318205(M2)	08/14/00	10:26:05	2.00	4.00	1.230	42.73	2.83	22.61	12.52	46.82	12.52	25.68	46.82	Less Than MDA
28	318205(M3)	08/14/00	10:25:15	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
29	318205(M4)	08/14/00	10:24:26	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
30	318205(N1)	08/14/00	10:23:36	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
31	318205(N2)	08/14/00	10:22:46	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
32	318205(N3)	08/14/00	10:21:57	3.00	6.00	1.230	42.73	4.83	22.61	21.36	46.82	21.36	32.73	46.82	Less Than MDA
33	318205(N4)	08/14/00	10:21:07	2.00	4.00	1.230	42.73	2.83	22.61	12.52	46.82	12.52	25.68	46.82	Less Than MDA
34	318205(N5)	08/14/00	10:20:18	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
35	318205(O1)	08/14/00	10:19:28	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
36	318205(O2)	08/14/00	10:18:38	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
37	318205(P1)	08/14/00	10:17:49	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
38	318205(P2)	08/14/00	10:16:59	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
39	318205(P3)	08/14/00	10:16:10	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
40	318205(P4)	08/14/00	10:15:20	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
41	318205(P5)	08/14/00	10:14:30	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
42	318205(P6)	08/14/00	10:13:41	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
43	318205(P7)	08/14/00	10:12:51	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
44	318205(P8)	08/14/00	10:12:02	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
45	318205(P9)	08/14/00	10:11:12	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
46	318205(P10)	08/14/00	10:10:23	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
47	318205(P11)	08/14/00	10:09:34	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
48	318205(P12)	08/14/00	10:08:44	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
49	318205(P13)	08/14/00	10:07:54	0.00	0.00	1.230	42.73	-2.03	22.61	-8.96	46.82	-8.96	9.41	46.82	Less Than MDA
50	318205(P14)	08/14/00	10:07:05	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA

Smears											
PIC WPC-9550 Instr No 1		Count Started				Sample Collected			dpm	dpm	
Carrier No.	Sample ID	Date	Time	Location ID	Comment	Date	Time	DF	Alpha Limits	Beta Limits	
1	318205(P15)	08/14/00	14:34:14	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
2	318205(P16)	08/14/00	14:33:24	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
3	318205(P17)	08/14/00	14:32:35	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
4	318205(P18)	08/14/00	14:31:45	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
5	318205(P19)	08/14/00	14:30:56	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
6	318205(D1)	08/14/00	14:30:06	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
7	318205(D2)	08/14/00	14:29:17	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
8	318205(D3)	08/14/00	14:28:28	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
9	318205(D4)	08/14/00	14:27:38	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
10	318205(D5)	08/14/00	14:26:49	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
11	318205(D6)	08/14/00	14:25:59	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
12	318205(D7)	08/14/00	14:25:09	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
13	318205(D8)	08/14/00	14:24:20	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
14	318205(D9)	08/14/00	14:23:31	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
15	318205(D10)	08/14/00	14:22:41	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
16	318205(D11)	08/14/00	14:21:52	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
17	318205(D12)	08/14/00	14:21:02	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
18	318205(D13)	08/14/00	14:20:13	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
19	318205(D14)	08/14/00	14:19:24	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
20	318205(D15)	08/14/00	14:18:34	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
21	318205(D16)	08/14/00	14:17:45	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
22	318205(D17)	08/14/00	14:16:56	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
23	318205(D18)	08/14/00	14:16:07	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
24	318205(D19)	08/14/00	14:15:17	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
25	318205(D20)	08/14/00	14:14:28	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
26	318205(D21)	08/14/00	14:13:38	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
27	318205(D22)	08/14/00	14:12:49	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
28	318205(D23)	08/14/00	14:11:59	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
29	318205(D24)	08/14/00	14:11:10	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
30	318207(A1)	08/14/00	14:10:20	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
31	318207(A2)	08/14/00	14:09:31	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
32	318207(B1)	08/14/00	14:08:41	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
33	318207(B2)	08/14/00	14:07:52	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
34	318207(B3)	08/14/00	14:07:02	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
35	318207(C1)	08/14/00	14:06:13	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
36	318207(C2)	08/14/00	14:05:23	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
37	318207(D1)	08/14/00	14:04:34	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
38	318207(D2)	08/14/00	14:03:44	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
39	318207(D3)	08/14/00	14:02:55	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	
40	318207(E1)	08/14/00	14:02:05	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02	

Smears

PIC WPC-9550 Instr No 1

Carrier No.	Sample ID	Count Started Date	Count Started Time	Location ID	Comment	Sample Collected Date	Sample Collected Time	DF	dpm Alpha Limits	dpm Beta Limits
41	318207(E2)	08/14/00	14:01:15	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
42	318207(F1)	08/14/00	14:00:26	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
43	318207(F2)	08/14/00	13:59:36	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
44	318207(G1)	08/14/00	13:58:47	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
45	318213(D1)	08/14/00	13:57:57	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
46	318213(D2)	08/14/00	13:57:07	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
47	318213(D3)	08/14/00	13:56:18	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
48	318213(D4)	08/14/00	13:55:29	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
49	318213(D5)	08/14/00	13:54:39	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
50	318213(D6)	08/14/00	13:53:50	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02

Smears				Alpha										
PIC WPC-9550 Instr No 1		Count Started												
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
1	318205(P15)	08/14/00	14:34:14	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
2	318205(P16)	08/14/00	14:33:24	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
3	318205(P17)	08/14/00	14:32:35	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
4	318205(P18)	08/14/00	14:31:45	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
5	318205(P19)	08/14/00	14:30:56	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
6	318205(D1)	08/14/00	14:30:06	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
7	318205(D2)	08/14/00	14:29:17	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
8	318205(D3)	08/14/00	14:28:28	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
9	318205(D4)	08/14/00	14:27:38	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
10	318205(D5)	08/14/00	14:26:49	1.00	2.00	0.140	1.86	21.76	8.53	33.00	8.53	18.33	33.00	Less Than MDA
11	318205(D6)	08/14/00	14:25:59	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
12	318205(D7)	08/14/00	14:25:09	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
13	318205(D8)	08/14/00	14:24:20	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
14	318205(D9)	08/14/00	14:23:31	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
15	318205(D10)	08/14/00	14:22:41	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
16	318205(D11)	08/14/00	14:21:52	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
17	318205(D12)	08/14/00	14:21:02	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
18	318205(D13)	08/14/00	14:20:13	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
19	318205(D14)	08/14/00	14:19:24	1.00	2.00	0.140	1.86	21.76	8.53	33.00	8.53	18.33	33.00	Less Than MDA
20	318205(D15)	08/14/00	14:18:34	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
21	318205(D16)	08/14/00	14:17:45	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
22	318205(D17)	08/14/00	14:16:56	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
23	318205(D18)	08/14/00	14:16:07	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
24	318205(D19)	08/14/00	14:15:17	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
25	318205(D20)	08/14/00	14:14:28	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
26	318205(D21)	08/14/00	14:13:38	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
27	318205(D22)	08/14/00	14:12:49	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
28	318205(D23)	08/14/00	14:11:59	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
29	318205(D24)	08/14/00	14:11:10	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
30	318207(A1)	08/14/00	14:10:20	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
31	318207(A2)	08/14/00	14:09:31	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
32	318207(B1)	08/14/00	14:08:41	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
33	318207(B2)	08/14/00	14:07:52	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
34	318207(B3)	08/14/00	14:07:02	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
35	318207(C1)	08/14/00	14:06:13	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
36	318207(C2)	08/14/00	14:05:23	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
37	318207(D1)	08/14/00	14:04:34	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
38	318207(D2)	08/14/00	14:03:44	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
39	318207(D3)	08/14/00	14:02:55	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
40	318207(E1)	08/14/00	14:02:05	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
41	318207(E2)	08/14/00	14:01:15	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
42	318207(F1)	08/14/00	14:00:26	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
43	318207(F2)	08/14/00	13:59:36	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
44	318207(G1)	08/14/00	13:58:47	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
45	318213(D1)	08/14/00	13:57:57	1.00	2.00	0.140	1.86	21.76	8.53	33.00	8.53	18.33	33.00	Less Than MDA
46	318213(D2)	08/14/00	13:57:07	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
47	318213(D3)	08/14/00	13:56:18	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
48	318213(D4)	08/14/00	13:55:29	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
49	318213(D5)	08/14/00	13:54:39	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA

Smears				Alpha										
PIC WPC-9550 Instr No 1		Count Started												
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
50	318213(D6)	08/14/00	13:53:50	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA

Smears				Beta										
PIC WPC-9550 Instr No 1		Count Started												
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Alpha Xtlk	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
1	318205(P15)	08/14/00	14:34:14	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
2	318205(P16)	08/14/00	14:33:24	4.00	8.00	1.230	42.73	6.83	22.61	30.21	46.82	30.21	39.40	46.82	Less Than MDA
3	318205(P17)	08/14/00	14:32:35	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
4	318205(P18)	08/14/00	14:31:45	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
5	318205(P19)	08/14/00	14:30:56	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
6	318205(D1)	08/14/00	14:30:06	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
7	318205(D2)	08/14/00	14:29:17	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
8	318205(D3)	08/14/00	14:28:28	2.00	4.00	1.230	42.73	2.83	22.61	12.52	46.82	12.52	25.68	46.82	Less Than MDA
9	318205(D4)	08/14/00	14:27:38	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
10	318205(D5)	08/14/00	14:26:49	1.00	2.00	1.230	42.73	-0.03	22.61	-0.11	46.82	-0.11	18.95	46.82	Less Than MDA
11	318205(D6)	08/14/00	14:25:59	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
12	318205(D7)	08/14/00	14:25:09	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
13	318205(D8)	08/14/00	14:24:20	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
14	318205(D9)	08/14/00	14:23:31	3.00	6.00	1.230	42.73	4.83	22.61	21.36	46.82	21.36	32.73	46.82	Less Than MDA
15	318205(D10)	08/14/00	14:22:41	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
16	318205(D11)	08/14/00	14:21:52	3.00	6.00	1.230	42.73	4.83	22.61	21.36	46.82	21.36	32.73	46.82	Less Than MDA
17	318205(D12)	08/14/00	14:21:02	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
18	318205(D13)	08/14/00	14:20:13	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
19	318205(D14)	08/14/00	14:19:24	0.00	0.00	1.230	42.73	-2.03	22.61	-8.96	46.82	-8.96	9.41	46.82	Less Than MDA
20	318205(D15)	08/14/00	14:18:34	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
21	318205(D16)	08/14/00	14:17:45	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
22	318205(D17)	08/14/00	14:16:56	2.00	4.00	1.230	42.73	2.83	22.61	12.52	46.82	12.52	25.68	46.82	Less Than MDA
23	318205(D18)	08/14/00	14:16:07	2.00	4.00	1.230	42.73	2.83	22.61	12.52	46.82	12.52	25.68	46.82	Less Than MDA
24	318205(D19)	08/14/00	14:15:17	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
25	318205(D20)	08/14/00	14:14:28	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
26	318205(D21)	08/14/00	14:13:38	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
27	318205(D22)	08/14/00	14:12:49	2.00	4.00	1.230	42.73	2.83	22.61	12.52	46.82	12.52	25.68	46.82	Less Than MDA
28	318205(D23)	08/14/00	14:11:59	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
29	318205(D24)	08/14/00	14:11:10	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
30	318207(A1)	08/14/00	14:10:20	2.00	4.00	1.230	42.73	2.83	22.61	12.52	46.82	12.52	25.68	46.82	Less Than MDA
31	318207(A2)	08/14/00	14:09:31	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
32	318207(B1)	08/14/00	14:08:41	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
33	318207(B2)	08/14/00	14:07:52	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
34	318207(B3)	08/14/00	14:07:02	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
35	318207(C1)	08/14/00	14:06:13	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
36	318207(C2)	08/14/00	14:05:23	2.00	4.00	1.230	42.73	2.83	22.61	12.52	46.82	12.52	25.68	46.82	Less Than MDA
37	318207(D1)	08/14/00	14:04:34	2.00	4.00	1.230	42.73	2.83	22.61	12.52	46.82	12.52	25.68	46.82	Less Than MDA
38	318207(D2)	08/14/00	14:03:44	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
39	318207(D3)	08/14/00	14:02:55	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
40	318207(E1)	08/14/00	14:02:05	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
41	318207(E2)	08/14/00	14:01:15	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
42	318207(F1)	08/14/00	14:00:26	2.00	4.00	1.230	42.73	2.83	22.61	12.52	46.82	12.52	25.68	46.82	Less Than MDA
43	318207(F2)	08/14/00	13:59:36	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
44	318207(G1)	08/14/00	13:58:47	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
45	318213(D1)	08/14/00	13:57:57	0.00	0.00	1.230	42.73	-2.03	22.61	-8.96	46.82	-8.96	9.41	46.82	Less Than MDA
46	318213(D2)	08/14/00	13:57:07	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
47	318213(D3)	08/14/00	13:56:18	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
48	318213(D4)	08/14/00	13:55:29	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
49	318213(D5)	08/14/00	13:54:39	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
50	318213(D6)	08/14/00	13:53:50	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA

Smears											
PIC WPC-9550 Instr No 1		Count Started				Sample Collected			dpm	dpm	
Carrier No.	Sample ID	Date	Time	Location ID	Comment	Date	Time	DF	Alpha Limits	Beta Limits	
1	31820601	08/16/00	12:15:35	Ft. McClellan (AL)	Post-Decon Survey	08/16/00	11:00:00	1.000	1.000E+01	5.000E+02	
2	31820602	08/16/00	12:14:46	Ft. McClellan (AL)	Post-Decon Survey	08/16/00	11:00:00	1.000	1.000E+01	5.000E+02	
3	31820603	08/16/00	12:13:56	Ft. McClellan (AL)	Post-Decon Survey	08/16/00	11:00:00	1.000	1.000E+01	5.000E+02	
4	31820604	08/16/00	12:13:07	Ft. McClellan (AL)	Post-Decon Survey	08/16/00	11:00:00	1.000	1.000E+01	5.000E+02	
5	31820605	08/16/00	12:12:18	Ft. McClellan (AL)	Post-Decon Survey	08/16/00	11:00:00	1.000	1.000E+01	5.000E+02	
6	31820606	08/16/00	12:11:29	Ft. McClellan (AL)	Post-Decon Survey	08/16/00	11:00:00	1.000	1.000E+01	5.000E+02	
7	31820607	08/16/00	12:10:40	Ft. McClellan (AL)	Post-Decon Survey	08/16/00	11:00:00	1.000	1.000E+01	5.000E+02	
8	31820608	08/16/00	12:09:50	Ft. McClellan (AL)	Post-Decon Survey	08/16/00	11:00:00	1.000	1.000E+01	5.000E+02	
9	31820609	08/16/00	12:09:01	Ft. McClellan (AL)	Post-Decon Survey	08/16/00	11:00:00	1.000	1.000E+01	5.000E+02	
10	31820610	08/16/00	12:08:12	Ft. McClellan (AL)	Post-Decon Survey	08/16/00	11:00:00	1.000	1.000E+01	5.000E+02	
11	31821401	08/16/00	12:07:23	Ft. McClellan (AL)	Post-Decon Survey	08/16/00	11:00:00	1.000	1.000E+01	5.000E+02	
12	31821402	08/16/00	12:06:33	Ft. McClellan (AL)	Post-Decon Survey	08/16/00	11:00:00	1.000	1.000E+01	5.000E+02	
13	31821403	08/16/00	12:05:44	Ft. McClellan (AL)	Post-Decon Survey	08/16/00	11:00:00	1.000	1.000E+01	5.000E+02	
14	31821404	08/16/00	12:04:55	Ft. McClellan (AL)	Post-Decon Survey	08/16/00	11:00:00	1.000	1.000E+01	5.000E+02	
15	31821405	08/16/00	12:04:05	Ft. McClellan (AL)	Post-Decon Survey	08/16/00	11:00:00	1.000	1.000E+01	5.000E+02	
16	31821406	08/16/00	12:03:16	Ft. McClellan (AL)	Post-Decon Survey	08/16/00	11:00:00	1.000	1.000E+01	5.000E+02	
17	31821407	08/16/00	12:02:27	Ft. McClellan (AL)	Post-Decon Survey	08/16/00	11:00:00	1.000	1.000E+01	5.000E+02	
18	31821408	08/16/00	12:01:38	Ft. McClellan (AL)	Post-Decon Survey	08/16/00	11:00:00	1.000	1.000E+01	5.000E+02	
19	31821409	08/16/00	12:00:48	Ft. McClellan (AL)	Post-Decon Survey	08/16/00	11:00:00	1.000	1.000E+01	5.000E+02	
20	31821410	08/16/00	11:59:59	Ft. McClellan (AL)	Post-Decon Survey	08/16/00	11:00:00	1.000	1.000E+01	5.000E+02	
21	31821411	08/16/00	11:59:10	Ft. McClellan (AL)	Post-Decon Survey	08/16/00	11:00:00	1.000	1.000E+01	5.000E+02	
22	31821412	08/16/00	11:58:21	Ft. McClellan (AL)	Post-Decon Survey	08/16/00	11:00:00	1.000	1.000E+01	5.000E+02	

Smears				Alpha										
PIC WPC-9550 Instr No 1		Count Started												
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
1	31820601	08/16/00	12:15:35	0.00	0.00	0.170	-0.17	21.80	-0.79	33.71	-0.79	0.33	33.71	Less Than MDA
2	31820602	08/16/00	12:14:46	0.00	0.00	0.170	-0.17	21.80	-0.79	33.71	-0.79	0.33	33.71	Less Than MDA
3	31820603	08/16/00	12:13:56	0.00	0.00	0.170	-0.17	21.80	-0.79	33.71	-0.79	0.33	33.71	Less Than MDA
4	31820604	08/16/00	12:13:07	0.00	0.00	0.170	-0.17	21.80	-0.79	33.71	-0.79	0.33	33.71	Less Than MDA
5	31820605	08/16/00	12:12:18	0.00	0.00	0.170	-0.17	21.80	-0.79	33.71	-0.79	0.33	33.71	Less Than MDA
6	31820606	08/16/00	12:11:29	0.00	0.00	0.170	-0.17	21.80	-0.79	33.71	-0.79	0.33	33.71	Less Than MDA
7	31820607	08/16/00	12:10:40	0.00	0.00	0.170	-0.17	21.80	-0.79	33.71	-0.79	0.33	33.71	Less Than MDA
8	31820608	08/16/00	12:09:50	1.00	2.00	0.170	1.83	21.80	8.39	33.71	8.39	18.29	33.71	Less Than MDA
9	31820609	08/16/00	12:09:01	0.00	0.00	0.170	-0.17	21.80	-0.79	33.71	-0.79	0.33	33.71	Less Than MDA
10	31820610	08/16/00	12:08:12	0.00	0.00	0.170	-0.17	21.80	-0.79	33.71	-0.79	0.33	33.71	Less Than MDA
11	31821401	08/16/00	12:07:23	0.00	0.00	0.170	-0.17	21.80	-0.79	33.71	-0.79	0.33	33.71	Less Than MDA
12	31821402	08/16/00	12:06:33	0.00	0.00	0.170	-0.17	21.80	-0.79	33.71	-0.79	0.33	33.71	Less Than MDA
13	31821403	08/16/00	12:05:44	0.00	0.00	0.170	-0.17	21.80	-0.79	33.71	-0.79	0.33	33.71	Less Than MDA
14	31821404	08/16/00	12:04:55	0.00	0.00	0.170	-0.17	21.80	-0.79	33.71	-0.79	0.33	33.71	Less Than MDA
15	31821405	08/16/00	12:04:05	0.00	0.00	0.170	-0.17	21.80	-0.79	33.71	-0.79	0.33	33.71	Less Than MDA
16	31821406	08/16/00	12:03:16	0.00	0.00	0.170	-0.17	21.80	-0.79	33.71	-0.79	0.33	33.71	Less Than MDA
17	31821407	08/16/00	12:02:27	0.00	0.00	0.170	-0.17	21.80	-0.79	33.71	-0.79	0.33	33.71	Less Than MDA
18	31821408	08/16/00	12:01:38	0.00	0.00	0.170	-0.17	21.80	-0.79	33.71	-0.79	0.33	33.71	Less Than MDA
19	31821409	08/16/00	12:00:48	0.00	0.00	0.170	-0.17	21.80	-0.79	33.71	-0.79	0.33	33.71	Less Than MDA
20	31821410	08/16/00	11:59:59	0.00	0.00	0.170	-0.17	21.80	-0.79	33.71	-0.79	0.33	33.71	Less Than MDA
21	31821411	08/16/00	11:59:10	0.00	0.00	0.170	-0.17	21.80	-0.79	33.71	-0.79	0.33	33.71	Less Than MDA
22	31821412	08/16/00	11:58:21	0.00	0.00	0.170	-0.17	21.80	-0.79	33.71	-0.79	0.33	33.71	Less Than MDA

Smears				Beta											
PIC WPC-9550 Instr No 1		Count Started													
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Alpha Xtlk	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
1	31820601	08/16/00	12:15:35	2.00	4.00	1.320	42.56	2.76	22.67	12.16	47.45	12.16	25.48	47.45	Less Than MDA
2	31820602	08/16/00	12:14:46	1.00	2.00	1.320	42.56	0.76	22.67	3.34	47.45	3.34	17.40	47.45	Less Than MDA
3	31820603	08/16/00	12:13:56	1.00	2.00	1.320	42.56	0.76	22.67	3.34	47.45	3.34	17.40	47.45	Less Than MDA
4	31820604	08/16/00	12:13:07	4.00	8.00	1.320	42.56	6.76	22.67	29.80	47.45	29.80	39.00	47.45	Less Than MDA
5	31820605	08/16/00	12:12:18	0.00	0.00	1.320	42.56	-1.24	22.67	-5.48	47.45	-5.48	3.31	47.45	Less Than MDA
6	31820606	08/16/00	12:11:29	3.00	6.00	1.320	42.56	4.76	22.67	20.98	47.45	20.98	32.54	47.45	Less Than MDA
7	31820607	08/16/00	12:10:40	6.00	12.00	1.320	42.56	10.76	22.67	47.45	47.45	47.45	50.96	47.45	
8	31820608	08/16/00	12:09:50	3.00	6.00	1.320	42.56	3.91	22.67	17.23	47.45	17.23	32.54	47.45	Less Than MDA
9	31820609	08/16/00	12:09:01	0.00	0.00	1.320	42.56	-1.24	22.67	-5.48	47.45	-5.48	3.31	47.45	Less Than MDA
10	31820610	08/16/00	12:08:12	0.00	0.00	1.320	42.56	-1.24	22.67	-5.48	47.45	-5.48	3.31	47.45	Less Than MDA
11	31821401	08/16/00	12:07:23	4.00	8.00	1.320	42.56	6.76	22.67	29.80	47.45	29.80	39.00	47.45	Less Than MDA
12	31821402	08/16/00	12:06:33	0.00	0.00	1.320	42.56	-1.24	22.67	-5.48	47.45	-5.48	3.31	47.45	Less Than MDA
13	31821403	08/16/00	12:05:44	2.00	4.00	1.320	42.56	2.76	22.67	12.16	47.45	12.16	25.48	47.45	Less Than MDA
14	31821404	08/16/00	12:04:55	0.00	0.00	1.320	42.56	-1.24	22.67	-5.48	47.45	-5.48	3.31	47.45	Less Than MDA
15	31821405	08/16/00	12:04:05	1.00	2.00	1.320	42.56	0.76	22.67	3.34	47.45	3.34	17.40	47.45	Less Than MDA
16	31821406	08/16/00	12:03:16	0.00	0.00	1.320	42.56	-1.24	22.67	-5.48	47.45	-5.48	3.31	47.45	Less Than MDA
17	31821407	08/16/00	12:02:27	0.00	0.00	1.320	42.56	-1.24	22.67	-5.48	47.45	-5.48	3.31	47.45	Less Than MDA
18	31821408	08/16/00	12:01:38	0.00	0.00	1.320	42.56	-1.24	22.67	-5.48	47.45	-5.48	3.31	47.45	Less Than MDA
19	31821409	08/16/00	12:00:48	0.00	0.00	1.320	42.56	-1.24	22.67	-5.48	47.45	-5.48	3.31	47.45	Less Than MDA
20	31821410	08/16/00	11:59:59	2.00	4.00	1.320	42.56	2.76	22.67	12.16	47.45	12.16	25.48	47.45	Less Than MDA
21	31821411	08/16/00	11:59:10	2.00	4.00	1.320	42.56	2.76	22.67	12.16	47.45	12.16	25.48	47.45	Less Than MDA
22	31821412	08/16/00	11:58:21	0.00	0.00	1.320	42.56	-1.24	22.67	-5.48	47.45	-5.48	3.31	47.45	Less Than MDA

Smears										
PIC WPC-9550 Instr No 1		Count Started				Sample Collected			dpm	dpm
Carrier No.	Sample ID	Date	Time	Location ID	Comment	Date	Time	DF	Alpha Limits	Beta Limits
1	318205(A1)	08/11/00	8:46:19	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
2	318205(A2)	08/11/00	8:45:30	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
3	318205(A3)	08/11/00	8:44:40	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
4	318205(A4)	08/11/00	8:43:51	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
5	318205(A5)	08/11/00	8:43:01	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
6	318205(A6)	08/11/00	8:42:12	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
7	318205(A7)	08/11/00	8:41:22	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
8	318205(A8)	08/11/00	8:40:33	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
9	318205(A9)	08/11/00	8:39:43	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
10	318205(A10)	08/11/00	8:38:54	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
11	318205(A11)	08/11/00	8:38:05	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
12	318205(A12)	08/11/00	8:37:15	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
13	318205(A13)	08/11/00	8:36:26	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
14	318205(A14)	08/11/00	8:35:36	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
15	318205(A15)	08/11/00	8:34:47	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
16	318205(A16)	08/11/00	8:33:57	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
17	318205(A17)	08/11/00	8:33:08	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
18	318205(A18)	08/11/00	8:32:18	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
19	318205(A19)	08/11/00	8:31:29	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
20	318205(A20)	08/11/00	8:30:39	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
21	318205(B1)	08/11/00	8:29:49	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
22	318205(B2)	08/11/00	8:29:00	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
23	318205(B3)	08/11/00	8:28:10	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
24	318205(B4)	08/11/00	8:27:21	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
25	318205(B5)	08/11/00	8:26:31	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
26	318205(B6)	08/11/00	8:25:42	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
27	318205(B7)	08/11/00	8:24:52	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
28	318205(B8)	08/11/00	8:24:03	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
29	318205(B9)	08/11/00	8:23:13	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
30	318205(B10)	08/11/00	8:22:24	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
31	318205(B11)	08/11/00	8:21:34	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
32	318205(B12)	08/11/00	8:20:45	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
33	318205(B13)	08/11/00	8:19:56	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
34	318205(B14)	08/11/00	8:19:06	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
35	318205(B15)	08/11/00	8:17:27	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
36	318205(B16)	08/11/00	8:16:38	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
37	318205(B17)	08/11/00	8:15:49	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
38	318205(B18)	08/11/00	8:14:59	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
39	318205(B19)	08/11/00	8:14:10	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
40	318205(B20)	08/11/00	8:13:21	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02

Smears

PIC WPC-9550 Instr No 1 — Count Started

Carrier No.	Sample ID	Count Started Date	Count Started Time	Location ID	Comment	Sample Collected Date	Sample Collected Time	DF	dpm Alpha Limits	dpm Beta Limits
41 42	318205(C1)	08/11/00	8:12:31	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
42 43	318205(C2)	08/11/00	8:11:42	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
43 44	318205(C3)	08/11/00	8:10:52	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
44 45	318205(C4)	08/11/00	8:10:03	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
45 46	318205(C5)	08/11/00	8:09:13	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
46 47	318205(C6)	08/11/00	8:08:24	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
47 48	318205(C7)	08/11/00	8:07:34	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
48 49	318205(C8)	08/11/00	8:06:45	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
49 50	318205(C9)	08/11/00	8:05:55	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
50 1	318205(C10)	08/11/00	8:18:17	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02

8/11/00 GB

Smears				Alpha									
PIC WPC-9550 Instr No 1		Count Started											
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
1	318205(A1)	08/11/00	8:46:19	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
2	318205(A2)	08/11/00	8:45:30	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
3	318205(A3)	08/11/00	8:44:40	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
4	318205(A4)	08/11/00	8:43:51	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
5	318205(A5)	08/11/00	8:43:01	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
6	318205(A6)	08/11/00	8:42:12	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
7	318205(A7)	08/11/00	8:41:22	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
8	318205(A8)	08/11/00	8:40:33	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
9	318205(A9)	08/11/00	8:39:43	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
10	318205(A10)	08/11/00	8:38:54	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
11	318205(A11)	08/11/00	8:38:05	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
12	318205(A12)	08/11/00	8:37:15	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
13	318205(A13)	08/11/00	8:36:26	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
14	318205(A14)	08/11/00	8:35:36	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
15	318205(A15)	08/11/00	8:34:47	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
16	318205(A16)	08/11/00	8:33:57	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
17	318205(A17)	08/11/00	8:33:08	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
18	318205(A18)	08/11/00	8:32:18	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
19	318205(A19)	08/11/00	8:31:29	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
20	318205(A20)	08/11/00	8:30:39	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
21	318205(B1)	08/11/00	8:29:49	1.00	2.00	0.130	1.87	21.75	8.58	32.74	8.58	18.37	32.74	Less Than MDA
22	318205(B2)	08/11/00	8:29:00	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
23	318205(B3)	08/11/00	8:28:10	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
24	318205(B4)	08/11/00	8:27:21	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
25	318205(B5)	08/11/00	8:26:31	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
26	318205(B6)	08/11/00	8:25:42	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
27	318205(B7)	08/11/00	8:24:52	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
28	318205(B8)	08/11/00	8:24:03	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
29	318205(B9)	08/11/00	8:23:13	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
30	318205(B10)	08/11/00	8:22:24	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
31	318205(B11)	08/11/00	8:21:34	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
32	318205(B12)	08/11/00	8:20:45	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
33	318205(B13)	08/11/00	8:19:56	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
34	318205(B14)	08/11/00	8:19:06	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
35	318205(B15)	08/11/00	8:17:27	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
36	318205(B16)	08/11/00	8:16:38	1.00	2.00	0.130	1.87	21.75	8.58	32.74	8.58	18.37	32.74	Less Than MDA
37	318205(B17)	08/11/00	8:15:49	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
38	318205(B18)	08/11/00	8:14:59	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
39	318205(B19)	08/11/00	8:14:10	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
40	318205(B20)	08/11/00	8:13:21	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
41	318205(C1)	08/11/00	8:12:31	1.00	2.00	0.130	1.87	21.75	8.58	32.74	8.58	18.37	32.74	Less Than MDA
42	318205(C2)	08/11/00	8:11:42	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
43	318205(C3)	08/11/00	8:10:52	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
44	318205(C4)	08/11/00	8:10:03	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
45	318205(C5)	08/11/00	8:09:13	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
46	318205(C6)	08/11/00	8:08:24	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
47	318205(C7)	08/11/00	8:07:34	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
48	318205(C8)	08/11/00	8:06:45	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
49	318205(C9)	08/11/00	8:05:55	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA

9/11/00

Smears				Alpha										
PIC WPC-9550 Instr No 1		Count Started												
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
0	318205(C10)	08/11/00	8:18:17	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA

Smears				Beta										
PIC WPC-9550 Instr No 1		Count Started												
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Alpha Xtlk	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
1	318205(A1)	08/11/00	8:46:19	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
2	318205(A2)	08/11/00	8:45:30	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
3	318205(A3)	08/11/00	8:44:40	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
4	318205(A4)	08/11/00	8:43:51	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
5	318205(A5)	08/11/00	8:43:01	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
6	318205(A6)	08/11/00	8:42:12	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA
7	318205(A7)	08/11/00	8:41:22	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
8	318205(A8)	08/11/00	8:40:33	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
9	318205(A9)	08/11/00	8:39:43	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
10	318205(A10)	08/11/00	8:38:54	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
11	318205(A11)	08/11/00	8:38:05	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
12	318205(A12)	08/11/00	8:37:15	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA
13	318205(A13)	08/11/00	8:36:26	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
14	318205(A14)	08/11/00	8:35:36	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
15	318205(A15)	08/11/00	8:34:47	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
16	318205(A16)	08/11/00	8:33:57	2.00	4.00	1.200	42.80	2.85	22.56	12.65	46.66	12.65	25.87	46.66	Less Than MDA
17	318205(A17)	08/11/00	8:33:08	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA
18	318205(A18)	08/11/00	8:32:18	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
19	318205(A19)	08/11/00	8:31:29	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
20	318205(A20)	08/11/00	8:30:39	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA
21	318205(B1)	08/11/00	8:29:49	2.00	4.00	1.200	42.80	2.00	22.56	8.85	46.66	8.85	26.26	46.66	Less Than MDA
22	318205(B2)	08/11/00	8:29:00	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA
23	318205(B3)	08/11/00	8:28:10	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
24	318205(B4)	08/11/00	8:27:21	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
25	318205(B5)	08/11/00	8:26:31	3.00	6.00	1.200	42.80	4.85	22.56	21.51	46.66	21.51	32.93	46.66	Less Than MDA
26	318205(B6)	08/11/00	8:25:42	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA
27	318205(B7)	08/11/00	8:24:52	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA
28	318205(B8)	08/11/00	8:24:03	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA
29	318205(B9)	08/11/00	8:23:13	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA
30	318205(B10)	08/11/00	8:22:24	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
31	318205(B11)	08/11/00	8:21:34	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA
32	318205(B12)	08/11/00	8:20:45	2.00	4.00	1.200	42.80	2.85	22.56	12.65	46.66	12.65	25.87	46.66	Less Than MDA
33	318205(B13)	08/11/00	8:19:56	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
34	318205(B14)	08/11/00	8:19:06	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA
35 ~~36~~	318205(B15)	08/11/00	8:17:27	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
36 ~~37~~	318205(B16)	08/11/00	8:16:38	1.00	2.00	1.200	42.80	0.00	22.56	-0.01	46.66	-0.01	18.99	46.66	Less Than MDA
37 ~~38~~	318205(B17)	08/11/00	8:15:49	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
38 ~~39~~	318205(B18)	08/11/00	8:14:59	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
39 ~~40~~	318205(B19)	08/11/00	8:14:10	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
40 ~~41~~	318205(B20)	08/11/00	8:13:21	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
41 ~~42~~	318205(C1)	08/11/00	8:12:31	0.00	0.00	1.200	42.80	-2.00	22.56	-8.88	46.66	-8.88	9.45	46.66	Less Than MDA
42 ~~43~~	318205(C2)	08/11/00	8:11:42	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
43 ~~44~~	318205(C3)	08/11/00	8:10:52	3.00	6.00	1.200	42.80	4.85	22.56	21.51	46.66	21.51	32.93	46.66	Less Than MDA
44 ~~45~~	318205(C4)	08/11/00	8:10:03	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
45 ~~46~~	318205(C5)	08/11/00	8:09:13	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
46 ~~47~~	318205(C6)	08/11/00	8:08:24	2.00	4.00	1.200	42.80	2.85	22.56	12.65	46.66	12.65	25.87	46.66	Less Than MDA
47 ~~48~~	318205(C7)	08/11/00	8:07:34	3.00	6.00	1.200	42.80	4.85	22.56	21.51	46.66	21.51	32.93	46.66	Less Than MDA
48 ~~49~~	318205(C8)	08/11/00	8:06:45	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA
49 ~~50~~	318205(C9)	08/11/00	8:05:55	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA
50 ~~A~~	318205(C10)	08/11/00	8:18:17	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA

CB 8/11/00

Smears

PIC WPC-9550 Instr No 1

Carrier No.	Sample ID	Count Started Date	Time	Location ID	Comment	Sample Collected Date	Time	DF	dpm Alpha Limits	dpm Beta Limits
1	318205(C11)	08/11/00	11:07:04	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
2	318205(C12)	08/11/00	11:06:15	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
3	318205(C13)	08/11/00	11:05:25	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
4	318205(C14)	08/11/00	11:04:36	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
5	318205(C15)	08/11/00	11:03:46	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
6	318205(C16)	08/11/00	11:02:57	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
7	318205(C17)	08/11/00	11:02:08	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
8	318205(C18)	08/11/00	11:01:18	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
9	318205(C19)	08/11/00	11:00:29	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
~~10~~	~~318205(C20)~~	08/11/00	10:59:39	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
11	318205(C21)	08/11/00	10:58:50	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
12	318205(C22)	08/11/00	10:58:01	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
13	318205(C23)	08/11/00	10:57:11	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
14	318205(C24)	08/11/00	10:56:22	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
15	318205(E1)	08/11/00	10:55:33	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
16	318205(E2)	08/11/00	10:54:43	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
17	318205(E3)	08/11/00	10:53:54	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
18	318205(E4)	08/11/00	10:53:05	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
19	318205(E5)	08/11/00	10:52:15	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
~~20~~	318205(E6)	08/11/00	10:51:26	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
21	318205(E7)	08/11/00	10:50:36	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
22	318205(E8)	08/11/00	10:49:47	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
23	318205(E9)	08/11/00	10:48:58	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
24	318205(E10)	08/11/00	10:48:08	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
25	318205(E11)	08/11/00	10:47:19	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
26	318205(E12)	08/11/00	10:46:29	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
27	318205(E13)	08/11/00	10:45:40	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
28	318205(E14)	08/11/00	10:44:51	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
29	318205(E15)	08/11/00	10:44:01	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
~~30~~	318205(E16)	08/11/00	10:43:12	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
31	318205(E17)	08/11/00	10:42:22	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
32	318205(E18)	08/11/00	10:41:33	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
33	318205(E19)	08/11/00	10:40:43	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
34	318205(E20)	08/11/00	10:39:53	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
35	318205(E21)	08/11/00	10:39:04	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
36	318205(E22)	08/11/00	10:38:15	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
37	318205(E23)	08/11/00	10:37:25	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
38	318205(E24)	08/11/00	10:36:36	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
39	318205(F1)	08/11/00	10:35:47	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
40	318205(F2)	08/11/00	10:34:57	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02

Smears

PIC WPC-9550 Instr No 1

Carrier No.	Sample ID	Count Started Date	Count Started Time	Location ID	Comment	Sample Collected Date	Sample Collected Time	DF	dpm Alpha Limits	dpm Beta Limits
41	318205(F3)	08/11/00	10:34:08	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
42	318205(F4)	08/11/00	10:33:19	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
43	318205(F5)	08/11/00	10:32:29	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
44	318205(G1)	08/11/00	10:31:40	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
45	318205(G2)	08/11/00	10:30:51	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
46	318205(G3)	08/11/00	10:30:01	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
47	318205(G4)	08/11/00	10:29:12	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
48	318205(H1)	08/11/00	10:28:22	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
49	318205(H2)	08/11/00	10:27:33	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
50	318205(H3)	08/11/00	10:26:44	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02

Smears				Alpha										
PIC WPC-9550 Instr No 1		Count Started												
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
1	318205(C11)	08/11/00	11:07:04	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
2	318205(C12)	08/11/00	11:06:15	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
3	318205(C13)	08/11/00	11:05:25	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
4	318205(C14)	08/11/00	11:04:36	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
5	318205(C15)	08/11/00	11:03:46	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
6	318205(C16)	08/11/00	11:02:57	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
7	318205(C17)	08/11/00	11:02:08	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
8	318205(C18)	08/11/00	11:01:18	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
9	318205(C19)	08/11/00	11:00:29	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
10	318205(C20)	08/11/00	10:59:39	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
11	318205(C21)	08/11/00	10:58:50	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
12	318205(C22)	08/11/00	10:58:01	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
13	318205(C23)	08/11/00	10:57:11	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
14	318205(C24)	08/11/00	10:56:22	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
15	318205(E1)	08/11/00	10:55:33	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
16	318205(E2)	08/11/00	10:54:43	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
17	318205(E3)	08/11/00	10:53:54	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
18	318205(E4)	08/11/00	10:53:05	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
19	318205(E5)	08/11/00	10:52:15	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
20	318205(E6)	08/11/00	10:51:26	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
21	318205(E7)	08/11/00	10:50:36	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
22	318205(E8)	08/11/00	10:49:47	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
23	318205(E9)	08/11/00	10:48:58	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
24	318205(E10)	08/11/00	10:48:08	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
25	318205(E11)	08/11/00	10:47:19	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
26	318205(E12)	08/11/00	10:46:29	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
27	318205(E13)	08/11/00	10:45:40	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
28	318205(E14)	08/11/00	10:44:51	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
29	318205(E15)	08/11/00	10:44:01	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
30	318205(E16)	08/11/00	10:43:12	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
31	318205(E17)	08/11/00	10:42:22	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
32	318205(E18)	08/11/00	10:41:33	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
33	318205(E19)	08/11/00	10:40:43	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
34	318205(E20)	08/11/00	10:39:53	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
35	318205(E21)	08/11/00	10:39:04	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
36	318205(E22)	08/11/00	10:38:15	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
37	318205(E23)	08/11/00	10:37:25	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
38	318205(E24)	08/11/00	10:36:36	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
39	318205(F1)	08/11/00	10:35:47	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
40	318205(F2)	08/11/00	10:34:57	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
41	318205(F3)	08/11/00	10:34:08	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
42	318205(F4)	08/11/00	10:33:19	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
43	318205(F5)	08/11/00	10:32:29	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
44	318205(G1)	08/11/00	10:31:40	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
45	318205(G2)	08/11/00	10:30:51	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
46	318205(G3)	08/11/00	10:30:01	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
47	318205(G4)	08/11/00	10:29:12	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
48	318205(H1)	08/11/00	10:28:22	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA
49	318205(H2)	08/11/00	10:27:33	1.00	2.00	0.130	1.87	21.75	8.58	32.74	8.58	18.37	32.74	Less Than MDA

Smears				Alpha										
PIC WPC-9550 Instr No 1		Count Started												
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
50	318205(H3)	08/11/00	10:26:44	0.00	0.00	0.130	-0.13	21.75	-0.61	32.74	-0.61	0.27	32.74	Less Than MDA

Smears

PIC WPC-9550 Instr No 1 — Count Started

Carrier No.	Sample ID	Date	Time	Beta Counts	cpm	Bkg cpm	Alpha Xtlk	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
1	318205(C11)	08/11/00	11:07:04	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA
2	318205(C12)	08/11/00	11:06:15	3.00	6.00	1.200	42.80	4.85	22.56	21.51	46.66	21.51	32.93	46.66	Less Than MDA
3	318205(C13)	08/11/00	11:05:25	2.00	4.00	1.200	42.80	2.85	22.56	12.65	46.66	12.65	25.87	46.66	Less Than MDA
4	318205(C14)	08/11/00	11:04:36	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
5	318205(C15)	08/11/00	11:03:46	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
6	318205(C16)	08/11/00	11:02:57	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
7	318205(C17)	08/11/00	11:02:08	3.00	6.00	1.200	42.80	4.85	22.56	21.51	46.66	21.51	32.93	46.66	Less Than MDA
8	318205(C18)	08/11/00	11:01:18	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
9	318205(C19)	08/11/00	11:00:29	2.00	4.00	1.200	42.80	2.85	22.56	12.65	46.66	12.65	25.87	46.66	Less Than MDA
10	318205(C20)	08/11/00	10:59:39	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA
11	318205(C21)	08/11/00	10:58:50	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
12	318205(C22)	08/11/00	10:58:01	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA
13	318205(C23)	08/11/00	10:57:11	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
14	318205(C24)	08/11/00	10:56:22	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
15	318205(E1)	08/11/00	10:55:33	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
16	318205(E2)	08/11/00	10:54:43	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA
17	318205(E3)	08/11/00	10:53:54	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA
18	318205(E4)	08/11/00	10:53:05	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA
19	318205(E5)	08/11/00	10:52:15	4.00	8.00	1.200	42.80	6.85	22.56	30.38	46.66	30.38	39.59	46.66	Less Than MDA
20	318205(E6)	08/11/00	10:51:26	2.00	4.00	1.200	42.80	2.85	22.56	12.65	46.66	12.65	25.87	46.66	Less Than MDA
21	318205(E7)	08/11/00	10:50:36	2.00	4.00	1.200	42.80	2.85	22.56	12.65	46.66	12.65	25.87	46.66	Less Than MDA
22	318205(E8)	08/11/00	10:49:47	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA
23	318205(E9)	08/11/00	10:48:58	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
24	318205(E10)	08/11/00	10:48:08	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
25	318205(E11)	08/11/00	10:47:19	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA
26	318205(E12)	08/11/00	10:46:29	2.00	4.00	1.200	42.80	2.85	22.56	12.65	46.66	12.65	25.87	46.66	Less Than MDA
27	318205(E13)	08/11/00	10:45:40	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
28	318205(E14)	08/11/00	10:44:51	3.00	6.00	1.200	42.80	4.85	22.56	21.51	46.66	21.51	32.93	46.66	Less Than MDA
29	318205(E15)	08/11/00	10:44:01	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
30	318205(E16)	08/11/00	10:43:12	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
31	318205(E17)	08/11/00	10:42:22	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
32	318205(E18)	08/11/00	10:41:33	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
33	318205(E19)	08/11/00	10:40:43	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
34	318205(E20)	08/11/00	10:39:53	3.00	6.00	1.200	42.80	4.85	22.56	21.51	46.66	21.51	32.93	46.66	Less Than MDA
35	318205(E21)	08/11/00	10:39:04	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
36	318205(E22)	08/11/00	10:38:15	3.00	6.00	1.200	42.80	4.85	22.56	21.51	46.66	21.51	32.93	46.66	Less Than MDA
37	318205(E23)	08/11/00	10:37:25	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA
38	318205(E24)	08/11/00	10:36:36	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
39	318205(F1)	08/11/00	10:35:47	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
40	318205(F2)	08/11/00	10:34:57	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
41	318205(F3)	08/11/00	10:34:08	2.00	4.00	1.200	42.80	2.85	22.56	12.65	46.66	12.65	25.87	46.66	Less Than MDA
42	318205(F4)	08/11/00	10:33:19	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA
43	318205(F5)	08/11/00	10:32:29	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA
44	318205(G1)	08/11/00	10:31:40	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
45	318205(G2)	08/11/00	10:30:51	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
46	318205(G3)	08/11/00	10:30:01	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA
47	318205(G4)	08/11/00	10:29:12	1.00	2.00	1.200	42.80	0.85	22.56	3.78	46.66	3.78	17.54	46.66	Less Than MDA
48	318205(H1)	08/11/00	10:28:22	2.00	4.00	1.200	42.80	2.85	22.56	12.65	46.66	12.65	25.87	46.66	Less Than MDA
49	318205(H2)	08/11/00	10:27:33	0.00	0.00	1.200	42.80	-2.00	22.56	-8.88	46.66	-8.88	9.45	46.66	Less Than MDA
50	318205(H3)	08/11/00	10:26:44	0.00	0.00	1.200	42.80	-1.15	22.56	-5.08	46.66	-5.08	3.16	46.66	Less Than MDA

Smears

PIC WPC-9550 Instr No 1

Carrier No.	Sample ID	Count Started Date	Time	Location ID	Comment	Sample Collected Date	Time	DF	dpm Alpha Limits	dpm Beta Limits
1	318206(B1)	08/04/00	17:22:00	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
2	318206(B2)	08/04/00	17:21:10	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
3	318206(B3)	08/04/00	17:20:20	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
4	318206(B4)	08/04/00	17:19:30	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
5	318206(C1)	08/04/00	17:18:40	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
6	318206(C2)	08/04/00	17:17:50	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
7	318206(C3)	08/04/00	17:17:00	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
8	318206(C4)	08/04/00	17:16:11	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
9	318206(D1)	08/04/00	17:15:21	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
10	318206(D2)	08/04/00	17:14:31	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
11	318208(A1)	08/04/00	17:13:41	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
12	318208(A2)	08/04/00	17:12:51	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
13	318208(A3)	08/04/00	17:12:01	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
14	318208(A4)	08/04/00	17:11:11	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
15	318208(B1)	08/04/00	17:10:21	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
16	318208(B2)	08/04/00	17:09:31	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
17	318208(B3)	08/04/00	17:08:41	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
18	318208(B4)	08/04/00	17:07:51	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
19	318208(C1)	08/04/00	17:07:01	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
20	318208(C2)	08/04/00	17:06:11	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
21	318208(C3)	08/04/00	17:05:22	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
22	318208(C4)	08/04/00	17:04:32	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
23	318208(D1)	08/04/00	17:03:42	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
24	318208(D2)	08/04/00	17:02:52	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
25	318208(D3)	08/04/00	17:02:02	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
26	318211(A1)	08/04/00	17:01:13	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
27	318211(A2)	08/04/00	17:00:23	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
28	318211(A3)	08/04/00	16:59:33	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
29	318211(A4)	08/04/00	16:58:43	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
30	318211(A5)	08/04/00	16:57:54	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
31	318211(A6)	08/04/00	16:57:04	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
32	318211(B1)	08/04/00	16:56:14	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
33	318211(B2)	08/04/00	16:55:25	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
34	318211(B3)	08/04/00	16:54:35	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
35	318211(B4)	08/04/00	16:53:45	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
36	318211(C1)	08/04/00	16:52:56	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
37	318211(C2)	08/04/00	16:52:06	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
38	318211(C3)	08/04/00	16:51:16	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
39	318211(C4)	08/04/00	16:50:27	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
40	318211(C5)	08/04/00	16:49:37	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02

Smears

PIC WPC-9550 Instr No 1

Carrier No.	Sample ID	Count Started Date	Count Started Time	Location ID	Comment	Sample Collected Date	Sample Collected Time	DF	dpm Alpha Limits	dpm Beta Limits
41	318204(A1)	08/04/00	16:48:47	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
42	318204(A2)	08/04/00	16:47:58	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
43	318204(A3)	08/04/00	16:47:08	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
44	318204(B1)	08/04/00	16:46:18	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
45	318204(B2)	08/04/00	16:45:28	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
46	318204(B3)	08/04/00	16:44:38	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
47	318204(C1)	08/04/00	16:43:48	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
48	318204(C2)	08/04/00	16:42:59	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
49	318204(C3)	08/04/00	16:42:09	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02
50	318204(C4)	08/04/00	16:41:19	Ft. McClellan AL	Survey Release	08/03/00	15:00:00	1.000	1.000E+01	5.000E+02

Smears				Alpha										
PIC WPC-9550 Instr No 1		Count Started												
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
1	318206(B1)	08/04/00	17:22:00	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
2	318206(B2)	08/04/00	17:21:10	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
3	318206(B3)	08/04/00	17:20:20	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
4	318206(B4)	08/04/00	17:19:30	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
5	318206(C1)	08/04/00	17:18:40	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
6	318206(C2)	08/04/00	17:17:50	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
7	318206(C3)	08/04/00	17:17:00	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
8	318206(C4)	08/04/00	17:16:11	1.00	2.00	0.090	1.91	21.66	8.80	31.59	8.80	18.48	31.59	Less Than MDA
9	318206(D1)	08/04/00	17:15:21	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
10	318206(D2)	08/04/00	17:14:31	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
11	318208(A1)	08/04/00	17:13:41	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
12	318208(A2)	08/04/00	17:12:51	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
13	318208(A3)	08/04/00	17:12:01	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
14	318208(A4)	08/04/00	17:11:11	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
15	318208(B1)	08/04/00	17:10:21	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
16	318208(B2)	08/04/00	17:09:31	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
17	318208(B3)	08/04/00	17:08:41	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
18	318208(B4)	08/04/00	17:07:51	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
19	318208(C1)	08/04/00	17:07:01	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
20	318208(C2)	08/04/00	17:06:11	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
21	318208(C3)	08/04/00	17:05:22	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
22	318208(C4)	08/04/00	17:04:32	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
23	318208(D1)	08/04/00	17:03:42	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
24	318208(D2)	08/04/00	17:02:52	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
25	318208(D3)	08/04/00	17:02:02	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
26	318211(A1)	08/04/00	17:01:13	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
27	318211(A2)	08/04/00	17:00:23	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
28	318211(A3)	08/04/00	16:59:33	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
29	318211(A4)	08/04/00	16:58:43	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
30	318211(A5)	08/04/00	16:57:54	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
31	318211(A6)	08/04/00	16:57:04	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
32	318211(B1)	08/04/00	16:56:14	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
33	318211(B2)	08/04/00	16:55:25	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
34	318211(B3)	08/04/00	16:54:35	1.00	2.00	0.090	1.91	21.66	8.80	31.59	8.80	18.48	31.59	Less Than MDA
35	318211(B4)	08/04/00	16:53:45	1.00	2.00	0.090	1.91	21.66	8.80	31.59	8.80	18.48	31.59	Less Than MDA
36	318211(C1)	08/04/00	16:52:56	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
37	318211(C2)	08/04/00	16:52:06	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
38	318211(C3)	08/04/00	16:51:16	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
39	318211(C4)	08/04/00	16:50:27	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
40	318211(C5)	08/04/00	16:49:37	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
41	318204(A1)	08/04/00	16:48:47	2.00	4.00	0.090	3.91	21.66	18.03	31.59	18.03	26.66	31.59	Less Than MDA
42	318204(A2)	08/04/00	16:47:58	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
43	318204(A3)	08/04/00	16:47:08	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
44	318204(B1)	08/04/00	16:46:18	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
45	318204(B2)	08/04/00	16:45:28	1.00	2.00	0.090	1.91	21.66	8.80	31.59	8.80	18.48	31.59	Less Than MDA
46	318204(B3)	08/04/00	16:44:38	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
47	318204(C1)	08/04/00	16:43:48	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
48	318204(C2)	08/04/00	16:42:59	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA
49	318204(C3)	08/04/00	16:42:09	1.00	2.00	0.090	1.91	21.66	8.80	31.59	8.80	18.48	31.59	Less Than MDA

Smears				Alpha										
PIC WPC-9550 Instr No 1		Count Started												
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
50	318204(C4)	08/04/00	16:41:19	0.00	0.00	0.090	-0.09	21.66	-0.43	31.59	-0.43	0.20	31.59	Less Than MDA

Smears				Beta										
PIC WPC-9550 Instr No 1		Count Started												
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Alpha Xtlk	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
1	318206(B1)	08/04/00	17:22:00	1.00	2.00	1.060	43.16	0.98	22.37	4.37	45.66	4.37	17.76	45.66	Less Than MDA
2	318206(B2)	08/04/00	17:21:10	0.00	0.00	1.060	43.16	-1.02	22.37	-4.57	45.66	-4.57	2.96	45.66	Less Than MDA
3	318206(B3)	08/04/00	17:20:20	2.00	4.00	1.060	43.16	2.98	22.37	13.31	45.66	13.31	26.26	45.66	Less Than MDA
4	318206(B4)	08/04/00	17:19:30	1.00	2.00	1.060	43.16	0.98	22.37	4.37	45.66	4.37	17.76	45.66	Less Than MDA
5	318206(C1)	08/04/00	17:18:40	0.00	0.00	1.060	43.16	-1.02	22.37	-4.57	45.66	-4.57	2.96	45.66	Less Than MDA
6	318206(C2)	08/04/00	17:17:50	0.00	0.00	1.060	43.16	-1.02	22.37	-4.57	45.66	-4.57	2.96	45.66	Less Than MDA
7	318206(C3)	08/04/00	17:17:00	1.00	2.00	1.060	43.16	0.98	22.37	4.37	45.66	4.37	17.76	45.66	Less Than MDA
8	318206(C4)	08/04/00	17:16:11	1.00	2.00	1.060	43.16	0.12	22.37	0.51	45.66	0.51	19.21	45.66	Less Than MDA
9	318206(D1)	08/04/00	17:15:21	3.00	6.00	1.060	43.16	4.98	22.37	22.25	45.66	22.25	33.52	45.66	Less Than MDA
10	318206(D2)	08/04/00	17:14:31	0.00	0.00	1.060	43.16	-1.02	22.37	-4.57	45.66	-4.57	2.96	45.66	Less Than MDA
11	318208(A1)	08/04/00	17:13:41	1.00	2.00	1.060	43.16	0.98	22.37	4.37	45.66	4.37	17.76	45.66	Less Than MDA
12	318208(A2)	08/04/00	17:12:51	1.00	2.00	1.060	43.16	0.98	22.37	4.37	45.66	4.37	17.76	45.66	Less Than MDA
13	318208(A3)	08/04/00	17:12:01	0.00	0.00	1.060	43.16	-1.02	22.37	-4.57	45.66	-4.57	2.96	45.66	Less Than MDA
14	318208(A4)	08/04/00	17:11:11	0.00	0.00	1.060	43.16	-1.02	22.37	-4.57	45.66	-4.57	2.96	45.66	Less Than MDA
15	318208(B1)	08/04/00	17:10:21	0.00	0.00	1.060	43.16	-1.02	22.37	-4.57	45.66	-4.57	2.96	45.66	Less Than MDA
16	318208(B2)	08/04/00	17:09:31	0.00	0.00	1.060	43.16	-1.02	22.37	-4.57	45.66	-4.57	2.96	45.66	Less Than MDA
17	318208(B3)	08/04/00	17:08:41	0.00	0.00	1.060	43.16	-1.02	22.37	-4.57	45.66	-4.57	2.96	45.66	Less Than MDA
18	318208(B4)	08/04/00	17:07:51	0.00	0.00	1.060	43.16	-1.02	22.37	-4.57	45.66	-4.57	2.96	45.66	Less Than MDA
19	318208(C1)	08/04/00	17:07:01	0.00	0.00	1.060	43.16	-1.02	22.37	-4.57	45.66	-4.57	2.96	45.66	Less Than MDA
20	318208(C2)	08/04/00	17:06:11	1.00	2.00	1.060	43.16	0.98	22.37	4.37	45.66	4.37	17.76	45.66	Less Than MDA
21	318208(C3)	08/04/00	17:05:22	2.00	4.00	1.060	43.16	2.98	22.37	13.31	45.66	13.31	26.26	45.66	Less Than MDA
22	318208(C4)	08/04/00	17:04:32	2.00	4.00	1.060	43.16	2.98	22.37	13.31	45.66	13.31	26.26	45.66	Less Than MDA
23	318208(D1)	08/04/00	17:03:42	1.00	2.00	1.060	43.16	0.98	22.37	4.37	45.66	4.37	17.76	45.66	Less Than MDA
24	318208(D2)	08/04/00	17:02:52	0.00	0.00	1.060	43.16	-1.02	22.37	-4.57	45.66	-4.57	2.96	45.66	Less Than MDA
25	318208(D3)	08/04/00	17:02:02	0.00	0.00	1.060	43.16	-1.02	22.37	-4.57	45.66	-4.57	2.96	45.66	Less Than MDA
26	318211(A1)	08/04/00	17:01:13	0.00	0.00	1.060	43.16	-1.02	22.37	-4.57	45.66	-4.57	2.96	45.66	Less Than MDA
27	318211(A2)	08/04/00	17:00:23	3.00	6.00	1.060	43.16	4.98	22.37	22.25	45.66	22.25	33.52	45.66	Less Than MDA
28	318211(A3)	08/04/00	16:59:33	1.00	2.00	1.060	43.16	0.98	22.37	4.37	45.66	4.37	17.76	45.66	Less Than MDA
29	318211(A4)	08/04/00	16:58:43	2.00	4.00	1.060	43.16	2.98	22.37	13.31	45.66	13.31	26.26	45.66	Less Than MDA
30	318211(A5)	08/04/00	16:57:54	1.00	2.00	1.060	43.16	0.98	22.37	4.37	45.66	4.37	17.76	45.66	Less Than MDA
31	318211(A6)	08/04/00	16:57:04	0.00	0.00	1.060	43.16	-1.02	22.37	-4.57	45.66	-4.57	2.96	45.66	Less Than MDA
32	318211(B1)	08/04/00	16:56:14	3.00	6.00	1.060	43.16	4.98	22.37	22.25	45.66	22.25	33.52	45.66	Less Than MDA
33	318211(B2)	08/04/00	16:55:25	0.00	0.00	1.060	43.16	-1.02	22.37	-4.57	45.66	-4.57	2.96	45.66	Less Than MDA
34	318211(B3)	08/04/00	16:54:35	0.00	0.00	1.060	43.16	-1.88	22.37	-8.42	45.66	-8.42	9.55	45.66	Less Than MDA
35	318211(B4)	08/04/00	16:53:45	0.00	0.00	1.060	43.16	-1.88	22.37	-8.42	45.66	-8.42	9.55	45.66	Less Than MDA
36	318211(C1)	08/04/00	16:52:56	0.00	0.00	1.060	43.16	-1.02	22.37	-4.57	45.66	-4.57	2.96	45.66	Less Than MDA
37	318211(C2)	08/04/00	16:52:06	1.00	2.00	1.060	43.16	0.98	22.37	4.37	45.66	4.37	17.76	45.66	Less Than MDA
38	318211(C3)	08/04/00	16:51:16	0.00	0.00	1.060	43.16	-1.02	22.37	-4.57	45.66	-4.57	2.96	45.66	Less Than MDA
39	318211(C4)	08/04/00	16:50:27	0.00	0.00	1.060	43.16	-1.02	22.37	-4.57	45.66	-4.57	2.96	45.66	Less Than MDA
40	318211(C5)	08/04/00	16:49:37	0.00	0.00	1.060	43.16	-1.02	22.37	-4.57	45.66	-4.57	2.96	45.66	Less Than MDA
41	318204(A1)	08/04/00	16:48:47	3.00	6.00	1.060	43.16	3.25	22.37	14.54	45.66	14.54	33.71	45.66	Less Than MDA
42	318204(A2)	08/04/00	16:47:58	2.00	4.00	1.060	43.16	2.98	22.37	13.31	45.66	13.31	26.26	45.66	Less Than MDA
43	318204(A3)	08/04/00	16:47:08	3.00	6.00	1.060	43.16	4.98	22.37	22.25	45.66	22.25	33.52	45.66	Less Than MDA
44	318204(B1)	08/04/00	16:46:18	0.00	0.00	1.060	43.16	-1.02	22.37	-4.57	45.66	-4.57	2.96	45.66	Less Than MDA
45	318204(B2)	08/04/00	16:45:28	3.00	6.00	1.060	43.16	4.12	22.37	18.39	45.66	18.39	33.52	45.66	Less Than MDA
46	318204(B3)	08/04/00	16:44:38	0.00	0.00	1.060	43.16	-1.02	22.37	-4.57	45.66	-4.57	2.96	45.66	Less Than MDA
47	318204(C1)	08/04/00	16:43:48	3.00	6.00	1.060	43.16	4.98	22.37	22.25	45.66	22.25	33.52	45.66	Less Than MDA
48	318204(C2)	08/04/00	16:42:59	4.00	8.00	1.060	43.16	6.98	22.37	31.19	45.66	31.19	40.38	45.66	Less Than MDA
49	318204(C3)	08/04/00	16:42:09	2.00	4.00	1.060	43.16	2.12	22.37	9.45	45.66	9.45	26.66	45.66	Less Than MDA
50	318204(C4)	08/04/00	16:41:19	6.00	12.00	1.060	43.16	10.98	22.37	49.07	45.66	49.07	53.31	45.66	

Smears

PIC WPC-9550 Instr No 1

Carrier No.	Sample ID	Count Started Date	Time	Location ID	Comment	Sample Collected Date	Time	DF	dpm Alpha Limits	dpm Beta Limits
1	318213(E1)	08/14/00	18:41:55	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
2	318213(E2)	08/14/00	18:41:06	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
3	318213(E3)	08/14/00	18:40:16	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
4	318213(E4)	08/14/00	18:39:27	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
5	318213(E5)	08/14/00	18:38:37	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
6	318213(E6)	08/14/00	18:37:48	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
7	318213(F1)	08/14/00	18:36:58	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
8	318213(F2)	08/14/00	18:36:09	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
9	318213(F3)	08/14/00	18:35:20	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
10	318213(F4)	08/14/00	18:34:30	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
11	318213(F5)	08/14/00	18:33:41	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
12	318213(F6)	08/14/00	18:32:51	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
13	318214(G1)	08/14/00	18:32:02	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
14	318214(G2)	08/14/00	18:31:13	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
15	318214(G3)	08/14/00	18:30:23	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
16	318214(G4)	08/14/00	18:29:34	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
17	318214(G5)	08/14/00	18:28:45	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
18	318214(G6)	08/14/00	18:27:56	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
19	318214(H1)	08/14/00	18:27:06	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
20	318214(H2)	08/14/00	18:26:17	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
21	318214(H3)	08/14/00	18:25:27	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
22	318214(H4)	08/14/00	18:24:38	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
23	318214(H5)	08/14/00	18:23:48	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
24	318214(H6)	08/14/00	18:22:58	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
25	318214(I1)	08/14/00	18:22:09	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
26	318214(I2)	08/14/00	18:21:19	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
27	318214(I3)	08/14/00	18:20:30	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
28	318214(I4)	08/14/00	18:19:41	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
29	318214(I5)	08/14/00	18:18:51	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
30	318214(I6)	08/14/00	18:18:02	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
31	318214(A1)	08/14/00	18:17:12	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
32	318214(A2)	08/14/00	18:16:23	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
33	318214(A3)	08/14/00	18:15:34	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
34	318214(A4)	08/14/00	18:14:44	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
35	318214(A5)	08/14/00	18:13:55	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
36	318214(A6)	08/14/00	18:13:05	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
37	318214(B1)	08/14/00	18:12:16	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
38	318214(B2)	08/14/00	18:11:27	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
39	318214(B3)	08/14/00	18:10:37	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
40	318214(B4)	08/14/00	18:09:48	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02

Smears

PIC WPC-9550 Instr No 1

Carrier No.	Sample ID	Count Started Date	Time	Location ID	Comment	Sample Collected Date	Time	DF	dpm Alpha Limits	dpm Beta Limits
41	318214(B5)	08/14/00	18:08:59	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
42	318214(C1)	08/14/00	18:08:09	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
43	318214(C2)	08/14/00	18:07:20	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
44	318214(C3)	08/14/00	18:06:30	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
45	318214(C4)	08/14/00	18:05:41	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
46	318214(C5)	08/14/00	18:04:52	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02
47	318214(C6)	08/14/00	18:04:03	Ft. McClellan (AL)	Release Surveys	08/10/00	13:00:00	1.000	1.000E+01	5.000E+02

Smears				Alpha									
PIC WPC-9550 Instr No 1		Count Started											
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
1	318213(E1)	08/14/00	18:41:55	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
2	318213(E2)	08/14/00	18:41:06	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
3	318213(E3)	08/14/00	18:40:16	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
4	318213(E4)	08/14/00	18:39:27	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
5	318213(E5)	08/14/00	18:38:37	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
6	318213(E6)	08/14/00	18:37:48	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
7	318213(F1)	08/14/00	18:36:58	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
8	318213(F2)	08/14/00	18:36:09	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
9	318213(F3)	08/14/00	18:35:20	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
10	318213(F4)	08/14/00	18:34:30	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
11	318213(F5)	08/14/00	18:33:41	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
12	318213(F6)	08/14/00	18:32:51	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
13	318214(G1)	08/14/00	18:32:02	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
14	318214(G2)	08/14/00	18:31:13	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
15	318214(G3)	08/14/00	18:30:23	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
16	318214(G4)	08/14/00	18:29:34	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
17	318214(G5)	08/14/00	18:28:45	1.00	2.00	0.140	1.86	21.76	8.53	33.00	8.53	18.33	33.00	Less Than MDA
18	318214(G6)	08/14/00	18:27:56	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
19	318214(H1)	08/14/00	18:27:06	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
20	318214(H2)	08/14/00	18:26:17	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
21	318214(H3)	08/14/00	18:25:27	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
22	318214(H4)	08/14/00	18:24:38	1.00	2.00	0.140	1.86	21.76	8.53	33.00	8.53	18.33	33.00	Less Than MDA
23	318214(H5)	08/14/00	18:23:48	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
24	318214(H6)	08/14/00	18:22:58	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
25	318214(I1)	08/14/00	18:22:09	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
26	318214(I2)	08/14/00	18:21:19	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
27	318214(I3)	08/14/00	18:20:30	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
28	318214(I4)	08/14/00	18:19:41	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
29	318214(I5)	08/14/00	18:18:51	2.00	4.00	0.140	3.86	21.76	17.72	33.00	17.72	26.46	33.00	Less Than MDA
30	318214(I6)	08/14/00	18:18:02	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
31	318214(A1)	08/14/00	18:17:12	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
32	318214(A2)	08/14/00	18:16:23	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
33	318214(A3)	08/14/00	18:15:34	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
34	318214(A4)	08/14/00	18:14:44	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
35	318214(A5)	08/14/00	18:13:55	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
36	318214(A6)	08/14/00	18:13:05	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
37	318214(B1)	08/14/00	18:12:16	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
38	318214(B2)	08/14/00	18:11:27	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
39	318214(B3)	08/14/00	18:10:37	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
40	318214(B4)	08/14/00	18:09:48	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
41	318214(B5)	08/14/00	18:08:59	1.00	2.00	0.140	1.86	21.76	8.53	33.00	8.53	18.33	33.00	Less Than MDA
42	318214(C1)	08/14/00	18:08:09	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
43	318214(C2)	08/14/00	18:07:20	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
44	318214(C3)	08/14/00	18:06:30	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
45	318214(C4)	08/14/00	18:05:41	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
46	318214(C5)	08/14/00	18:04:52	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
47	318214(C6)	08/14/00	18:04:03	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA

Smears				Beta										
PIC WPC-9550 Instr No 1		Count Started												
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Alpha Xtlk	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
1	318213(E1)	08/14/00	18:41:55	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
2	318213(E2)	08/14/00	18:41:06	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
3	318213(E3)	08/14/00	18:40:16	2.00	4.00	1.230	42.73	2.83	22.61	12.52	46.82	12.52	25.68	46.82	Less Than MDA
4	318213(E4)	08/14/00	18:39:27	2.00	4.00	1.230	42.73	2.83	22.61	12.52	46.82	12.52	25.68	46.82	Less Than MDA
5	318213(E5)	08/14/00	18:38:37	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
6	318213(E6)	08/14/00	18:37:48	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
7	318213(F1)	08/14/00	18:36:58	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
8	318213(F2)	08/14/00	18:36:09	2.00	4.00	1.230	42.73	2.83	22.61	12.52	46.82	12.52	25.68	46.82	Less Than MDA
9	318213(F3)	08/14/00	18:35:20	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
10	318213(F4)	08/14/00	18:34:30	3.00	6.00	1.230	42.73	4.83	22.61	21.36	46.82	21.36	32.73	46.82	Less Than MDA
11	318213(F5)	08/14/00	18:33:41	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
12	318213(F6)	08/14/00	18:32:51	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
13	318214(G1)	08/14/00	18:32:02	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
14	318214(G2)	08/14/00	18:31:13	2.00	4.00	1.230	42.73	2.83	22.61	12.52	46.82	12.52	25.68	46.82	Less Than MDA
15	318214(G3)	08/14/00	18:30:23	2.00	4.00	1.230	42.73	2.83	22.61	12.52	46.82	12.52	25.68	46.82	Less Than MDA
16	318214(G4)	08/14/00	18:29:34	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
17	318214(G5)	08/14/00	18:28:45	1.00	2.00	1.230	42.73	-0.03	22.61	-0.11	46.82	-0.11	18.95	46.82	Less Than MDA
18	318214(G6)	08/14/00	18:27:56	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
19	318214(H1)	08/14/00	18:27:06	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
20	318214(H2)	08/14/00	18:26:17	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
21	318214(H3)	08/14/00	18:25:27	3.00	6.00	1.230	42.73	4.83	22.61	21.36	46.82	21.36	32.73	46.82	Less Than MDA
22	318214(H4)	08/14/00	18:24:38	1.00	2.00	1.230	42.73	-0.03	22.61	-0.11	46.82	-0.11	18.95	46.82	Less Than MDA
23	318214(H5)	08/14/00	18:23:48	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
24	318214(H6)	08/14/00	18:22:58	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
25	318214(I1)	08/14/00	18:22:09	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
26	318214(I2)	08/14/00	18:21:19	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
27	318214(I3)	08/14/00	18:20:30	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
28	318214(I4)	08/14/00	18:19:41	3.00	6.00	1.230	42.73	4.83	22.61	21.36	46.82	21.36	32.73	46.82	Less Than MDA
29	318214(I5)	08/14/00	18:18:51	0.00	0.00	1.230	42.73	-2.88	22.61	-12.74	46.82	-12.74	13.64	46.82	Less Than MDA
30	318214(I6)	08/14/00	18:18:02	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
31	318214(A1)	08/14/00	18:17:12	2.00	4.00	1.230	42.73	2.83	22.61	12.52	46.82	12.52	25.68	46.82	Less Than MDA
32	318214(A2)	08/14/00	18:16:23	2.00	4.00	1.230	42.73	2.83	22.61	12.52	46.82	12.52	25.68	46.82	Less Than MDA
33	318214(A3)	08/14/00	18:15:34	4.00	8.00	1.230	42.73	6.83	22.61	30.21	46.82	30.21	39.40	46.82	Less Than MDA
34	318214(A4)	08/14/00	18:14:44	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
35	318214(A5)	08/14/00	18:13:55	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
36	318214(A6)	08/14/00	18:13:05	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
37	318214(B1)	08/14/00	18:12:16	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
38	318214(B2)	08/14/00	18:11:27	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
39	318214(B3)	08/14/00	18:10:37	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
40	318214(B4)	08/14/00	18:09:48	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
41	318214(B5)	08/14/00	18:08:59	1.00	2.00	1.230	42.73	-0.03	22.61	-0.11	46.82	-0.11	18.95	46.82	Less Than MDA
42	318214(C1)	08/14/00	18:08:09	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
43	318214(C2)	08/14/00	18:07:20	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
44	318214(C3)	08/14/00	18:06:30	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
45	318214(C4)	08/14/00	18:05:41	1.00	2.00	1.230	42.73	0.83	22.61	3.67	46.82	3.67	17.48	46.82	Less Than MDA
46	318214(C5)	08/14/00	18:04:52	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
47	318214(C6)	08/14/00	18:04:03	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA

Smears

PIC WPC-9550 Instr No 1

Carrier No.	Sample ID	Count Started Date	Count Started Time	Location ID	Comment	Sample Collected Date	Sample Collected Time	DF	dpm Alpha Limits	dpm Beta Limits
51	318201F	08/14/00	16:50:23	Ft. McClellan (AL)	Decon Surveys	08/14/00	15:30:00	1.000	1.000E+01	5.000E+02
52	318202F	08/14/00	16:49:33	Ft. McClellan (AL)	Decon Surveys	08/14/00	15:30:00	1.000	1.000E+01	5.000E+02
53	318203F	08/14/00	16:48:43	Ft. McClellan (AL)	Decon Surveys	08/14/00	15:30:00	1.000	1.000E+01	5.000E+02
54	318204F	08/14/00	16:47:54	Ft. McClellan (AL)	Decon Surveys	08/14/00	15:30:00	1.000	1.000E+01	5.000E+02
55	318205W	08/14/00	16:47:05	Ft. McClellan (AL)	Decon Surveys	08/14/00	15:30:00	1.000	1.000E+01	5.000E+02
56	318206W	08/14/00	16:46:15	Ft. McClellan (AL)	Decon Surveys	08/14/00	15:30:00	1.000	1.000E+01	5.000E+02
57	318207W	08/14/00	16:45:26	Ft. McClellan (AL)	Decon Surveys	08/14/00	15:30:00	1.000	1.000E+01	5.000E+02
58	318208W	08/14/00	16:44:37	Ft. McClellan (AL)	Decon Surveys	08/14/00	15:30:00	1.000	1.000E+01	5.000E+02

Smears				Alpha										
PIC WPC-9550 Instr No 1		Count Started												
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
51	318201F	08/14/00	16:50:23	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
52	318202F	08/14/00	16:49:33	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
53	318203F	08/14/00	16:48:43	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
54	318204F	08/14/00	16:47:54	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
55	318205W	08/14/00	16:47:05	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
56	318206W	08/14/00	16:46:15	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
57	318207W	08/14/00	16:45:26	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA
58	318208W	08/14/00	16:44:37	0.00	0.00	0.140	-0.14	21.76	-0.66	33.00	-0.66	0.28	33.00	Less Than MDA

Smears

PIC WPC-9550 Instr No 1

Carrier No.	Sample ID	Count Started Date	Time	Beta Counts	cpm	Bkg cpm	Alpha Xtlk	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
51	318201F	08/14/00	16:50:23	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
52	318202F	08/14/00	16:49:33	2.00	4.00	1.230	42.73	2.83	22.61	12.52	46.82	12.52	25.68	46.82	Less Than MDA
53	318203F	08/14/00	16:48:43	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
54	318204F	08/14/00	16:47:54	4.00	8.00	1.230	42.73	6.83	22.61	30.21	46.82	30.21	39.40	46.82	Less Than MDA
55	318205W	08/14/00	16:47:05	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
56	318206W	08/14/00	16:46:15	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
57	318207W	08/14/00	16:45:26	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA
58	318208W	08/14/00	16:44:37	0.00	0.00	1.230	42.73	-1.17	22.61	-5.18	46.82	-5.18	3.18	46.82	Less Than MDA

Smears

PIC WPC-9550 Instr No 1

Carrier No.	Sample ID	Count Started Date	Count Started Time	Location ID	Comment	Sample Collected Date	Sample Collected Time	DF	dpm Alpha Limits	dpm Beta Limits
1	3182QA1	08/07/00	9:54:25	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
2	3182QA2	08/07/00	9:53:35	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
3	3182QA3	08/07/00	9:52:46	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
4	3182QA4	08/07/00	9:51:56	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
5	3182QA5	08/07/00	9:51:07	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
6	3182QA6	08/07/00	9:50:17	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
7	3182QA7	08/07/00	9:49:28	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
8	3182QA8	08/07/00	9:48:38	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
9	3182QA9	08/07/00	9:47:49	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
10	3182QA10	08/07/00	9:47:00	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
11	3182QA11	08/07/00	9:46:10	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
12	3182QA12	08/07/00	9:45:21	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
13	3182QA13	08/07/00	9:44:31	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
14	3182QA14	08/07/00	9:43:42	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
15	3182QA15	08/07/00	9:42:52	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
16	3182QA16	08/07/00	9:42:03	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
17	3182QA17	08/07/00	9:41:14	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
18	3182QA18	08/07/00	9:40:24	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
19	3182QA19	08/07/00	9:39:35	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
20	3182QA20	08/07/00	9:38:45	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
21	3182QA21	08/07/00	9:37:56	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
22	3182QA22	08/07/00	9:37:07	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
23	3182QA23	08/07/00	9:36:17	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
24	3182QA24	08/07/00	9:35:28	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
25	3182QA25	08/07/00	9:34:38	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
26	3182QA26	08/07/00	9:33:49	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
27	3182QA27	08/07/00	9:33:00	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
28	3182QA28	08/07/00	9:32:10	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
29	3182QA29	08/07/00	9:31:21	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02
30	3182QA30	08/07/00	9:30:32	Ft. McClellan (AL)	Quality Assurance	08/05/00	9:00:00	1.000	1.000E+01	5.000E+02

Smears				Alpha										
PIC WPC-9550 Instr No 1		Count Started												
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
1	3182QA1	08/07/00	9:54:25	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
2	3182QA2	08/07/00	9:53:35	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
3	3182QA3	08/07/00	9:52:46	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
4	3182QA4	08/07/00	9:51:56	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
5	3182QA5	08/07/00	9:51:07	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
6	3182QA6	08/07/00	9:50:17	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
7	3182QA7	08/07/00	9:49:28	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
8	3182QA8	08/07/00	9:48:38	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
9	3182QA9	08/07/00	9:47:49	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
10	3182QA10	08/07/00	9:47:00	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
11	3182QA11	08/07/00	9:46:10	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
12	3182QA12	08/07/00	9:45:21	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
13	3182QA13	08/07/00	9:44:31	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
14	3182QA14	08/07/00	9:43:42	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
15	3182QA15	08/07/00	9:42:52	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
16	3182QA16	08/07/00	9:42:03	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
17	3182QA17	08/07/00	9:41:14	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
18	3182QA18	08/07/00	9:40:24	1.00	2.00	0.100	1.90	21.67	8.78	31.71	8.78	18.46	31.71	Less Than MDA
19	3182QA19	08/07/00	9:39:35	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
20	3182QA20	08/07/00	9:38:45	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
21	3182QA21	08/07/00	9:37:56	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
22	3182QA22	08/07/00	9:37:07	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
23	3182QA23	08/07/00	9:36:17	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
24	3182QA24	08/07/00	9:35:28	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
25	3182QA25	08/07/00	9:34:38	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
26	3182QA26	08/07/00	9:33:49	1.00	2.00	0.100	1.90	21.67	8.78	31.71	8.78	18.46	31.71	Less Than MDA
27	3182QA27	08/07/00	9:33:00	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
28	3182QA28	08/07/00	9:32:10	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
29	3182QA29	08/07/00	9:31:21	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA
30	3182QA30	08/07/00	9:30:32	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21	31.71	Less Than MDA

Smears				Beta										
PIC WPC-9550 Instr No 1		Count Started												
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Alpha Xtlk	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
1	3182QA1	08/07/00	9:54:25	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
2	3182QA2	08/07/00	9:53:35	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
3	3182QA3	08/07/00	9:52:46	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
4	3182QA4	08/07/00	9:51:56	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
5	3182QA5	08/07/00	9:51:07	4.00	8.00	1.090	43.11	6.95	22.43	30.98	45.88	30.98	40.18	45.88	Less Than MDA
6	3182QA6	08/07/00	9:50:17	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
7	3182QA7	08/07/00	9:49:28	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
8	3182QA8	08/07/00	9:48:38	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
9	3182QA9	08/07/00	9:47:49	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
10	3182QA10	08/07/00	9:47:00	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
11	3182QA11	08/07/00	9:46:10	2.00	4.00	1.090	43.11	2.95	22.43	13.14	45.88	13.14	26.07	45.88	Less Than MDA
12	3182QA12	08/07/00	9:45:21	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
13	3182QA13	08/07/00	9:44:31	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
14	3182QA14	08/07/00	9:43:42	4.00	8.00	1.090	43.11	6.95	22.43	30.98	45.88	30.98	40.18	45.88	Less Than MDA
15	3182QA15	08/07/00	9:42:52	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
16	3182QA16	08/07/00	9:42:03	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
17	3182QA17	08/07/00	9:41:14	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
18	3182QA18	08/07/00	9:40:24	2.00	4.00	1.090	43.11	2.09	22.43	9.30	45.88	9.30	26.66	45.88	Less Than MDA
19	3182QA19	08/07/00	9:39:35	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
20	3182QA20	08/07/00	9:38:45	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
21	3182QA21	08/07/00	9:37:56	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
22	3182QA22	08/07/00	9:37:07	2.00	4.00	1.090	43.11	2.95	22.43	13.14	45.88	13.14	26.07	45.88	Less Than MDA
23	3182QA23	08/07/00	9:36:17	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
24	3182QA24	08/07/00	9:35:28	3.00	6.00	1.090	43.11	4.95	22.43	22.06	45.88	22.06	33.32	45.88	Less Than MDA
25	3182QA25	08/07/00	9:34:38	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
26	3182QA26	08/07/00	9:33:49	1.00	2.00	1.090	43.11	0.09	22.43	0.38	45.88	0.38	19.15	45.88	Less Than MDA
27	3182QA27	08/07/00	9:33:00	4.00	8.00	1.090	43.11	6.95	22.43	30.98	45.88	30.98	40.18	45.88	Less Tha.. MDA
28	3182QA28	08/07/00	9:32:10	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
29	3182QA29	08/07/00	9:31:21	2.00	4.00	1.090	43.11	2.95	22.43	13.14	45.88	13.14	26.07	45.88	Less Than MDA
30	3182QA30	08/07/00	9:30:32	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA

Smears

PIC WPC-9550 Instr No 1

Carrier No.	Sample ID	Count Started Date	Time	Location ID	Comment	Sample Collected Date	Time	DF	dpm Alpha Limits	dpm Beta Limits
1	T810(A1)	08/08/00	18:25:11	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
2	T810(A2)	08/08/00	18:24:21	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
3	T810(B1)	08/08/00	18:23:32	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
4	T810(B2)	08/08/00	18:22:42	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
5	T810(B3)	08/08/00	18:21:53	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
6	T810(C1)	08/08/00	18:21:03	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
7	T810(C2)	08/08/00	18:20:14	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
8	T810(D1)	08/08/00	18:19:24	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
9	T810(D2)	08/08/00	18:18:35	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
10	T810(D3)	08/08/00	18:17:45	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
11	T810(E1)	08/08/00	18:16:56	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
12	T810(E2)	08/08/00	18:16:07	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
13	T810(F1)	08/08/00	18:15:17	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
14	T810(F2)	08/08/00	18:14:28	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
15	T810(F3)	08/08/00	18:13:38	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
16	T811(A1)	08/08/00	18:12:49	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
17	T811(A2)	08/08/00	18:12:00	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
18	T811(B1)	08/08/00	18:11:10	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
19	T811(B2)	08/08/00	18:10:21	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
20	T811(B3)	08/08/00	18:09:31	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
21	T811(C1)	08/08/00	18:08:42	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
22	T811(C2)	08/08/00	18:07:53	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
23	T811(D1)	08/08/00	18:07:03	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
24	T811(D2)	08/08/00	18:06:13	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
25	T811(D3)	08/08/00	18:05:24	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
26	T811(E1)	08/08/00	18:04:35	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
27	T811(E2)	08/08/00	18:03:45	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
28	T811(F1)	08/08/00	18:02:56	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
29	T811(F2)	08/08/00	18:02:06	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
30	T811(F3)	08/08/00	18:01:17	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
31	T812(A1)	08/08/00	18:00:28	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
32	T812(A2)	08/08/00	17:59:38	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
33	T812(B1)	08/08/00	17:58:49	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
34	T812(B2)	08/08/00	17:57:59	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
35	T812(B3)	08/08/00	17:57:10	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
36	T812(C1)	08/08/00	17:56:20	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
37	T812(C2)	08/08/00	17:55:31	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
38	T812(~~C3~~) D1 8/9/00	08/08/00	17:54:42	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
39	T812(~~D1~~) D2	08/08/00	17:53:52	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
40	T812(~~D2~~) D3	08/08/00	17:53:03	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02

Smears

PIC WPC-9550 Instr No 1

Carrier No.	Sample ID	Count Started Date	Count Started Time	Location ID	Comment	Sample Collected Date	Sample Collected Time	DF	dpm Alpha Limits	dpm Beta Limits
41	T812(E1)	08/08/00	17:52:13	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
42	T812(E2)	08/08/00	17:51:24	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
43	T812(~~E3~~) F1	08/08/00	17:50:35	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
44	T812(~~F1~~) F2 8/9/00	08/08/00	17:49:45	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
45	T812(~~F2~~) F3 CB	08/08/00	17:48:56	Ft. McClellan (AL)	Release Survey	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02

Smears
PIC WPC-9550 Instr No 1

Carrier No.	Sample ID	Count Started Date	Time	Alpha Counts	cpm	Bkg cpm	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
1	T810(A1)	08/08/00	18:25:11	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
2	T810(A2)	08/08/00	18:24:21	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
3	T810(B1)	08/08/00	18:23:32	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
4	T810(B2)	08/08/00	18:22:42	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
5	T810(B3)	08/08/00	18:21:53	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
6	T810(C1)	08/08/00	18:21:03	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
7	T810(C2)	08/08/00	18:20:14	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
8	T810(D1)	08/08/00	18:19:24	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
9	T810(D2)	08/08/00	18:18:35	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
10	T810(D3)	08/08/00	18:17:45	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
11	T810(E1)	08/08/00	18:16:56	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
12	T810(E2)	08/08/00	18:16:07	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	8.78	18.46		31.71 Less Than MDA
13	T810(F1)	08/08/00	18:15:17	0.00	0.00	0.100	-0.10	21.67	8.78	31.71	-0.45	0.21		31.71 Less Than MDA
14	T810(F2)	08/08/00	18:14:28	1.00	2.00	0.100	1.90	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
15	T810(F3)	08/08/00	18:13:38	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
16	T811(A1)	08/08/00	18:12:49	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
17	T811(A2)	08/08/00	18:12:00	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
18	T811(B1)	08/08/00	18:11:10	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	8.78	18.46		31.71 Less Than MDA
19	T811(B2)	08/08/00	18:10:21	0.00	0.00	0.100	-0.10	21.67	8.78	31.71	-0.45	0.21		31.71 Less Than MDA
20	T811(B3)	08/08/00	18:09:31	0.00	0.00	0.100	1.90	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
21	T811(C1)	08/08/00	18:08:42	1.00	2.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
22	T811(C2)	08/08/00	18:07:53	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
23	T811(D1)	08/08/00	18:07:03	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
24	T811(D2)	08/08/00	18:06:13	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
25	T811(D3)	08/08/00	18:05:24	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
26	T811(E1)	08/08/00	18:04:35	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
27	T811(E2)	08/08/00	18:03:45	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
28	T811(F1)	08/08/00	18:02:56	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
29	T811(F2)	08/08/00	18:02:06	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
30	T811(F3)	08/08/00	18:01:17	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
31	T812(A1)	08/08/00	18:00:28	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
32	T812(A2)	08/08/00	17:59:38	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
33	T812(B1)	08/08/00	17:58:49	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
34	T812(B2)	08/08/00	17:57:59	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	8.78	18.46		31.71 Less Than MDA
35	T812(B3)	08/08/00	17:57:10	0.00	0.00	0.100	-0.10	21.67	8.78	31.71	-0.45	0.21		31.71 Less Than MDA
36	T812(C1)	08/08/00	17:56:20	1.00	2.00	0.100	1.90	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
37	T812(C2)	08/08/00	17:55:31	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
38	T812(C3)	08/08/00	17:54:42	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	8.78	18.46		31.71 Less Than MDA
39	T812(D1)	08/08/00	17:53:52	0.00	0.00	0.100	-0.10	21.67	8.78	31.71	-0.45	0.21		31.71 Less Than MDA
40	T812(D2)	08/08/00	17:53:03	1.00	2.00	0.100	1.90	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
41	T812(E1)	08/08/00	17:52:13	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
42	T812(E2)	08/08/00	17:51:24	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
43	T812(E3)	08/08/00	17:50:35	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
44	T812(F1)	08/08/00	17:49:45	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA
45	T812(F2)	08/08/00	17:48:56	0.00	0.00	0.100	-0.10	21.67	-0.45	31.71	-0.45	0.21		31.71 Less Than MDA

Smears				Beta										
PIC WPC-9550 Instr No 1		Count Started												
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Alpha Xtlk	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
1	T810(A1)	08/08/00	18:25:11	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
2	T810(A2)	08/08/00	18:24:21	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
3	T810(B1)	08/08/00	18:23:32	2.00	4.00	1.090	43.11	2.95	22.43	13.14	45.88	13.14	26.07	45.88	Less Than MDA
4	T810(B2)	08/08/00	18:22:42	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
5	T810(B3)	08/08/00	18:21:53	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
6	T810(C1)	08/08/00	18:21:03	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
7	T810(C2)	08/08/00	18:20:14	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
8	T810(D1)	08/08/00	18:19:24	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
9	T810(D2)	08/08/00	18:18:35	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
10	T810(D3)	08/08/00	18:17:45	3.00	6.00	1.090	43.11	4.95	22.43	22.06	45.88	22.06	33.32	45.88	Less Than MDA
11	T810(E1)	08/08/00	18:16:56	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
12	T810(E2)	08/08/00	18:16:07	4.00	8.00	1.090	43.11	6.95	22.43	30.98	45.88	30.98	40.18	45.88	Less Than MDA
13	T810(F1)	08/08/00	18:15:17	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
14	T810(F2)	08/08/00	18:14:28	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
15	T810(F3)	08/08/00	18:13:38	0.00	0.00	1.090	43.11	-1.91	22.43	-8.54	45.88	-8.54	9.53	45.88	Less Than MDA
16	T811(A1)	08/08/00	18:12:49	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
17	T811(A2)	08/08/00	18:12:00	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
18	T811(B1)	08/08/00	18:11:10	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
19	T811(B2)	08/08/00	18:10:21	4.00	8.00	1.090	43.11	6.95	22.43	30.98	45.88	30.98	40.18	45.88	Less Than MDA
20	T811(B3)	08/08/00	18:09:31	2.00	4.00	1.090	43.11	2.95	22.43	13.14	45.88	13.14	26.07	45.88	Less Than MDA
21	T811(C1)	08/08/00	18:08:42	1.00	2.00	1.090	43.11	0.09	22.43	0.38	45.88	0.38	19.15	45.88	Less Than MDA
22	T811(C2)	08/08/00	18:07:53	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
23	T811(D1)	08/08/00	18:07:03	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
24	T811(D2)	08/08/00	18:06:13	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
25	T811(D3)	08/08/00	18:05:24	2.00	4.00	1.090	43.11	2.95	22.43	13.14	45.88	13.14	26.07	45.88	Less Than MDA
26	T811(E1)	08/08/00	18:04:35	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
27	T811(E2)	08/08/00	18:03:45	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
28	T811(F1)	08/08/00	18:02:56	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
29	T811(F2)	08/08/00	18:02:06	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
30	T811(F3)	08/08/00	18:01:17	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
31	T812(A1)	08/08/00	18:00:28	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
32	T812(A2)	08/08/00	17:59:38	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
33	T812(B1)	08/08/00	17:58:49	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
34	T812(B2)	08/08/00	17:57:59	2.00	4.00	1.090	43.11	2.95	22.43	13.14	45.88	13.14	26.07	45.88	Less Than MDA
35	T812(B3)	08/08/00	17:57:10	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
36	T812(C1)	08/08/00	17:56:20	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
37	T812(C2)	08/08/00	17:55:31	2.00	4.00	1.090	43.11	2.09	22.43	9.30	45.88	9.30	26.66	45.88	Less Than MDA
38	T812(C3)	08/08/00	17:54:42	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
39	T812(D1)	08/08/00	17:53:52	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
40	T812(D2)	08/08/00	17:53:03	0.00	0.00	1.090	43.11	-1.05	22.43	-4.69	45.88	-4.69	3.00	45.88	Less Than MDA
41	T812(E1)	08/08/00	17:52:13	5.00	10.00	1.090	43.11	8.09	22.43	36.05	45.88	36.05	46.06	45.88	Less Than MDA
42	T812(E2)	08/08/00	17:51:24	1.00	2.00	1.090	43.11	0.95	22.43	4.22	45.88	4.22	17.68	45.88	Less Than MDA
43	T812(E3)	08/08/00	17:50:35	3.00	6.00	1.090	43.11	4.95	22.43	22.06	45.88	22.06	33.32	45.88	Less Than MDA
44	T812(F1)	08/08/00	17:49:45	3.00	6.00	1.090	43.11	4.95	22.43	22.06	45.88	22.06	33.32	45.88	Less Than MDA
45	T812(F2)	08/08/00	17:48:56	16.00	32.00	1.090	43.11	30.95	22.43	138.00	45.88	138.00	112.31	45.88	Exceeds 10%

Smears

PIC WPC-9550 Instr No 1 — Count Started

Carrier No.	Sample ID	Date	Time	Location ID	Comment	Sample Collected Date	Sample Collected Time	DF	dpm Alpha Limits	dpm Beta Limits
1	T837(A1)L	08/09/00	9:43:06	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
2	T837(A2)L	08/09/00	9:42:16	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
3	T837(A3)L	08/09/00	9:41:26	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
4	T837(B1)L	08/09/00	9:40:37	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
5	T837(B2)L	08/09/00	9:39:47	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
6	T837(B3)L	08/09/00	9:38:58	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
7	T837(C1)L	08/09/00	9:38:08	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
8	T837(C2)L	08/09/00	9:37:19	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
9	T837(C3)L	08/09/00	9:36:29	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
10	T837(D1)L	08/09/00	9:35:39	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
11	T837(D2)L	08/09/00	9:34:50	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
12	T837(D3)L	08/09/00	9:34:00	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
13	T837(E1)L	08/09/00	9:33:11	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
14	T837(E2)L	08/09/00	9:32:21	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
15	T837(E3)L	08/09/00	9:31:31	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
16	T837(F1)L	08/09/00	9:30:42	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
17	T837(F2)L	08/09/00	9:29:52	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
18	T837(F3)L	08/09/00	9:29:03	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
19	T837(A1)U	08/09/00	9:28:13	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
20	T837(A2)U	08/09/00	9:27:24	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
21	T837(A3)U	08/09/00	9:26:34	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
22	T837(B1)U	08/09/00	9:25:45	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
23	T837(B2)U	08/09/00	9:24:55	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
24	T837(B3)U	08/09/00	9:24:06	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
25	T837(C1)U	08/09/00	9:23:16	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
26	T837(C2)U	08/09/00	9:22:27	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
27	T837(C3)U	08/09/00	9:21:38	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
28	T837(D1)U	08/09/00	9:20:48	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
29	T837(D2)U	08/09/00	9:19:59	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
30	T837(D3)U	08/09/00	9:19:10	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
31	T837(E1)U	08/09/00	9:18:20	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
32	T837(E2)U	08/09/00	9:17:31	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
33	T837(E3)U	08/09/00	9:16:42	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
34	T837(F1)U	08/09/00	9:15:52	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
35	T837(F2)U	08/09/00	9:15:03	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
36	T837(F3)U	08/09/00	9:14:13	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
37	T810QA01	08/09/00	9:13:24	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
38	T810QA02	08/09/00	9:12:34	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
39	T811QA03	08/09/00	9:11:45	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
40	T811QA04	08/09/00	9:10:55	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02

Smears

PIC WPC-9550 Instr No 1

Carrier No.	Sample ID	Count Started Date	Count Started Time	Location ID	Comment	Sample Collected Date	Sample Collected Time	DF	dpm Alpha Limits	dpm Beta Limits
41	T812QA05	08/09/00	9:10:06	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
42	T812QA06	08/09/00	9:09:16	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
43	T837QA07	08/09/00	9:08:27	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
44	T837QA08	08/09/00	9:07:38	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
45	T837QA09	08/09/00	9:06:48	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02
46	T837QA10	08/09/00	9:05:58	Ft. McClellan (AL)	Release Surveys	08/08/00	11:00:00	1.000	1.000E+01	5.000E+02

Smears				Alpha										
PIC WPC-9550 Instr No 1		Count Started												
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
1	T837(A1)L	08/09/00	9:43:06	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
2	T837(A2)L	08/09/00	9:42:16	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
3	T837(A3)L	08/09/00	9:41:26	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
4	T837(B1)L	08/09/00	9:40:37	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
5	T837(B2)L	08/09/00	9:39:47	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
6	T837(B3)L	08/09/00	9:38:58	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
7	T837(C1)L	08/09/00	9:38:08	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
8	T837(C2)L	08/09/00	9:37:19	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
9	T837(C3)L	08/09/00	9:36:29	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
10	T837(D1)L	08/09/00	9:35:39	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
11	T837(D2)L	08/09/00	9:34:50	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
12	T837(D3)L	08/09/00	9:34:00	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
13	T837(E1)L	08/09/00	9:33:11	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
14	T837(E2)L	08/09/00	9:32:21	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
15	T837(E3)L	08/09/00	9:31:31	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
16	T837(F1)L	08/09/00	9:30:42	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
17	T837(F2)L	08/09/00	9:29:52	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
18	T837(F3)L	08/09/00	9:29:03	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
19	T837(A1)U	08/09/00	9:28:13	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
20	T837(A2)U	08/09/00	9:27:24	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
21	T837(A3)U	08/09/00	9:26:34	1.00	2.00	0.120	1.88	21.71	8.65	32.46	8.65	18.40	32.46	Less Than MDA
22	T837(B1)U	08/09/00	9:25:45	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
23	T837(B2)U	08/09/00	9:24:55	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
24	T837(B3)U	08/09/00	9:24:06	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
25	T837(C1)U	08/09/00	9:23:16	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
26	T837(C2)U	08/09/00	9:22:27	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
27	T837(C3)U	08/09/00	9:21:38	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
28	T837(D1)U	08/09/00	9:20:48	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
29	T837(D2)U	08/09/00	9:19:59	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
30	T837(D3)U	08/09/00	9:19:10	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
31	T837(E1)U	08/09/00	9:18:20	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
32	T837(E2)U	08/09/00	9:17:31	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
33	T837(E3)U	08/09/00	9:16:42	1.00	2.00	0.120	1.88	21.71	8.65	32.46	8.65	18.40	32.46	Less Than MDA
34	T837(F1)U	08/09/00	9:15:52	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
35	T837(F2)U	08/09/00	9:15:03	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
36	T837(F3)U	08/09/00	9:14:13	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
37	T810QA01	08/09/00	9:13:24	1.00	2.00	0.120	1.88	21.71	8.65	32.46	8.65	18.40	32.46	Less Than MDA
38	T810QA02	08/09/00	9:12:34	1.00	2.00	0.120	1.88	21.71	8.65	32.46	8.65	18.40	32.46	Less Than MDA
39	T811QA03	08/09/00	9:11:45	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
40	T811QA04	08/09/00	9:10:55	1.00	2.00	0.120	1.88	21.71	8.65	32.46	8.65	18.40	32.46	Less Than MDA
41	T812QA05	08/09/00	9:10:06	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
42	T812QA06	08/09/00	9:09:16	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
43	T837QA07	08/09/00	9:08:27	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
44	T837QA08	08/09/00	9:07:38	1.00	2.00	0.120	1.88	21.71	8.65	32.46	8.65	18.40	32.46	Less Than MDA
45	T837QA09	08/09/00	9:06:48	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA
46	T837QA10	08/09/00	9:05:58	0.00	0.00	0.120	-0.12	21.71	-0.56	32.46	-0.56	0.25	32.46	Less Than MDA

Smears

PIC WPC-9550 Instr No 1 — Count Started

Carrier No.	Sample ID	Date	Time	Beta											
				Counts	cpm	Bkg cpm	Alpha Xtlk	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
1	T837(A1)L	08/09/00	9:43:06	1.00	2.00	1.180	42.93	0.87	22.50	3.86	46.59	3.86	17.60	46.59	Less Than MDA
2	T837(A2)L	08/09/00	9:42:16	3.00	6.00	1.180	42.93	4.87	22.50	21.64	46.59	21.64	33.12	46.59	Less Than MDA
3	T837(A3)L	08/09/00	9:41:26	3.00	6.00	1.180	42.93	4.87	22.50	21.64	46.59	21.64	33.12	46.59	Less Than MDA
4	T837(B1)L	08/09/00	9:40:37	0.00	0.00	1.180	42.93	-1.13	22.50	-5.02	46.59	-5.02	3.16	46.59	Less Than MDA
5	T837(B2)L	08/09/00	9:39:47	1.00	2.00	1.180	42.93	0.87	22.50	3.86	46.59	3.86	17.60	46.59	Less Than MDA
6	T837(B3)L	08/09/00	9:38:58	0.00	0.00	1.180	42.93	-1.13	22.50	-5.02	46.59	-5.02	3.16	46.59	Less Than MDA
7	T837(C1)L	08/09/00	9:38:08	1.00	2.00	1.180	42.93	0.87	22.50	3.86	46.59	3.86	17.60	46.59	Less Than MDA
8	T837(C2)L	08/09/00	9:37:19	0.00	0.00	1.180	42.93	-1.13	22.50	-5.02	46.59	-5.02	3.16	46.59	Less Than MDA
9	T837(C3)L	08/09/00	9:36:29	1.00	2.00	1.180	42.93	0.87	22.50	3.86	46.59	3.86	17.60	46.59	Less Than MDA
10	T837(D1)L	08/09/00	9:35:39	1.00	2.00	1.180	42.93	0.87	22.50	3.86	46.59	3.86	17.60	46.59	Less Than MDA
11	T837(D2)L	08/09/00	9:34:50	1.00	2.00	1.180	42.93	0.87	22.50	3.86	46.59	3.86	17.60	46.59	Less Than MDA
12	T837(D3)L	08/09/00	9:34:00	2.00	4.00	1.180	42.93	2.87	22.50	12.75	46.59	12.75	25.87	46.59	Less Than MDA
13	T837(E1)L	08/09/00	9:33:11	2.00	4.00	1.180	42.93	2.87	22.50	12.75	46.59	12.75	25.87	46.59	Less Than MDA
14	T837(E2)L	08/09/00	9:32:21	1.00	2.00	1.180	42.93	0.87	22.50	3.86	46.59	3.86	17.60	46.59	Less Than MDA
15	T837(E3)L	08/09/00	9:31:31	0.00	0.00	1.180	42.93	-1.13	22.50	-5.02	46.59	-5.02	3.16	46.59	Less Than MDA
16	T837(F1)L	08/09/00	9:30:42	2.00	4.00	1.180	42.93	2.87	22.50	12.75	46.59	12.75	25.87	46.59	Less Than MDA
17	T837(F2)L	08/09/00	9:29:52	0.00	0.00	1.180	42.93	-1.13	22.50	-5.02	46.59	-5.02	3.16	46.59	Less Than MDA
18	T837(F3)L	08/09/00	9:29:03	1.00	2.00	1.180	42.93	0.87	22.50	3.86	46.59	3.86	17.60	46.59	Less Than MDA
19	T837(A1)U	08/09/00	9:28:13	0.00	0.00	1.180	42.93	-1.13	22.50	-5.02	46.59	-5.02	3.16	46.59	Less Than MDA
20	T837(A2)U	08/09/00	9:27:24	0.00	0.00	1.180	42.93	-1.13	22.50	-5.02	46.59	-5.02	3.16	46.59	Less Than MDA
21	T837(A3)U	08/09/00	9:26:34	2.00	4.00	1.180	42.93	2.01	22.50	8.94	46.59	8.94	26.46	46.59	Less Than MDA
22	T837(B1)U	08/09/00	9:25:45	2.00	4.00	1.180	42.93	2.87	22.50	12.75	46.59	12.75	25.87	46.59	Less Than MDA
23	T837(B2)U	08/09/00	9:24:55	1.00	2.00	1.180	42.93	0.87	22.50	3.86	46.59	3.86	17.60	46.59	Less Than MDA
24	T837(B3)U	08/09/00	9:24:06	0.00	0.00	1.180	42.93	-1.13	22.50	-5.02	46.59	-5.02	3.16	46.59	Less Than MDA
25	T837(C1)U	08/09/00	9:23:16	1.00	2.00	1.180	42.93	0.87	22.50	3.86	46.59	3.86	17.60	46.59	Less Than MDA
26	T837(C2)U	08/09/00	9:22:27	2.00	4.00	1.180	42.93	2.87	22.50	12.75	46.59	12.75	25.87	46.59	Less Than MDA
27	T837(C3)U	08/09/00	9:21:38	2.00	4.00	1.180	42.93	2.87	22.50	12.75	46.59	12.75	25.87	46.59	Less Than MDA
28	T837(D1)U	08/09/00	9:20:48	3.00	6.00	1.180	42.93	4.87	22.50	21.64	46.59	21.64	33.12	46.59	Less Than MDA
29	T837(D2)U	08/09/00	9:19:59	0.00	0.00	1.180	42.93	-1.13	22.50	-5.02	46.59	-5.02	3.16	46.59	Less Than MDA
30	T837(D3)U	08/09/00	9:19:10	1.00	2.00	1.180	42.93	0.87	22.50	3.86	46.59	3.86	17.60	46.59	Less Than MDA
31	T837(E1)U	08/09/00	9:18:20	1.00	2.00	1.180	42.93	0.87	22.50	3.86	46.59	3.86	17.60	46.59	Less Than MDA
32	T837(E2)U	08/09/00	9:17:31	1.00	2.00	1.180	42.93	0.87	22.50	3.86	46.59	3.86	17.60	46.59	Less Than MDA
33	T837(E3)U	08/09/00	9:16:42	0.00	0.00	1.180	42.93	-1.99	22.50	-8.84	46.59	-8.84	9.51	46.59	Less Than MDA
34	T837(F1)U	08/09/00	9:15:52	0.00	0.00	1.180	42.93	-1.13	22.50	-5.02	46.59	-5.02	3.16	46.59	Less Than MDA
35	T837(F2)U	08/09/00	9:15:03	1.00	2.00	1.180	42.93	0.87	22.50	3.86	46.59	3.86	17.60	46.59	Less Than MDA
36	T837(F3)U	08/09/00	9:14:13	0.00	0.00	1.180	42.93	-1.13	22.50	-5.02	46.59	-5.02	3.16	46.59	Less Than MDA
37	T810QA01	08/09/00	9:13:24	2.00	4.00	1.180	42.93	2.01	22.50	8.94	46.59	8.94	26.46	46.59	Less Than MDA
38	T810QA02	08/09/00	9:12:34	2.00	4.00	1.180	42.93	2.01	22.50	8.94	46.59	8.94	26.46	46.59	Less Than MDA
39	T811QA03	08/09/00	9:11:45	0.00	0.00	1.180	42.93	-1.13	22.50	-5.02	46.59	-5.02	3.16	46.59	Less Than MDA
40	T811QA04	08/09/00	9:10:55	2.00	4.00	1.180	42.93	2.01	22.50	8.94	46.59	8.94	26.46	46.59	Less Than MDA
41	T812QA05	08/09/00	9:10:06	4.00	8.00	1.180	42.93	6.87	22.50	30.53	46.59	30.53	39.79	46.59	Less Than MDA
42	T812QA06	08/09/00	9:09:16	2.00	4.00	1.180	42.93	2.87	22.50	12.75	46.59	12.75	25.87	46.59	Less Than MDA
43	T837QA07	08/09/00	9:08:27	3.00	6.00	1.180	42.93	4.87	22.50	21.64	46.59	21.64	33.12	46.59	Less Than MDA
44	T837QA08	08/09/00	9:07:38	5.00	10.00	1.180	42.93	8.01	22.50	35.60	46.00	35.60	45.47	46.00	Less Than MDA
45	T837QA09	08/09/00	9:06:48	1.00	2.00	1.180	42.93	0.87	22.50	3.86	46.59	3.86	17.60	46.59	Less Than MDA
46	T837QA10	08/09/00	9:05:58	1.00	2.00	1.180	42.93	0.87	22.50	3.86	46.59	3.86	17.60	46.59	Less Than MDA

Smears

PIC WPC-9550 Instr No 1

Carrier No.	Sample ID	Count Started Date	Count Started Time	Location ID	Comment	Sample Collected Date	Sample Collected Time	DF	dpm Alpha Limits	dpm Beta Limits
1	3185(A1)	08/15/00	10:29:22	Ft. McClellan (AL)	Release Surveys	08/14/00	9:00:00	1.000	1.000E+01	5.000E+02
2	3185(A2)	08/15/00	10:28:32	Ft. McClellan (AL)	Release Surveys	08/14/00	9:00:00	1.000	1.000E+01	5.000E+02
3	3185(B1)	08/15/00	10:27:43	Ft. McClellan (AL)	Release Surveys	08/14/00	9:00:00	1.000	1.000E+01	5.000E+02
4	3185(B2)	08/15/00	10:26:53	Ft. McClellan (AL)	Release Surveys	08/14/00	9:00:00	1.000	1.000E+01	5.000E+02
5	3185(B3)	08/15/00	10:26:04	Ft. McClellan (AL)	Release Surveys	08/14/00	9:00:00	1.000	1.000E+01	5.000E+02
6	3185(C1)	08/15/00	10:25:14	Ft. McClellan (AL)	Release Surveys	08/14/00	9:00:00	1.000	1.000E+01	5.000E+02
7	3185(C2)	08/15/00	10:24:25	Ft. McClellan (AL)	Release Surveys	08/14/00	9:00:00	1.000	1.000E+01	5.000E+02
8	3185(D1)	08/15/00	10:23:35	Ft. McClellan (AL)	Release Surveys	08/14/00	9:00:00	1.000	1.000E+01	5.000E+02
9	3185(D2)	08/15/00	10:22:45	Ft. McClellan (AL)	Release Surveys	08/14/00	9:00:00	1.000	1.000E+01	5.000E+02
10	3185(D3)	08/15/00	10:21:56	Ft. McClellan (AL)	Release Surveys	08/14/00	9:00:00	1.000	1.000E+01	5.000E+02
11	3185(E1)	08/15/00	10:21:06	Ft. McClellan (AL)	Release Surveys	08/14/00	9:00:00	1.000	1.000E+01	5.000E+02
12	3185(E2)	08/15/00	10:20:17	Ft. McClellan (AL)	Release Surveys	08/14/00	9:00:00	1.000	1.000E+01	5.000E+02
13	3185(F1)	08/15/00	10:19:28	Ft. McClellan (AL)	Release Surveys	08/14/00	9:00:00	1.000	1.000E+01	5.000E+02
14	3185(F2)	08/15/00	10:18:38	Ft. McClellan (AL)	Release Surveys	08/14/00	9:00:00	1.000	1.000E+01	5.000E+02
15	3185(F3)	08/15/00	10:17:49	Ft. McClellan (AL)	Release Surveys	08/14/00	9:00:00	1.000	1.000E+01	5.000E+02
16	3185(QA01)	08/15/00	10:16:59	Ft. McClellan (AL)	Release Surveys	08/14/00	9:00:00	1.000	1.000E+01	5.000E+02
17	3185(QA02)	08/15/00	10:16:10	Ft. McClellan (AL)	Release Surveys	08/14/00	9:00:00	1.000	1.000E+01	5.000E+02
18	3182(QA31)	08/15/00	10:15:20	Ft. McClellan (AL)	Release Surveys	08/14/00	9:00:00	1.000	1.000E+01	5.000E+02
19	3182(QA32)	08/15/00	10:14:31	Ft. McClellan (AL)	Release Surveys	08/14/00	9:00:00	1.000	1.000E+01	5.000E+02
20	3182(QA33)	08/15/00	10:13:42	Ft. McClellan (AL)	Release Surveys	08/14/00	9:00:00	1.000	1.000E+01	5.000E+02
21	3182(QA34)	08/15/00	10:12:52	Ft. McClellan (AL)	Release Surveys	08/14/00	9:00:00	1.000	1.000E+01	5.000E+02
22	3182(QA35)	08/15/00	10:12:03	Ft. McClellan (AL)	Release Surveys	08/14/00	9:00:00	1.000	1.000E+01	5.000E+02
23	3182(QA36)	08/15/00	10:11:13	Ft. McClellan (AL)	Release Surveys	08/14/00	9:00:00	1.000	1.000E+01	5.000E+02

Smears				Beta										
PIC WPC-9550 Instr No 1		Count Started												
Carrier No.	Sample ID	Date	Time	Counts	cpm	Bkg cpm	Alpha Xtlk	Net cpm	% Eff	dpm	LLD dpm	dpm	± err (95%)	MDA	Message
1	3185(A1)	08/15/00	10:29:22	2.00	4.00	1.250	42.60	1.11	22.64	4.92	46.91	4.92	27.05	46.91	Less Than MDA
2	3185(A2)	08/15/00	10:28:32	0.00	0.00	1.250	42.60	-2.03	22.64	-8.99	46.91	-8.99	9.35	46.91	Less Than MDA
3	3185(B1)	08/15/00	10:27:43	0.00	0.00	1.250	42.60	-1.18	22.64	-5.22	46.91	-5.22	3.18	46.91	Less Than MDA
4	3185(B2)	08/15/00	10:26:53	0.00	0.00	1.250	42.60	-1.18	22.64	-5.22	46.91	-5.22	3.18	46.91	Less Than MDA
5	3185(B3)	08/15/00	10:26:04	0.00	0.00	1.250	42.60	-1.18	22.64	-5.22	46.91	-5.22	3.18	46.91	Less Than MDA
6	3185(C1)	08/15/00	10:25:14	0.00	0.00	1.250	42.60	-1.18	22.64	-5.22	46.91	-5.22	3.18	46.91	Less Than MDA
7	3185(C2)	08/15/00	10:24:25	0.00	0.00	1.250	42.60	-2.03	22.64	-8.99	46.91	-8.99	9.35	46.91	Less Than MDA
8	3185(D1)	08/15/00	10:23:35	1.00	2.00	1.250	42.60	0.82	22.64	3.61	46.91	3.61	17.44	46.91	Less Than MDA
9	3185(D2)	08/15/00	10:22:45	4.00	8.00	1.250	42.60	6.82	22.64	30.11	46.91	30.11	39.20	46.91	Less Than MDA
10	3185(D3)	08/15/00	10:21:56	1.00	2.00	1.250	42.60	0.82	22.64	3.61	46.91	3.61	17.44	46.91	Less Than MDA
11	3185(E1)	08/15/00	10:21:06	0.00	0.00	1.250	42.60	-1.18	22.64	-5.22	46.91	-5.22	3.18	46.91	Less Than MDA
12	3185(E2)	08/15/00	10:20:17	1.00	2.00	1.250	42.60	0.82	22.64	3.61	46.91	3.61	17.44	46.91	Less Than MDA
13	3185(F1)	08/15/00	10:19:28	1.00	2.00	1.250	42.60	0.82	22.64	3.61	46.91	3.61	17.44	46.91	Less Than MDA
14	3185(F2)	08/15/00	10:18:38	2.00	4.00	1.250	42.60	2.82	22.64	12.44	46.91	12.44	25.68	46.91	Less Than MDA
15	3185(F3)	08/15/00	10:17:49	2.00	4.00	1.250	42.60	2.82	22.64	12.44	46.91	12.44	25.68	46.91	Less Than MDA
16	3185(QA01)	08/15/00	10:16:59	2.00	4.00	1.250	42.60	2.82	22.64	12.44	46.91	12.44	25.68	46.91	Less Than MDA
17	3185(QA02)	08/15/00	10:16:10	2.00	4.00	1.250	42.60	2.82	22.64	12.44	46.91	12.44	25.68	46.91	Less Than MDA
18	3182(QA31)	08/15/00	10:15:20	4.00	8.00	1.250	42.60	5.97	22.64	26.35	46.91	26.35	38.81	46.91	Less Than MDA
19	3182(QA32)	08/15/00	10:14:31	0.00	0.00	1.250	42.60	-1.18	22.64	-5.22	46.91	-5.22	3.18	46.91	Less Than MDA
20	3182(QA33)	08/15/00	10:13:42	3.00	6.00	1.250	42.60	3.97	22.64	17.51	46.91	17.51	32.73	46.91	Less Than MDA
21	3182(QA34)	08/15/00	10:12:52	1.00	2.00	1.250	42.60	0.82	22.64	3.61	46.91	3.61	17.44	46.91	Less Than MDA
22	3182(QA35)	08/15/00	10:12:03	2.00	4.00	1.250	42.60	2.82	22.64	12.44	46.91	12.44	25.68	46.91	Less Than MDA
23	3182(QA36)	08/15/00	10:11:13	0.00	0.00	1.250	42.60	-2.03	22.64	-8.99	46.91	-8.99	9.35	46.91	Less Than MDA

APPENDIX H

REMOVABLE ^{3}H ACTIVITY ANALYSIS RECORDS

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Analysis Required

Sample Identification	Date Collected	Time Collected	H3	Remarks
318201 A1	8-3-00	15:00	X	No Direct Sun Light
318201 A2	↑	↑	X	↑
318201 A3			X	
318201 A4			X	
318201 A5			X	
318201 B1			X	
318201 B2			X	
318201 B3			X	
318201 B4			X	
318201 B5	8-3-00	15:00	X	No Direct Sun Light

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
		8-7-00	11:00	Charles Birchfield	8-7-00	10:00			

Received by (Lab)	Date	Time	Seals Intact?
Josh Young	8-15-00	1500	✓

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal: | Authorized for Disposal By:

Date/Time of Disposal: | Disposed of By:

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required: H3	Remarks
318201 C1	8-3-00	15:00	X	NO DIRECT SUN LIGHT
318201 C2	↑	↑	X	↑
318201 C3			X	
318201 C4			X	
318201 C5			X	
318202 D1			X	
318202 D2			X	
318202 D3			X	
318202 D4	↓	↓	X	↓
318202 D5	8-3-00	15:00	X	NO DIRECT SUN LIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
		8-7-00	11:00	Charles Birchfield	8-7-00	10:00			

Received by (Lab)	Date	Time	Seals Intact?
[signature]	8-15-00	1500	✓

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

318201 (C1-C5)
ID:318202 (D1-D5)

15 AUG 2000 14:42

USER: 8 COMMENT:C1-C5. D1-D5

PRESET TIME : 1.00

DATA CALC :	DL DPM	H# :YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IC# : NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AQC :YES	CYCLE REPEATS :	1		
SCINTILLATOR:	LIQUID	LUMEX: NO	LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:		none		

ISOTOPE 1: 3H ZERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0
ISOTOPE 2: 14C ZERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Units Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H ZERROR	14C CPM	14C ZERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	85.4	27.00	38.49	14.00	53.45	49.04	18.45	48.15	0.53	18.37	74.49	2.658	13.70	1.48
2	##-2	1.00	85.8	15.00	51.64	18.00	47.14	22.04	24.02	48.05	0.53	18.37	74.47	0.918	11.78	3.00
3	##-3	1.00	86.4	29.00	37.14	24.00	40.82	48.29	31.90	47.92	0.53	18.37	74.45	1.514	7.31	4.54
4	##-4	1.00	80.1	58.00	26.26	26.00	39.22	104.70	34.07	49.43	0.53	18.34	74.70	3.073	27.67	6.09
5	##-5	1.00	84.6	28.00	37.80	18.00	47.14	48.87	23.81	48.34	0.53	18.36	74.52	2.053	8.39	7.63
6	##-6	1.00	88.9	17.00	48.51	15.00	51.64	28.18	19.98	47.29	0.53	18.39	74.34	1.411	9.53	9.15
7	##-7	1.00	84.5	21.00	43.64	26.00	39.22	30.25	34.67	48.37	0.53	18.36	74.52	0.872	6.27	10.69
8	##-8	1.00	86.0	43.00	30.50	16.00	50.00	81.56	20.91	48.01	0.53	18.37	74.46	3.900	25.60	12.25
9	##-9	1.00	84.4	17.00	48.51	21.00	43.64	24.50	28.00	48.41	0.53	18.36	74.53	0.875	9.47	13.80
10	##-10	1.00	92.4	11.00	60.30	29.00	37.14	8.22	39.02	46.46	0.53	18.41	74.21	0.211	7.69	15.34

~~MISSING SAMPLE~~

~~12 ##-12 INVALID SAMPLE COUNT: H# ABORT: COUNT RATE TOO LOW~~

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Analysis Required

Sample Identification	Date Collected	Time Collected	H3	Remarks
318202 E1	8-3-00	15:00	X	NO DIRECT SUN LIGHT
318202 E2	↑	↑	X	↑
318202 E3			X	
318202 E4			X	
318202 E5			X	
318202 F1			X	
318202 F2			X	
318202 F3			X	
318202 F4	↓	↓	X	↓
318202 F5	8-3-00	15:00	X	NO DIRECT SUN LIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
		8-7-00	11:00	Charles Birchfield	8-7-00	10.00			

Received by (Lab):	Date	Time	Seals Intact?
[signature]	8-15-00	1500	✓

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd, Oak Ridge, TN 37830

Type of Disposal: | Authorized for Disposal By:

Date/Time of Disposal: | Disposed of By:

16 AUG 2000 12:45

:D:318202

SER: 5 COMMENT:E1-E5,F1-F5

RESET TIME :	1.00						
ATA CALC :	DL DPM	H# :YES	SAMPLE REPEATS:	1	PRINTER	: STD
OUNT BLANK :	NO	IC# : NO	REPLICATES :	1	RS232	: OFF
WO PHASE :	NO	AQC :YES	CYCLE REPEATS :	1		
CINTILLATOR:	LIQUID	LUMEX: NO	LOW SAMPLE REJ:	0		
OW LEVEL :	NO	HALF LIFE CORRECTION DATE:			none	

SOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0
SOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1 ##-1	1.00	98.1	29.00	37.14	17.00	48.51	55.14	22.59	45.04	0.53	18.43	73.97	2.441	20.97	1.47
2 ##-2	1.00	87.3	48.00	28.87	24.00	40.82	88.44	31.63	47.70	0.53	18.38	74.41	2.796	29.94	3.00
3 ##-3	1.00	83.6	38.00	32.44	21.00	43.64	67.74	27.69	48.60	0.53	18.36	74.56	2.447	19.31	4.56
4 ##-4	1.00	90.2	25.00	40.00	16.00	50.00	44.89	21.22	46.99	0.53	18.39	74.29	2.116	18.30	6.10
5 ##-5	1.00	86.8	44.00	30.15	21.00	43.64	81.39	27.64	47.82	0.53	18.38	74.43	2.945	24.98	7.66
6 ##-6	1.00	96.5	17.00	48.51	23.00	41.70	24.89	30.89	45.44	0.53	18.42	74.04	0.806	12.61	9.20
7 ##-7	1.00	90.3	29.00	37.14	34.00	34.30	43.95	45.46	46.96	0.53	18.40	74.29	0.967	16.58	10.77
8 ##-8	1.00	91.5	46.00	29.49	23.00	41.70	86.60	30.37	46.67	0.53	18.40	74.24	2.852	25.37	12.32
9 ##-9	1.00	89.5	36.00	33.33	21.00	43.64	65.50	27.79	47.16	0.53	18.39	74.32	2.357	23.24	13.87
10 ##-10	1.00	81.8	64.00	25.00	19.00	45.88	121.32	24.60	49.03	0.53	18.35	74.63	4.932	35.35	15.45

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Analysis Required

Sample Identification	Date Collected	Time Collected	H3	Remarks
318203 G1	8-3-00	15:00	X	NO DIRECT SUNLIGHT
318203 G2	↑	↑	X	↑
318203 G3			X	
318203 G4			X	
318203 G5			X	
318203 H1			X	
318203 H2			X	
318203 H3			X	
318203 H4	↓	↓	X	↓
318203 H5	8-3-00	15:00	X	NO DIRECT SUNLIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
		8-7-00	11:00	Charles Birchfield	8-7-00	10:00			

Received by (Lab)	Date	Time	Seals Intact?
Joshua Stoney	8-15-00	1500	✓

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd, Oak Ridge, TN 37830

Type of Disposal: | Authorized for Disposal By:

Date/Time of Disposal: | Disposed of By:

ID:318203 15 AUG 2000 20:40

USER: 1 COMMENT:G1-G5,H1-H5

PRESET TIME : 1.00

DATA CALC : DL DPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD

COUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 : OFF

TWO PHASE : NO AQC :YES CYCLE REPEATS : 1

SCINTILLATOR: LIQUID LUMEX: NO LOW SAMPLE REJ: 0

LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	88.8	35.00	33.81	24.00	40.82	61.57	31.84	47.34	0.53	18.39	74.35	1.934	18.34	1.47
2	##-2	1.00	81.5	24.00	40.82	17.00	48.51	40.49	22.49	49.09	0.53	18.35	74.64	1.800	15.95	3.00
3	##-3	1.00	88.2	26.00	39.22	27.00	38.49	40.81	36.01	47.48	0.53	18.38	74.38	1.133	12.04	4.56
4	##-4	1.00	79.2	28.00	37.80	20.00	44.72	46.65	26.43	49.63	0.53	18.33	74.73	1.765	14.57	6.08
5	##-5	1.00	91.4	19.00	45.88	31.00	35.92	24.30	41.58	46.70	0.53	18.40	74.25	0.584	12.43	7.63
6	##-6	1.00	93.8	24.00	40.82	29.00	37.14	36.54	38.85	46.10	0.53	18.41	74.15	0.941	10.25	9.17
7	##-7	1.00	92.9	22.00	42.64	24.00	40.82	34.72	32.10	46.34	0.53	18.41	74.19	1.082	15.61	10.72
8	##-8	1.00	88.4	27.00	38.49	28.00	37.80	42.44	37.35	47.44	0.53	18.38	74.37	1.136	10.95	12.26
9	##-9	1.00	84.5	24.00	40.82	22.00	42.64	38.50	29.25	48.38	0.53	18.36	74.52	1.316	16.17	13.82
10	##-10	1.00	93.6	31.00	35.92	30.00	36.51	51.18	40.09	46.15	0.53	18.41	74.15	1.277	10.71	15.35
~~11~~	~~##-11~~	~~INVALID SAMPLE COUNT: H# ABORT: COUNT RATE TOO LOW~~														

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Analysis Required

Sample Identification	Date Collected	Time Collected	H3	Remarks
318203 I1	8-3-00	15:00	X	NO DIRECT SUNLIGHT
318203 I2			X	
318203 I3			X	
318203 I4			X	
318203 I5			X	
318206 A1			X	
318206 A2			X	
318206 A3			X	
318206 A4			X	
318206 A5	8-3-00	15:00	X	NO DIRECT SUNLIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
		8-7-00	11:00	Charles Birchfield	8-7-00	10:00			

Received by (Lab)	Date	Time	Seals Intact?
Josh Stang	8-15-00	1500	✓

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd, Oak Ridge, TN 37830

Type of Disposal: | Authorized for Disposal By:

Date/Time of Disposal: | Disposed of By:

ID:318203 15 AUG 2000 20:20

USER: 3 COMMENT:I1-I5,A1-A5

PRESET TIME : 1.00

DATA CALC :	DL DPM	H# :YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IC# : NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AQC :YES	CYCLE REPEATS :	1		
SCINTILLATOR:	LIQUID	LUMEX: NO	LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:		none		

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0
ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Blue. Units Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	I1-1	1.00	90.0	27.00	38.49	19.00	45.88	47.54	25.23	47.03	0.53	18.39	74.30	1.884	13.14	1.47
2	I1-2	1.00	88.0	16.00	50.00	25.00	40.00	20.73	33.46	47.52	0.53	18.38	74.38	0.619	5.74	2.98
3	I1-3	1.00	84.1	17.00	48.51	20.00	44.72	24.97	26.65	48.48	0.53	18.36	74.54	0.937	8.38	4.53
4	I1-4	1.00	76.5	21.00	43.64	19.00	45.88	32.61	25.16	50.28	0.53	18.31	74.84	1.296	8.06	6.05
5	I1-5	1.00	87.0	20.00	44.72	21.00	43.64	31.10	28.00	47.77	0.53	18.38	74.42	1.111	7.80	7.60
6	I1-6	1.00	75.3	45.00	29.81	20.00	44.72	79.51	26.14	50.58	0.53	18.31	74.89	3.042	6.65	9.12
7	I1-7	1.00	72.0	26.00	39.22	25.00	40.00	38.86	33.05	51.36	0.53	18.28	75.02	1.176	4.42	10.66
8	I1-8	1.00	87.7	23.00	41.70	23.00	41.70	36.48	30.66	47.60	0.53	18.38	74.40	1.190	6.39	12.21
9	I1-9	1.00	81.3	15.00	51.64	21.00	43.64	20.08	27.99	49.14	0.53	18.34	74.65	0.717	11.79	13.75
10	I1-10	1.00	78.9	29.00	37.14	19.00	45.88	49.08	25.07	49.72	0.53	18.33	74.75	1.958	9.11	15.28

~~11 I1-11 INVALID SAMPLE COUNT: H# ABORT: COUNT RATE TOO LOW~~

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required: H3	Remarks
318206 B1	8-3-00	15:00	X	NO DIRECT SUN LIGHT
318206 B2	↓	↓	X	↓
318206 B3			X	
318206 B4			X	
318206 C1			X	
318206 C2			X	
318206 C3			X	
318206 C4			X	
318206 D1			X	
318206 D2	8-3-00	15:00	X	NO DIRECT SUN LIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
		8-7-00	11:00	Charles Birchfield	8-7-00	10:00			

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal: | Authorized for Disposal By:

Date/Time of Disposal: | Disposed of By:

ID:318206 15 AUG 2000 19:53

USER: 8 COMMENT:B1-B4.C1-C4,D1,D2

PRESET TIME : 1.00

DATA CALC : DL DPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD

COUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 : OFF

TWO PHASE : NO AQC :YES CYCLE REPEATS : 1

SCINTILLATOR: LIQUID LUMEX: NO LOW SAMPLE REJ: 0

LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

SAC QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	111.7	25.00	40.00	19.00	45.88	48.67	25.53	41.68	0.53	18.47	73.40	1.906	9.38	1.47
2	##-2	1.00	76.9	17.00	48.51	21.00	43.64	23.69	27.90	50.19	0.53	18.32	74.83	0.849	8.41	3.00
3	##-3	1.00	76.4	20.00	44.72	28.00	37.80	26.21	37.23	50.31	0.53	18.31	74.84	0.704	4.27	4.53
4	##-4	1.00	115.4	12.00	57.74	26.00	39.22	13.41	35.40	40.73	0.53	18.47	73.24	0.379	2.54	6.04
5	##-5	1.00	94.2	24.00	40.82	29.00	37.14	36.61	38.86	46.01	0.53	18.41	74.13	0.942	4.63	7.58
6	##-6	1.00	93.6	14.00	53.45	30.00	36.51	14.23	40.35	46.16	0.53	18.41	74.16	0.353	2.49	9.09
7	##-7	1.00	74.4	21.00	43.64	20.00	44.72	31.81	26.47	50.79	0.53	18.30	74.92	1.202	4.21	10.64
8	##-8	1.00	119.1	14.00	53.45	21.00	43.64	21.91	28.58	39.81	0.54	18.47	73.07	0.767	4.36	12.16
9	##-9	1.00	103.4	19.00	45.88	27.00	38.49	28.08	36.41	43.74	0.53	18.45	73.75	0.771	3.11	13.69
10	##-10	1.00	91.1	11.00	60.30	16.00	50.00	15.08	21.44	46.77	0.53	18.40	74.26	0.704	4.71	15.23

~~11 ##-11 INVALID SAMPLE COUNT: H# ABORT: COUNT RATE TOO LOW~~

~~12 ##-12 INVALID SAMPLE COUNT: H# ABORT: COUNT RATE TOO LOW~~

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required: H3	Remarks
318204 A1	8-3-00	15:00	X	NO DIRECT SUN LIGHT
318204 A2	↓	↓	X	↓
318204 A3			X	
318204 B1			X	
318204 B2			X	
318204 B3			X	
318204 C1			X	
318204 C2			X	
318204 C3			X	
318204 C4	8-3-00	15:00	X	NO DIRECT SUN LIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8-7-00	10:00			

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): Normal Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone Fax

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID:318204 16 AUG 2000 13:29

USER: 8 COMMENT:A1-A3,B1-B3,C1-C4

PRESET TIME : 1.00

DATA CALC : DL DPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD

COUNT BLANK : NO IC#_: NO REPLICATES : 1 RS232 : OFF

TWO PHASE : NO AQC :YES CYCLE REPEATS : 1

SCINTILLATOR: LIQUID LUMEX: NO LOW SAMPLE REJ: 0

LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	ID	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	92.1	24.00	40.82	31.00	35.92	35.17	41.52	46.51	0.53	18.40	74.22	0.847	14.43	1.48
2	##-2	1.00	92.8	22.00	42.64	28.00	37.80	32.56	37.51	46.36	0.53	18.41	74.19	0.868	9.06	3.00
3	##-3	1.00	89.7	12.00	57.74	28.00	37.80	10.79	37.60	47.11	0.53	18.39	74.31	0.287	11.03	4.54
4	##-4	1.00	89.2	18.00	47.14	19.00	45.88	28.23	25.36	47.24	0.53	18.39	74.34	1.113	10.29	6.07
5	##-5	1.00	90.0	23.00	41.70	24.00	40.82	36.36	32.04	47.05	0.53	18.39	74.30	1.135	9.03	7.61
6	##-6	1.00	92.3	56.00	26.73	14.00	53.45	113.35	18.06	46.47	0.53	18.41	74.21	6.276	28.72	9.16
7	##-7	1.00	86.1	21.00	43.64	22.00	42.64	32.55	29.32	47.98	0.53	18.37	74.46	1.110	8.24	10.70
8	##-8	1.00	86.8	16.00	50.00	25.00	40.00	20.61	33.44	47.83	0.53	18.38	74.43	0.616	9.49	12.23
9	##-9	1.00	90.5	50.00	28.28	21.00	43.64	95.77	27.59	46.91	0.53	18.40	74.28	3.471	28.63	13.80
10	##-10	1.00	92.4	21.00	43.64	21.00	43.64	34.08	28.06	46.46	0.53	18.41	74.21	1.215	9.15	15.33

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles R. Birchfield

Analysis Required: H3

Sample Identification	Date Collected	Time Collected	Remarks
318204 C5	8-3-00	15:00	NO DIRECT SUN LIGHT
318204 D1			
318204 D2			
318204 D3			
318204 D4			
318210 A1			
318210 A2			
318210 A3			
318210 B1			
318210 B2	8-3-00	15:00	NO DIRECT SUN LIGHT

Name of Shipper	Airbill No.	Date	Time

Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
Charles Birchfield	8/7/00	10:00			

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle) (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID:318204,318210 16 AUG 2000 13:05

USER: 9 COMMENT:C5,D1-D4,A1-A3,B1,B2

PRESET TIME :	1.00						
DATA CALC :	DL DPM	H# :YES	SAMPLE REPEATS:	1	PRINTER	: STD	
COUNT BLANK :	NO	IC# : NO	REPLICATES :	1	RS232	: OFF	
TWO PHASE :	NO	AQC :YES	CYCLE REPEATS :	1			
SCINTILLATOR:	LIQUID	LUMEX: NO	LOW SAMPLE REJ:	0			
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:			none		

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0
ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	SOC	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	83.3	33.00	34.82	21.00	43.64	57.33	27.75	48.67	0.53	18.36	74.57	2.066	12.88	1.47
2	##-2	1.00	94.0	20.00	44.72	22.00	42.64	31.65	29.45	46.07	0.53	18.41	74.14	1.075	10.51	3.00
3	##-3	1.00	81.4	22.00	42.64	22.00	42.64	33.88	29.23	49.11	0.53	18.34	74.65	1.159	8.32	4.55
4	##-4	1.00	84.4	19.00	45.88	16.00	50.00	31.19	21.25	48.41	0.53	18.36	74.53	1.468	8.84	6.06
5	##-5	1.00	87.8	21.00	43.64	22.00	42.64	32.80	29.34	47.58	0.53	18.38	74.39	1.118	8.76	7.61
6	##-6	1.00	83.3	16.00	50.00	21.00	43.64	22.32	28.00	48.66	0.53	18.36	74.57	0.797	13.10	9.13
7	##-7	1.00	80.5	30.00	36.51	18.00	47.14	52.00	23.73	49.33	0.53	18.34	74.68	2.191	7.33	10.68
8	##-8	1.00	85.3	22.00	42.64	24.00	40.82	33.47	31.98	48.18	0.53	18.37	74.49	1.046	9.07	12.21
9	##-9	1.00	89.8	30.00	36.51	19.00	45.88	53.87	25.19	47.09	0.53	18.39	74.31	2.139	9.52	13.77
10	##-10	1.00	102.3	84.00	21.82	33.00	34.82	172.64	43.48	44.01	0.53	18.45	73.80	3.970	44.23	15.34

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles R. Birchfield

Analysis Required: H3

Sample Identification	Date Collected	Time Collected	Remarks
318210 B3	8-3-00	15:00	No Direct Sunlight
318210 C1			
318210 C2			
318210 C3			
318210 D1			
318210 D2			
318210 D3			
318210 E1			
318210 E2			
318210 E3	8-3-00	15:00	No Direct Sun Light

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/7/00	10:00			

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal: Authorized for Disposal By:

Date/Time of Disposal: Disposed of By:

ID ~~AIR B25~~ /# 318210 cH 16 AUG 2000 13:51
USER: 2 COMMENT: ~~2739,2739~~ /# B3, C1, C2, C3, D1, D2, D3, E1, E2, E3 cH
PRESET TIME : 1.00
DATA CALC : DL DPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD
COUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 : OFF
TWO PHASE : NO AQC :YES CYCLE REPEATS : 1
SCINTILLATOR: LIQUID LUMEX: NO LOW SAMPLE REJ: 0
LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0
ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1 ##-1	1.00	88.6	39.00	32.03	22.00	42.64	71.02	29.08	47.39	0.53	18.39	74.36	2.442	13.22	1.47
2 ##-2	1.00	95.1	83.00	21.95	32.00	35.36	164.36	42.02	45.79	0.53	18.42	74.10	3.911	6.68	2.98
3 ##-3	1.00	97.6	19.00	45.88	14.00	53.45	34.44	18.68	45.18	0.53	18.43	73.99	1.844	9.27	4.53
4 ##-4	1.00	93.0	10.00	63.25	25.00	40.00	8.22	33.64	46.29	0.53	18.41	74.18	0.244	11.28	6.04
5 ##-5	1.00	82.6	22.00	42.64	10.00	63.25	40.11	13.12	48.84	0.53	18.35	74.60	3.057	11.46	7.60
6 ##-6	1.00	97.3	23.00	41.70	20.00	44.72	39.95	26.74	45.24	0.53	18.43	74.00	1.494	8.97	9.12
7 ##-7	1.00	101.9	19.00	45.88	28.00	37.80	27.29	37.74	44.11	0.53	18.44	73.82	0.723	6.82	10.68
8 ##-8	1.00	98.4	15.00	51.64	25.00	40.00	19.56	33.66	44.98	0.53	18.43	73.96	0.581	10.58	12.21
9 ##-9	1.00	84.7	20.00	44.72	21.00	43.64	30.76	27.96	48.32	0.53	18.36	74.51	1.100	9.43	13.76
10 ##-10	1.00	96.7	24.00	40.82	14.00	53.45	45.32	18.59	45.40	0.53	18.42	74.03	2.438	10.02	15.28

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Analysis Required

Sample Identification	Date Collected	Time Collected	H3	Remarks
318208 A1	8-3-00	15:00	X	NO DIRECT SUN LIGHT
318208 A2	↑	↑	X	↑
318208 A3			X	
318208 A4			X	
318208 B1			X	
318208 B2			X	
318208 B3			X	
318208 B4			X	
318208 C1	↓	↓	X	↓
318208 C2	8-3-00	15:00	X	NO DIRECT SUN LIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
		8-7-00	11:00	Charles Birchfield	8-7-00	10:00			

Received by (Lab)	Date	Time	Seals Intact?
Josh Thorne	8-15-00	1500	✓

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID:318208 15 AUG 2000 16:33

USER: 3 COMMENT:A1-A4,B1-B4,C1,C2

PRESET TIME : 1.00

DATA CALC : DL DPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD

COUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 : OFF

TWO PHASE : NO AQC :YES CYCLE REPEATS : 1

SCINTILLATOR: LIQUID LUMEX: NO LOW SAMPLE REJ: 0

LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BAC QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	84.9	16.00	50.00	24.00	40.82	20.95	32.06	48.27	0.53	18.37	74.51	0.653	9.49	1.47
2	##-2	1.00	85.1	11.00	60.30	33.00	34.82	5.96	44.25	48.22	0.53	18.37	74.50	0.135	4.72	2.98
3	##-3	1.00	92.7	15.00	51.64	12.00	57.74	26.00	15.99	46.37	0.53	18.41	74.19	1.626	3.20	4.53
4	##-4	1.00	92.0	23.00	41.70	27.00	38.49	35.12	36.13	46.56	0.53	18.40	74.22	0.972	13.33	6.05
5	##-5	1.00	82.2	10.00	63.25	21.00	43.64	9.91	28.07	48.93	0.53	18.35	74.61	0.353	2.79	7.58
6	##-6	1.00	79.9	13.00	55.47	35.00	33.81	8.94	46.79	49.47	0.53	18.34	74.71	0.191	3.82	9.11
7	##-7	1.00	84.9	15.00	51.64	22.00	42.64	19.89	29.39	48.29	0.53	18.37	74.51	0.677	3.23	10.65
8	##-8	1.00	80.4	20.00	44.72	26.00	39.22	27.66	34.62	49.36	0.53	18.34	74.69	0.799	8.26	12.18
9	##-9	1.00	77.8	21.00	43.64	19.00	45.88	32.79	25.17	49.97	0.53	18.32	74.79	1.303	4.06	13.72
10	##-10	1.00	88.1	15.00	51.64	27.00	38.49	17.58	36.18	47.50	0.53	18.38	74.38	0.486	5.33	15.24

~~11 ##-11 INVALID SAMPLE COUNT: H# ABORT: COUNT RATE TOO LOW~~

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Analysis Required

Sample Identification	Date Collected	Time Collected	H3	Remarks
318208C3	8-3-00	15:00	X	NO DIRECT SUN LIGHT
318208 C4	↑	↑	X	↑
318208 D1			X	
318208 D2			X	
318208 D3			X	
318211 A1			X	
318211 A2			X	
318211 A3			X	
318211 A4	↓	↓	X	↓
318211 A5	8-3-00	15:00	X	NO DIRECT SUN LIGHT

Name of Shipper	Airbill No.	Date	Time

Sample Relinquished By:	Date	Time
Charles Birchfield	8-7-00	10:00

Sample Received By:	Date	Time

Received by (Lab)	Date	Time	Seals Intact?
Josh Bowers	8-15-00	1500	✓

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID:318208,318211 16 AUG 2000 12:18

SER: 8 COMMENT:C3,C4,D1,D2,D3,A1-A5

RESET TIME : 1.00

ATA CALC : DL DPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD

OUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 : OFF

WO PHASE : NO AQC :YES CYCLE REPEATS : 1

SCINTILLATOR: LIQUID LUMEX: NO LOW SAMPLE REJ: 0

OW LEVEL : NO HALF LIFE CORRECTION DATE: none

SOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

SOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

luench Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	105.8	47.00	29.17	17.00	48.51	99.35	22.37	43.15	0.53	18.46	73.65	4.442	31.99	1.48
2	##-2	1.00	86.6	68.00	24.25	27.00	38.49	128.49	35.36	47.87	0.53	18.37	74.44	3.634	34.37	3.03
3	##-3	1.00	80.0	37.00	32.88	22.00	42.64	64.08	29.00	49.44	0.53	18.34	74.70	2.210	24.53	4.60
4	##-4	1.00	87.2	37.00	32.88	13.00	55.47	70.99	16.97	47.73	0.53	18.38	74.42	4.184	21.60	6.12
5	##-5	1.00	86.4	44.00	30.15	27.00	38.49	78.14	35.71	47.91	0.53	18.37	74.45	2.188	20.92	7.68
6	##-6	1.00	80.9	29.00	37.14	20.00	44.72	49.04	26.44	49.25	0.53	18.34	74.67	1.855	29.26	9.21
7	##-7	1.00	83.8	35.00	33.81	24.00	40.82	60.09	31.77	48.54	0.53	18.36	74.55	1.891	18.09	10.77
8	##-8	1.00	92.7	33.00	34.82	22.00	42.64	59.56	29.23	46.38	0.53	18.41	74.19	2.038	16.63	12.31
9	##-9	1.00	78.2	38.00	32.44	25.00	40.00	64.07	32.98	49.88	0.53	18.32	74.77	1.943	26.07	13.87
10	##-10	1.00	89.7	24.00	40.82	22.00	42.64	39.50	29.32	47.11	0.53	18.39	74.31	1.347	26.17	15.40

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Analysis Required

Sample Identification	Date Collected	Time Collected	H3	Remarks
318211A6	8-3-00	15:00	X	NO DIRECT SUNLIGHT
318211B1			X	
318211B2			X	
318211B3			X	
318211B4			X	
318211C1			X	
318211C2			X	
318211C3			X	
318211C4			X	
318211C5	8-3-00	15:00	X	NO DIRECT SUNLIGHT

Name of Shipper	Airbill No.	Date	Time

Sample Relinquished By:	Date	Time
Charles Birchfield	7-8-00	10:00

Sample Received By:	Date	Time

Received by (Lab)	Date	Time	Seals Intact?
Josh Z Amey	8-15-00	1500	✓

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID:318211 16 AUG 2000 10:37

USER: 5 COMMENT:A6.B1-B4,C1-C5

PRESET TIME : 1.00

DATA CALC :	DL DPM	H# :YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IC# : NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AQC :YES	CYCLE REPEATS :	1		
SCINTILLATOR:	LIQUID	LUMEX: NO	LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:			none	

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	[illegible]	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	76.3	28.00	37.80	21.00	43.64	45.53	27.73	50.34	0.53	18.31	74.85	1.642	11.46	1.48
2	##-2	1.00	84.8	26.00	39.22	28.00	37.80	39.65	37.30	48.30	0.53	18.36	74.51	1.063	17.69	3.00
3	##-3	1.00	98.4	15.00	51.64	28.00	37.80	17.89	37.73	44.98	0.53	18.43	73.96	0.474	9.10	4.55
4	##-4	1.00	84.6	18.00	47.14	26.00	39.22	24.04	34.72	48.35	0.53	18.36	74.52	0.692	7.33	6.06
5	##-5	1.00	87.2	22.00	42.64	24.00	40.82	33.77	32.01	47.73	0.53	18.38	74.42	1.055	8.25	7.60
6	##-6	1.00	96.1	14.00	53.45	18.00	47.14	20.97	24.16	45.54	0.53	18.42	74.05	0.868	7.09	9.13
7	##-7	1.00	76.9	24.00	40.82	27.00	38.49	34.74	35.84	50.19	0.53	18.32	74.82	0.969	5.79	10.66
8	##-8	1.00	86.0	20.00	44.72	19.00	45.88	31.98	25.29	48.01	0.53	18.37	74.46	1.265	6.49	12.20
9	##-9	1.00	90.8	24.00	40.82	22.00	42.64	39.71	29.34	46.85	0.53	18.40	74.27	1.353	7.71	13.76
10	##-10	1.00	88.6	21.00	43.64	18.00	47.14	35.02	23.96	47.39	0.53	18.39	74.36	1.462	8.96	15.28

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Analysis Required: H3

Sample Identification	Date Collected	Time Collected											Remarks
318205A1	8/10/00	13:00									X	✓	NO DIRECT SUNLIGHT
318205A2											X	✓	
318205A3											X	✓	
318205A4											X	✓	
318205A5											X	✓	
318205A6											X	✓	
318205A7											X	✓	
318205A8											X	✓	
318205A9											X	✓	
318205A10	8/10/00	13:00									X	✓	NO DIRECT SUNLIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/14/00	09:00	McKnight	8-21-00	10:00

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): Normal Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone Fax

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID:FT MCCLELLAN 22 AUG 2000 07:16

USER: 9 COMMENT:318205A1 - 318205A10

PRESET TIME :	1.00							
DATA CALC :	DL DPM	H#	:YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IC#	: NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AQC	:YES	CYCLE REPEATS :	1		
SCINTILLATOR:	LIQUID	LUMEX: NO		LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:				none	

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0
ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off - COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	100.6	18.00	47.14	22.00	42.64	28.23	29.58	44.44	0.53	18.44	73.87	0.954	5.30	1.47
2	##-2	1.00	107.0	10.00	63.25	20.00	44.72	11.67	27.09	42.84	0.53	18.46	73.60	0.431	3.85	2.99
3	##-3	1.00	102.2	23.00	41.70	26.00	39.22	37.59	34.96	44.03	0.53	18.45	73.80	1.075	3.03	4.52
4	##-4	1.00	83.0	14.00	53.45	20.00	44.72	18.68	26.68	48.74	0.53	18.35	74.58	0.700	4.18	6.03
5	##-5	1.00	85.3	45.00	29.81	22.00	42.64	82.35	28.95	48.19	0.53	18.37	74.49	2.844	23.84	7.60
6	##-6	1.00	88.8	18.00	47.14	24.00	40.82	25.56	32.10	47.33	0.53	18.39	74.35	0.796	4.24	9.12
7	##-7	1.00	90.5	19.00	45.88	26.00	39.22	26.85	34.81	46.91	0.53	18.40	74.28	0.771	3.52	10.65
8	##-8	1.00	93.6	35.00	33.81	24.00	40.82	63.10	31.92	46.16	0.53	18.41	74.16	1.977	28.59	12.20
9	##-9	1.00	93.5	23.00	41.70	28.00	37.80	34.85	37.51	46.18	0.53	18.41	74.16	0.929	3.42	13.74
10	##-10	1.00	90.0	14.00	53.45	24.00	40.82	17.18	32.18	47.04	0.53	18.39	74.30	0.534	2.67	15.26

ID:VR DAILY 22 AUG 2000 07:

USER:12 COMMENT:C3,C4,D1-D3,A1-A5

PRESET TIME :	1.00							
DATA CALC :	CPM	H#	:YES	SAMPLE REPEATS:	1	PRINTER	: S
COUNT BLANK :	NO	IC#	: NO	REPLICATES :	1	RS232	: O
TWO PHASE :	NO	AQC	: NO	CYCLE REPEATS :	1		
SCINTILLATOR:	LIQUID	LUMEX: NO		LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:				none	

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ISOTOPE 1: 3H %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 0
ISOTOPE 2: 14C %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 0

SAM POS TIME H# 3H 14C LUMEX ELAPSED

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Buchfield

Analysis Required: H3

Sample Identification	Date Collected	Time Collected	Remarks
318205A11	8/10/00	13:00	NO DIRECT SUNLIGHT
318205A12	↑	↑	↓
318205A13	↓	↓	↓
318205A14	↓	↓	↓
318205A15	↓	↓	↓
318205A16	↓	↓	↓
318205A17	↓	↓	↓
318205A18	↓	↓	↓
318205A19	↓	↓	↓
318205A20	8/10/00	13:00	NO DIRECT SUNLIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Buchfield	8/14/00	09:00	M. Knight	8-21-00	10:00

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID:FT MCCLELLAN 22 AUG 2000 08:02

USER: 9 COMMENT:318205A11-318205A20

PRESET TIME :	1.00						
DATA CALC :	DL DPM	H# :YES	SAMPLE REPEATS:	1	PRINTER	: STD	
COUNT BLANK :	NO	IC# : NO	REPLICATES :	1	RS232	: OFF	
TWO PHASE :	NO	AQC :YES	CYCLE REPEATS :	1			
SCINTILLATOR:	LIQUID	LUMEX: NO	LOW SAMPLE REJ:	0			
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:			none		

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	PPM	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	86.8	27.00	38.49	26.00	39.22	43.15	34.63	47.82	0.53	18.38	74.43	1.246	7.39	1.46
2	##-2	1.00	91.6	14.00	53.45	19.00	45.88	19.97	25.45	46.65	0.53	18.40	74.24	0.785	5.23	2.97
3	##-3	1.00	90.0	16.00	50.00	20.00	44.72	23.55	26.75	47.04	0.53	18.39	74.30	0.881	5.27	4.51
4	##-4	1.00	98.9	31.00	35.92	31.00	35.92	52.05	41.56	44.84	0.53	18.43	73.94	1.252	14.83	6.06
5	##-5	1.00	103.6	19.00	45.88	22.00	42.64	30.98	29.61	43.70	0.53	18.45	73.75	1.046	3.15	7.60
6	##-6	1.00	106.2	13.00	55.47	28.00	37.80	13.94	37.93	43.03	0.53	18.46	73.63	0.368	3.22	9.11
7	##-7	1.00	104.3	14.00	53.45	19.00	45.88	21.31	25.62	43.51	0.53	18.45	73.71	0.832	3.38	10.66
8	##-8	1.00	85.5	19.00	45.88	23.00	41.70	27.77	30.68	48.12	0.53	18.37	74.48	0.905	3.04	12.17
9	##-9	1.00	103.6	13.00	55.47	23.00	41.70	16.64	31.07	43.68	0.53	18.45	73.74	0.535	2.38	13.71
10	##-10	1.00	89.2	17.00	48.51	27.00	38.49	21.92	36.17	47.22	0.53	18.39	74.33	0.606	3.30	15.24

D# 7

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Analysis Required

Sample Identification	Date Collected	Time Collected	H3									Remarks
318205 B1	4/10/00	13:00	X	✓								NO DIRECT SUNLIGHT
318205 B2	↑	↑	X	✓								↑
318205 B3			X	✓								
318205 B4			X	✓								
318205 B5			X	✓								
318205 B6			X	✓								
318205 B7			X	✓								
318205 B8			X	✓								
318205 B9	↓	↓	X	✓								↓
318205 B10	4/10/00	13:00	X	✓								NO DIRECT SUNLIGHT

Name of Shipper	Airbill No	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
							M. Knight	8-21-00	10:20

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date)

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal: Authorized for Disposal By:

Date/Time of Disposal: Disposed of By:

D:FT MCCLELLAN 22 AUG 2000 08:46

ER: 9 COMMENT:318205B1 - 318205B10

ESET TIME : 1.00

TA CALC : DL DPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD

UNT BLANK : NO IC# : NO REPLICATES : 1 RS232 : OFF

O PHASE : NO AQC :YES CYCLE REPEATS : 1

INTILLATOR: LIQUID LUMEX: NO LOW SAMPLE REJ: 0

W LEVEL : NO HALF LIFE CORRECTION DATE: none

OTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

OTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

CKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

uench Limits Low: 4.535 High:312.33

AM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	93.9	25.00	40.00	31.00	35.92	37.66	41.54	46.07	0.53	18.41	74.14	0.906	4.72	1.46
2	##-2	1.00	98.2	12.00	57.74	22.00	42.64	14.52	29.64	45.02	0.53	18.43	73.97	0.490	4.71	2.97
3	##-3	1.00	105.5	43.00	30.50	29.00	37.14	82.93	38.77	43.23	0.53	18.45	73.67	2.139	23.60	4.53
4	##-4	1.00	85.6	18.00	47.14	25.00	40.00	24.67	33.39	48.11	0.53	18.37	74.48	0.739	4.95	6.06
5	##-5	1.00	106.3	20.00	44.72	27.00	38.49	30.85	36.45	43.02	0.53	18.46	73.63	0.846	2.60	7.58
6	##-6	1.00	82.9	18.00	47.14	17.00	48.51	28.42	22.59	48.75	0.53	18.35	74.59	1.258	4.17	9.11
7	##-7	1.00	108.1	14.00	53.45	20.00	44.72	21.16	27.04	42.58	0.53	18.46	73.56	0.783	2.26	10.64
8	##-8	1.00	116.9	9.00	66.67	27.00	38.49	5.43	36.86	40.38	0.53	18.47	73.17	0.147	2.02	12.17
9	##-9	1.00	115.9	14.00	53.45	25.00	40.00	19.01	34.01	40.61	0.53	18.47	73.22	0.559	2.10	13.71
10	##-10	1.00	83.2	21.00	43.64	26.00	39.22	30.07	34.65	48.69	0.53	18.36	74.58	0.868	4.12	15.23

Pg #8

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5717

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: CHARLES BIRCHFIELD

Sample Identification	Date Collected	Time Collected	Analysis Required: H_3		Remarks
318205B11	8-10-00	1300	X	✓	NO DIRECT SUNLIGHT
318205B12			X	✓	
318205B13			X	✓	
318205B14			X	✓	
318205B15			X	✓	
318205B16			X	✓	
318205B17			X	✓	
318205B18			X	✓	
318205B19			X	✓	
318205B20	8-10-00	1300	X	✓	NO DIRECT SUN LIGHT

Name of Shipper	Airbill No.	Date	Time

Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
Charles Birchfield	8/14/00	09:00	M. Knapp	8-21-00	10:00

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID:FT MCCLELLAN 22 AUG 2000 11:46

USER: 9 COMMENT:318205B11 - 318205B20

PRESET TIME :	1.00						
DATA CALC :	DL DPM	H#	:YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IC#	: NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AQC	:YES	CYCLE REPEATS :	1		
SCINTILLATOR:	LIQUID	LUMEX: NO		LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:			none		

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	88.4	21.00	43.64	16.00	50.00	36.03	21.26	47.44	0.53	18.38	74.37	1.695	7.98	1.48
2	##-2	1.00	79.7	23.00	41.70	15.00	51.64	39.10	19.80	49.53	0.53	18.33	74.72	1.975	7.92	3.01
3	##-3	1.00	100.7	34.00	34.30	27.00	38.49	61.56	36.11	44.41	0.53	18.44	73.87	1.705	21.04	4.58
4	##-4	1.00	106.4	17.00	48.51	22.00	42.64	26.80	29.69	42.99	0.53	18.46	73.63	0.903	4.19	6.10
5	##-5	1.00	101.0	15.00	51.64	17.00	48.51	24.34	22.85	44.32	0.53	18.44	73.85	1.065	3.25	7.63
6	##-6	1.00	86.0	24.00	40.82	29.00	37.14	35.19	38.70	48.00	0.53	18.37	74.46	0.909	3.75	9.15
7	##-7	1.00	89.0	13.00	55.47	30.00	36.51	11.83	40.27	47.28	0.53	18.39	74.34	0.294	4.40	10.69
8	##-8	1.00	95.8	9.00	66.67	26.00	39.22	5.57	35.06	45.61	0.53	18.42	74.07	0.159	5.39	12.21
9	##-9	1.00	117.4	16.00	50.00	16.00	50.00	29.82	21.65	40.25	0.54	18.47	73.15	1.377	3.44	13.73
10	##-10	1.00	111.4	15.00	51.64	25.00	40.00	20.93	33.90	41.75	0.53	18.47	73.41	0.617	3.77	15.26

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: CHARLES BIRCHFIELD

Sample Identification	Date Collected	Time Collected	Analysis Required: #									Remarks
318205 C1	8-10-00	1300	X	✓								NO DIRECT SUNLIGHT
318205 C2	↑	↑	X	✓								↑
318205 C3			X	✓								
318205 C4			X	✓								
318205 C5			X	✓								
318205 C6			X	✓								
318205 C7			X	✓								
318205 C8			X	✓								
318205 C9	↓	↓	X	✓								
318205 C10	8-10-00	1300	X	✓								NO DIRECT SUNLIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/14/00	09:00	M. Knapp	8-21-00	10:00

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal: Authorized for Disposal By:

Date/Time of Disposal: Disposed of By:

D:FT MCCLELLAN 22 AUG 2000 12:23

ɜER: 9 COMMENT:318205C1 - 318205C10

ɾESET TIME : 1.00

ɜTA CALC : DL DPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD

ɔUNT B[illegible] : NO IC# : NO REPLICATES : 1 RS232 : OFF

ɜO : NO AQC :YES CYCLE REPEATS : 1

ɔINTILLATOR: LIQUID LUMEX: NO LOW SAMPLE REJ: 0

ɔW LEVEL : NO HALF LIFE CORRECTION DATE: none

ɜOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ɜOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ɜACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

ɥench Limits Low: 4.535 High:312.33

AM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	109.9	21.00	43.64	17.00	48.51	39.83	22.85	42.13	0.53	18.46	73.48	1.743	6.49	1.48
2	##-2	1.00	104.1	76.00	22.94	29.00	37.14	158.26	38.20	43.57	0.53	18.45	73.72	4.143	36.29	3.03
3	##-3	1.00	81.5	42.00	30.86	25.00	40.00	73.21	32.97	49.10	0.53	18.34	74.64	2.220	14.23	4.58
4	##-4	1.00	83.4	23.00	41.70	21.00	43.64	36.76	27.90	48.64	0.53	18.36	74.57	1.317	15.55	6.10
5	##-5	1.00	86.4	63.00	25.20	26.00	39.22	118.43	34.09	47.91	0.53	18.37	74.45	3.474	36.62	7.68
6	##-6	1.00	83.7	23.00	41.70	16.00	50.00	39.35	21.18	48.56	0.53	18.36	74.55	1.858	16.39	9.22
7	##-7	1.00	90.4	27.00	38.49	25.00	40.00	44.46	33.34	46.94	0.53	18.40	74.29	1.334	6.33	10.77
8	##-8	1.00	80.9	16.00	50.00	15.00	51.64	25.08	19.91	49.24	0.53	18.34	74.67	1.259	8.15	12.30
9	##-9	1.00	76.2	19.00	45.88	24.00	40.82	26.14	31.88	50.35	0.53	18.31	74.85	0.820	9.58	13.84
10	##-10	1.00	83.9	25.00	40.00	24.00	40.82	39.46	31.92	48.51	0.53	18.36	74.55	1.236	11.28	15.39

[illegible] NA

[illegible] NA

[illegible] NA

06#11

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Analysis Required

Sample Identification	Date Collected	Time Collected	H3								Remarks
318205 C11	8-10-00	1300	X	✓							No Direct sunlight
318205 C12			X	✓							
318205 C13			X	✓							
318205 C14			X	✓							
318205 C15			X	✓							
318205 C16			X	✓							
318205 C17			X	✓							
318205 C18			X	✓							
318205 C19			X	✓							
318205 C20	8-10-00	1300	X	✓							No Direct sunlight

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/14/00	09:00	M. Knepple	8-21-00	1040

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal: | Authorized for Disposal By:

Date/Time of Disposal: | Disposed of By:

ID:FT MCCLELLAN 22 AUG 2000 13:16

USER: 9 COMMENT:318205C11 - 318205C20

PRESET TIME : 1.00

DATA CALC : DL DPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD

COUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 : OFF

TWO PHASE : NO AQC :YES CYCLE REPEATS : 1

SCINTILLATOR: LIQUID LUMEX: NO LOW SAMPLE REJ: 0

LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Units Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	90.5	16.00	50.00	32.00	35.36	17.26	42.96	46.93	0.53	18.40	74.28	0.402	12.61	1.46
2	##-2	1.00	82.1	19.00	45.88	22.00	42.64	27.83	29.29	48.96	0.53	18.35	74.62	0.950	8.93	2.98
3	##-3	1.00	73.5	31.00	35.92	35.00	33.81	44.15	46.38	51.00	0.53	18.29	74.96	0.952	19.52	4.54
4	##-4	1.00	76.4	20.00	44.72	22.00	42.64	29.13	29.19	50.30	0.53	18.31	74.84	0.998	8.34	6.05
5	##-5	1.00	76.1	26.00	39.22	25.00	40.00	39.57	33.12	50.38	0.53	18.31	74.86	1.195	7.36	7.59
6	##-6	1.00	74.4	20.00	44.72	14.00	53.45	32.74	18.45	50.77	0.53	18.30	74.92	1.774	10.02	9.13
7	##-7	1.00	75.2	24.00	40.82	17.00	48.51	39.32	22.42	50.60	0.53	18.30	74.89	1.754	9.54	10.67
8	##-8	1.00	75.8	28.00	37.80	21.00	43.64	45.45	27.73	50.44	0.53	18.31	74.87	1.639	9.99	12.20
9	##-9	1.00	81.3	26.00	39.22	20.00	44.72	43.01	26.49	49.15	0.53	18.34	74.65	1.624	7.35	13.75
10	##-10	1.00	86.5	16.00	50.00	17.00	48.51	24.71	22.66	47.89	0.53	18.37	74.44	1.091	14.61	15.28

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: CHARLES BIRCHFIELD

Sample Identification	Date Collected	Time Collected	Analysis Required: H3	Remarks
318205 C21	8-10-00	1300	X ✓	No Direct sunlight
318205 C22			X ✓	
318205 C23			X ✓	
318205 C24			X ✓	
318205 E1			X ✓	
318205 E2			X ✓	
318205 E3			X ✓	
318205 E4			X ✓	
318205 E5			X ✓	
318205 E6	8-10-00	1300	X ✓	No Direct sunlight

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/14/00	09:00	M. Knapp	8-21-00	10:00

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID:FT MCCLELLAN 22 AUG 2000 13:38

USER: 9 COMMENT:318205C21-C24,E1-E6

PRESET TIME :	1.00						
DATA_CALC :	DL DPM	H#	:YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IC#	: NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AQC	:YES	CYCLE REPEATS :	1		
SCINTILLATOR:	LIQUID	LUMEX: NO		LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:			none		

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0
ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACK QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	78.8	30.00	36.51	26.00	39.22	47.61	34.44	49.75	0.53	18.33	74.75	1.382	11.77	1.46
2	##-2	1.00	78.6	28.00	37.80	24.00	40.82	44.55	31.79	49.78	0.53	18.33	74.76	1.401	9.99	3.00
3	##-3	1.00	77.2	23.00	41.70	24.00	40.82	34.26	31.84	50.11	0.53	18.32	74.81	1.076	13.11	4.54
4	##-4	1.00	73.3	25.00	40.00	28.00	37.80	35.68	37.10	51.05	0.53	18.29	74.97	0.962	9.16	6.07
5	##-5	1.00	87.7	17.00	48.51	21.00	43.64	24.88	28.05	47.61	0.53	18.38	74.40	0.887	5.99	7.60
6	##-6	1.00	84.9	11.00	60.30	21.00	43.64	12.09	28.10	48.28	0.53	18.37	74.51	0.430	7.00	9.14
7	##-7	1.00	92.0	24.00	40.82	25.00	40.00	38.35	33.41	46.55	0.53	18.40	74.22	1.148	3.37	10.67
8	##-8	1.00	94.5	9.00	66.67	25.00	40.00	6.09	33.69	45.93	0.53	18.42	74.12	0.181	4.44	12.19
9	##-9	1.00	77.6	36.00	33.33	24.00	40.82	60.37	31.66	50.03	0.53	18.32	74.80	1.907	24.67	13.76
10	##-10	1.00	96.2	19.00	45.88	14.00	53.45	34.19	18.66	45.51	0.53	18.42	74.05	1.832	5.75	15.27

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: CHARLES BIRCHFIELD

Analysis Required

Sample Identification	Date Collected	Time Collected	H3	Remarks
318205 E7	8-10-00	1300	X ✓	no direct sunlight
318205 E8	8-10-00	1300	X ✓	
318205 E9			X ✓	
318205 E10			X ✓	
318205 E11			X ✓	
318205 E12			X ✓	
318205 E13			X ✓	
318205 E14			X ✓	
318205 E15			X ✓	
318205 E16	8-10-00	1300	X ✓	no direct sunlight

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/14/00	09:00	M. Knapp	8-21-00	1045

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal: | Authorized for Disposal By:

Date/Time of Disposal: | Disposed of By:

ID:FT MCCLELLAN 22 AUG 2000 15:24

USER: 9 COMMENT:318205E7-318205E16

PRESET TIME :	1.00							
DATA CALC :	DL DPM	H#	:YES	SAMPLE REPEATS:	1	PRINTER	: STD	
COUNT BLANK :	NO	IC#	: NO	REPLICATES :	1	RS232	: OFF	
TWO PHASE :	NO	AQC	:YES	CYCLE REPEATS :	1			
SCINTILLATOR:	LIQUID	LUMEX: NO		LOW SAMPLE REJ:	0			
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:			none			

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0
ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Que ts Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	106.1	19.00	45.88	24.00	40.82	30.24	32.37	43.07	0.53	18.46	73.64	0.934	3.66	1.45
2	##-2	1.00	85.7	14.00	53.45	20.00	44.72	18.90	26.72	48.09	0.53	18.37	74.48	0.707	4.53	2.98
3	##-3	1.00	104.7	10.00	63.25	15.00	51.64	14.43	20.25	43.40	0.53	18.45	73.70	0.713	3.78	4.53
4	##-4	1.00	85.0	15.00	51.64	25.00	40.00	18.37	33.43	48.25	0.53	18.37	74.50	0.549	5.11	6.04
5	##-5	1.00	89.4	30.00	36.51	17.00	48.51	54.82	22.48	47.18	0.53	18.39	74.33	2.438	3.31	7.58
6	##-6	1.00	88.1	22.00	42.64	15.00	51.64	38.61	19.89	47.51	0.53	18.38	74.38	1.941	7.24	9.10
7	##-7	1.00	80.1	44.00	30.15	27.00	38.49	75.79	35.61	49.44	0.53	18.34	74.70	2.129	23.45	10.66
8	##-8	1.00	81.1	27.00	38.49	18.00	47.14	46.03	23.78	49.18	0.53	18.34	74.66	1.935	6.42	12.19
9	##-9	1.00	80.6	18.00	47.14	21.00	43.64	26.11	27.94	49.32	0.53	18.34	74.68	0.935	7.68	13.72
10	##-10	1.00	82.8	25.00	40.00	31.00	35.92	35.71	41.31	48.78	0.53	18.35	74.59	0.864	5.44	15.26

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required #3	Remarks
318205 E17	8-10-00	1300	X ✓	No Direct sunlight
318205 E18	↓	↓	X ✓	↓
318205 E19			X ✓	
318205 E20			X ✓	
318205 E21			X ✓	
318205 E22			X ✓	
318205 E23			X ✓	
318205 E24			X ✓	
318205 F1	↓	↓	X ✓	
318205 F2	8-10-00	1300	X ✓	No Direct sunlight

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/11/00	09:00	M. Knapple	8-21-00	10:00

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle) (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal: | Authorized for Disposal By:

Date/Time of Disposal: | Disposed of By:

ID:FT MCCLELLAN 22 AUG 2000 16:06

USER: 9 COMMENT:318205E17-E24,F1-F2

PRESET TIME :	1.00						
DATA CALC :	DL DPM	H#	:YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IC#	: NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AQC	:YES	CYCLE REPEATS :	1		
SCINTILLATOR:	LIQUID	LUMEX: NO		LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:				none	

ISOTOPE 1:	3H	%ERROR: 2.00	FACTOR:	1.000000	BKG. SUB:	0	
ISOTOPE 2:	14C	%ERROR: 2.00	FACTOR:	1.000000	BKG. SUB:	0	

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	94.4	11.00	60.30	20.00	44.72	13.16	26.89	45.96	0.53	18.41	74.12	0.489	6.51	1.46
2	##-2	1.00	85.4	15.00	51.64	23.00	41.70	19.43	30.74	48.14	0.53	18.37	74.49	0.632	5.49	2.98
3	##-3	1.00	81.9	17.00	48.51	29.00	37.14	20.20	38.72	49.00	0.53	18.35	74.63	0.522	4.84	4.52
4	##-4	1.00	88.6	42.00	30.86	29.00	37.14	73.73	38.48	47.37	0.53	18.39	74.36	1.916	22.62	6.06
5	##-5	1.00	88.3	11.00	60.30	31.00	35.92	7.05	41.63	47.44	0.53	18.38	74.37	0.169	3.39	7.59
6	##-6	1.00	94.0	10.00	63.25	23.00	41.70	9.34	30.96	46.06	0.53	18.41	74.14	0.302	3.92	9.10
7	##-7	1.00	92.5	14.00	53.45	19.00	45.88	20.06	25.46	46.43	0.53	18.41	74.20	0.788	3.84	10.64
8	##-8	1.00	113.0	13.00	55.47	22.00	42.64	18.11	29.86	41.34	0.53	18.47	73.34	0.606	2.22	12.17
9	##-9	1.00	76.4	18.00	47.14	30.00	36.51	21.25	39.93	50.30	0.53	18.31	74.84	0.532	4.45	13.71
10	##-10	1.00	77.7	18.00	47.14	28.00	37.80	22.34	37.28	50.00	0.53	18.32	74.79	0.599	4.69	15.22

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required: H3	Remarks
318205 F3	8-10-00	1300	X ✓	No direct sunlight
318205 F4	↑	↑	X ✓	↑
318205 F5			X ✓	
318205 G1			X ✓	
318205 G2			X ✓	
318205 G3			X ✓	
318205 G4			X ✓	
318205 H1			X ✓	
318205 H2	↓	↓	X ✓	↓
318205 H3	8-10-00	1300	X ✓	No direct sun light

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/14/00	09:00	M. Knapp	8-21-00	1000

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal: | Authorized for Disposal By:

Date/Time of Disposal: | Disposed of By:

:D:FT MCCLELLAN 22 AUG 2000 16:26

SER: 9 COMMENT:318205F3-F5,G1-G4,H1-H3

RESET TIME :	1.00						
ATA CALC :	DL DPM	H# :YES	SAMPLE REPEATS:	1	PRINTER	: STD
OUNT BLANK :	NO	IC# : NO	REPLICATES :	1	RS232	: OFF
WO PHASE :	NO	AQC :YES	CYCLE REPEATS :	1		
CINTILLATOR:	LIQUID	LUMEX: NO	LOW SAMPLE REJ:	0		
OW LEVEL :	NO	HALF LIFE CORRECTION DATE:			none	

SOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0
SOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	77.1	25.00	40.00	20.00	44.72	40.19	26.45	50.15	0.53	18.32	74.82	1.520	10.83	1.46
2	##-2	1.00	79.6	20.00	44.72	22.00	42.64	29.54	29.23	49.55	0.53	18.33	74.72	1.011	7.74	2.98
3	##-3	1.00	79.0	17.00	48.51	29.00	37.14	19.96	38.66	49.68	0.53	18.33	74.74	0.516	6.37	4.53
4	##-4	1.00	80.3	19.00	45.88	31.00	35.92	23.13	41.34	49.37	0.53	18.34	74.69	0.559	4.87	6.04
5	##-5	1.00	80.9	18.00	47.14	24.00	40.82	24.65	31.97	49.23	0.53	18.34	74.66	0.771	4.99	7.58
6	##-6	1.00	75.4	17.00	48.51	27.00	38.49	20.63	35.91	50.54	0.53	18.31	74.88	0.575	4.02	9.12
7	##-7	1.00	77.4	19.00	45.88	26.00	39.22	25.29	34.58	50.07	0.53	18.32	74.81	0.732	5.30	10.65
8	##-8	1.00	86.3	16.00	50.00	23.00	41.70	21.60	30.74	47.93	0.53	18.37	74.45	0.703	6.64	12.17
9	##-9	1.00	79.5	71.00	23.74	21.00	43.64	133.16	27.16	49.58	0.53	18.33	74.72	4.902	32.69	13.75
10	##-10	1.00	86.1	12.00	57.74	16.00	50.00	16.83	21.37	47.98	0.53	18.37	74.46	0.787	7.14	15.28

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Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Analysis Required

Sample Identification	Date Collected	Time Collected						H3								Remarks
318205H4	8/10/00	13:00						X	✓							NO DIRECT SUNLIGHT
318205H5								X	✓							
318205I1								X	✓							
318205I2								X	✓							
318205I3								X	✓							
318205I4								X	✓							
318205I5								X	✓							
318205I6								X	✓							
318205J1								X	✓							
318205J2	8/10/00	13:00						X	✓							NO DIRECT SUN LIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/15/00	10:30	M. Knapple	8-21-00	10:00

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal: | Authorized for Disposal By:

Date/Time of Disposal: | Disposed of By:

ID:318205 22 AUG 2000 20:14

USER: 9 COMMENT:H4.H5,I1-I6,J1,J2

PRESET TIME : 1.00

DATA CALC : DL DPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD

COUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 : OFF

TWO PHASE : NO AQC :YES CYCLE REPEATS : 1

SCINTILLATOR: LIQUID LUMEX: NO LOW SAMPLE REJ: 0

LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1 ##-1	1.00	85.4	21.00	43.64	22.00	42.64	32.43	29.31	48.15	0.53	18.37	74.49	1.107	10.56	1.47
2 ##-2	1.00	79.5	22.00	42.64	24.00	40.82	32.58	31.89	49.58	0.53	18.33	74.72	1.022	6.45	2.99
3 ##-3	1.00	78.8	15.00	51.64	16.00	50.00	22.32	21.29	49.75	0.53	18.33	74.75	1.051	5.61	4.55
4 ##-4	1.00	86.8	19.00	45.88	19.00	45.88	30.00	25.31	47.82	0.53	18.38	74.43	1.185	6.41	6.07
5 ##-5	1.00	88.3	20.00	44.72	25.00	40.00	29.20	33.41	47.45	0.53	18.38	74.37	0.874	3.54	7.60
6 ##-6	1.00	83.3	12.00	57.74	25.00	40.00	12.04	33.44	48.67	0.53	18.36	74.57	0.360	4.10	9.12
7 ##-7	1.00	77.7	21.00	43.64	24.00	40.82	30.33	31.87	49.99	0.53	18.32	74.79	0.951	3.49	10.66
8 ##-8	1.00	88.6	19.00	45.88	20.00	44.72	29.75	26.69	47.37	0.53	18.39	74.36	1.115	2.58	12.17
9 ##-9	1.00	74.6	19.00	45.88	30.00	36.51	23.06	39.88	50.74	0.53	18.30	74.92	0.578	4.19	13.72
10 ##-10	1.00	73.6	343.00	10.80	16.00	50.00	667.13	16.61	50.96	0.53	18.29	74.95	40.160	77.42	15.35

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Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Analysis Required

Sample Identification	Date Collected	Time Collected						H3								Remarks
318205J3	8/10/00	13:00						X	✓							NO DIRECT SUNLIGHT
318205J4	↑	↑						X	✓							↑
318205J5								X	✓							
318205J6								X	✓							
318205J7								X	✓							
318205K1								X	✓							
318205K2								X	✓							
318205K3								X	✓							
318205K4	↓	↓						X	✓							↓
318205K5	8/10/00	13:00						X	✓							NO DIRECT SUNLIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/14/00	10:30	M. Kennedy	8-21-00	10:00

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date)

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal: Authorized for Disposal By:

Date/Time of Disposal: Disposed of By:

ID:318205 22 AUG 2000 20:31

USER: 9 COMMENT:J3-J7.K1-K5

PRESET TIME : 1.00

DATA CALC :	DL DPM	H# :YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IC# : NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AQC :YES	CYCLE REPEATS :	1		
SCINTILLATOR:	LIQUID	LUMEX: NO	LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:			none	

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0
ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGR[illegible] QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	86.3	19.00	45.88	22.00	42.64	28.39	29.35	47.94	0.53	18.37	74.45	0.967	18.06	1.48
2	##-2	1.00	84.3	23.00	41.70	30.00	36.51	32.33	40.02	48.42	0.53	18.36	74.53	0.808	5.84	3.00
3	##-3	1.00	85.4	43.00	30.50	34.00	34.30	72.09	45.14	48.15	0.53	18.37	74.49	1.597	13.38	4.55
4	##-4	1.00	79.3	26.00	39.22	25.00	40.00	40.14	33.17	49.63	0.53	18.33	74.73	1.210	8.15	6.07
5	##-5	1.00	86.5	13.00	55.47	25.00	40.00	14.30	33.48	47.89	0.53	18.37	74.44	0.427	4.26	7.60
6	##-6	1.00	86.1	19.00	45.88	22.00	42.64	28.36	29.35	47.99	0.53	18.37	74.46	0.966	2.62	9.12
7	##-7	1.00	83.5	32.00	35.36	19.00	45.88	56.36	25.08	48.61	0.53	18.36	74.56	2.247	24.26	10.67
8	##-8	1.00	84.6	13.00	55.47	20.00	44.72	16.74	26.72	48.34	0.53	18.36	74.52	0.627	4.18	12.21
9	##-9	1.00	80.4	22.00	42.64	24.00	40.82	32.73	31.90	49.35	0.53	18.34	74.68	1.026	3.86	13.76
10	##-10	1.00	85.1	25.00	40.00	22.00	42.64	40.69	29.24	48.24	0.53	18.37	74.50	1.392	3.78	15.28

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required: H3	Remarks
318205L1	8/10/00	13:00	X ✓	NO DIRECT SUNLIGHT
318205L2			X ✓	
318205L3			X ✓	
318205L4			X ✓	
318205L5			X ✓	
318205M1			X ✓	
318205M2			X ✓	
318205M3			X ✓	
318205M4			X ✓	
318205N1	8/10/00	13:00	X ✓	NO DIRECT SUNLIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/14/00	10:30	M. Knapp	8-21-00	10:07

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID:FT. MCCLELLAN 23 AUG 2000 06:25

ISER: 9 COMMENT:318205L1-L5.M1-M5,N1

'RESET TIME : 1.00

)ATA CALC : DL DPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD

:OUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 : OFF

TWO PHASE : NO AQC :YES CYCLE REPEATS : 1

SCINTILLATOR: LIQUID LUMEX: NO LOW SAMPLE REJ: 0

_OW LEVEL : NO HALF LIFE CORRECTION DATE: none

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

)ACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	91.6	19.00	45.88	31.00	35.92	24.33	41.59	46.64	0.53	18.40	74.24	0.585	3.87	1.47
2	##-2	1.00	85.9	16.00	50.00	22.00	42.64	22.07	29.39	48.04	0.53	18.37	74.47	0.751	5.14	3.04
3	##-3	1.00	79.7	17.00	48.51	15.00	51.64	26.97	19.89	49.52	0.53	18.33	74.71	1.356	3.94	4.57
4	##-4	1.00	77.7	19.00	45.88	15.00	51.64	30.73	19.84	50.00	0.53	18.32	74.79	1.549	4.08	6.09
5	##-5	1.00	80.6	22.00	42.64	22.00	42.64	33.75	29.22	49.31	0.53	18.34	74.68	1.155	2.75	7.63
6	##-6	1.00	90.3	19.00	45.88	17.00	48.51	31.58	22.66	46.97	0.53	18.39	74.29	1.394	2.10	9.15
7	##-7	1.00	84.2	21.00	43.64	17.00	48.51	34.80	22.56	48.44	0.53	18.36	74.53	1.542	2.67	10.69
8	##-8	1.00	90.0	15.00	51.64	33.00	34.82	14.56	44.31	47.04	0.53	18.39	74.30	0.329	2.05	12.21
9	##-9	1.00	89.5	15.00	51.64	31.00	35.92	15.58	41.60	47.16	0.53	18.39	74.32	0.375	2.06	13.75
10	##-10	1.00	92.0	15.00	51.64	22.00	42.64	20.56	29.49	46.56	0.53	18.40	74.22	0.697	2.65	15.27

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required: H3	Remarks
318205 N2	8/10/00	13:00	X ✓	NO DIRECT SUNLIGHT
318205 N3			X ✓	
318205 N4			X ✓	
318205 N5			X ✓	
318205 01			X ✓	
318205 02			X ✓	
318205 P1			X ✓	
318205 P2			X ✓	
318205 P3			X ✓	
318205 P4	8/10/00	13:00	X ✓	NO DIRECT SUNLIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/15/00	10:30	M. Knight	8-21-00	10:00

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal: Authorized for Disposal By:

Date/Time of Disposal: Disposed of By:

D:FT. MCCLELLAN 23 AUG 2000 06:52

ER: 9 COMMENT:318205N2-318205P4

ESET TIME :	1.00						
TA CALC :	DL DPM	H#	:YES	SAMPLE REPEATS:	1	PRINTER	: STD
UNT BLANK :	NO	IC#	: NO	REPLICATES :	1	RS232	: OFF
O PHASE :	NO	AQC	:YES	CYCLE REPEATS :	1		
CINTILLATOR:	LIQUID	LUMEX:	NO	LOW SAMPLE REJ:	0		
W LEVEL :	NO	HALF LIFE CORRECTION DATE:			none		

SOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0
SOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

lue ts Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	85.3	9.00	66.67	18.00	47.14	9.49	24.10	48.19	0.53	18.37	74.49	0.394	5.85	1.46
2	##-2	1.00	86.9	22.00	42.64	30.00	36.51	30.62	40.09	47.79	0.53	18.38	74.43	0.764	2.48	2.98
3	##-3	1.00	100.0	18.00	47.14	20.00	44.72	29.27	26.86	44.58	0.53	18.44	73.89	1.090	1.98	4.52
4	##-4	1.00	97.1	10.00	63.25	30.00	36.51	5.60	40.49	45.29	0.53	18.43	74.01	0.138	1.62	6.02
5	##-5	1.00	91.2	14.00	53.45	20.00	44.72	19.40	26.80	46.75	0.53	18.40	74.25	0.724	3.15	7.57
6	##-6	1.00	82.3	18.00	47.14	29.00	37.14	22.28	38.71	48.91	0.53	18.35	74.61	0.576	2.50	9.08
7	##-7	1.00	91.5	12.00	57.74	23.00	41.70	13.54	30.88	46.66	0.53	18.40	74.24	0.438	1.66	10.62
8	##-8	1.00	88.5	10.00	63.25	31.00	35.92	4.94	41.65	47.40	0.53	18.39	74.36	0.119	2.09	12.14
9	##-9	1.00	75.8	20.00	44.72	24.00	40.82	28.08	31.86	50.45	0.53	18.31	74.87	0.882	2.36	13.67
10	##-10	1.00	84.7	16.00	50.00	23.00	41.70	21.44	30.71	48.32	0.53	18.36	74.51	0.698	3.52	15.19

DG #24

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required: H3	Remarks
318205P5	8/10/00	13:00	X ✓	NO DIRECT SUNLIGHT
318205P6	↑	↑	X ✓	↑
318205P7			X ✓	
318205P8			X ✓	
318205P9			X ✓	
318205P10			X ✓	
318205P11			X ✓	
318205P12			X ✓	
318205P13	↓	↓	X ✓	↓
318205P14	8/10/00	13:00	X ✓	NO DIRECT SUNLIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/15/00	1030	M. Kennedy	8-21-00	1015

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID:FT. MCCLELLAN 23 AUG 2000 07:24

USER: 9 COMMENT:318205P5 - 318205P14

PRESET TIME : 1.00

DATA CALC : DL DPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD

COUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 : OFF

TWO PHASE : NO AQC :YES CYCLE REPEATS : 1

SCINTILLATOR: LIQUID LUMEX: NO LOW SAMPLE REJ: 0

LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	80.6	12.00	57.74	17.00	48.51	15.91	22.65	49.31	0.53	18.34	74.68	0.702	6.27	1.47
2	##-2	1.00	90.1	15.00	51.64	28.00	37.80	17.21	37.56	47.02	0.53	18.39	74.30	0.458	2.96	2.97
3	##-3	1.00	89.1	7.00	75.59	27.00	38.49	0.68	36.31	47.27	0.53	18.39	74.34	0.019	2.14	4.51
4	##-4	1.00	78.6	15.00	51.64	17.00	48.51	21.82	22.59	49.78	0.53	18.33	74.76	0.966	2.12	6.02
5	##-5	1.00	90.6	18.00	47.14	30.00	36.51	22.60	40.23	46.89	0.53	18.40	74.28	0.562	1.36	7.55
6	##-6	1.00	86.5	20.00	44.72	23.00	41.70	29.99	30.68	47.88	0.53	18.37	74.44	0.977	1.49	9.07
7	##-7	1.00	78.9	17.00	48.51	22.00	42.64	23.40	29.27	49.72	0.53	18.33	74.75	0.800	2.18	10.61
8	##-8	1.00	96.2	14.00	53.45	27.00	38.49	16.04	36.35	45.53	0.53	18.42	74.05	0.441	1.36	12.14
9	##-9	1.00	111.7	9.00	66.67	15.00	51.64	12.59	20.35	41.66	0.53	18.47	73.40	0.619	1.52	13.69
10	##-10	1.00	97.5	22.00	42.64	19.00	45.88	38.32	25.40	45.19	0.53	18.43	74.00	1.509	2.53	15.20

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Analysis Required

Sample Identification	Date Collected	Time Collected	H3		Remarks
318205 P15	8/10/00	13:00	X	✓	NO DIRECT SUNLIGHT
318205 P16	↑	↑	X	✓	↑
318205 P17			X	✓	
318205 P18			X	✓	
318205 P19			X	✓	
318205 D1			X	✓	
318205 D2			X	✓	
318205 D3			X	✓	
318205 D4	↓	↓	X	✓	↓
318205 D5	8/10/00	13:00	X	✓	NO DIRECT SUN LIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/15/00	10:30	M. Knapp	8-21-00	10:00

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal: Authorized for Disposal By:

Date/Time of Disposal: Disposed of By:

ID:FT. MCCLELLAN 23 AUG 2000 08:38

USER: 9 COMMENT:318205P15 - 318205D5

PRESET TIME : 1.00

DATA CALC : DL DPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD

COUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 : OFF

TWO PHASE : NO AQC :YES CYCLE REPEATS : 1

SCINTILLATOR: LIQUID LUMEX: NO LOW SAMPLE REJ: 0

LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1 ##-1	1.00	100.8	19.00	45.88	26.00	39.22	28.27	35.00	44.38	0.53	18.44	73.86	0.808	6.24	1.45
2 ##-2	1.00	108.5	19.00	45.88	29.00	37.14	27.69	39.24	42.46	0.53	18.46	73.54	0.706	2.75	2.98
3 ##-3	1.00	96.8	18.00	47.14	24.00	40.82	26.58	32.23	45.37	0.53	18.43	74.03	0.825	2.77	4.52
4 ##-4	1.00	82.9	12.00	57.74	21.00	43.64	14.05	28.06	48.77	0.53	18.35	74.59	0.501	4.47	6.02
5 ##-5	1.00	98.8	17.00	48.51	28.00	37.80	22.40	37.71	44.87	0.53	18.43	73.94	0.594	4.68	7.58
6 ##-6	1.00	91.0	21.00	43.64	26.00	39.22	31.20	34.79	46.79	0.53	18.40	74.26	0.897	2.28	9.11
7 ##-7	1.00	89.6	28.00	37.80	24.00	40.82	46.94	31.96	47.13	0.53	18.39	74.32	1.469	3.83	10.68
8 ##-8	1.00	98.2	28.00	37.80	29.00	37.14	46.28	38.88	45.02	0.53	18.43	73.97	1.190	12.15	12.22
9 ##-9	1.00	83.5	16.00	50.00	22.00	42.64	21.83	29.35	48.61	0.53	18.36	74.56	0.744	5.95	13.77
10 ##-10	1.00	84.5	19.00	45.88	21.00	43.64	28.66	27.98	48.38	0.53	18.36	74.52	1.024	8.61	15.30

D-#71

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required: H3								Remarks
318205 D6	8/10/00	13:00	X	✓							NO DIRECT SUNLIGHT
318205 D7	↑	↑	X	✓							↑
318205 D8			X	✓							
318205 D9			X	✓							
318205 D10			X	✓							
318205 D11			X	✓							
318205 D12			X	✓							
318205 D13			X	✓							
318205 D14	↓	↓	X	✓							↓
318205 D15	8/10/00	13:00	X	✓							NO DIRECT SUNLIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/15/00	10:30	M. Knapp	8-21-00	10:00

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal: | Authorized for Disposal By:

Date/Time of Disposal: | Disposed of By:

ID:FT. MCCLELLAN 23 AUG 2000 09:01

USER: 9 COMMENT:318205D6 - 318205D15 PG#27

PRESET TIME : 1.00

DATA CALC : DL DPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD

COUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 : OFF

TWO PHASE : NO AQC :YES CYCLE REPEATS : 1

SCINTILLATOR: LIQUID LUMEX: NO LOW SAMPLE REJ: 0

LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	82.1	31.00	35.92	33.00	34.82	46.87	43.89	48.96	0.53	18.35	74.62	1.068	9.15	1.46
2	##-2	1.00	77.1	18.00	47.14	30.00	36.51	21.31	39.95	50.13	0.53	18.32	74.82	0.533	8.16	2.99
3	##-3	1.00	75.7	22.00	42.64	26.00	39.22	31.07	34.51	50.47	0.53	18.31	74.87	0.900	8.11	4.52
4	##-4	1.00	80.3	20.00	44.72	16.00	50.00	32.64	21.19	49.37	0.53	18.34	74.69	1.540	6.01	6.04
5	##-5	1.00	80.0	20.00	44.72	28.00	37.80	26.62	37.29	49.45	0.53	18.34	74.70	0.714	8.27	7.59
6	##-6	1.00	78.4	27.00	38.49	24.00	40.82	42.48	31.80	49.85	0.53	18.33	74.77	1.336	5.93	9.12
7	##-7	1.00	82.4	26.00	39.22	25.00	40.00	40.73	33.22	48.87	0.53	18.35	74.61	1.226	3.64	10.67
8	##-8	1.00	85.6	14.00	53.45	16.00	50.00	20.95	21.33	48.11	0.53	18.37	74.48	0.982	4.06	12.18
9	##-9	1.00	81.0	24.00	40.82	19.00	45.88	39.38	25.17	49.22	0.53	18.34	74.66	1.565	4.49	13.73
10	##-10	1.00	82.0	18.00	47.14	28.00	37.80	22.75	37.36	48.98	0.53	18.35	74.62	0.609	6.79	15.26

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required: H3								Remarks
318205 D16	8/10/00	13:00	X	✓							NO DIRECT SUNLIGHT
318205 D17			X	✓							
318205 D18			X	✓							
318205 D19			X	✓							
318205 D20			X	✓							
318205 D21			X	✓							
318205 D22			X	✓							
318205 D23			X	✓							
318205 D24			X	✓							
318207 A1	8/10/00	13:00	X	✓							NO DIRECT SUNLIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/15/00	10:30	[signature]	8-21-00	1000

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal: | Authorized for Disposal By:

Date/Time of Disposal: | Disposed of By:

ID:FT. MCCLELLAN 23 AUG 2000 09:27

USER: 9 COMMENT:318205D16 - 318207A1 PG#28

PRESET TIME : 1.00

DATA CALC : DL DPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD

COUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 : OFF

TWO PHASE : NO AQC :YES CYCLE REPEATS : 1

SCINTILLATOR: LIQUID LUMEX: NO LOW SAMPLE REJ: 0

LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Que ts Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	79.3	20.00	44.72	19.00	45.88	30.99	25.21	49.63	0.53	18.33	74.73	1.229	10.91	1.46
2	##-2	1.00	83.4	21.00	43.64	28.00	37.80	29.09	37.34	48.63	0.53	18.36	74.57	0.779	6.06	2.98
3	##-3	1.00	85.4	28.00	37.80	26.00	39.22	44.96	34.59	48.15	0.53	18.37	74.49	1.300	5.05	4.53
4	##-4	1.00	82.7	13.00	55.47	22.00	42.64	15.59	29.38	48.81	0.53	18.35	74.60	0.530	4.05	6.05
5	##-5	1.00	87.7	16.00	50.00	32.00	35.36	17.05	42.89	47.59	0.53	18.38	74.39	0.398	3.90	7.59
6	##-6	1.00	78.9	17.00	48.51	25.00	40.00	21.92	33.29	49.72	0.53	18.33	74.75	0.658	3.93	9.11
7	##-7	1.00	81.1	17.00	48.51	23.00	41.70	23.13	30.64	49.20	0.53	18.34	74.66	0.755	3.22	10.66
8	##-8	1.00	83.1	22.00	42.64	21.00	43.64	34.64	27.91	48.72	0.53	18.35	74.58	1.241	5.45	12.18
9	##-9	1.00	79.2	15.00	51.64	20.00	44.72	20.38	26.62	49.65	0.53	18.33	74.73	0.766	5.95	13.78
10	##-10	1.00	122.9	13.00	55.47	24.00	40.82	17.88	32.79	38.86	0.54	18.46	72.90	0.545	1.85	15.30

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required: H3								Remarks
318207A2	8/10/00	13:00	X	✓							NO DIRECT SUNLIGHT
318207B1	↓	↓	X	✓							↓
318207B2			X	✓							
318207B3			X	✓							
318207C1			X	✓							
318207C2			X	✓							
318207D1			X	✓							
318207D2			X	✓							
318207D3			X	✓							
318207E1	8/10/00	13:00	X	✓							NO DIRECT SUNLIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/15/00	10:30	M. Knapple	8-21-00	1010

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID:FT. MCCLELLAN 23 AUG 2000 10:11

USER: 9 COMMENT:318207A2 - 318207E1 PG#29

PRESET TIME : 1.00

DATA CALC :	DL DPM	H# :YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IC# : NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AQC :YES	CYCLE REPEATS :	1		
SCINTILLATOR:	LIQUID	LUMEX: NO	LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:			none	

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1 ##-1	1.00	97.0	17.00	48.51	20.00	44.72	26.60	26.83	45.32	0.53	18.43	74.02	0.991	4.54	1.46
2 ##-2	1.00	80.3	19.00	45.88	26.00	39.22	25.62	34.63	49.37	0.53	18.34	74.69	0.740	3.18	2.97
3 ##-3	1.00	95.9	13.00	55.47	20.00	44.72	17.65	26.88	45.59	0.53	18.42	74.06	0.657	3.59	4.51
4 ##-4	1.00	86.9	12.00	57.74	22.00	42.64	13.78	29.46	47.80	0.53	18.38	74.43	0.468	3.00	6.02
5 ##-5	1.00	88.3	17.00	48.51	26.00	39.22	22.34	34.80	47.45	0.53	18.38	74.37	0.642	2.52	7.55
6 ##-6	1.00	85.6	9.00	66.67	27.00	38.49	4.88	36.22	48.11	0.53	18.37	74.48	0.135	2.58	9.09
7 ##-7	1.00	87.2	20.00	44.72	25.00	40.00	29.06	33.39	47.71	0.53	18.38	74.41	0.870	6.49	10.63
8 ##-8	1.00	88.2	11.00	60.30	28.00	37.80	8.61	37.59	47.48	0.53	18.38	74.38	0.229	2.88	12.14
9 ##-9	1.00	82.4	19.00	45.88	21.00	43.64	28.38	27.95	48.88	0.53	18.35	74.61	1.016	3.02	13.69
10 ##-10	1.00	76.3	17.00	48.51	16.00	50.00	26.07	21.19	50.33	0.53	18.31	74.85	1.230	4.62	15.20

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Analysis Required

Sample Identification	Date Collected	Time Collected						H3								Remarks
318207E2	8/10/00	13:00						X	✓							NO DIRECT SUN LIGHT
318207F1								X	✓							
318207F2								X	✓							
318207G1								X	✓							
318213D1								X	✓							
318213D2								X	✓							
318213D3								X	✓							
318213D4								X	✓							
318213D5								X	✓							
318213D6	8/10/00	13:00						X	✓							NO DIRECT SUN LIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/15/00	10:30	M. Kenyon	8-21-00	10:00

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal: | Authorized for Disposal By:

Date/Time of Disposal: | Disposed of By:

19.30

ID:FT. MCCLELLAN 23 AUG 2000 11:30

USER: 9 COMMENT:318207E2 - 318213D6

PRESET TIME : 1.00

DATA CALC :	DL DPM	H# :YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IC# : NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AQC :YES	CYCLE REPEATS :	1		
SCINTILLATOR:	LIQUID	LUMEX: NO	LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:			none	

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Units Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	80.7	27.00	38.49	20.00	44.72	44.93	26.46	49.29	0.53	18.34	74.68	1.698	16.04	1.48
2	##-2	1.00	81.4	52.00	27.74	19.00	45.88	96.62	24.77	49.12	0.53	18.34	74.65	3.901	24.49	3.03
3	##-3	1.00	84.1	21.00	43.64	26.00	39.22	30.19	34.67	48.48	0.53	18.36	74.54	0.871	7.36	4.56
4	##-4	1.00	83.7	18.00	47.14	26.00	39.22	23.95	34.70	48.56	0.53	18.36	74.55	0.690	6.25	6.07
5	##-5	1.00	82.6	22.00	42.64	28.00	37.80	31.03	37.32	48.82	0.53	18.35	74.60	0.832	7.81	7.61
6	##-6	1.00	96.1	24.00	40.82	32.00	35.36	35.32	42.96	45.55	0.53	18.42	74.05	0.822	3.18	9.13
7	##-7	1.00	85.4	12.00	57.74	21.00	43.64	14.21	28.09	48.15	0.53	18.37	74.49	0.506	12.39	10.68
8	##-8	1.00	87.4	26.00	39.22	31.00	35.92	38.59	41.39	47.67	0.53	18.38	74.41	0.932	8.04	12.22
9	##-9	1.00	85.9	14.00	53.45	17.00	48.51	20.47	22.68	48.03	0.53	18.37	74.47	0.903	7.96	13.77
10	##-10	1.00	83.5	20.00	44.72	21.00	43.64	30.58	27.95	48.62	0.53	18.36	74.56	1.094	17.36	15.30

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required: H3	Remarks
318213E1	8/10/00	13:00	X ✓	NO DIRECT SUNLIGHT
318213E2	〃	〃	X ✓	〃
318213E3	〃	〃	X ✓	〃
318213E4	〃	〃	X ✓	〃
318213E5	〃	〃	X ✓	〃
318213E6	〃	〃	X ✓	〃
318213F1	〃	〃	X ✓	〃
318213F2	〃	〃	X ✓	〃
318213F3	〃	〃	X ✓	〃
318213F4	8/10/00	13:00	X ✓	NO DIRECT SUNLIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/15/00	10:30	M. K[illegible]	8-21-00	10:00

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal: Authorized for Disposal By:

Date/Time of Disposal: Disposed of By:

ID:FT. MCCLELLAN 23 AUG 2000 12:38

JSER: 9 COMMENT:318213E1-E6.F1-F4

'RESET TIME : 1.00

)ATA CALC : DL DPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD

:OUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 : OFF

'WO PHASE : NO AQC :YES CYCLE REPEATS : 1

3CINTILLATOR: LIQUID LUMEX: NO LOW SAMPLE REJ: 0

.OW LEVEL : NO HALF LIFE CORRECTION DATE: none

[SOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

[SOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

3AC QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

)uench Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	86.2	21.00	43.64	17.00	48.51	35.13	22.58	47.97	0.53	18.37	74.46	1.555	6.66	1.46
2	##-2	1.00	89.9	30.00	36.51	14.00	53.45	56.54	18.44	47.06	0.53	18.39	74.31	3.066	13.14	2.99
3	##-3	1.00	92.4	27.00	38.49	17.00	48.51	49.20	22.56	46.44	0.53	18.41	74.20	2.181	8.69	4.55
4	##-4	1.00	89.3	17.00	48.51	13.00	55.47	29.28	17.28	47.21	0.53	18.39	74.33	1.694	10.94	6.07
5	##-5	1.00	82.3	17.00	48.51	18.00	47.14	25.78	23.94	48.91	0.53	18.35	74.61	1.077	9.35	7.62
6	##-6	1.00	84.1	26.00	39.22	18.00	47.14	44.62	23.83	48.46	0.53	18.36	74.54	1.872	22.21	9.16
7	##-7	1.00	98.2	23.00	41.70	22.00	42.64	39.02	29.46	45.03	0.53	18.43	73.97	1.324	2.96	10.69
8	##-8	1.00	89.3	22.00	42.64	17.00	48.51	37.81	22.60	47.20	0.53	18.39	74.33	1.673	14.49	12.23
9	##-9	1.00	77.2	22.00	42.64	24.00	40.82	32.25	31.85	50.13	0.53	18.32	74.81	1.012	7.43	13.77
10	##-10	1.00	85.0	31.00	35.92	26.00	39.22	51.11	34.54	48.25	0.53	18.37	74.50	1.480	12.66	15.31

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required: HS									Remarks
318213F5	9/10/00	13:00	X	✓								NO DIRECT SUN LIGHT
318213F6			X	◯								
318214G1			X	✓								
318214G2			X	✓								
318214G3			X	✓								
318214G4			X	✓								
318214G5			X	✓								
318214G6			X	✓								
318214H1			X	✓								
318214H2	9/10/00	13:00	X	✓								NO DIRECT SUNLIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	9/15/00	10:30	DID NOT RECEIVE 318213F6		
							M. Knapp	9-26-00	10:10

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal: Authorized for Disposal By:

Date/Time of Disposal: Disposed of By:

ID:FT. MCCLELLAN 23 AUG 2000 12:57

USER: 9 COMMENT:318213F5-318214H2

PRESET TIME : 1.00

DATA CALC :	DL DPM	H# :YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IC# : NO	REPLICATES :	1	RS232	: OFF
TWO [illegible] :	NO	AQC :YES	CYCLE REPEATS :	1		
SCI[illegible]OR:	LIQUID	LUMEX: NO	LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:			none	

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	81.1	359.00	10.56	21.00	43.64	721.09	23.02	49.20	0.53	18.34	74.66	31.320	63.88	1.54
MISSING SAMPLE																
3	##-3	1.00	92.1	21.00	43.64	27.00	38.49	30.83	36.16	46.53	0.53	18.40	74.22	0.853	3.86	3.06
4	##-4	1.00	83.5	34.00	34.30	16.00	50.00	61.99	21.02	48.62	0.53	18.36	74.56	2.949	16.19	4.69
5	##-5	1.00	86.1	31.00	35.92	20.00	44.72	54.45	26.47	48.00	0.53	18.37	74.46	2.057	15.51	6.22
6	##-6	1.00	84.8	24.00	40.82	20.00	44.72	39.59	26.56	48.31	0.53	18.36	74.51	1.490	9.13	7.76
7	##-7	1.00	76.4	14.00	53.45	17.00	48.51	19.61	22.57	50.32	0.53	18.31	74.85	0.869	10.32	9.30
8	##-8	1.00	82.7	27.00	38.49	22.00	42.64	44.36	29.18	48.80	0.53	18.35	74.59	1.520	23.68	10.85
9	##-9	1.00	86.7	18.00	47.14	35.00	33.81	19.62	46.88	47.84	0.53	18.38	74.43	0.418	11.55	12.39
10	##-10	1.00	88.8	23.00	41.70	22.00	42.64	37.20	29.33	47.33	0.53	18.39	74.35	1.269	13.81	13.94

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Analysis Required

Sample Identification	Date Collected	Time Collected	H3		Remarks
318214H3	8/10/00	13:00	X	✓	NO DIRECT SUNLIGHT
318214H4	↑	↑	X	✓	↑
318214H5			X	✓	
318214H6			X	✓	
318214I1			X	✓	
318214I2			X	✓	
318214I3			X	✓	
318214I4			X	✓	
318214I5	↓	↓	X	✓	↓
318214I6	8/10/00	13:00	X	✓	NO DIRECT SUNLIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/15/00	10:30	M. Knapp	8-21-00	10:00

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date)

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal: Authorized for Disposal By:

Date/Time of Disposal: Disposed of By:

ID:FT MCCLELLAN 23 AUG 2000 13:43

USER: 1 COMMENT:318214H3-31821416

PRESET TIME : 1.00

DATA CALC :	DL DPM	H# :YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IC# : NO	REPLICATES :	1	RS232	: OFF
TWO [illegible] :	NO	AQC :YES	CYCLE REPEATS :	1		
SCI[illegible]JR:	LIQUID	LUMEX: NO	LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:			none	

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	85.9	27.00	38.49	30.00	36.51	40.92	40.00	48.02	0.53	18.37	74.47	1.023	10.16	1.47
2	##-2	1.00	80.7	36.00	33.33	19.00	45.88	63.74	24.99	49.29	0.53	18.34	74.67	2.550	11.78	3.00
3	##-3	1.00	89.3	18.00	47.14	14.00	53.45	30.87	18.62	47.22	0.53	18.39	74.33	1.658	12.28	4.55
4	##-4	1.00	93.6	15.00	51.64	23.00	41.70	20.18	30.87	46.16	0.53	18.41	74.16	0.654	4.21	6.07
5	##-5	1.00	85.6	13.00	55.47	18.00	47.14	17.85	24.04	48.10	0.53	18.37	74.48	0.742	5.09	7.60
6	##-6	1.00	89.5	13.00	55.47	21.00	43.64	16.59	28.14	47.17	0.53	18.39	74.32	0.590	4.63	9.11
7	##-7	1.00	81.9	15.00	51.64	22.00	42.64	19.63	29.34	49.00	0.53	18.35	74.63	0.669	4.22	10.65
8	##-8	1.00	86.5	166.00	15.52	17.00	48.51	338.86	20.44	47.88	0.53	18.37	74.44	16.580	56.67	12.24
9	##-9	1.00	82.8	18.00	47.14	29.00	37.14	22.33	38.72	48.78	0.53	18.35	74.59	0.577	3.60	13.77
10	##-10	1.00	88.9	9.00	66.67	24.00	40.82	6.50	32.24	47.30	0.53	18.39	74.35	0.202	4.81	15.31

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Analysis Required: H3

Sample Identification	Date Collected	Time Collected	H3		Remarks
318212A1	8/10/00	13:00	X	✓	NO DIRECT SUN LIGHT
318212A2	↑	↑	X	✓	↑
318212A3			X	✓	
318212A4			X	✓	
318212A5			X	✓	
318212A6			X	✓	
318212B1			X	✓	
318212B2			X	✓	
318212B3			X	✓	
318212B4	8/10/00	13:00	X	✓	NO DIRECT SUN LIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/15/00	10:30	M. Knoppke	8-21-00	1020

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal: | Authorized for Disposal By:

Date/Time of Disposal: | Disposed of By:

ID:FT MCCLELLAN 23 AUG 2000 13:59

USER: 3 COMMENT:318212A1-318212B4

PRESET TIME : 1.00

DATA CALC : DL DPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD

COUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 : OFF

TWO PHASE : NO AQC :YES CYCLE REPEATS : 1

SCI /R: LIQUID LUMEX: NO LOW SAMPLE REJ: 0

LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	89.0	13.00	55.47	24.00	40.82	14.98	32.18	47.28	0.53	18.39	74.34	0.466	3.40	1.45
2	##-2	1.00	89.1	201.00	14.11	15.00	51.64	418.60	17.21	47.26	0.53	18.39	74.34	24.320	47.67	3.01
3	##-3	1.00	89.8	12.00	57.74	16.00	50.00	17.12	21.41	47.10	0.53	18.39	74.31	0.800	3.63	4.59
4	##-4	1.00	89.4	14.00	53.45	14.00	53.45	22.39	18.68	47.19	0.53	18.39	74.33	1.199	3.02	6.12
5	##-5	1.00	85.1	8.00	70.71	26.00	39.22	3.31	34.88	48.22	0.53	18.37	74.50	0.095	2.79	7.65
6	##-6	1.00	86.2	10.00	63.25	22.00	42.64	9.56	29.48	47.97	0.53	18.37	74.46	0.324	2.74	9.17
7	##-7	1.00	86.6	41.00	31.23	28.00	37.80	71.41	37.11	47.87	0.53	18.37	74.44	1.924	26.38	10.73
8	##-8	1.00	83.8	18.00	47.14	30.00	36.51	21.92	40.09	48.54	0.53	18.36	74.55	0.547	7.28	12.26
9	##-9	1.00	95.2	32.00	35.36	28.00	37.80	54.87	37.40	45.76	0.53	18.42	74.09	1.467	6.95	13.83
10	##-10	1.00	88.8	24.00	40.82	15.00	51.64	42.99	19.87	47.33	0.53	18.39	74.35	2.164	10.48	15.35

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required: H3	Remarks
318212B5	8/10/00	13:00	X ✓	NO DIRECT SUN LIGHT
318212C1			X ✓	
318212C2			X ✓	
318212C3			X ✓	
318212C4			X ✓	
318212C5			X ✓	
318212C6	8/10/00	13:00	X ✓	
3185A1	8/14/00	09:00	X ✓	
3185A2	8/14/00	09:00	X ✓	
3185B1	8/14/00	09:00	X ✓	NO DIRECT SUN LIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/15/00	09:30	M. Knapple	8-21-00	10:42

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID:FT MCCLELLAN 23 AUG 2000 14:21

USER: 8 COMMENT:31821285-318581

PRESET TIME : 1.00

DATA CALC :	DL DPM	H# :YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IC# : NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AQC :YES	CYCLE REPEATS :	1		
SCINTILLATOR:	LIQUID	LUMEX: NO	LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:			none	

ISOTOPE 1:	3H	%ERROR: 2.00	FACTOR: 1.000000	BKG. SUB:	0
ISOTOPE 2:	14C	%ERROR: 2.00	FACTOR: 1.000000	BKG. SUB:	0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1 ##-1	1.00	92.8	20.00	44.72	20.00	44.72	32.53	26.73	46.35	0.53	18.41	74.19	1.217	7.97	1.47
2 ##-2	1.00	89.5	13.00	55.47	16.00	50.00	19.23	21.39	47.16	0.53	18.39	74.32	0.899	2.56	3.00
3 ##-3	1.00	91.4	13.00	55.47	28.00	37.80	13.01	37.62	46.71	0.53	18.40	74.25	0.346	5.64	4.55
4 ##-4	1.00	85.5	14.00	53.45	24.00	40.82	16.83	32.10	48.14	0.53	18.37	74.48	0.524	5.00	6.08
5 ##-5	1.00	89.5	12.00	57.74	25.00	40.00	12.36	33.55	47.16	0.53	18.39	74.32	0.368	6.17	7.62
6 ##-6	1.00	92.8	16.00	50.00	26.00	39.22	20.66	34.90	46.35	0.53	18.41	74.19	0.592	7.70	9.15
7 ##-7	1.00	76.5	57.00	26.49	25.00	40.00	101.43	32.68	50.30	0.53	18.31	74.84	3.103	29.10	10.72
8 ##-8	1.00	75.2	15.00	51.64	24.00	40.82	18.10	31.92	50.60	0.53	18.30	74.89	0.567	3.73	12.30
9 ##-9	1.00	79.2	16.00	50.00	28.00	37.80	18.45	37.34	49.63	0.53	18.33	74.73	0.494	3.43	13.82
10 ##-10	1.00	79.3	9.00	66.67	20.00	44.72	8.27	26.70	49.62	0.53	18.33	74.73	0.310	4.83	15.35

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Analysis Required

Sample Identification	Date Collected	Time Collected															Remarks
									H								
3185 B2	8/14/00	09:00							X	✓							NO DIRECT SUNLIGHT
3185 B3									X	✓							
3185 C1									X	✓							
3185 C2									X	✓							
3185 D1									X	✓							
3185 D2									X	✓							
3185 D3									X	✓							
3185 E1									X	✓							
3185 E2									X	✓							
3185 F1	8/14/00	09:00							X	✓							NO DIRECT SUNLIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By	Date	Time	Sample Received By	Date	Time
				Charles Birchfield	8/15/00	09:30	M. Knapp	8-21-00	10:00

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal: | Authorized for Disposal By:

Date/Time of Disposal: | Disposed of By:

ID:FT MCCLELLAN 23 AUG 2000 15:00

USER: 9 COMMENT:3185B2-3185F1

PRESET TIME : 1.00

DATA CALC :	DL DPM	H# :YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IC# : NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AQC :YES	CYCLE REPEATS :	1		
SCINTILLATOR:	LIQUID	LUMEX: NO	LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:			none	

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Value Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	83.0	24.00	40.82	18.00	47.14	40.26	23.85	48.74	0.53	18.35	74.58	1.688	3.81	1.46
2	##-2	1.00	84.9	11.00	60.30	26.00	39.22	9.54	34.83	48.27	0.53	18.37	74.51	0.274	3.60	2.98
3	##-3	1.00	84.4	20.00	44.72	26.00	39.22	28.17	34.69	48.39	0.53	18.36	74.53	0.812	2.98	4.53
4	##-4	1.00	84.1	16.00	50.00	23.00	41.70	21.38	30.71	48.46	0.53	18.36	74.54	0.696	3.40	6.07
5	##-5	1.00	77.0	15.00	51.64	30.00	36.51	15.30	39.99	50.18	0.53	18.32	74.82	0.383	3.30	7.60
6	##-6	1.00	80.9	17.00	48.51	25.00	40.00	22.11	33.33	49.25	0.53	18.34	74.67	0.663	3.15	9.10
7	##-7	1.00	82.4	15.00	51.64	13.00	55.47	24.21	17.25	48.88	0.53	18.35	74.61	1.403	3.53	10.64
8	##-8	1.00	78.9	34.00	34.30	23.00	41.70	57.20	30.37	49.71	0.53	18.33	74.74	1.884	1.83	12.17
9	##-9	1.00	82.8	12.00	57.74	23.00	41.70	13.03	30.74	48.78	0.53	18.35	74.59	0.424	2.19	13.70
10	##-10	1.00	82.4	12.00	57.74	24.00	40.82	12.51	32.08	48.89	0.53	18.35	74.61	0.390	2.26	15.22

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required: Cs-137	Remarks
3185F2	8/14/00	09:00	X ✓	NO DIRECT SUN LIGHT
3185F3	↓	↓	X ✓	↓
3185DA01			X ✓	
3185DA02			X ✓	
3182DA31			X ✓	
3182DA32			X ✓	
3182DA33			X ✓	
3182DA34			X ✓	
3182DA35	↓	↓	X ✓	↓
3182DA36	8/14/00	09:00	X ✓	NO DIRECT SUN LIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/15/00	10:30	[signature]	8-21-00	10:00

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle) (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID:FT MCCLELLAN 23 AUG 2000 15:55

USER: 1 COMMENT:3185F2-31820A36

PRESET TIME : 1.00

DATA CALC : DL DPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD

COUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 : OFF

TWO PHASE : NO AQC :YES CYCLE REPEATS : 1

SCINTILLATOR: LIQUID LUMEX: NO LOW SAMPLE REJ: 0

LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 0

BAL. QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	75.7	9.00	66.67	23.00	41.70	6.71	30.67	50.47	0.53	18.31	74.87	0.219	3.89	1.48
2	##-2	1.00	77.8	26.00	39.22	22.00	42.64	41.35	29.12	49.97	0.53	18.32	74.79	1.420	2.10	2.98
3	##-3	1.00	76.9	12.00	57.74	23.00	41.70	12.72	30.65	50.20	0.53	18.32	74.83	0.415	1.96	4.53
4	##-4	1.00	71.5	11.00	60.30	25.00	40.00	9.57	33.25	51.46	0.53	18.28	75.04	0.288	2.32	6.04
5	##-5	1.00	66.5	38.00	32.44	19.00	45.88	63.61	24.80	52.62	0.54	18.25	75.24	2.565	24.42	7.59
6	##-6	1.00	72.1	26.00	39.22	18.00	47.14	42.22	23.70	51.32	0.53	18.28	75.01	1.782	13.30	9.12
7	##-7	1.00	67.2	18.00	47.14	23.00	41.70	23.73	30.41	52.46	0.54	18.25	75.21	0.780	8.70	10.66
8	##-8	1.00	72.5	25.00	40.00	20.00	44.72	39.38	26.39	51.22	0.53	18.29	75.00	1.493	8.16	12.18
9	##-9	1.00	68.5	22.00	42.64	25.00	40.00	30.61	33.05	52.16	0.54	18.26	75.16	0.926	9.74	13.73
10	##-10	1.00	66.6	19.00	45.88	37.00	32.88	19.11	49.04	52.61	0.54	18.25	75.23	0.390	5.83	15.24

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required: H3	Remarks
3182 Q01	8-4-00	12:00	X	NO DIRECT SUNLIGHT
3182 Q02			X	
3182 Q03			X	
3182 Q04			X	
3182 Q05			X	
3182 Q06			X	
3182 Q07			X	
3182 Q08			X	
3182 Q09			X	
3182 Q10	8-4-00	12:00	X	NO DIRECT SUNLIGHT

Name of Shipper	Airbill No.	Date	Time

Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
Charles Birchfield	8/7/00	10:00			

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID:3182 16 AUG 2000 14:54

USER: 1 COMMENT:Q1-Q10

PRESET TIME : 1.00

DATA CALC : DL DPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD

COUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 : OFF

TWO PHASE : NO AQC :YES CYCLE REPEATS : 1

SCINTILLATOR: LIQUID LUMEX: NO LOW SAMPLE REJ: 0

LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAI NO	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1 ##-1	1.00	92.0	24.00	40.82	16.00	50.00	43.15	21.25	46.55	0.53	18.40	74.22	2.031	11.30	1.46
2 ##-2	1.00	78.9	27.00	38.49	23.00	41.70	43.08	30.47	49.71	0.53	18.33	74.75	1.414	8.99	2.98
3 ##-3	1.00	86.8	33.00	34.82	28.00	37.80	54.71	37.23	47.81	0.53	18.38	74.43	1.469	9.15	4.54
4 ##-4	1.00	96.3	23.00	41.70	24.00	40.82	37.53	32.14	45.50	0.53	18.42	74.05	1.168	6.35	6.06
5 ##-5	1.00	98.7	24.00	40.82	23.00	41.70	40.80	30.81	44.91	0.53	18.43	73.95	1.324	8.74	7.59
6 ##-6	1.00	86.2	24.00	40.82	24.00	40.82	37.80	31.97	47.95	0.53	18.37	74.45	1.182	7.37	9.14
7 ##-7	1.00	83.6	27.00	38.49	15.00	51.64	48.09	19.78	48.60	0.53	18.36	74.56	2.431	7.68	10.69
8 ##-8	1.00	81.3	22.00	42.64	25.00	40.00	32.35	33.26	49.14	0.53	18.34	74.65	0.973	6.98	12.22
9 ##-9	1.00	94.1	42.00	30.86	23.00	41.70	79.07	30.46	46.02	0.53	18.41	74.13	2.596	30.47	13.78
10 ##-10	1.00	83.8	22.00	42.64	25.00	40.00	32.72	33.30	48.55	0.53	18.36	74.55	0.983	8.70	15.32

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required: H3	Remarks
3182Q11	8-4-00	12:00	X	
3182Q12	↓	↓	X	NO DIRECT SUN LIGHT
3182Q13			X	↓
3182Q14			X	
3182Q15			X	
3182Q16			X	
3182Q17			X	
3182Q18			X	
3182Q19	↓	↓	X	
3182Q20	8-4-00	12:00	X	NO DIRECT SUN LIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/7/00	10:00			

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date)

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal: Authorized for Disposal By:

Date/Time of Disposal: Disposed of By:

ID:3182 16 AUG 2000 11:20

USER: 8 COMMENT:Q-11,THROUGH, Q-20

PRESET TIME :	1.00							
DATA CALC :	DL DPM	H#	:YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IC#	: NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AQC	:YES	CYCLE REPEATS :	1		
SCINTILLATOR:	LIQUID	LUMEX: NO		LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:			none		

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0
ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	81.0	33.00	34.82	25.00	40.00	54.73	33.10	49.21	0.53	18.34	74.66	1.654	12.97	1.48
2	##-2	1.00	96.0	27.00	38.49	22.00	42.64	47.38	29.37	45.57	0.53	18.42	74.06	1.613	9.96	3.00
3	##-3	1.00	83.7	22.00	42.64	17.00	48.51	36.77	22.54	48.57	0.53	18.36	74.56	1.631	13.16	4.56
4	##-4	1.00	69.3	29.00	37.14	19.00	45.88	47.02	24.96	51.98	0.53	18.26	75.13	1.884	12.09	6.09
5	##-5	1.00	72.0	26.00	39.22	26.00	39.22	38.39	34.38	51.35	0.53	18.28	75.02	1.116	14.22	7.63
6	##-6	1.00	85.9	22.00	42.64	21.00	43.64	35.10	27.95	48.04	0.53	18.37	74.47	1.256	12.78	9.16
7	##-7	1.00	78.9	23.00	41.70	28.00	37.80	32.54	37.23	49.71	0.53	18.33	74.75	0.874	9.88	10.72
8	##-8	1.00	79.9	24.00	40.82	22.00	42.64	37.69	29.18	49.48	0.53	18.33	74.71	1.292	12.01	12.26
9	##-9	1.00	104.9	15.00	51.64	22.00	42.64	21.95	29.70	43.37	0.53	18.45	73.69	0.739	8.36	13.82
10	##-10	1.00	84.9	29.00	37.14	19.00	45.88	50.52	25.14	48.26	0.53	18.37	74.50	2.009	12.47	15.34

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required: H3	Remarks
3182D21	8-4-00	12:00	X	NO DIRECT SUNLIGHT
3182D22			X	
3182D23			X	
3182D24			X	
3182D25			X	
3182D26			X	
3182D27			X	
3182D28			X	
3182D29			X	
3182D30	8-4-00	12:00	X	NO DIRECT SUN LIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/7/00	10:00			

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID:3182 15 AUG 2000 21:02

USER: 3 COMMENT:021-030

PRESET TIME : 1.00

DATA CALC : DL DPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD

COUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 : OFF

TWO PHASE : NO AQC :YES CYCLE REPEATS : 1

SCINTILLATOR: LIQUID LUMEX: NO LOW SAMPLE REJ: 0

LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	86.3	24.00	40.82	22.00	42.64	38.84	29.27	47.94	0.53	18.37	74.45	1.327	12.88	1.48
2	##-2	1.00	97.0	14.00	53.45	19.00	45.88	20.51	25.52	45.33	0.53	18.43	74.02	0.804	7.00	3.00
3	##-3	1.00	87.4	25.00	40.00	26.00	39.22	39.08	34.67	47.67	0.53	18.38	74.41	1.127	4.93	4.54
4	##-4	1.00	78.6	15.00	51.64	18.00	47.14	21.32	23.93	49.79	0.53	18.33	74.76	0.891	8.54	6.07
5	##-5	1.00	81.0	22.00	42.64	18.00	47.14	35.82	23.86	49.21	0.53	18.34	74.66	1.501	6.71	7.61
6	##-6	1.00	105.0	14.00	53.45	18.00	47.14	21.97	24.27	43.33	0.53	18.45	73.68	0.905	5.76	9.12
7	##-7	1.00	99.6	23.00	41.70	17.00	48.51	42.12	22.70	44.67	0.53	18.44	73.91	1.855	4.44	10.67
8	##-8	1.00	77.5	12.00	57.74	19.00	45.88	14.71	25.30	50.06	0.53	18.32	74.80	0.582	5.97	12.19
9	##-9	1.00	89.5	24.00	40.82	20.00	44.72	40.51	26.62	47.15	0.53	18.39	74.32	1.522	5.58	13.74
10	##-10	1.00	96.5	18.00	47.14	17.00	48.51	30.38	22.74	45.45	0.53	18.42	74.04	1.336	8.27	15.28

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required: H3	Remarks
3182QA1	8-5-00	09:00	X	NO DIRECT SUN LIGHT
3182QA2	↓	↓	X	↓
3182QA3			X	
3182QA4			X	
3182QA5			X	
3182QA6			X	
3182QA7			X	
3182QA8			X	
3182QA9			X	
3182QA10	8-5-00	09:00	X	NO DIRECT SUN LIGHT

Name of Shipper	Airbill No.	Date	Time

Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
Charles Birchfield	8/7/00	10:00			

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID:3182 16 AUG 2000 16:28

USER: 8 COMMENT:QA1-QA10

PRESET TIME : 1.00

DATA CALC :	DL DPM	H# :YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IC# : NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AQC :YES	CYCLE REPEATS :	1		
SCINTILLATOR:	LIQUID	LUMEX: NO	LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:		none		

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1 ##-1	1.00	84.1	26.00	39.22	26.00	39.22	40.53	34.59	48.47	0.53	18.36	74.54	1.172	10.86	1.49
2 ##-2	1.00	76.0	20.00	44.72	22.00	42.64	29.08	29.18	50.40	0.53	18.31	74.86	0.997	8.04	3.01
3 ##-3	1.00	73.9	63.00	25.20	26.00	39.22	111.61	33.90	50.89	0.53	18.30	74.94	3.292	35.34	4.57
4 ##-4	1.00	91.8	10.00	63.25	23.00	41.70	9.25	30.92	46.60	0.53	18.40	74.23	0.299	6.51	6.09
5 ##-5	1.00	80.0	16.00	50.00	20.00	44.72	22.48	26.61	49.46	0.53	18.34	74.70	0.845	7.66	7.65
6 ##-6	1.00	84.0	45.00	29.81	27.00	38.49	79.29	35.66	48.49	0.53	18.36	74.54	2.224	6.71	9.16
7 ##-7	1.00	80.5	10.00	63.25	23.00	41.70	8.85	30.74	49.33	0.53	18.34	74.68	0.288	7.64	10.70
8 ##-8	1.00	79.2	24.00	40.82	22.00	42.64	37.58	29.17	49.63	0.53	18.33	74.73	1.288	6.21	12.24
9 ##-9	1.00	94.8	14.00	53.45	16.00	50.00	21.92	21.43	45.87	0.53	18.42	74.11	1.023	7.21	13.78
10 ##-10	1.00	88.0	10.00	63.25	23.00	41.70	9.11	30.86	47.52	0.53	18.38	74.38	0.295	7.99	15.31

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required: H3	Remarks
3182QA11	8-5-00	09:00	X	NO DIRECT SUNLIGHT
3182QA12	↓	↓	X	↓
3182QA13			X	
3182QA14			X	
3182QA15			X	
3182QA16			X	
3182QA17			X	
3182QA18			X	
3182QA19			X	
3182QA20	8-5-00	09:00	X	NO DIRECT SUNLIGHT

Name of Shipper	Airbill No.	Date	Time

Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
Charles Birchfield	8/7/00	10:00			

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle) (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID:3182 16 AUG 2000 14:24

USER: 9 COMMENT:QA11-QA20

PRESET TIME : 1.00

DATA CALC :	DL DPM	H# :YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IC# : NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AQC :YES	CYCLE REPEATS :	1		
SCINTILLATOR:	LIQUID	LUMEX: NO	LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:			none	

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	81.3	28.00	37.80	17.00	48.51	48.60	22.43	49.14	0.53	18.34	74.65	2.167	14.47	1.47
2	##-2	1.00	91.1	14.00	53.45	16.00	50.00	21.52	21.39	46.76	0.53	18.40	74.26	1.006	16.86	2.99
3	##-3	1.00	88.4	25.00	40.00	26.00	39.22	39.27	34.68	47.42	0.53	18.39	74.37	1.132	8.20	4.54
4	##-4	1.00	89.3	14.00	53.45	18.00	47.14	20.28	24.07	47.20	0.53	18.39	74.33	0.842	8.94	6.06
5	##-5	1.00	80.4	25.00	40.00	22.00	42.64	39.82	29.18	49.35	0.53	18.34	74.68	1.365	9.08	7.60
6	##-6	1.00	80.9	23.00	41.70	30.00	36.51	31.82	39.95	49.25	0.53	18.34	74.67	0.797	6.79	9.13
7	##-7	1.00	85.0	96.00	20.41	19.00	45.88	189.80	24.16	48.24	0.53	18.37	74.50	7.856	42.74	10.72
8	##-8	1.00	84.0	21.00	43.64	24.00	40.82	31.19	31.98	48.50	0.53	18.36	74.54	0.976	7.93	12.25
9	##-9	1.00	91.3	18.00	47.14	16.00	50.00	30.13	21.34	46.71	0.53	18.40	74.25	1.412	10.31	13.79
10	##-10	1.00	85.0	24.00	40.82	29.00	37.14	35.02	38.68	48.25	0.53	18.37	74.50	0.905	9.25	15.33

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required: H3	Remarks
3182DA21	8-5-00	09:00	X	NO DIRECT SUN LIGHT
3182DA22			X	
3182DA23			X	
3182DA24			X	
3182DA25			X	
3182DA26			X	
3182DA27			X	
3182DA28			X	
3182DA29			X	
3182DA30	8-5-00	09:00	X	NO DIRECT SUN LIGHT

Name of Shipper	Airbill No.	Date	Time

Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
Charles Birchfield	8/7/00	10:00			

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID:3182 16 AUG 2000 15:48

USER: 3 COMMENT:QA21-QA30

PRESET TIME :	1.00						
DATA CALC :	DL DPM	H# :YES	SAMPLE REPEATS:	1	PRINTER	: STD	
COUNT BLANK :	NO	IC# : NO	REPLICATES :	1	RS232	: OFF	
TWO PHASE :	NO	AQC :YES	CYCLE REPEATS :	1			
SCINTILLATOR:	LIQUID	LUMEX: NO	LOW SAMPLE REJ:	0			
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:			none		

ISOTOPE 1:	3H	%ERROR: 2.00	FACTOR: 1.000000	BKG. SUB:	0
ISOTOPE 2:	14C	%ERROR: 2.00	FACTOR: 1.000000	BKG. SUB:	0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	96.5	15.00	51.64	31.00	35.92	16.08	41.76	45.44	0.53	18.42	74.04	0.385	9.72	1.49
2	##-2	1.00	80.2	24.00	40.82	24.00	40.82	36.75	31.87	49.41	0.53	18.34	74.69	1.153	7.59	3.01
3	##-3	1.00	98.4	24.00	40.82	22.00	42.64	41.29	29.45	44.98	0.53	18.43	73.96	1.402	5.05	4.54
4	##-4	1.00	105.8	50.00	28.28	17.00	48.51	106.34	22.32	43.15	0.53	18.46	73.65	4.765	28.01	6.07
5	##-5	1.00	75.7	14.00	53.45	22.00	42.64	17.12	29.26	50.47	0.53	18.31	74.87	0.585	7.46	7.63
6	##-6	1.00	119.8	27.00	38.49	26.00	39.22	51.72	35.22	39.63	0.54	18.47	73.04	1.469	8.29	9.15
7	##-7	1.00	80.5	19.00	45.88	20.00	44.72	28.63	26.58	49.33	0.53	18.34	74.68	1.077	6.10	10.69
8	##-8	1.00	86.7	16.00	50.00	25.00	40.00	20.60	33.44	47.85	0.53	18.38	74.44	0.616	5.92	12.23
9	##-9	1.00	77.5	22.00	42.64	21.00	43.64	33.77	27.84	50.05	0.53	18.32	74.80	1.213	6.30	13.77
10	##-10	1.00	79.6	16.00	50.00	24.00	40.82	20.46	31.98	49.56	0.53	18.33	74.72	0.640	6.83	15.30

Allied Technology Group

Group #2

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required: H3	Remarks
T810 A1	8/8/00	11:00	X ✓	
T810 A2			X ✓	NO DIRECT SUN LIGHT
T810 B1			X ✓	
T810 B2			X ✓	
T810 B3			X ✓	
T810 C1			X ✓	
T810 C2			X ✓	
T810 D1			X ✓	
T810 D2			X ✓	
T810 D3	8/8/00	11:00	X ✓	NO DIRECT SUN LIGHT

Name of Shipper	Airbill No.	Date	Time

Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
Charles Birchfield	8/9/00	12:00	M. Knepp	8-21-00	10:00

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID:FT MCCLELLAN 21 AUG 2000 16:48

USER: 9 COMMENT:T810A1-T810D3

PRESET TIME :	1.00						
DATA CALC :	DL DPM	H#	:YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IC#	: NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AQC	:YES	CYCLE REPEATS :	1		
SCINTILLATOR:	LIQUID	LUMEX:	NO	LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:				none	

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1 ##-1	1.00	78.8	27.00	38.49	26.00	39.22	41.57	34.49	49.75	0.53	18.33	74.75	1.205	10.84	1.46
2 ##-2	1.00	69.6	30.00	36.51	21.00	43.64	48.08	27.62	51.90	0.53	18.27	75.11	1.741	7.48	2.98
3 ##-3	1.00	65.3	20.00	44.72	24.00	40.82	26.88	31.69	52.91	0.54	18.24	75.29	0.848	7.49	4.54
4 ##-4	1.00	79.7	20.00	44.72	18.00	47.14	31.55	23.87	49.51	0.53	18.33	74.71	1.322	6.65	6.05
5 ##-5	1.00	78.6	21.00	43.64	21.00	43.64	31.92	27.86	49.79	0.53	18.33	74.76	1.146	4.62	7.60
6 ##-6	1.00	72.1	23.00	41.70	23.00	41.70	33.98	30.42	51.31	0.53	18.28	75.01	1.117	5.45	9.12
7 ##-7	1.00	71.2	15.00	51.64	21.00	43.64	19.24	27.85	51.52	0.53	18.28	75.05	0.691	8.10	10.66
8 ##-8	1.00	63.5	23.00	41.70	22.00	42.64	33.24	28.96	53.32	0.54	18.22	75.36	1.148	5.40	12.19
9 ##-9	1.00	71.6	22.00	42.64	16.00	50.00	35.28	21.07	51.44	0.53	18.28	75.03	1.674	4.75	13.73
10 ##-10	1.00	66.1	15.00	51.64	20.00	44.72	19.31	26.44	52.71	0.54	18.24	75.25	0.730	7.95	15.27

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required: H3	Remarks
T810 E1	8/8/00	11:00	X ✓	NO DIRECT SUNLIGHT
T810 E2	↑	↑	X ✓	↑
T810 F1			X ✓	
T810F2			X ✓	
T810F3			X ✓	
T811 A1			X ✓	
T811A2			X ✓	
T811 B1			X ✓	
T811 B2			X ✓	
T811 B3	8/9/00	11:00	X ✓	NO DIRECT SUN LIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/9/00	12:00	M. Knight	8-21-00	10:00

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal: | Authorized for Disposal By:

Date/Time of Disposal: | Disposed of By:

ID:FT MCCLELLAN 21 AUG 2000 17:08

USER: 9 COMMENT:T810E1-T811B3

PRESET TIME :	1.00						
DATA CALC :	DL DPM	H# :YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IC# : NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AQC :YES	CYCLE REPEATS :	1		
SCINTILLATOR:	LIQUID	LUMEX: NO	LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:			none	

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1 ##-1	1.00	73.9	20.00	44.72	26.00	39.22	26.89	34.50	50.90	0.53	18.30	74.94	0.779	6.16	1.46
2 ##-2	1.00	81.1	18.00	47.14	18.00	47.14	27.67	23.91	49.20	0.53	18.34	74.66	1.157	3.90	2.97
3 ##-3	1.00	66.3	29.00	37.14	21.00	43.64	45.50	27.58	52.67	0.54	18.24	75.25	1.650	4.03	4.53
4 ##-4	1.00	74.0	21.00	43.64	25.00	40.00	29.35	33.15	50.89	0.53	18.30	74.94	0.885	3.36	6.05
5 ##-5	1.00	66.1	22.00	42.64	33.00	34.82	26.62	43.66	52.72	0.54	18.24	75.25	0.610	3.64	7.59
6 ##-6	1.00	67.1	19.00	45.88	16.00	50.00	28.88	21.07	52.48	0.54	18.25	75.21	1.371	4.08	9.11
7 ##-7	1.00	65.8	36.00	33.33	24.00	40.82	57.33	31.48	52.78	0.54	18.24	75.26	1.821	22.60	10.66
8 ##-8	1.00	64.9	17.00	48.51	20.00	44.72	23.00	26.40	52.99	0.54	18.23	75.30	0.871	3.82	12.18
9 ##-9	1.00	66.2	21.00	43.64	20.00	44.72	30.73	26.36	52.70	0.54	18.24	75.25	1.166	3.10	13.72
10 ##-10	1.00	70.2	13.00	55.47	20.00	44.72	15.75	26.52	51.75	0.53	18.27	75.09	0.594	3.82	15.25

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Analysis Required

Sample Identification	Date Collected	Time Collected	H3	Remarks
T811C1	8/8/00	11:00	X ✓	
T811C2			X ✓	NO DIRECT SUNLIGHT
T811D1			X ✓	
T811D2			X ✓	
T811D3			X ✓	
T911E1			X ✓	
T811E2			X ✓	
T811F1			X ✓	
T811F2			X ✓	
T811F3	8/9/00	11:00	X ✓	NO DIRECT SUNLIGHT

Name of Shipper	Airbill No.	Date	Time

Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
Charles Birchfield	8/14/00	09:00	M. Knapp	8-21-00	10:00

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): Normal Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date)

Rush results requested by (please circle): Phone Fax

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID:FT MCCLELLAN 22 AUG 2000 06:04

USER: 9 COMMENT:T811C1 - T811F3

PRESET TIME : 1.00

DATA CALC :	DL DPM	H# :YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IS# : NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AQC :YES	CYCLE REPEATS :	1		
SCINTILLATOR:	LIQUID	LUMEX: NO	LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:			none	

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NU	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1 ##-1	1.00	72.6	16.00	50.00	27.00	38.49	18.43	35.87	51.21	0.53	18.29	75.00	0.514	8.81	1.48
2 ##-2	1.00	69.9	26.00	39.22	23.00	41.70	39.47	30.34	51.83	0.53	18.27	75.10	1.301	8.03	2.99
3 ##-3	1.00	88.6	15.00	51.64	23.00	41.70	19.71	30.79	47.39	0.53	18.39	74.36	0.640	5.83	4.54
4 ##-4	1.00	72.3	20.00	44.72	29.00	37.14	25.28	38.48	51.28	0.53	18.29	75.01	0.657	6.12	6.06
5 ##-5	1.00	72.4	23.00	41.70	23.00	41.70	34.02	30.42	51.25	0.53	18.29	75.00	1.118	4.37	7.59
6 ##-6	1.00	88.5	21.00	43.64	13.00	55.47	37.63	17.22	47.40	0.53	18.39	74.36	2.186	3.81	9.11
7 ##-7	1.00	77.4	14.00	53.45	16.00	50.00	20.19	21.25	50.07	0.53	18.32	74.80	0.950	5.78	10.64
8 ##-8	1.00	78.1	23.00	41.70	20.00	44.72	36.36	26.49	49.91	0.53	18.32	74.78	1.373	5.36	12.15
9 ##-9	1.00	69.7	24.00	40.82	24.00	40.82	35.10	31.70	51.88	0.53	18.27	75.11	1.107	5.24	13.70
10 ##-10	1.00	75.1	12.00	57.74	26.00	39.22	11.18	34.64	50.62	0.53	18.30	74.90	0.323	5.16	15.23

PG #3

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Analysis Required

Sample Identification	Date Collected	Time Collected	H3		Remarks
T812 A1	8/8/00	11:00	X	✓	
T812 A2	↓	↓	X	✓	NO DIRECT SUNLIGHT
T812 B1			X	✓	↓
T812 B2			X	✓	
T812 B3			X	✓	
T812 C1			X	✓	
T812 C2			X	✓	
T812 D1			X	✓	
T812 D2			X	✓	
T812 D3	8/8/00	11:00	X	✓	NO DIRECT SUN LIGHT

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
		8/14/00	09:00	Charles Birchfield	8/14/00	09:00	M. Knapp	8-21-00	10:00

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal: | Authorized for Disposal By:

Date/Time of Disposal: | Disposed of By:

ID:FT MCCLELLAN 22 AUG 2000 06:32

USER: 9 COMMENT:T812A1 - T812D3

PRESET TIME : 1.00

DATA CALC :	DL DPM	H# :YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IC# : NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AQC :YES	CYCLE REPEATS :	1		
SCINTILLATOR:	LIQUID	LUMEX: NO	LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:			none	

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	68.1	59.00	26.04	22.00	42.64	102.93	28.53	52.26	0.54	18.26	75.17	3.608	35.50	1.50
2	##-2	1.00	67.1	26.00	39.22	27.00	38.49	37.15	35.63	52.49	0.54	18.25	75.21	1.042	5.45	3.01
3	##-3	1.00	66.1	22.00	42.64	34.00	34.30	26.16	44.99	52.72	0.54	18.24	75.25	0.581	4.85	4.57
4	##-4	1.00	67.1	86.00	21.57	14.00	53.45	157.75	17.49	52.49	0.54	18.25	75.21	9.020	46.04	6.11
5	##-5	1.00	72.2	26.00	39.22	26.00	39.22	38.43	34.39	51.29	0.53	18.28	75.01	1.118	3.45	7.65
6	##-6	1.00	70.5	43.00	30.50	26.00	39.22	71.12	34.12	51.69	0.53	18.27	75.08	2.084	24.04	9.19
7	##-7	1.00	74.2	19.00	45.88	21.00	43.64	27.36	27.83	50.83	0.53	18.30	74.93	0.983	6.70	10.73
8	##-8	1.00	67.0	21.00	43.64	22.00	42.64	29.90	29.04	52.51	0.54	18.25	75.22	1.030	4.25	12.26
9	##-9	1.00	70.3	20.00	44.72	20.00	44.72	29.32	26.43	51.74	0.53	18.27	75.09	1.110	3.70	13.81
10	##-10	1.00	66.9	17.00	48.51	26.00	39.22	20.40	34.42	52.54	0.54	18.25	75.22	0.593	3.39	15.33

PG#4

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required									Remarks
			H3									
T812E1	8/8/00	11:00	X	✓								NO DIRECT SUNLIGHT
T812E2	↑	↑	X	✓								
T812F1			X	✓								
T812F2	↓	↓	X	✓								
T812F3	8/8/00	11:00	X	✓								
			X									
			X									
			X									
			X									
			X									NO DIRECT SUNLIGHT

Name of Shipper	Airbill No.	Date	Time

Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
Charles Birchfield	8/14/00	09:00	Mark McHugh	8-21-00	10:00

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID:FT MCCLELLAN 22 AUG 2000 06:58

USER: 9 COMMENT:T812E1 - T812F3

PRESET TIME :	1.00						
DATA CALC :	DL DPM	H#	:YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IC#	: NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AQC	:YES	CYCLE REPEATS :	1		
SCINTILLATOR:	LIQUID	LUMEX: NO		LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:				none	

ISOTOPE 1:	3H	%ERROR: 2.00	FACTOR:	1.000000	BKG. SUB:	0	
ISOTOPE 2:	14C	%ERROR: 2.00	FACTOR:	1.000000	BKG. SUB:	0	

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM #	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	63.4	57.00	26.49	19.00	45.88	98.50	24.51	53.33	0.54	18.22	75.36	4.019	43.41	1.50
2	##-2	1.00	68.1	15.00	51.64	29.00	37.14	15.27	38.47	52.25	0.54	18.26	75.17	0.397	5.92	3.01
3	##-3	1.00	68.3	17.00	48.51	21.00	43.64	22.85	27.78	52.21	0.54	18.26	75.17	0.823	6.37	4.56
4	##-4	1.00	67.8	18.00	47.14	24.00	40.82	23.33	31.76	52.31	0.54	18.25	75.18	0.735	6.30	6.07
5	##-5	1.00	72.4	30.00	36.51	30.00	36.51	44.38	39.68	51.24	0.53	18.29	75.00	1.118	5.38	7.62

Pg #5

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required: H3	Remarks
T837A1L	8-8-00	1100	X ✓	NO DIRECT SUNLIGHT
T837A2L	↓	↓	X ✓	
T837A3L			X ✓	
T837B1L			X ✓	
T837B2L			X ✓	
T837B3L			X ✓	
T837C1L			X ✓	
T837C2L			X ✓	
T837C3L			X ✓	
T-837D1L	8-8-00	1100	X ✓	NO DIRECT SUNLIGHT

Name of Shipper	Airbill No	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/14/00	09:00	M. Knapp	8-21-00	10:00

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal: Authorized for Disposal By:

Date/Time of Disposal: Disposed of By:

ID:T837 22 AUG 2000 17:12

USER: 9 COMMENT:A1L-A3L,B1L-B3L,C1L-C3L,D1L

PRESET TIME :	1.00						
DATA CALC :	DL DPM	H# :YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IC# : NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AQC :YES	CYCLE REPEATS :	1		
SCINTILLATOR:	LIQUID	LUMEX: NO	LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:			none	

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Qu .its Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	91.4	26.00	39.22	13.00	55.47	48.93	17.16	46.68	0.53	18.40	74.24	2.851	8.55	1.47
2	##-2	1.00	98.2	22.00	42.64	13.00	55.47	41.79	17.28	45.02	0.53	18.43	73.97	2.419	6.10	3.00
3	##-3	1.00	91.4	19.00	45.88	27.00	38.49	26.43	36.18	46.70	0.53	18.40	74.25	0.731	5.33	4.54
4	##-4	1.00	99.6	11.00	60.30	18.00	47.14	14.61	24.25	44.68	0.53	18.44	73.91	0.603	4.32	6.06
5	##-5	1.00	93.9	16.00	50.00	23.00	41.70	22.39	30.86	46.08	0.53	18.41	74.14	0.725	4.52	7.59
6	##-6	1.00	100.8	19.00	45.88	20.00	44.72	31.65	26.85	44.39	0.53	18.44	73.86	1.179	4.56	9.11
7	##-7	1.00	100.9	16.00	50.00	21.00	43.64	24.33	28.26	44.35	0.53	18.44	73.85	0.861	5.39	10.65
8	##-8	1.00	94.3	19.00	45.88	20.00	44.72	30.60	26.76	45.98	0.53	18.41	74.13	1.143	5.93	12.18
9	##-9	1.00	59.4	26.00	39.22	33.00	34.82	33.36	43.46	54.23	0.54	18.20	75.52	0.768	3.22	13.71
10	##-10	1.00	96.9	30.00	36.51	25.00	40.00	52.59	33.40	45.34	0.53	18.43	74.02	1.575	5.01	15.24

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Analysis Required

Sample Identification	Date Collected	Time Collected	H3		Remarks
T837D2L	8-8-00	1100	X	✓	NO Direct sunlight
T837D3L			X	✓	
T837E1L			X	✓	
T837E2L			X	✓	
T837E3L			X	✓	
T837F1L			X	✓	
T837F2L			X	✓	
T837F3L			X	✓	
T837A1U			X	✓	
T837A2U	8-8-00	1100	X	✓	NO Direct sunlight

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/14/00	09:00	M. Kruger	8-21-00	10:00

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID: T837 22 AUG 2000 17:53

USER: 9 COMMENT:D2L,D3L,E1L-E3L,F1L-F3L,A1U, A&U (EH)

PRESET TIME :	1.00						
DATA CALC :	DL DPM	H# :YES	SAMPLE REPEATS:	1	PRINTER	: STD
COUNT BLANK :	NO	IC# : NO	REPLICATES :	1	RS232	: OFF
TWO PHASE :	NO	AQC :YES	CYCLE REPEATS :	1		
SCINTILLATOR:	LIQUID	LUMEX: NO	LOW SAMPLE REJ:	0		
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:			none	

ISOTOPE 1:	3H	%ERROR: 2.00	FACTOR: 1.000000	BKG. SUB:	0
ISOTOPE 2:	14C	%ERROR: 2.00	FACTOR: 1.000000	BKG. SUB:	0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Qur its Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	90.4	21.00	43.64	21.00	43.64	33.75	28.03	46.95	0.53	18.40	74.29	1.204	6.99	1.46
2	##-2	1.00	99.3	26.00	39.22	19.00	45.88	47.64	25.36	44.76	0.53	18.44	73.92	1.878	5.18	2.97
3	##-3	1.00	86.5	20.00	44.72	19.00	45.88	32.06	25.30	47.89	0.53	18.37	74.44	1.267	4.65	4.53
4	##-4	1.00	105.4	16.00	50.00	30.00	36.51	19.69	40.58	43.23	0.53	18.45	73.67	0.485	4.35	6.04
5	##-5	1.00	107.5	23.00	41.70	34.00	34.30	33.98	45.96	42.72	0.53	18.46	73.58	0.739	3.01	7.58
6	##-6	1.00	81.9	29.00	37.14	24.00	40.82	47.26	31.83	49.00	0.53	18.35	74.63	1.485	3.38	9.09
7	##-7	1.00	89.1	11.00	60.30	31.00	35.92	7.07	41.65	47.26	0.53	18.39	74.34	0.170	3.34	10.62
8	##-8	1.00	87.0	23.00	41.70	13.00	55.47	41.55	17.17	47.76	0.53	18.38	74.42	2.419	3.77	12.16
9	##-9	1.00	88.3	20.00	44.72	16.00	50.00	33.90	21.27	47.45	0.53	18.38	74.37	1.594	4.54	13.69
10	##-10	1.00	121.2	26.00	39.22	20.00	44.72	53.49	27.01	39.28	0.54	18.46	72.98	1.980	5.09	15.23

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required: H3	Remarks
T837A3U	8-8-00	1100	X ✓	NO direct sunlight
T837B1U	↑	↑	X ✓	↑
T837B2U			X ✓	
T837B3U			X ✓	
T837C1U			X ✓	
T837C2U			X ✓	
T837C3U			X ✓	
T837D1U			X ✓	
T837D2U			X ✓	
T837D3U	8-8-00	1100	X ✓	NO direct sunlight

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	9/14/00	09:00	M. Kuggyk	9-21-00	10:00

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID:T837 22 AUG 2000 18:48

USER: 9 COMMENT:A3U,B1U-B3U,C1U-C3U,D1U-D3U

PRESET TIME : 1.00

DATA CALC : DL DPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD

COUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 : OFF

TWO PHASE : NO AQC :YES CYCLE REPEATS : 1

SCINTILLATOR: LIQUID LUMEX: NO LOW SAMPLE REJ: 0

LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	98.0	14.00	53.45	13.00	55.47	23.94	17.40	45.07	0.53	18.43	73.98	1.376	9.77	1.46
2	##-2	1.00	90.7	23.00	41.70	27.00	38.49	34.90	36.10	46.88	0.53	18.40	74.28	0.967	4.95	2.98
3	##-3	1.00	89.2	18.00	47.14	31.00	35.92	21.93	41.55	47.24	0.53	18.39	74.34	0.528	5.49	4.51
4	##-4	1.00	85.4	9.00	66.67	25.00	40.00	5.90	33.52	48.16	0.53	18.37	74.49	0.176	4.97	6.04
5	##-5	1.00	96.0	21.00	43.64	27.00	38.49	31.43	36.23	45.57	0.53	18.42	74.06	0.868	6.27	7.58
6	##-6	1.00	96.3	15.00	51.64	17.00	48.51	23.74	22.79	45.49	0.53	18.42	74.05	1.042	4.09	9.09
7	##-7	1.00	145.0	10.00	63.25	20.00	44.72	14.74	27.72	33.36	0.56	18.33	71.84	0.532	4.86	10.65
8	##-8	1.00	96.1	17.00	48.51	26.00	39.22	23.20	34.94	45.53	0.53	18.42	74.05	0.664	4.61	12.19
9	##-9	1.00	91.7	13.00	55.47	24.00	40.82	15.17	32.22	46.61	0.53	18.40	74.23	0.471	7.25	13.72
10	##-10	1.00	100.3	12.00	57.74	19.00	45.88	16.36	25.60	44.50	0.53	18.44	73.88	0.639	6.95	15.26

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: Charles Birchfield

Sample Identification	Date Collected	Time Collected	Analysis Required: H3	Remarks
T837E1U	8-8-00	1100	X ✓	No direct sunlight
T837E2U	↑	↑	X ✓	↑
T837E3U			X ✓	
T837F1U			X ✓	
T837F2U			X ✓	
T837F3U			X ✓	
T810QA01			X ✓	
T810QA02			X ✓	
T811QA03			X ✓	
T811QA04	8-8-00	1100	X ✓	↓
				No direct sunlight

Name of Shipper	Airbill No.	Date	Time	Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
				Charles Birchfield	8/14/00	09:30	M. Knapple	8-21-00	10:00

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID:T837,T810 22 AUG 2000 19:44

JSER: 9 COMMENT:E1U-E3U,F1U-F3U,QAD1-QAD4

?RESET TIME : 1.00

)ATA CALC : DL DPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD

:OUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 : OFF

TWO PHASE : NO AQC :YES CYCLE REPEATS : 1

SCINTILLATOR: LIQUID LUMEX: NO LOW SAMPLE REJ: 0

.OW LEVEL : NO HALF LIFE CORRECTION DATE: none

ISOTOPE 1: 3H %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ISOTOPE 2: 14C %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

lue .ts Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	102.0	22.00	42.64	13.00	55.47	42.67	17.31	44.08	0.53	18.44	73.81	2.465	9.15	1.46
2	##-2	1.00	89.3	14.00	53.45	22.00	42.64	18.18	29.47	47.20	0.53	18.39	74.33	0.617	8.34	2.98
3	##-3	1.00	93.8	34.00	34.30	23.00	41.70	61.51	30.58	46.12	0.53	18.41	74.15	2.011	20.38	4.53
4	##-4	1.00	97.8	16.00	50.00	22.00	42.64	23.38	29.57	45.12	0.53	18.43	73.98	0.791	4.10	6.04
5	##-5	1.00	83.5	22.00	42.64	15.00	51.64	37.75	19.85	48.62	0.53	18.36	74.56	1.902	5.03	7.58
6	##-6	1.00	94.3	25.00	40.00	20.00	44.72	43.69	26.67	45.98	0.53	18.41	74.13	1.638	3.73	9.11
7	##-7	1.00	73.2	17.00	48.51	21.00	43.64	23.32	27.84	51.07	0.53	18.29	74.97	0.837	3.47	10.65
8	##-8	1.00	98.3	20.00	44.72	20.00	44.72	33.47	26.80	44.99	0.53	18.43	73.96	1.249	4.14	12.17
9	##-9	1.00	73.8	28.00	37.80	22.00	42.64	44.55	29.04	50.93	0.53	18.30	74.95	1.534	3.99	13.70
10	##-10	1.00	84.6	16.00	50.00	18.00	47.14	23.99	23.99	48.34	0.53	18.36	74.52	1.000	6.48	15.29

Allied Technology Group

Chain of Custody

Client Name: Ft. McClellan P.O.#

Phone #: (256) 848-6725 Fax #: (256) 848-5517

Project Name/#: Ft. McClellan Radiological Survey for Release of Commodity Use Areas / # USA-99-100, Phase II

Sampler: CHARLES BIRCHFIELD

Sample Identification	Date Collected	Time Collected	H3		Remarks
T812QA05	8-8-00	1100	X	✓	NO DIRECT SUNLIGHT
T812QA06	8-8-00	1100	X	✓	
T837QA07	8-8-00	1100	X	✓	
T837QA08	8-8-00	1100	X	✓	
T837QA09	8-8-00	1100	X	✓	
T837QA10	8-8-00	1100	X	✓	
					NO DIRECT SUNLIGHT

Name of Shipper	Airbill No.	Date	Time

Sample Relinquished By:	Date	Time	Sample Received By:	Date	Time
Charles Birchfield	8/14/00	09:00	M. Knapp	8-21-00	10 AM

Received by (Lab)	Date	Time	Seals Intact?

Turnaround Time Requested (please circle): (Normal) Rush

(Rush TAT is subject to MSAI approval and surcharge)

Report Results By: (Date) _____

Rush results requested by (please circle): Phone (Fax)

Report Results To: Mark McHugh **Telephone:** (865) 425-5011

Address: 669 Emory Valley Rd. Oak Ridge, TN 37830

Type of Disposal:	Authorized for Disposal By:
Date/Time of Disposal:	Disposed of By:

ID:FT MCCLELLAN 22 AUG 2000 11:32

USER: 9 COMMENT:T812QA05 - T837QA10

PRESET TIME :	1.00							
DATA CALC :	DL DPM	H#	:YES	SAMPLE REPEATS:	1	PRINTER	: STD	
COUNT BLANK :	NO	IC#	: NO	REPLICATES :	1	RS232	: OFF	
TWO PHASE :	NO	AQC	:YES	CYCLE REPEATS :	1			
SCINTILLATOR:	LIQUID	LUMEX:	NO	LOW SAMPLE REJ:	0			
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:				none		

ISOTOPE 1:	3H	%ERROR: 2.00	FACTOR: 1.000000	BKG. SUB:	0
ISOTOPE 2:	14C	%ERROR: 2.00	FACTOR: 1.000000	BKG. SUB:	0

BACKGROUND QUENCH CURVE: Off COLOR QUENCH CORRECTION: Off

Quench Limits Low: 4.535 High:312.33

SAM NO	POS	TIME MIN	H#	3H CPM	3H %ERROR	14C CPM	14C %ERROR	3H DPM	14C DPM	3H EFF-1	3H EFF-2	14C EFF-1	14C EFF-2	RATIO	LUMEX %	ELAPSED TIME
1	##-1	1.00	77.4	20.00	44.72	21.00	43.64	29.75	27.86	50.07	0.53	18.32	74.81	1.068	10.12	1.46
2	##-2	1.00	92.2	22.00	42.64	18.00	47.14	37.82	23.99	46.50	0.53	18.40	74.21	1.577	11.45	2.99
3	##-3	1.00	90.3	30.00	36.51	29.00	37.14	48.72	38.69	46.97	0.53	18.39	74.29	1.259	7.18	4.54
4	##-4	1.00	85.4	45.00	29.81	19.00	45.88	83.94	24.91	48.16	0.53	18.37	74.49	3.369	23.89	6.08
5	##-5	1.00	124.5	8.00	70.71	16.00	50.00	10.29	21.89	38.47	0.54	18.46	72.83	0.470	7.29	7.61
6	##-6	1.00	105.3	16.00	50.00	18.00	47.14	26.64	24.24	43.27	0.53	18.45	73.67	1.099	6.23	9.15

RG #9

APPENDIX I

BUILDING 3182 SURVEY RECORDS

RADIATION / CONTAMINATION SURVEY LOG

ATG #	DATE	TIME	PROJECT	DESCRIPTION OF SURVEY	# of PAGES	TECH INITIALS
FM-01	7-31-00	1700	FORT McClellan	Hillside at Lagarde Park	1	DK
FM-02	8-1-00	1545		Bldg # 3182, Rm # 14	1	DG
FM-03	8-1-00	1600		Bldg # 3182, Rm # 6	1	DG
FM-04	8-4-00	0745		Bldg # 3182 Rm # 1	6	DK
FM-05	8-4-00	0900		Bldg # 3182 Rm # 2	6	DK
FM-06	8-4-00	0930		Bldg # 3182 Rm # 3	6	DK
FM-07	8-4-00	1345		Bldg # 3182 Rm # 4	14	DK
FM-08	8-4-00	1000		Bldg # 3182 Rm # 5	5	DK
FM-09	8-4-00	1100		Bldg # 3182 Rm # 7	5	DK
FM-10	8-4-00	1300		Bldg # 3182 Rm # 8	6	DK
FM-11	8-3-00	1715		Bldg # 3182 Rm # 9	6	DK
FM-12	8-3-00	1130		Bldg # 3182 Rm # 10	6	DK
FM-13	8-3-00	1400		Bldg # 3182 Rm # 11	6	DK
FM-14	8-3-00	0805		Bldg # 3182 Rm # 12	6	DK
FM-15	8-4-00	0930		Bldg # 3182 Rm # 13	6	DK
FM-16	8-3-00	0845		Bldg # 3182 Rm # 15	6	DK
FM-17	8-3-00	1245		Bldg # 3182 Rm # 16	14	DK
FM-18	8-5-00	1430		Bldg # 3182 Rm # 14	6	DK
FM-19	8-5-00	1530		Bldg # 3182 Rm # 6	6	DK
FM-20	8-5-00	1600		Bldg # 3182 Hallway	5	DK
FM-21	8-7-00	1730		Bldg # T-812	8	DK
FM-22	8-7-00	1845		Bldg # T-811	8	DK
FM-23	8-8-00	1430		Bldg # T-810	8	DK
FM-24	8-9-00	0900		Bldg # T-837	14	DK
FM-25	8-9-00	1100		Bldg # T-836-A	1	DK

RADIATION / CONTAMINATION SURVEY LOG

ATG #	DATE	TIME	PROJECT	DESCRIPTION OF SURVEY	# of PAGES	TECH INITIALS
FM-26	8-9-00	1500	FORT McClellan	Bldg # 3182 CARPET Removed	1	DK
FM-27	8-11-00	1700		Bldg # 3182 AREA	20	DK
FM-28	8-14-00	0900		RATTLESNAKE Gulch AREA	1	DK
FM-29	8-15-00	1100		Chemical school RADIOLOGICAL BURIAL GROUND	1	DK
FM-30	8-16-00	1128		POST DECON RM # 14	1	DK
FM-31	8-16-00	1001		POST DECON RM # 6	1	DK
FM-32	8-16-00	1510		Unconditional Release of Equipment	2	DKG

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-04

DATE: 8-4-00	INSTRUMENTATION USED				
TIME: 0745	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Kounts/D. Goldston	BICRON	B5002	N/A	12 uR	10-14-00
LOCATION: Bldg # 3182, Room # 1	M-2224	132159	α 21.6	α 0	5-30-01
	PR43-68	134495	B' 35.5	B' 167	~~5-30-01~~ 6-2-01
REVIEWED BY:	M-2224	132159	α 21.6	α 4	5-30-01
	PR 43-37	088824	B' 29.6	B' 736	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC 9550	01614	9-21.9 / B-24.6	α-0 B-0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS WERE 100% OF AREA 6'6" UP WALLS AND 50% ABOVE 6'6"

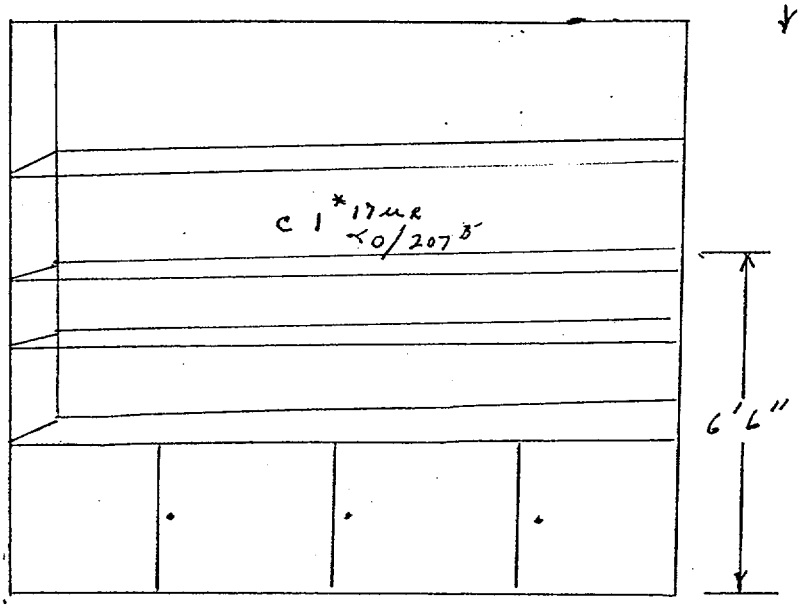
SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

ROOM # 1

S.E WALL



* All Readings are in cpm unless otherwise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: /// = Shows area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at Background Levels for Alpha, Beta and Gamma activitys

RADIOLOGICAL SURVEY REPORT

ATGS #: Fm-04

DATE: 8-4-00	INSTRUMENTATION USED				
TIME: 0745	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Route/D. Goldston	Bicron	B 5002	N/A	12 uR	10-14-00
LOCATION: Bldg #3182, Room #1	M-2224	132159	α 21.6	α 0	5-30-01
	PR 43-69	134485	β- 25.5	β- 167	6-2-01 ~~5-30-01~~ RKM
REVIEWED BY:	M-2224	132159	α 21.6	α 4	5-30-01
	PR 43-37	088824	β- 23.6	β- 736	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC-9550	01614	α-21.8 β-24.6	0	6-19-01

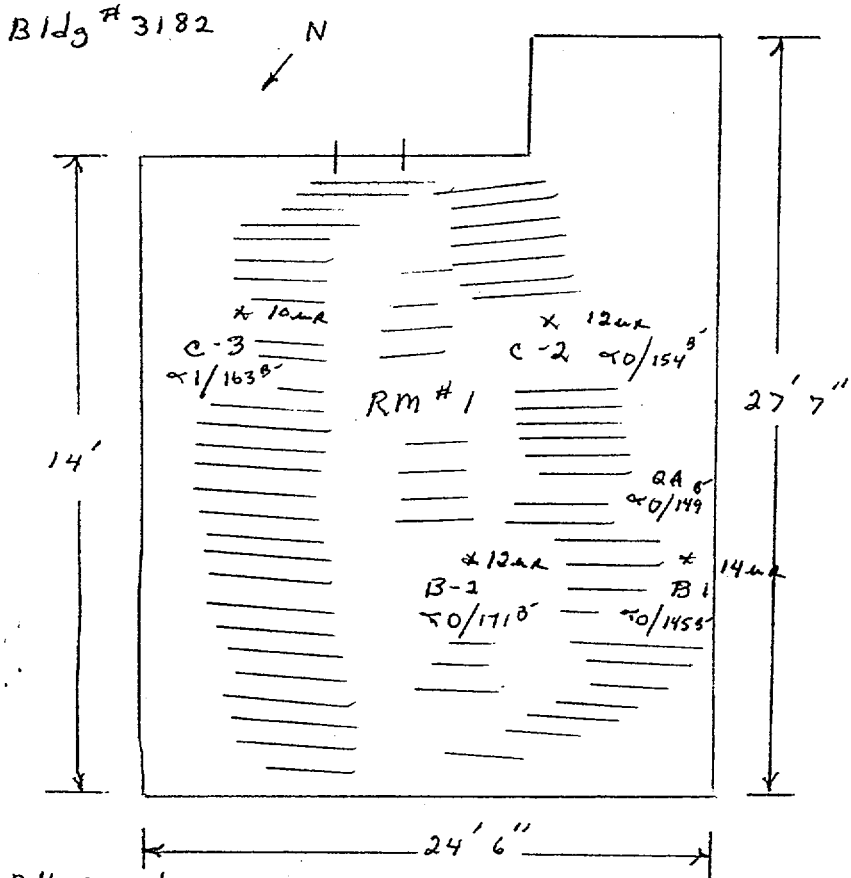
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

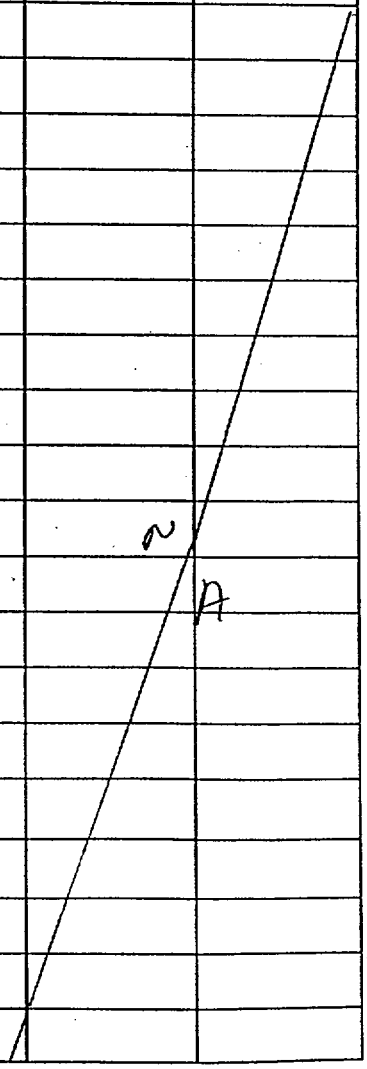
NOTE: SCANS WERE 100% ON THE FLOOR

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α





* All Readings are in cpm unless otherwise noted
* Micro 'R' Readings Taken on Surface
* One minute Alpha and Beta surface activity Readings Taken

Remarks: ▨ = shows area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at Background Levels for Alpha, Beta and Gamma activity

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-04

ATE: 8-4-01	INSTRUMENTATION USED				
TIME: 0745	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Kounte/D. Goldstol	BICRON	B5002	N/A	12 uR	10-14-00
LOCATION: Bldg #3182, Room #1	M-2224	132159	< 21.6	< 0.	6-2-01
	PR 43-68	134485	B- 25.5	B- 167	5-30-01
REVIEWED BY:	M-2224	132159	< 21.6	< 4	5-3-01
	PR 43-37	088824	B- 23.6	B- 736	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (µR/hr)	WPC 9550	01614	21.8 α / 24.6 B	0	6-18-01

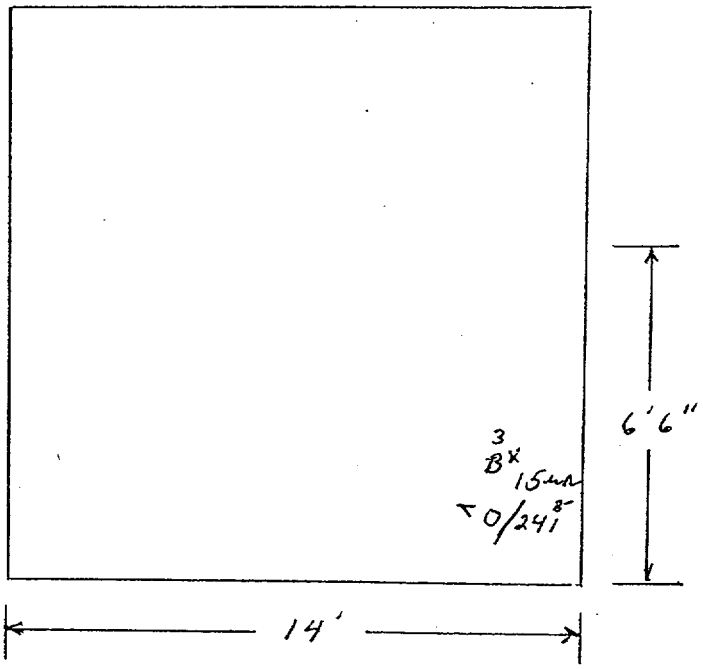
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS WERE 100% OF AREA 6'6" UP WALLS AND 50% ABOVE 6'6"

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOWS AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIVITYS

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-04

ATE: 8-4-00	INSTRUMENTATION USED				
TIME: 0745	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Kountz / D. Goldston	BICRON	B5002	N/A	12 uR	10-14-00
LOCATION: Bldg #3182, Room #1	M-2224	132159	~21.6	α 0	5-3-01
	PR 43-68	134485	B-25.5	B- 167	6-2-01
REVIEWED BY:	M-2224	132159	α 21.6	~ 4	5-30-01
	PR 43-37	088824	B-23.6	B- 736	6-2-01
Smear Locations Circled. Dose Rates = MicroR/hr (μR/hr)	WPC-9550	D1614	α-21.8	α-0	6-18-01
			B-24.6	B-0	

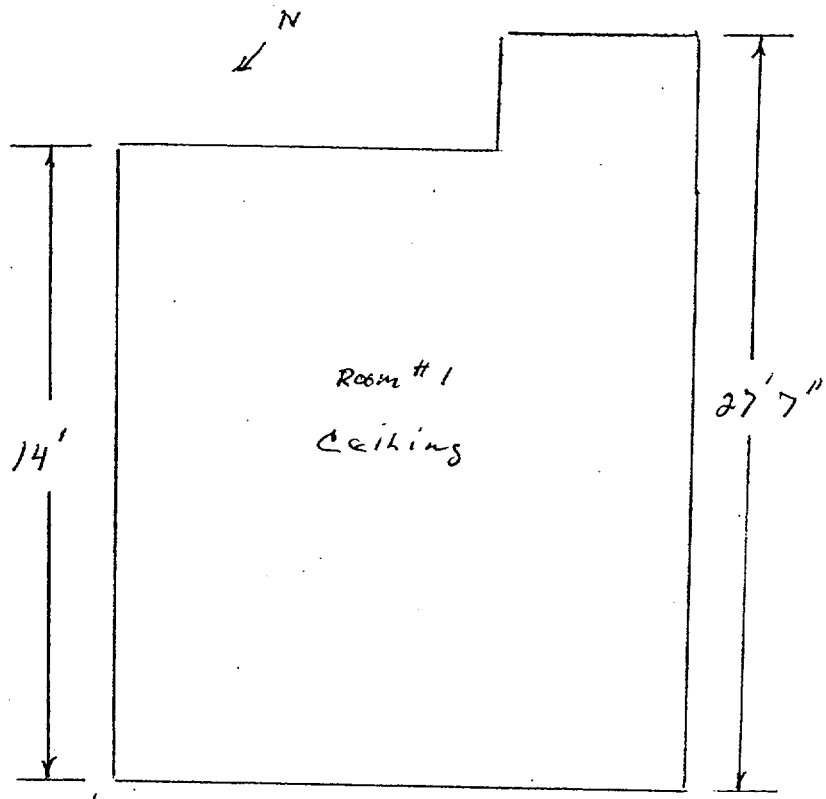
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCAN SURVEY WAS 50% ON CEILING

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA CANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RAT

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-04

DATE: 8-4-00

TIME: 0745

SURVEYOR: R. Kuntz/D. Goldston

LOCATION: Bldg #3182, Room # 1

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B500Z	N/A	12 uR	10-14-00
M-2224	132159	α 21.6	α 0	~~6-2-01~~ 5-30-01
PR 43-68	134485	β 25.5	β 167	
M-2224	132159	α 21.6	α 4	5-30-01
PR 43-37	088824	β 23.6	β 736	6-2-01
WPC-9550	01614	α 21.9 β 24.6	α 0 β 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS WERE 100% OF AREA 6'6" UP WALLS AND 50% ABOVE 6'6"

SMEAR RESULTS

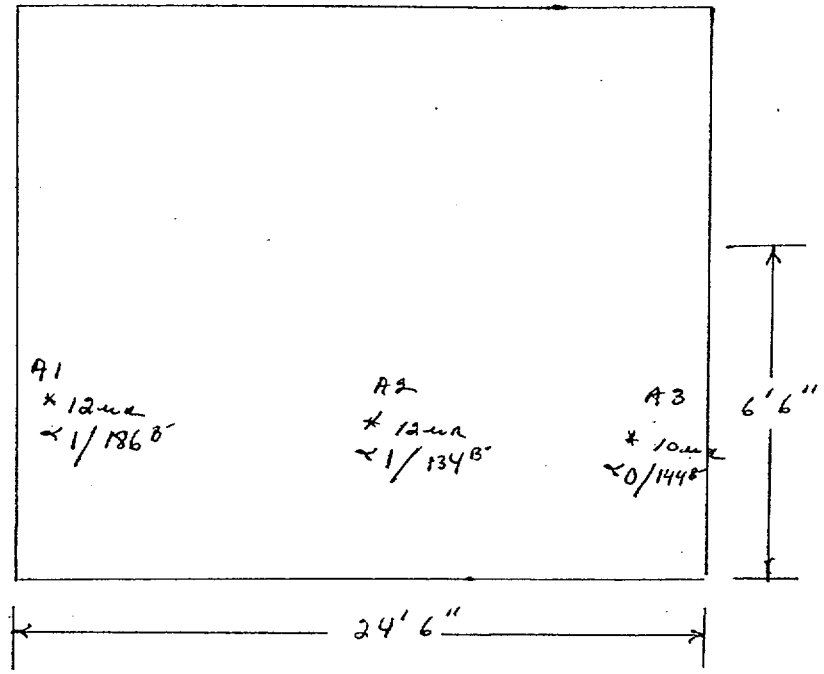
RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

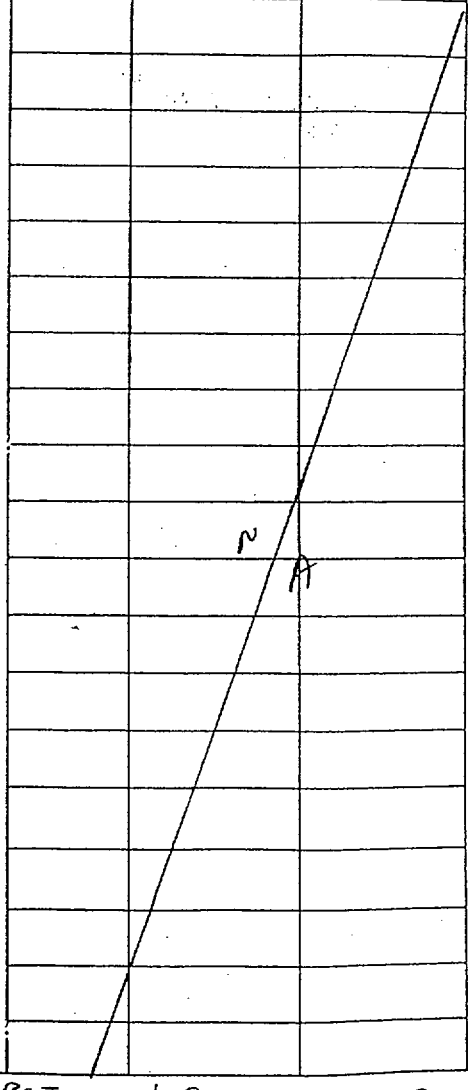
#	βγ	α

ROOM # 1

N.E WALL

N





* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: \\\ = SHOWS AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIVITYS

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-04

DATE: 8/1/00	INSTRUMENTATION USED				
TIME: 0745	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Kounte/D. Goldston	BICRON	B5002	N/A	12 μR	10-14-00
LOCATION: Bldg #3182, Room #1	M-2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR 43-69	134485	β 25.5	β 167	6-2-01
	M-2224	132159	α 21.6	α 4	5-30-01
	PR 43-37	088824	β 23.6	β 736	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC-9550	01614	α 21.8 β 24.6	0	6-19-01

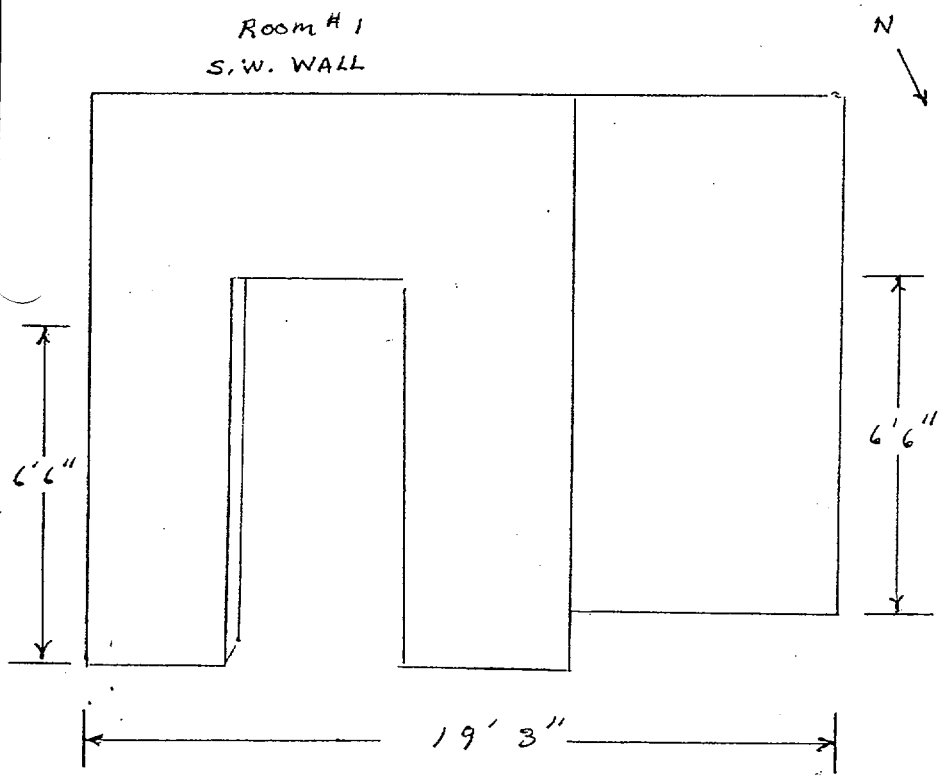
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS WERE 100% OF AREA 6'6" UP WALLS AND 50% ABOVE 6'6"

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* All Readings are in cpm unless otherwise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: /// = Shows area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma activitys

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-05

DATE: 8-4-00	INSTRUMENTATION USED				
TIME: 0900	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston, D. Kountz	Bicron	B-5002	N/A	12 un	10-14-00
LOCATION: 131ds #3182, Room #2	M-2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR-43-68	134485	B-25.5	B-172	6-2-01
	M 2224	132159	α 21.6	α 5	5-30-01
	PR-43-68	088824	B-23.6	B-718	6-2-01
Smear Locations Circled. Dose Rates ~~milliroR/hr~~ (μR/hr)	WPC-9550	01614	α-21.8 B-24.6	α-0 B-0	6-18-01

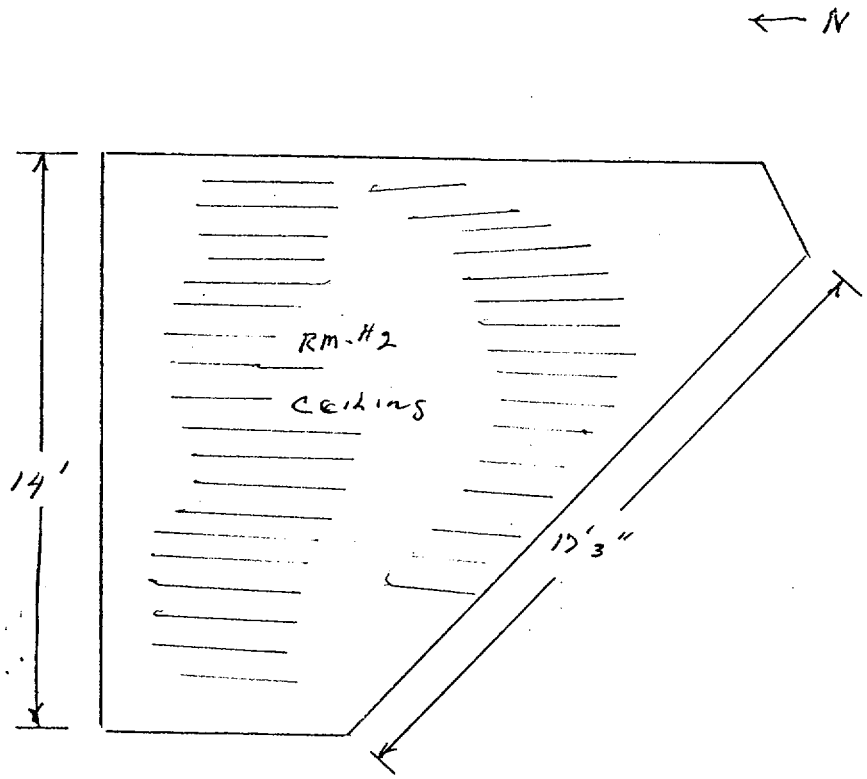
PURPOSE OF SURVEY: FINAL Release SURVEY

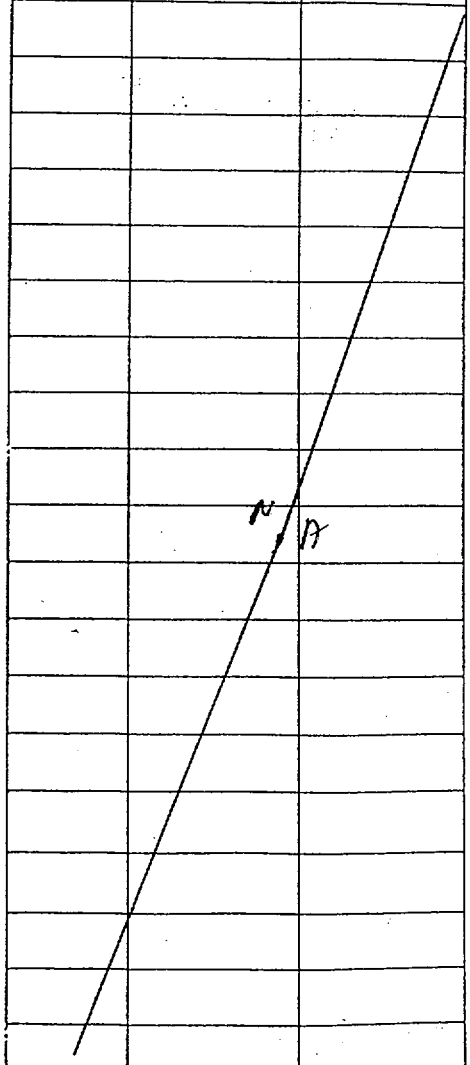
NOTE! SCAN ON Ceiling WAS 50 %

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α





* All Readings are in cpm unless other wise noted
* Micro 'R' Readings Taken on surface
* One minute Alpha and Beta surface activity Readings Taken

Remarks: ||| = show area where Alpha, Beta and Gamma Scans were Taken

* All scans surveys are at background levels for Alpha, Beta and Gamma Acti

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-05

DATE: 8-7-00	INSTRUMENTATION USED				
TIME: 0900	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston, D. Kountz	BICRON	B-5002	N/A	12 μR	10-14-00
LOCATION: Bldg #3182, Room #2	M-2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY: [signature]	PR43-68	134485	B-25.5	B-172	6-2-01
	M-2224	132159	α 21.6	α 5	5-30-01
	PR43-68	088824	B-23.6	B-718	6-2-01
Smear Locations Circled. Dose Rates ~~micro~~R/hr (μR/hr)	WPC-9550	01614	α-21.8 B-24.6	α-0 B-0	6-8-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS WERE 100% OF AREA 6'6" UP WALLS AND 50% ABOVE 6'6"

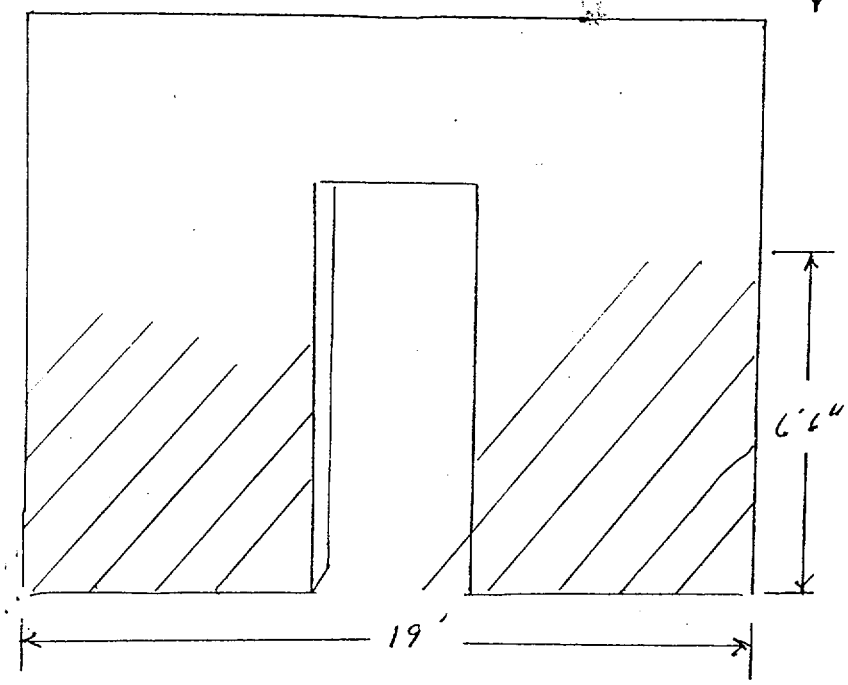
SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α

ROOM #2

E. WALL



* All Readings are in cpm unless otherwise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: /// = shows area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at Background Levels for Alpha, Beta and Gamma activitys

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-05

DATE: 8-4-00

TIME: 0900

SURVEYOR: D. Goldstein, D. Kounts

LOCATION: Bldg #3182, Room # 2

REVIEWED BY: [signature]

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

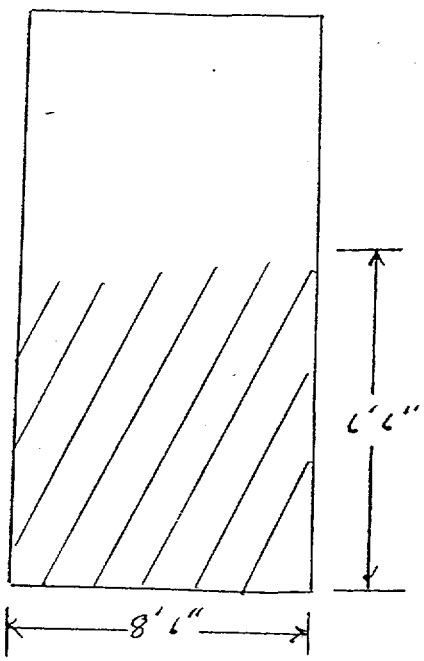
INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B-5002	N/A	12uR	10-14-00
M-2224	132159	α 21.6	α 0	5-30-01
PR43-68	134485	B-25.5	B- 172	6-2-01
M-2224	132159	α 21.6	α 5	5-30-01
PR43-68	088824	B-23.6	B- 318	6-2-01
WPC-9550	01614	α-21.9 B- 24.6	α-0 B-0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS WERE 100% OF AREA 6'6" UP WALLS AND 50% ABOVE 6'6"

ROOM # 2

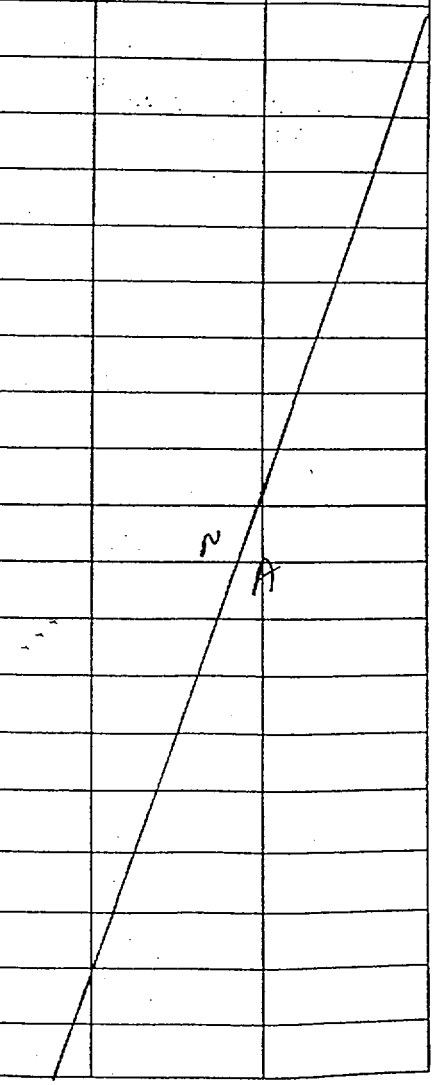
N. WALL



SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: \\\ = SHOWS AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIVITYS

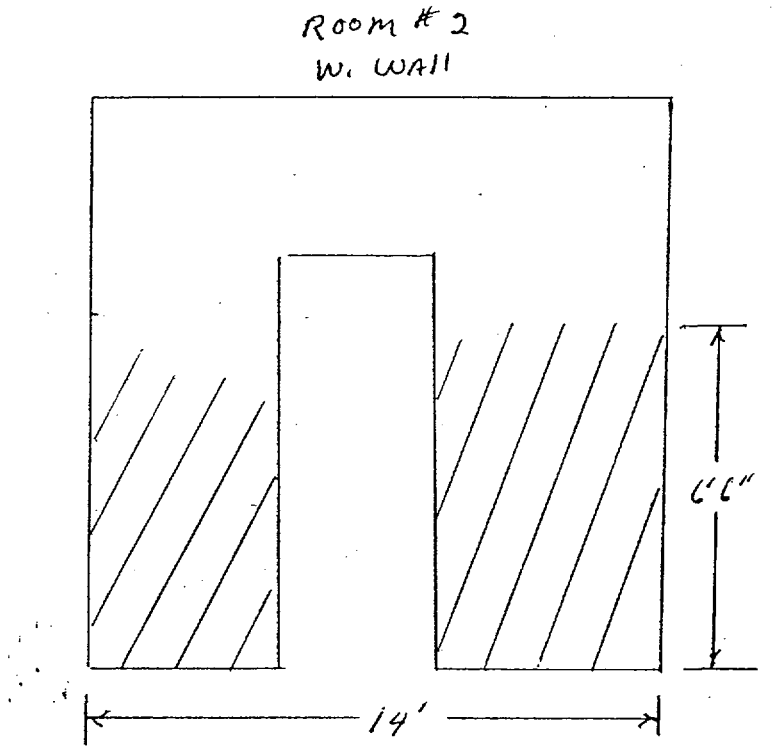
RADIOLOGICAL SURVEY REPORT

ATGS #: Fm-05

DATE: 8-4-00	INSTRUMENTATION USED				
TIME: 0900	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston, D. Kounts	BICRON	13-5062	N/A	12 uR	10-14-00
LOCATION: Bldg #3182, Room #2	M-2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR 43-68	134485	B-25.5	B 172	6-3-01
	M-2224	132159	α 21.6	α 5	5-30-01
	PR 43-37	088824	B-23.6	B- 718	6-3-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC-9550	01614	α-	α 21.9	6-18-01
			B-	B- 24.6	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

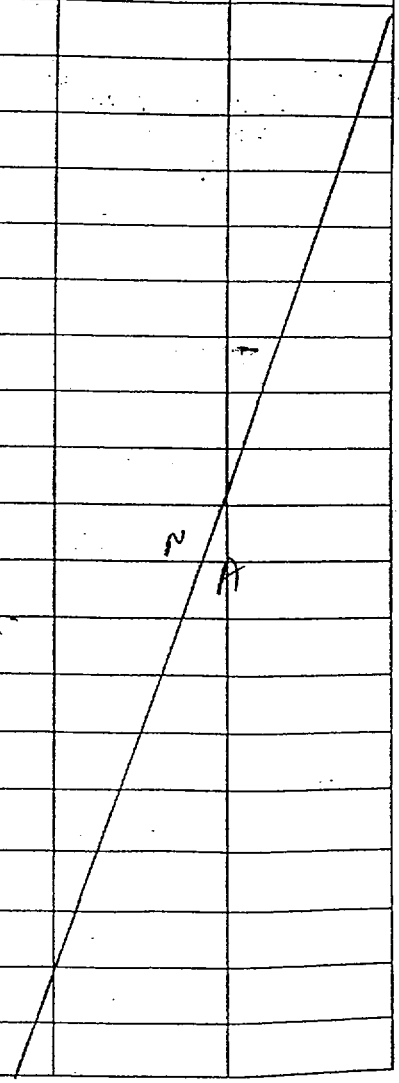
NOTE: SCANS WERE 100% OF AREA 6'6" UP WALLS AND 50% ABOVE 6'6"



SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: \\\ = SHOWS AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIVITYS

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-05

DATE: 8-4-00

TIME: 0900

SURVEYOR: D. Goldston, D. Kountz

LOCATION: Bldg #3182, Room # 2

REVIEWED BY:

Smear Locations Circled. Dose Rates in microR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B5002	N/A	12 uR	10-14-00
M-2224	132159	α 21.6	α 0	① 6-2-01
PR 43-68	134485	β 25.5	β 172	5-30-01
M-2224	132159	α 21.6	α 5	5-30-01
PR 43-37	088824	β 23.6	β 718	6-2-01
WPC-9550	01614	α 21.8	α 0	6-18-01
		β 24.6	β 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

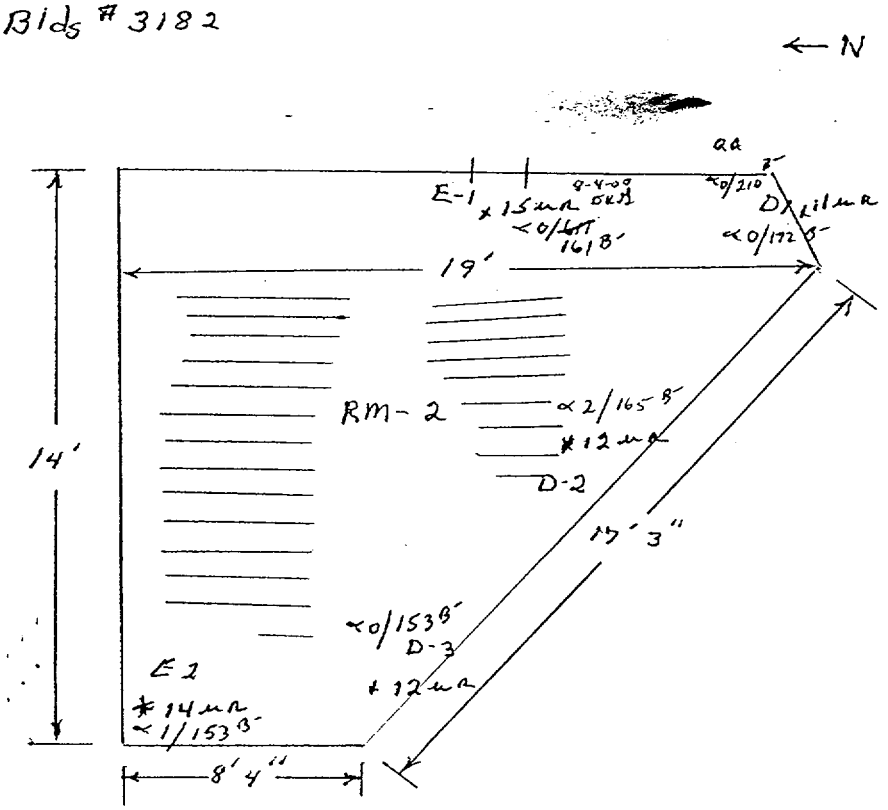
NOTE! FLOOR ARE WAS SCAN 100 %

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α

Bldg #3182



* All Readings are in cpm unless otherwise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: ||| = shows area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma activity's

① transposed as indicated

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RADIOLOGICAL SURVEY REPORT

ATGS #: FM-05

DATE: 8-4-00

TIME: 0900

SURVEYOR: D. Goldston, D. Kountz

LOCATION: Bldg #3182, Room #2

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B500Z	N/A	12 uR	10-14-00
m-2224	132159	α 21.6	α 0	5-30-01
PR 43-68	134484	B-25.5	B-172	6-2-01
m-2224	132159	α 21.6	α 5	5-30-01
PR 43-37	088834	B-23.6	B-718	6-2-01
WPC-9550	01614	α-21.8	α- 0	6-18-01
		B-24.6	B- 0	

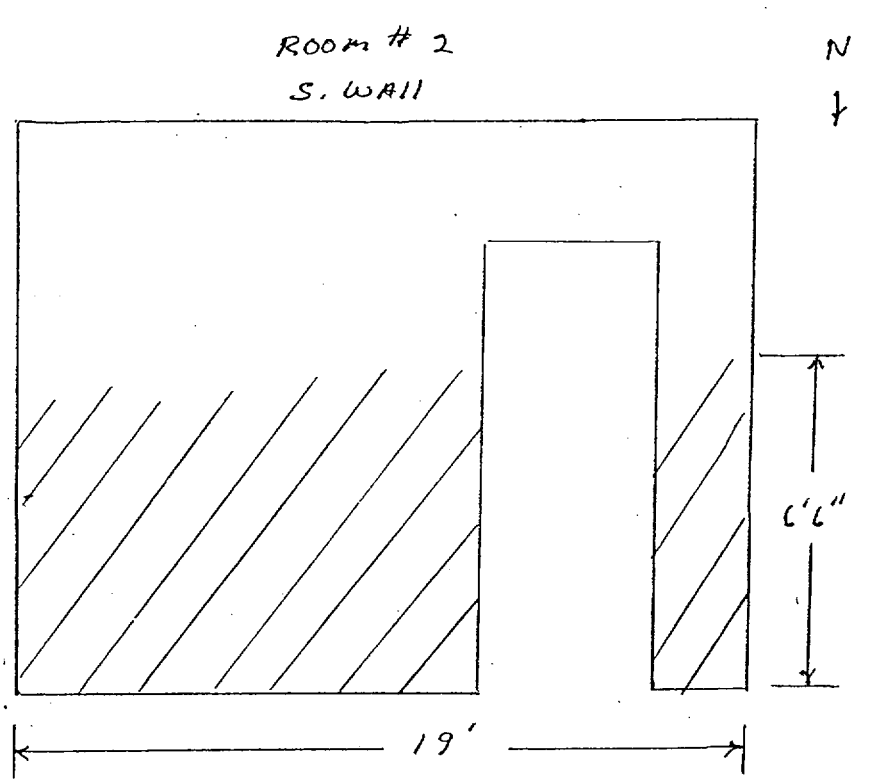
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS WERE 100% OF AREA 6'6" UP WALLS AND 50% ABOVE 6'6"

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: /// = SHOWS AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIVITYS

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-06

DATE: 8-4-00

TIME: 0930

SURVEYOR: R. Kounte/D. Goldstor

LOCATION: Bldg #3182, Room # 3

REVIEWED BY:

Smear Locations Circled. Dose Rates = MicroR/hr (μR/hr)

INSTRUMENTATION USED

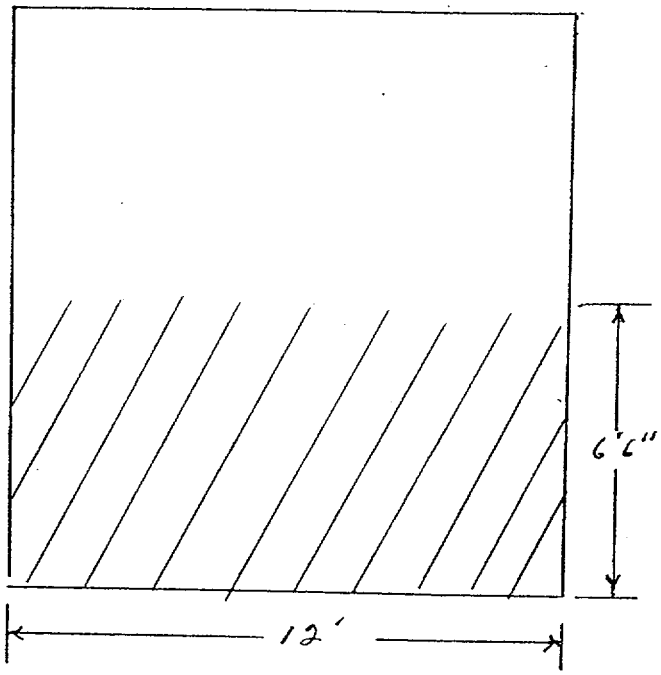
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BicRon	B-5002	N/A	12 μR	10-14-00
M-2224	132159	α 21.6	α 0.	5-30-01
PR 43-68	134495	β- 25.5	β- 169	6-2-01
M-2224	132159	α 21.6	α 5	5-30-01
M-43-37	088824	β- 23.6	β- 780	6-2-01
WPC-4550	01614	α - 21.9 β - 24.6	α- D β- D	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS WERE 100% OF AREA 6'6" UP WALLS AND 50% ABOVE 6'6"

ROOM # 3

S. WALL



SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

* All Readings are in cpm unless otherwise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: ||| = Shows area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma activitys

RADIOLOGICAL SURVEY REPORT

ATGS #: fm-06

DATE: 8-4-00

TIME: 0930

SURVEYOR: R. Kounts / D. Goldston

LOCATION: Bldg #3181, Room #3

REVIEWED BY:

Smear Locations Circled. Dose Rates = micro R/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B5002	N/A	12 μR	10-14-00
M-2224	132154	α 21.6	α 0.	5-30-01
PR 43-68	134485	β 25.5	β 169	6-2-01
M-2224	132159	α 21.6	α 5	5-30-01
PR 43-37	088824	β 23.6	β 780	6-2-01
WPC-9550	01614	α-21.8 β-24.6	α-0 β-0	6-19-01

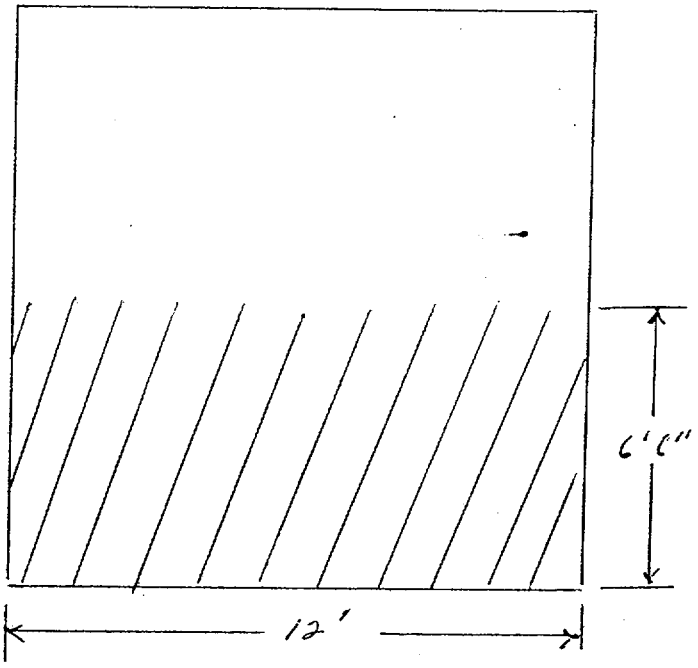
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS WERE 100% OF AREA 6'6" UP WALLS AND 50% ABOVE 6'6"

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* All Readings are in cpm unless otherwise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: /// = shows area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at Background Levels for Alpha, Beta and Gamma activitys

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-06

DATE: 8-4-00

TIME: 0930

SURVEYOR: R. Kounts / D. Goldstor

LOCATION: Bldg #3182, Room #3

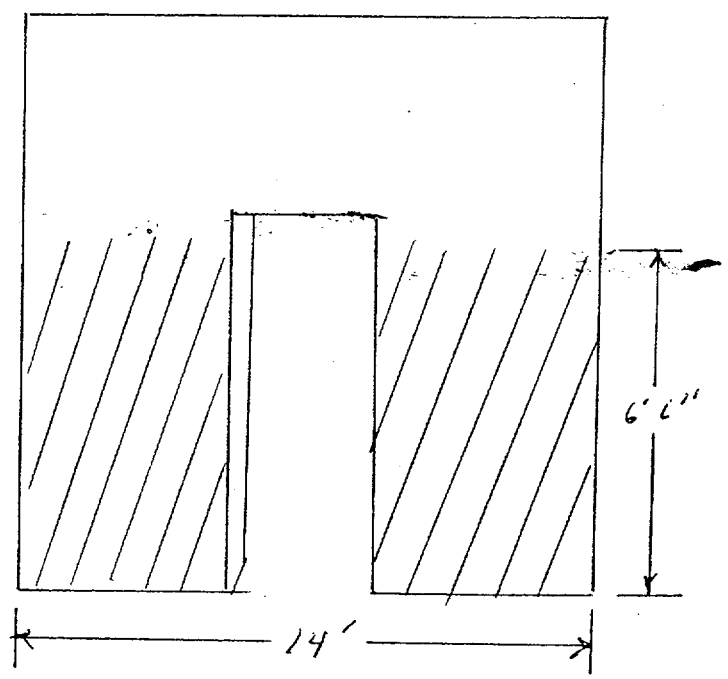
REVIEWED BY:

Smear Locations Circled. Dose Rates = ~~micro~~R/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BicRon	B 5002	N/A	12 μR	10-14-00
M-2224	132159	α 21.6	α 0	5-30-01
PR 43-68	134485	β 25.5	β 169	6-2-01
M-2224	132159	α 21.6	α 5	5-30-01
PR 43-37	088824	β 23.6	β 780	6-2-01
WPC-9550	01614	α 21.9	α 0	6-18-01
		β 24.6	β 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS WERE 100% OF AREA 6'6" UP WALLS AND 50% ABOVE 6'6"



SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α

* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: /// = SHOWS AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIVITYS

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-06

ATE: 8-4-00	INSTRUMENTATION USED				
TIME: 0930	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Kountz / D. Goldstar	BICRON	B-5007	N/A	12 cpm	10-14-00
LOCATION: Bldg #3182, Room #3	M-2224	132159	α 21.6	α 0	① 6-2-01 ~~5-30-01~~
	PR 43-68	134485	β 25.5	β 169	
REVIEWED BY:	M-2224	132159	α 21.6	α 5	5-30-01
	PR 43-37	088824	β 23.6	β 780	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC-9550	01614	α 21.8 β 24.6	α 0 β 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

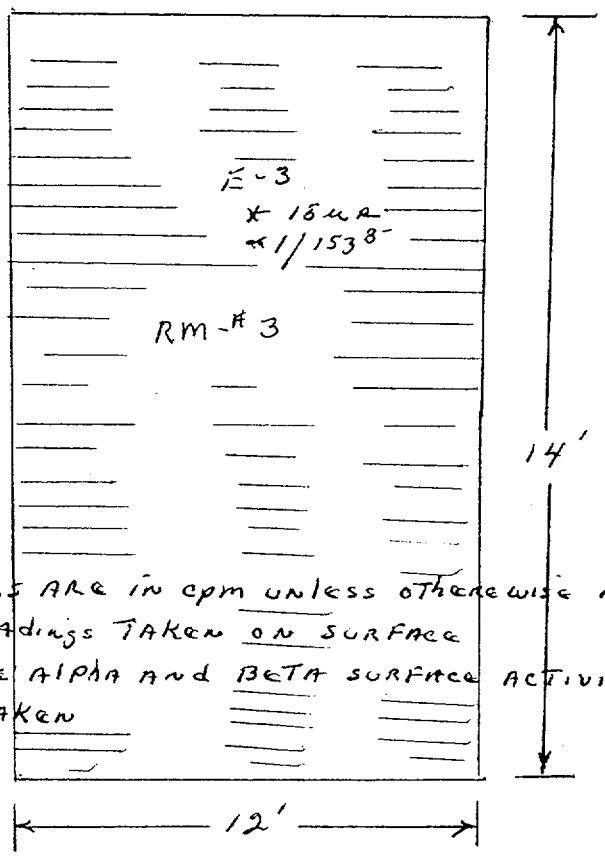
NOTE: SCANS WERE 100 % ON THE FLOOR

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α

Bldg #3182



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ▨ - SHOWS AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIVITYS

① Transposed as noted

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-66

DATE: 8-4-00	INSTRUMENTATION USED				
TIME: 0930	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Kountz / D. Goldston	BICRON	B 5002	N/A	12 µR	10-14-00
LOCATION: Bldg # 3182, Room # 3	M-2224	132159	α 21.6	α 0	5-30-01
	PR 43-68	134485	β- 25.5	β- 169	6-2-01
REVIEWED BY:	M-2224	132159	α 21.6	α 5	5-30-01
	PR 43-37	088924	β- 23.6	β- 780	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (µR/hr)	WPC-9550	01614	α-21.8 β- 24.6	α- 0 β- 0	6-18-01

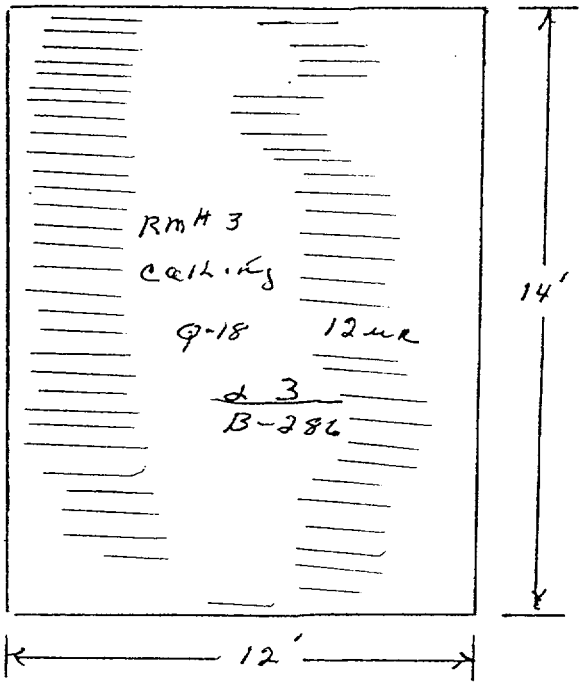
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCAN ON CEILING WAS AT 50 %

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RAD

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-07

DATE: 8-4-00

TIME: 1345

SURVEYOR: R. Kountz / D. Goldston

LOCATION: Bldg #3182, Room #4

REVIEWED BY: [signature]

Smear Locations Circled. Dose Rates = mR/hr or µR/hr (µR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B500Z	N/A	15 uR	10-14-00
M-2224	132159	γ 21.6	γ 0	5-30-01
PR 43-68	134485	β- 25.5	β- 191	~~5-30-01~~ 6-2-01
M-2224	132159	α 21.6	α 6	5-30-01
PR 43-68	088824	β- 23.6	β- 635	6-2-01
WPC 9550	01614	α 21.8 β- 24.6	α 0 β- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

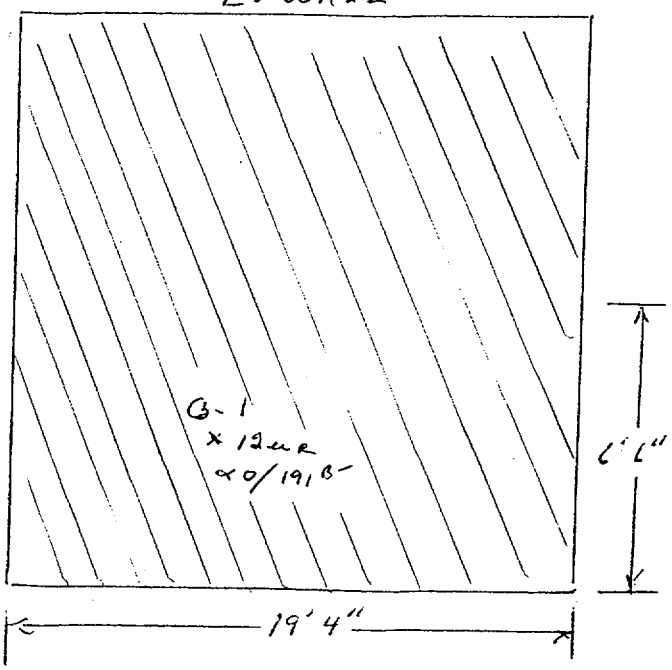
NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

Room #4, GRID #12



* All Readings are in cpm unless other wise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Marks: ||| = show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma Activ

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-07

DATE: 8-4-00

TIME: 1345

SURVEYOR: R. Kounte/D. Goldstor

LOCATION: Bldg # 3182, Room # 4

REVIEWED BY:

Smear Locations Circled. Dose Rates = MicroR/hr (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B5002	N/A	15 mR	10-14-00
M-2224	132159	γ 21.6	α 0	5-30-01
PR 43-69	134495	β⁻ 25.5	β⁻ 181	~~5-30-01~~ 6-2-01
M-2224	132159	α 21.6	α 6	5-30-01
PR 43-37	088824	β⁻ 23,6	β⁻ 635	6-2-01
WPL 9550	01614	α 21.8 β⁻ 24.6	α 0 β⁻ 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

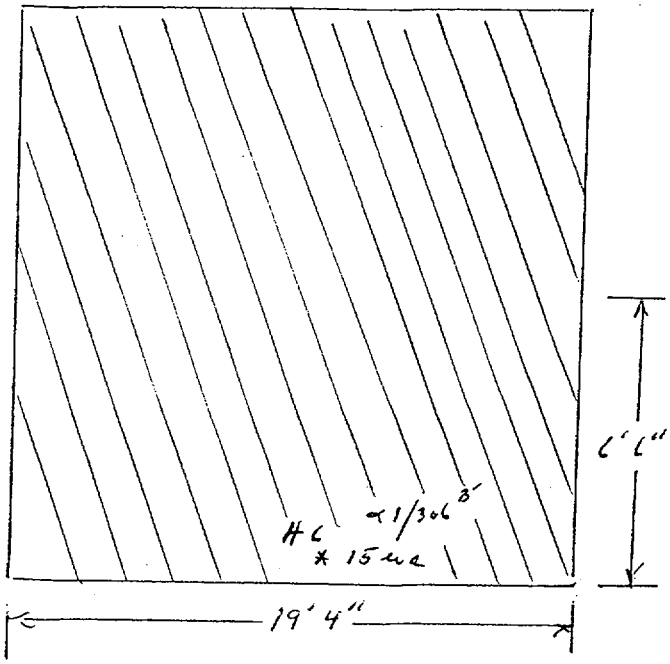
NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α

Room # 4, GRID 12



* ALL READINGS ARE in cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

rks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIVE

RADIOLOGICAL SURVEY REPORT

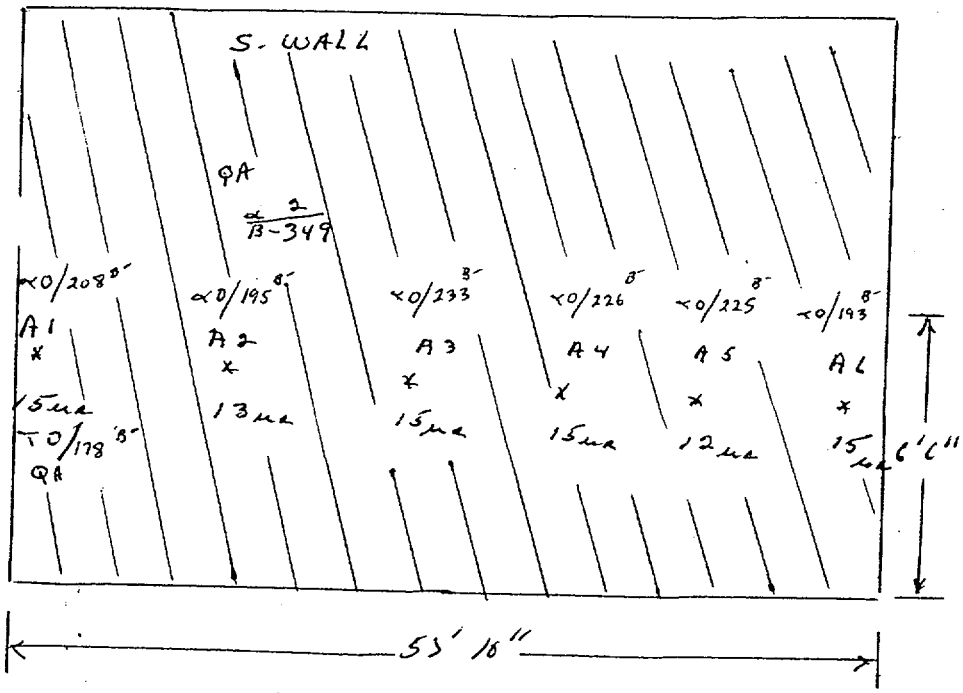
ATGS #: FM-07

DATE: 8-4-00	INSTRUMENTATION USED				
TIME: 1345	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Rourke / D. Golbston	Bicron	B500Z	N/A	15 uR	10-14-00
LOCATION: Bldg # 3182, Room # 4	m-2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR 43-68	134495	β- 25.5	β- 191	DKR 5-30-01 6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	m-2224	132159	α 21.6	α 6	5-30-01
	PR 43-37	088824	β- 23.6	β- 635	6-2-01
	WPC 9550	01614	α 21.8	α 0	
			β- 24.6	β- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"

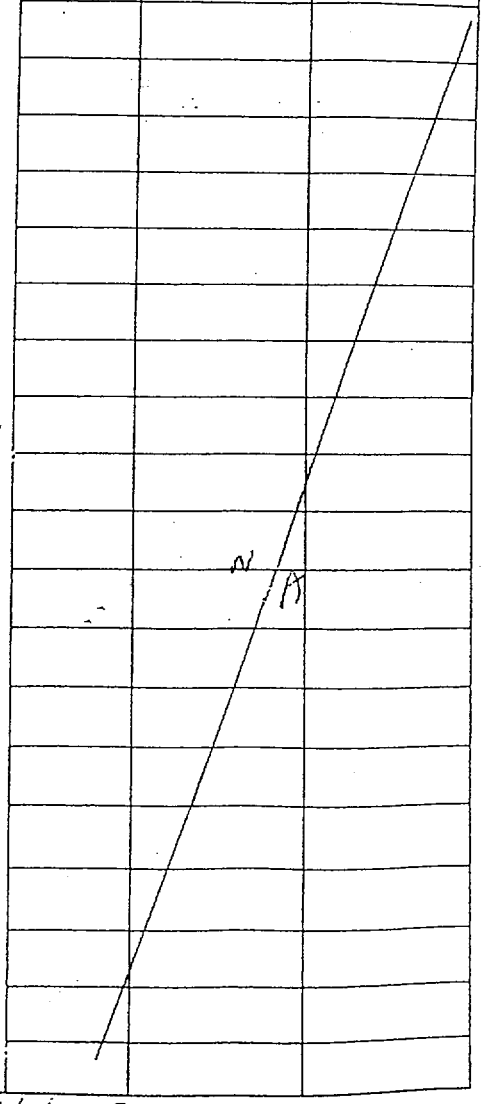
Room # 4, Grid # 12



SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHER WISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ⋈ = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACT.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-07

DATE: 8-4-00

TIME: 1345

SURVEYOR: R. Kountz/D. Goldstor

LOCATION: Bldg #3182, Room #4

REVIEWED BY: [signature]

Smear Locations Circled. Dose Rates = ~~mic~~R/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B 500 Z	N/A	15 uR	10-14-00
M-2224	132159	α 21.6	α 0	5-20-01
PR 43-68	134485	β- 25.5	β- 191	6-2-01
M-2224	132159	α 21.6	α 6	5-30-01
PR 43-37	058824	β- 23.6	β- 635	6-2-01
WPC 9550	01614	α 21.8 β- 24.6	α 0 β- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

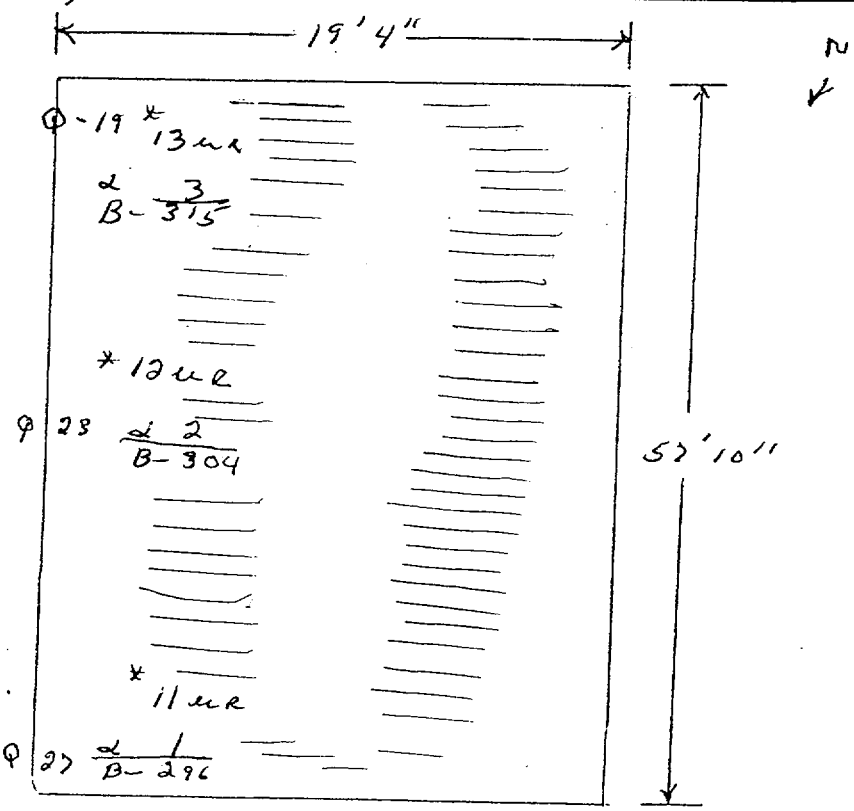
NOTE: SCAN ON THE CEILING WAS 50%

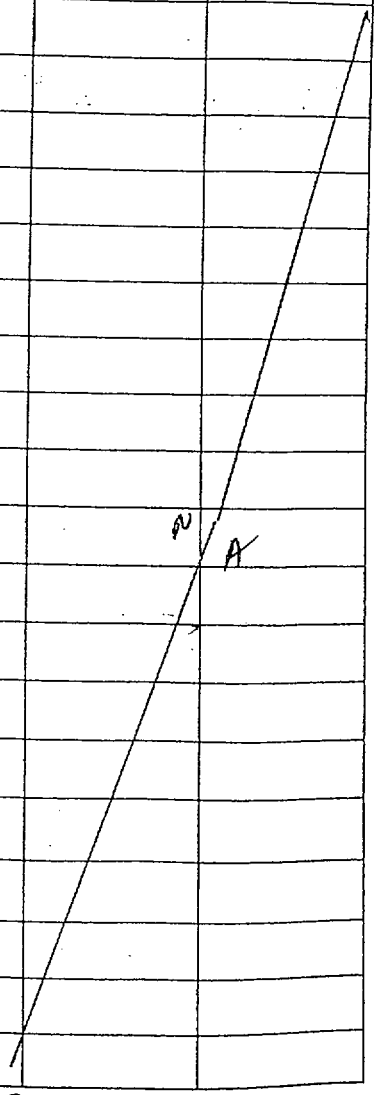
ROOM #4, GRID #12

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α





* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: \\\ = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACT.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-07

DATE: 8-4-00

TIME: 1345

SURVEYOR: R. Kounte / D. Goldstein

LOCATION: Bldg #3182, Room # 4

REVIEWED BY:

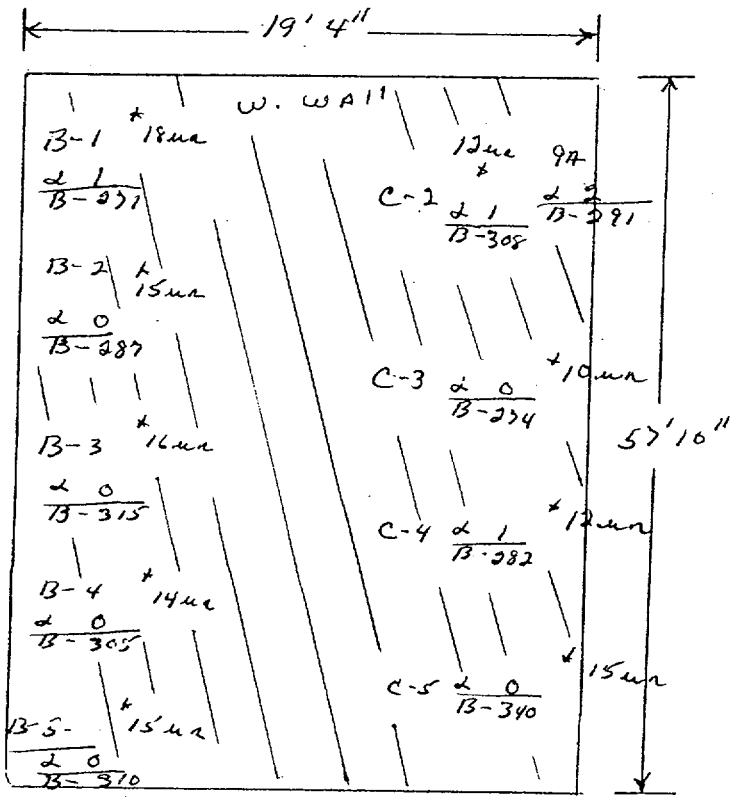
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B-500 Z	~/A	15 mr	10-14-00
M-2224	132159	α 21.6	α 0	5-30-01
PR 43-68	134495	β- 25.5	β- 181	6-2-01
M-2224	132159	α 21.6	α 6	5-30-01
PR 43-37	088824	β- 23.6	β- 635	6-2-01
WPL 9550	01614	α 21.8	α 0	6-18-01
		β- 24.6	β- 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON THE FLOOR WERE 100%

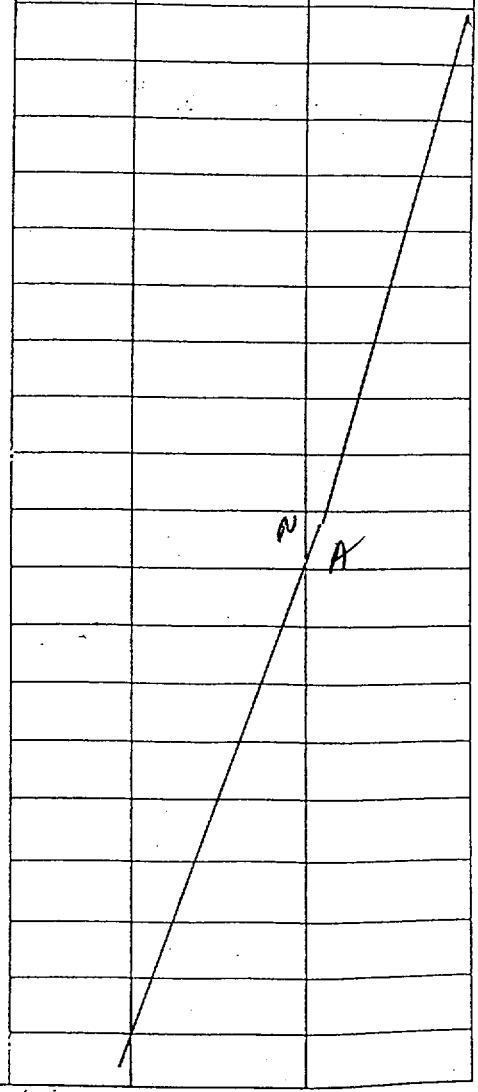
Room # 4, Grid # 12



SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RAD

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-07

DATE: 8-4-00	INSTRUMENTATION USED				
TIME: 1345	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Kountz / D. Goldstar	BICRON	B 5005	N/A	15 uR	10-15-00
LOCATION: Bldg #3182, Room #4	M-2224	132159	α 21.6	α 0	5-30-01
	PR 43-69	134485	β- 25.5	β- 181	6-2-01
REVIEWED BY:	M-2224	132159	α 21.6	α 6	5-30-01
	PR 43-37	088824	β- 23.6	β- 635	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC 9550	01614	α 21.8 β- 24.6	α 0 β- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

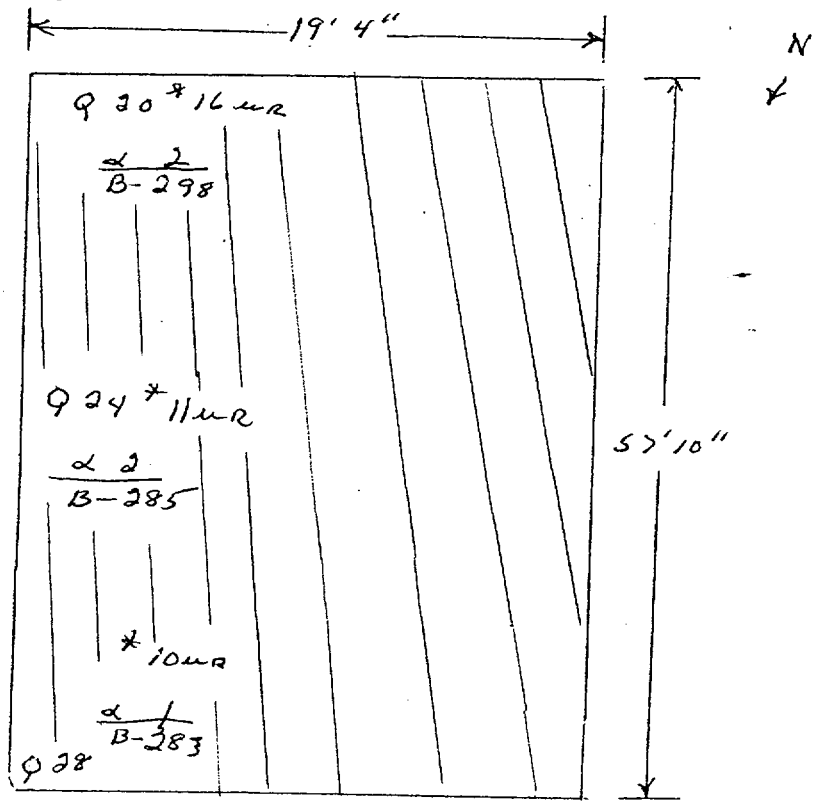
NOTE: SCAN ON THE CEILINGS WAS 50 %

ROOM #4, GRID #13

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RAD.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-07

DATE: 8-4-00	INSTRUMENTATION USED				
TIME: 1345	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Kounte / D. Goldstar	BICRON	B5002	N/A	15 cpm	10-14-00
LOCATION: Bldg # 3182, Room # 4	M-2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR 43-68	134485	β- 25.5	β- 181	6-2-01
	M-2224	132159	α 21.6	α 6	5-30-01
	PR 43-37	088924	β- 23.6	β- 635	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC 9550	01614	α 21.8 β- 24.6	α 0 β- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

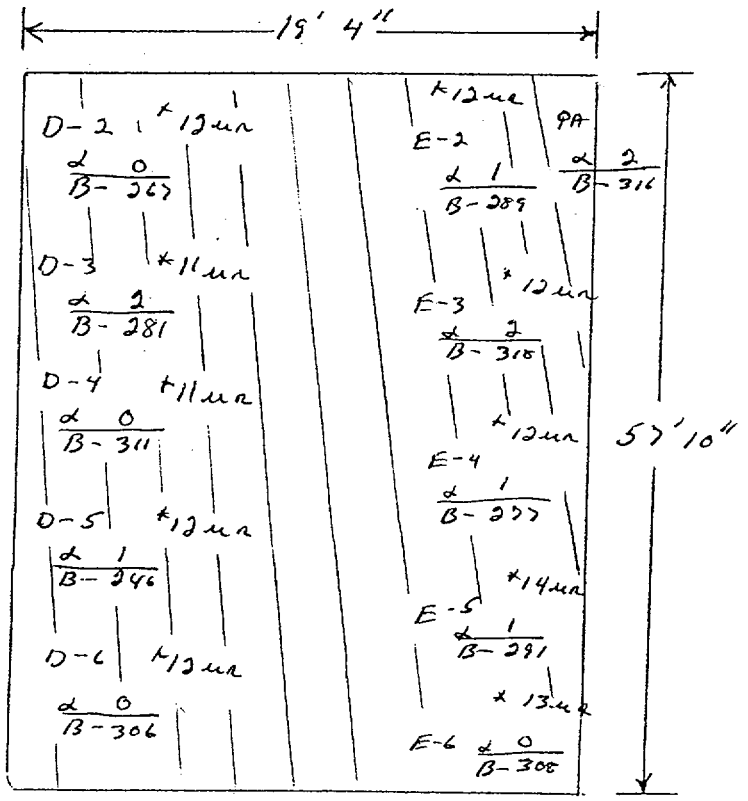
NOTE! SCANS ON THE FLOOR WERE 100 %

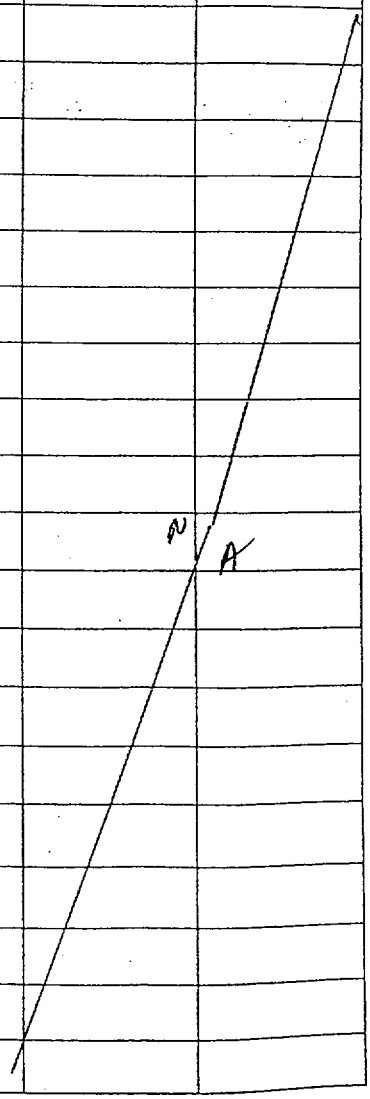
Room # 4, GRID # 13

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α





* All Readings are in cpm unless other wise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: ||| = Show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at Background Levels for Alpha, Beta and Gamma Rad.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-07

DATE: 8-4-01	INSTRUMENTATION USED				
TIME: 1345	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Kounts / D. Goldstar	BICRON	B500Z	N/A	15 cpm	10-14-00
LOCATION: Bldg #3182, Room # 4	M-2224	132154	α 21.6	α 0	5-30-01
	PR 43-68	134485	β- 25.5	β- 181	6-2-01
REVIEWED BY:	M-2224	132159	α 21.6	α 6	5-30-01
	PR 43-37	088824	β- 23.6	β- 635	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPL 9550	01614	α 21.8 β- 24.6	α 0 β- 0	6-18-01

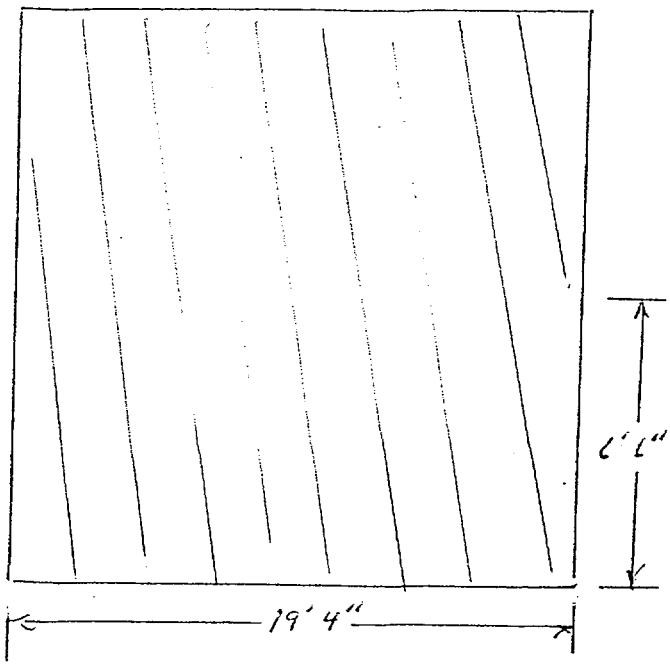
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

ROOM #4, GRID #13



#	βγ	α

* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: /// = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIV

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-07

DATE: 8-4-00

TIME: 1345

SURVEYOR: R. Kountz/D. Golston

LOCATION: Bldg #3182, Room #4

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B-5002	N/A	15 MR	10-14-00
M-2224	132159	α 21.6	α 0	5-30-01
PR 43-68	134485	β- 25.5	β- 181	~~5-30-01~~ 6-1-01
M-2224	132159	α 21.6	α 6	5-30-01
PR 43-37	088824	β- 23.6	β- 635	6-2-01
WPC 9550	01614	α 21.8 β- 24.6	α 0 β- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

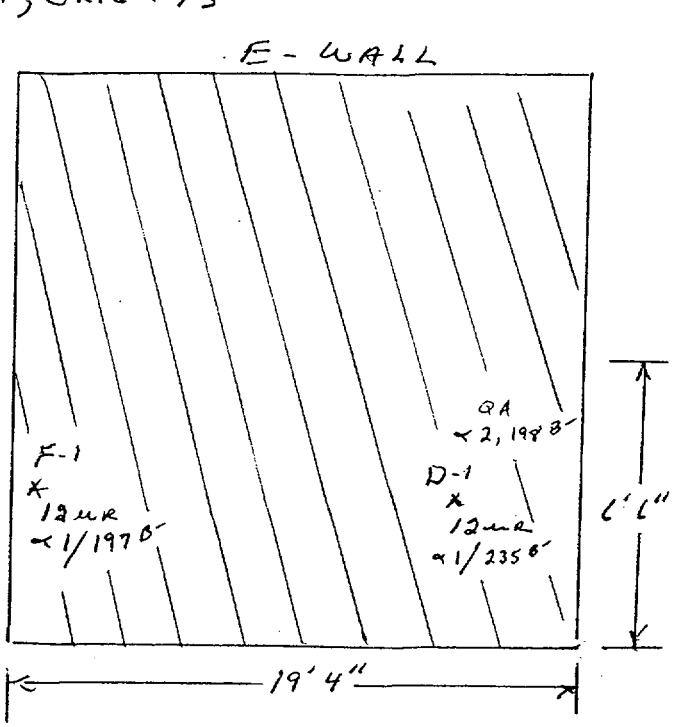
NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

Room #4, Grid #13



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTI

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-67

DATE: 8-4-00

TIME: 1345

SURVEYOR: R. Kounta / D. Goldston

LOCATION: Bldg #3182, Room #4

REVIEWED BY:

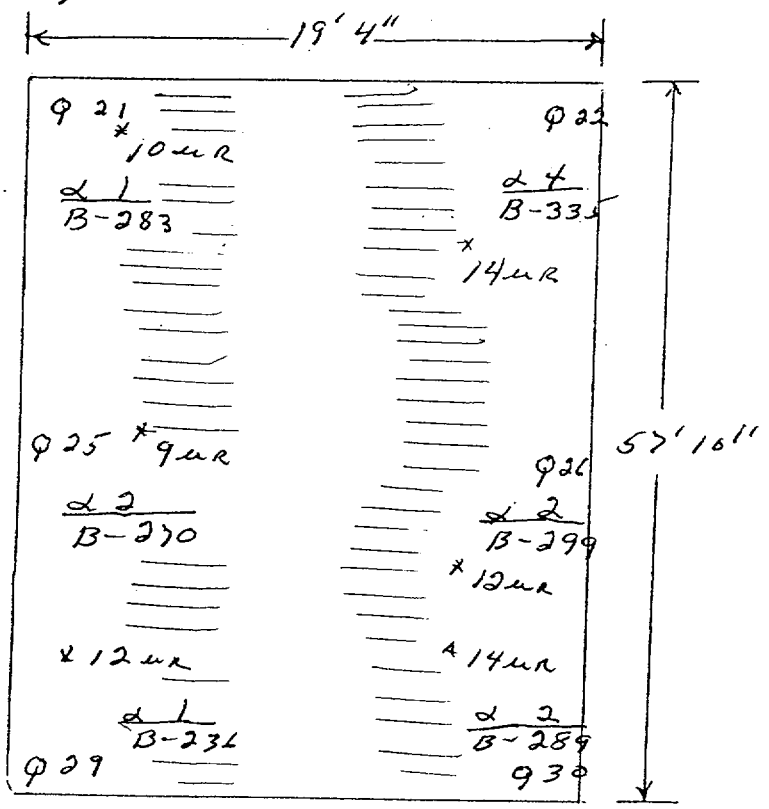
Smear Locations Circled. Dose Rates = Micro R/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B500Z	N/A	15 un	10-14-00
M-2224	132159	α 21.6	α 0.	5-30-01
PR 43-68	134495	β- 25.5	β- 181	6-2-01
M-2224	132159	α 21.6	α 6	5-30-01
PR 43-37	088824	β- 23.6	β- 635	6-2-01
WPL 955D	01614	α 21.8	α 0	6-18-01
		β- 24.6	β- 0	

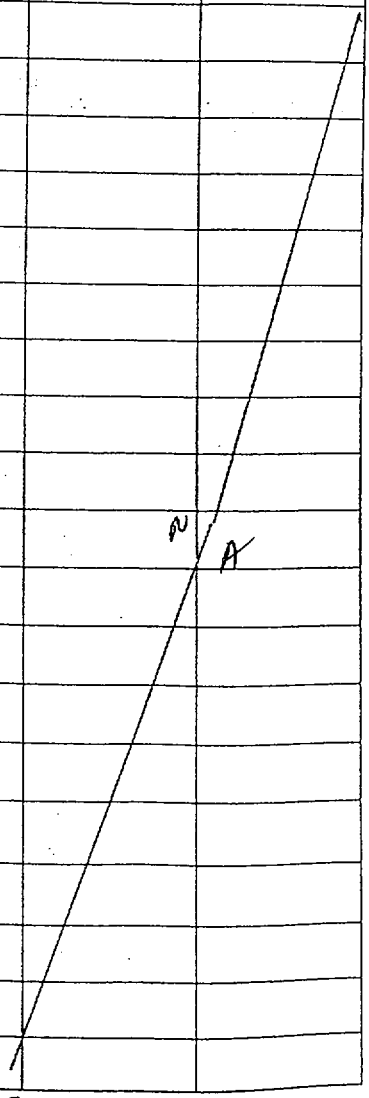
PURPOSE OF SURVEY: FINAL Release Survey

NOTE! SCAN on the Ceiling was 50 %

Room #4, Grid #14



#	βγ	α



* All Readings are in cpm unless other wise noted
* Micro 'R' Readings Taken on surface
* One minute Alpha and Beta surface activity Readings Taken

Remarks: ||| = Show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma Acti

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-07

DATE: 8-4-00

TIME: 1345

SURVEYOR: R. Kountz / D. Goldston

LOCATION: Bldg #3182, Room #4

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

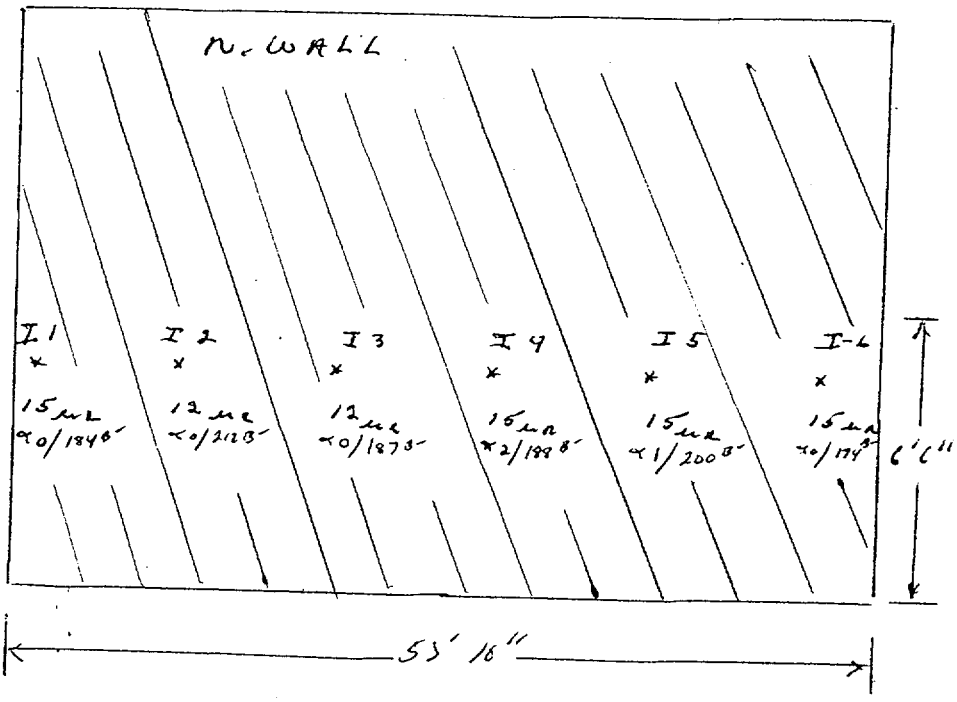
INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B500 Z	N/A	15 uR	10-14-00
M-2224	132159	α 21.6	α 0	5-30-01
PR 43-68	134485	β- 25.5	β- 181	PKA 5-30-01 6-2-01
M-2224	132159	α 21.6	α 6	5-30-01
PR 43-37	088824	β- 23.6	β- 635	6-2-01
NPC 9550	01614	α 21.8 β- 24.6	α 0 β- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"

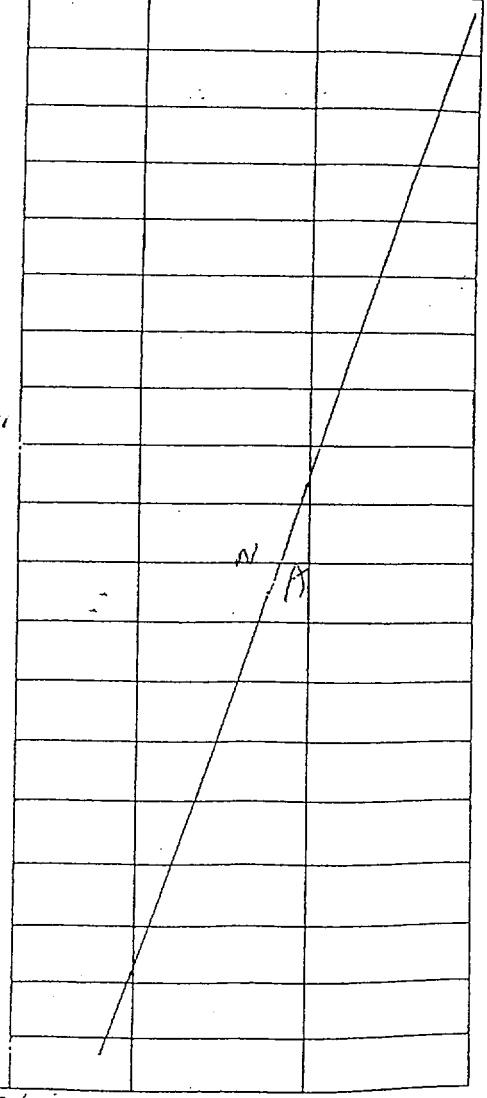
Room #4, Grid #14



SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Marks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACT

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-07

DATE: 8-4-00	INSTRUMENTATION USED				
TIME: 1345	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Kounte / D. Goldston	BICRON	B3560 2	n/a	15 cpm	10-14-00
LOCATION: Bldg # 3182, Room # 4	M-2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR 43-69	134485	β- 25.5	β- 181	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	M-2224	132159	α 21.6	α 6	5-30-01
	PR 43-37	089824	β- 23.6	β- 635	6-2-01
	WLC 9550	01614	α 21.8	α 0	6-18-01
			β- 24.6	β- 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

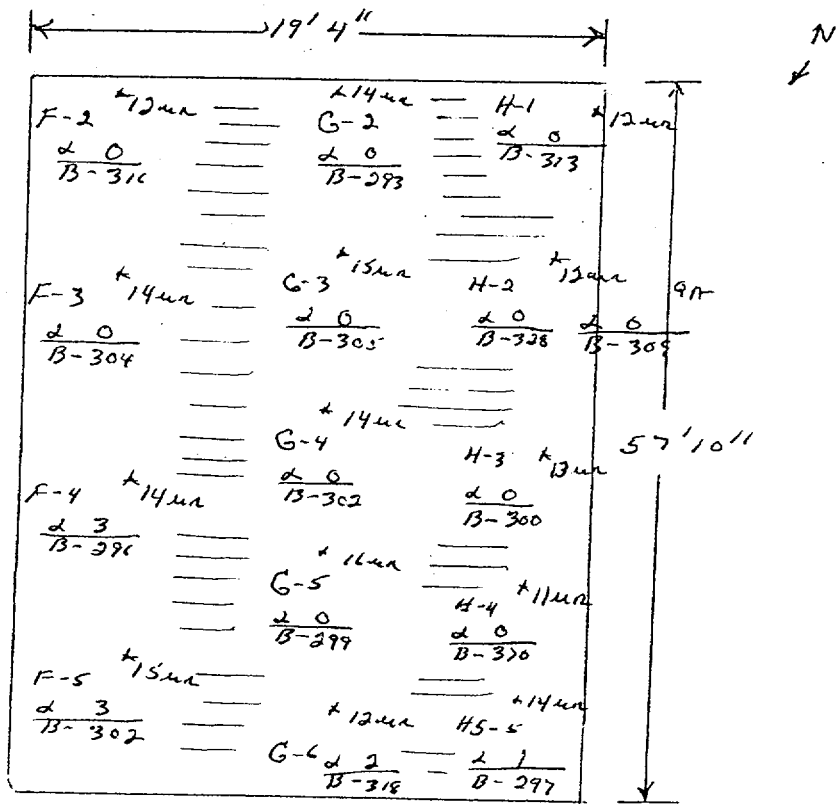
NOTE: SCANS ON THE FLOOR WERE 100 %

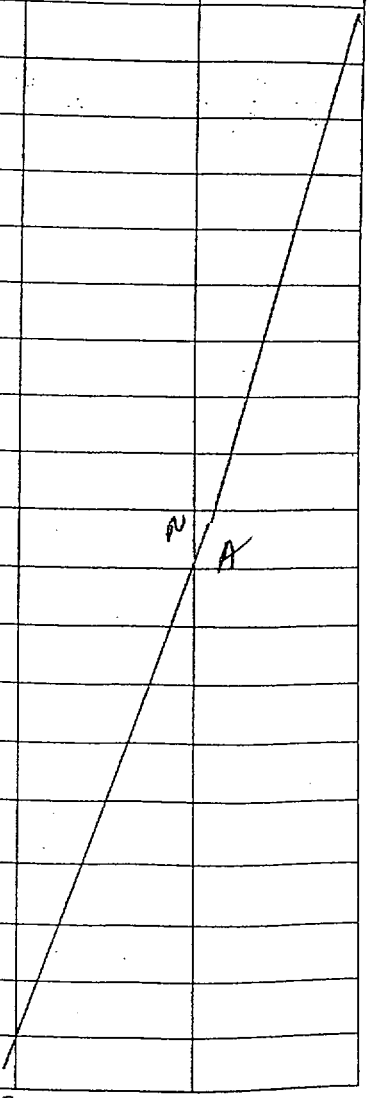
Room # 4, Grid # 14

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α





* All readings are in cpm unless other wise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: \\\ = show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma Acti

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-07

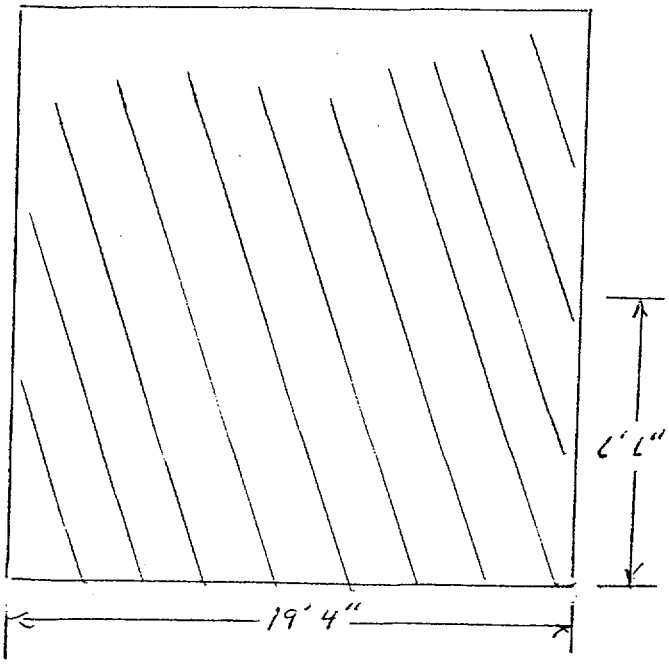
DATE: 8-4-00	INSTRUMENTATION USED				
TIME: 1345	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Kounta / D. Goldstar	Bicron	B5002	N/A	15 cpm 14 μR	10-14-00
LOCATION: Bldg #3181, Room #4	M-2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR 43-68	134485	β- 25.5	β- 181	6-2-01
	M-2224	132159	α 21.6	α 6	5-30-01
	PR 43-37	134485	β- 23.6	β- 635	6-2-01
Smear Locations Circled. Dose Rates = micro R/hr (μR/hr)	WPC 9550	01614	α 21.8 β- 24.6	α 0 β- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" UP WALL AND 50% ABOVE 6'6"

Room #4, Grid #14

W. WALL



SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED

* MICRO 'R' READINGS TAKEN ON SURFACE

* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Marks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIV

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-07

DATE: 8-4-00

TIME: 1345

SURVEYOR: R. Kounta / D. Goldston

LOCATION: Bldg # 3182, Room # 4

REVIEWED BY:

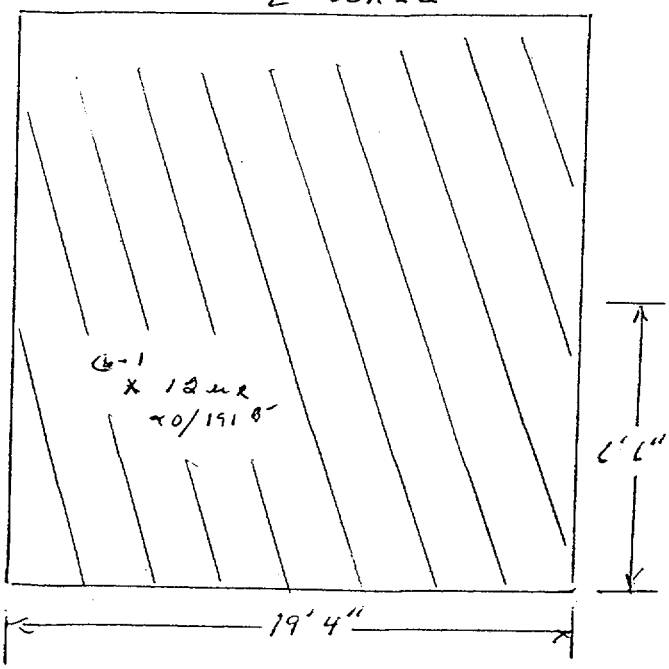
Smear Locations Circled. Dose Rates in microR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron B500Z	B500Z	N/A	15 μR	10-14-00
M-2224	132159	γ 21.6	γ 0	5-30-01
PR 43-68	134485	β- 25.5	β- 181	~~5-30-01~~ 6-2-01
M-2224	132159	α 21.6	α 6	5-30-01
PR 43-37	134485	β- 23.6	β- 635	6-2-01
WPL 9550	01614	α 21.8	α 0	6-18-01
		β- 24.6	β- 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"

Room # 4, Grid # 14



SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

* ALL READINGS ARE IN cpm UNLESS OTHER WISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ⋈ = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIV

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-08

DATE: 8-4-00

TIME: 1600

SURVEYOR: D. Goldstone, D. Koontz

LOCATION: Bldg # 3182, Room # 5

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B 5002	N/A	14 μR	10-14-00
m-2224	132159	α 21.6	α 0	5-30-01
PR43-68	134485	B-25.5	B-193	6-2-01
m 2224	132159	α 21.6	α 7	5-30-01
PR43-37	088824	B-23.6	B-1048	6-2-01
WPC-9550	01614	α-21.8 B-24.6	α-0 B-0	6-19-01

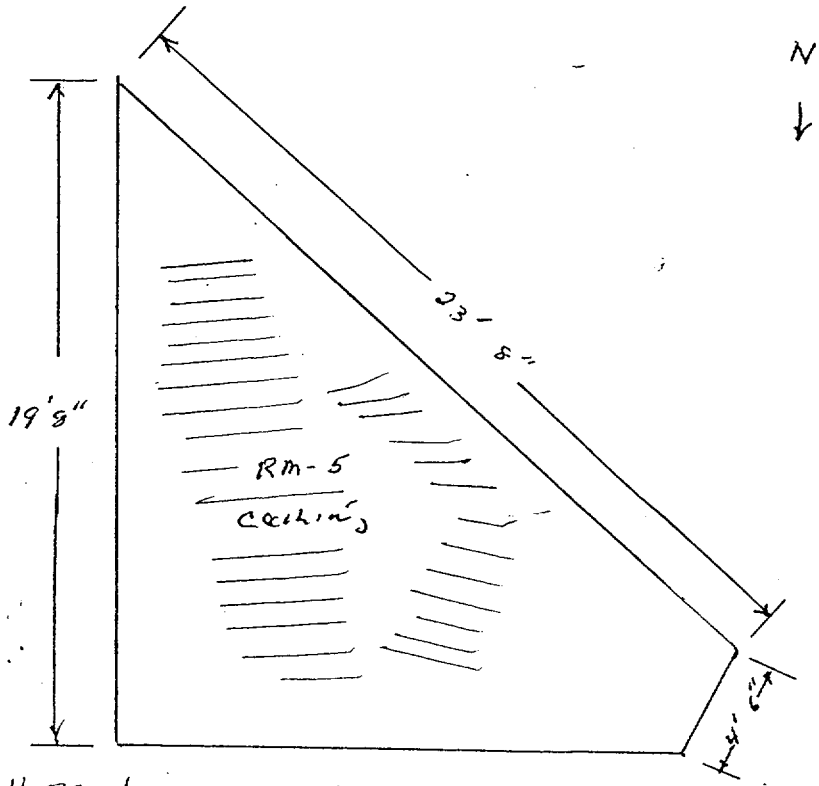
PURPOSE OF SURVEY: FINAL Release SURVEY

NOTE: SCAN SURVEY ON CEILING WAS 50 %

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* All Readings are in cpm unless other wise noted
* Micro 'R' Readings Taken on surface
* One minute Alpha and Beta surface activity Readings Taken

Remarks: \\\ = Show area where Alpha, Beta and Gamma cans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma Acti

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-08

DATE: 8-4-00	INSTRUMENTATION USED				
TIME: 1000	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston, D. Kountz	Bicron	B-5062	N/A	14 cpm	10-14-00
LOCATION: Bldg # 3182, Room # 5	M-2224	132159	α 21.6	α 0	5-30-01
	PR43-68	134482	B 25.5	B 193	6-2-01
REVIEWED BY:	M-2224	132159	α 21.6	α 2	5-30-01
	PR 43-37	088824	B-23.6	B-1048	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC-9550	01614	α-21.8	α-0	6-18-01
			B-24.6	B-0	

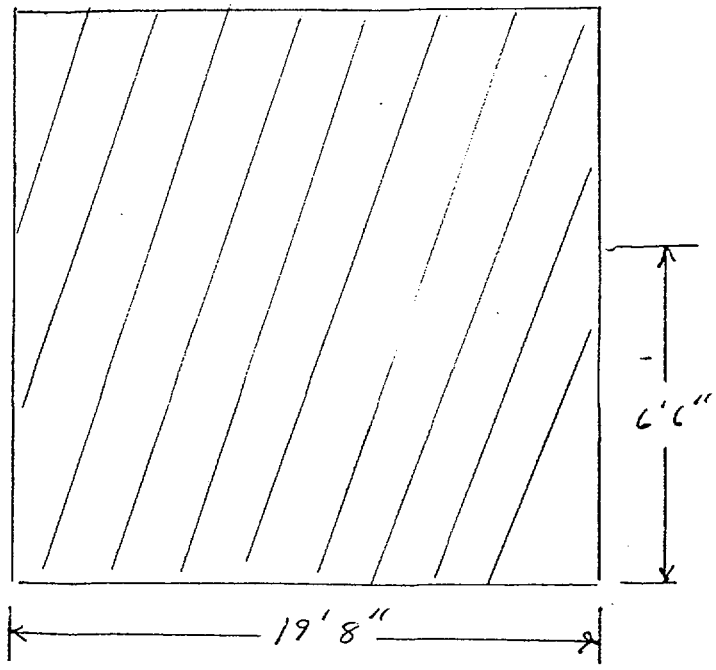
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS WERE 100% OF AREA 6'6" UP WALLS AND 50% ABOVE 6'6"

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* All Readings are in cpm unless otherwise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: /// = shows area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma activitys

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-08

DATE: 8-4-00

TIME: 1000

SURVEYOR: D. Goldstone, D. Kountz

LOCATION: Bldg #3182, Room #5

REVIEWED BY: [signature]

Smear Locations Circled. Dose Rates = MicroR/hr (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	13-5002	N/A	14 μR	10-14-00
M-2224	132159	α 21.6	α 0	5-30-01
PR-43-68	134485	β-25.5	β 193	6-2-01
M-2224	132159	α 21.6	α 7	5-30-01
PR-43-37	088824	β-23.6	β-1648	6-2-01
WPC-9550	01614	α-21.8 β-24.6	α 0 β 0	6-18-01

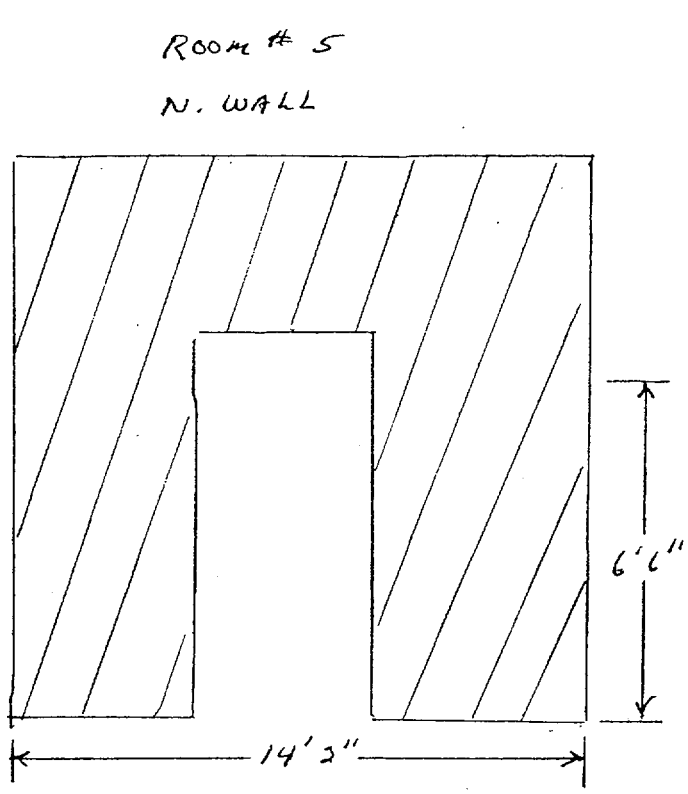
PURPOSE OF SURVEY: FINAL RELEASE SURVEY,

NOTE: SCANS WERE 100% OF AREA 6'6" UP WALLS AND 50% ABOVE 6'6"

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOWS AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIVITYS

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-08

DATE: 8-4-00	INSTRUMENTATION USED				
TIME: 1000	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston, D. Kounts	Bicron	B-5002	N/A	14 cpm	10-14-00
LOCATION: Bldg #3182, Room #5	M-2224	132159	α 21.1	α 0	5-30-01
REVIEWED BY:	PR 43-68	134485	β 25.5	β 193	6-2-01
	M-2224	132159	α 21.6	α 7	5-30-01
	PR 43-37	088824	β 23.1	β 1048	6-2-01
Smear Locations Circled. Dose Rates in microR/hr (μR/hr)	WPC-9550	01614	α 21.8	α 0	6-13-01
			β 24.6	β 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS WERE 100% OF AREA 6'6" UP WALLS AND 50% ABOVE 6'6"

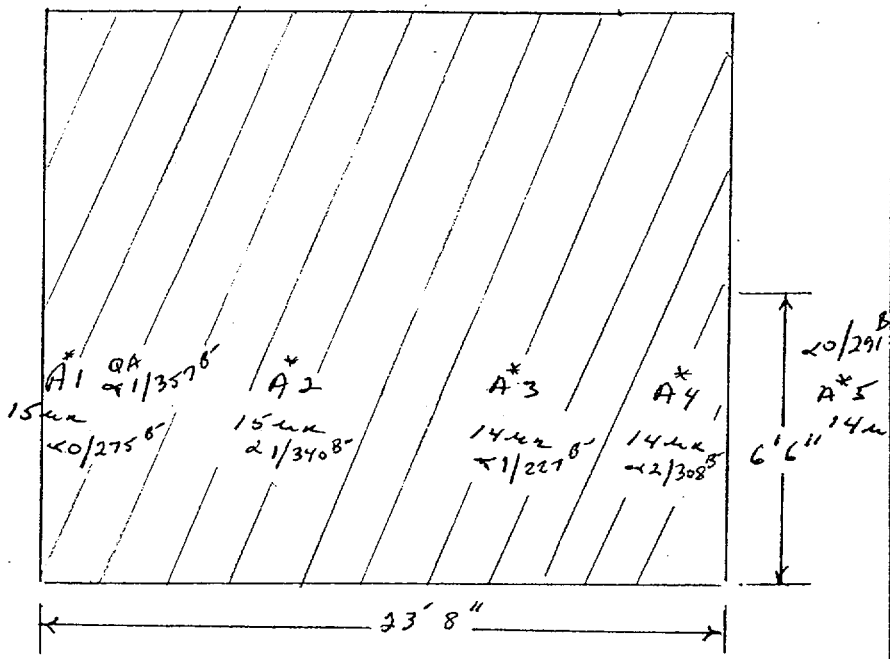
SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α

ROOM #5

S.E. WALL



A*6 α0/151 β'

N

* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED

* MICRO 'R' READINGS TAKEN ON SURFACE

* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOWS AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIVITYS

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-08

ATE: 8-4-00	INSTRUMENTATION USED				
TIME: 1000	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston, D. Kountz	Bicron	B-5002	N/A	14 uR	10-14-00
LOCATION: Bldg #3182, Room #5	M-2224	132159	21.6	α 0	5-30-01
REVIEWED BY:	PR 43-69	134485	25.5	β 209	6-2-01
	M-2224	132159	21.6	α 7	5-30-01
	PR 43-37	088824	23.6	β 1048	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC-9550	01614	α-21.8 β-24.6	α-0 β-0	6-18-01

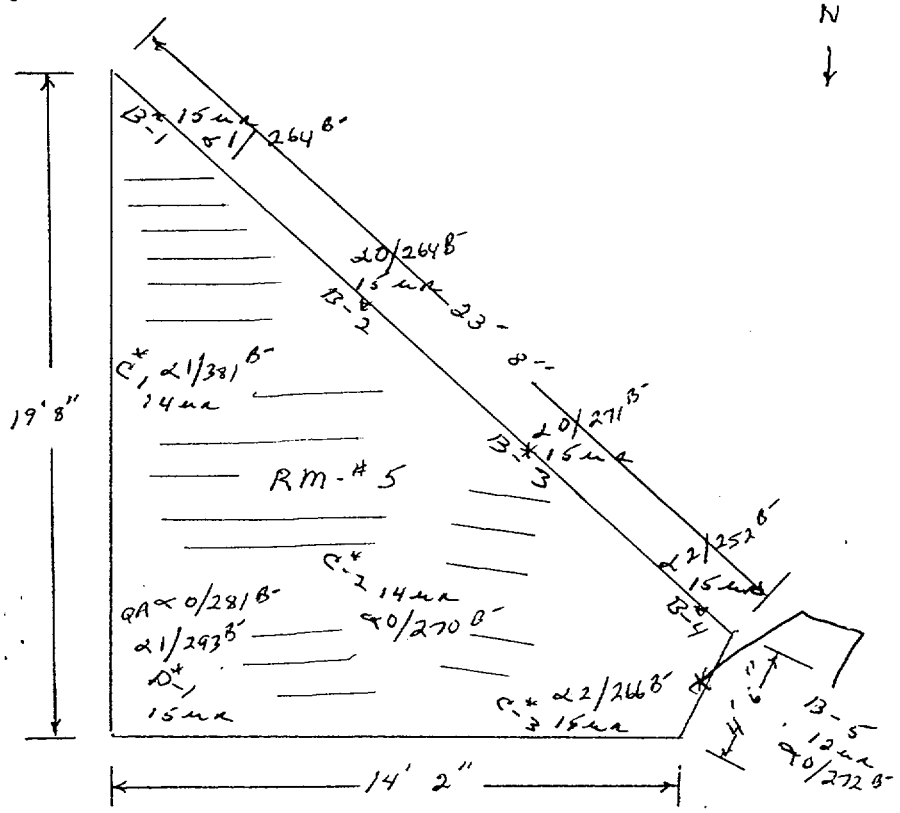
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR WERE 100%

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN CPM UNLESS OTHERWISE NOTED
* MICRO R' TAKEN READINGS ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: \\\ = SHOWS AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIVITYS

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-19

DATE: 8-5-00

TIME: 1530

SURVEYOR: D. Goldston

LOCATION: Bldg #3182, Room # 6

REVIEWED BY:

Smear Locations Circled. Dose Rates = ~~milliR/hr~~ (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B5002	N/A	12 cpm	10-14-00
M2224	132159	α 21.6	α 1	5-30-01
PR43-68	134485	B-25.5	B-185	6-2-01
M2224	132159	α 21.6	α 1	5-30-01
PR43-37	088824	B-23.6	B-200	6-2-01
WAE9556	01614	α 21.6	α 0	6-18-01
		B-24.6	B- 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOUT 6'6"

SMEAR RESULTS

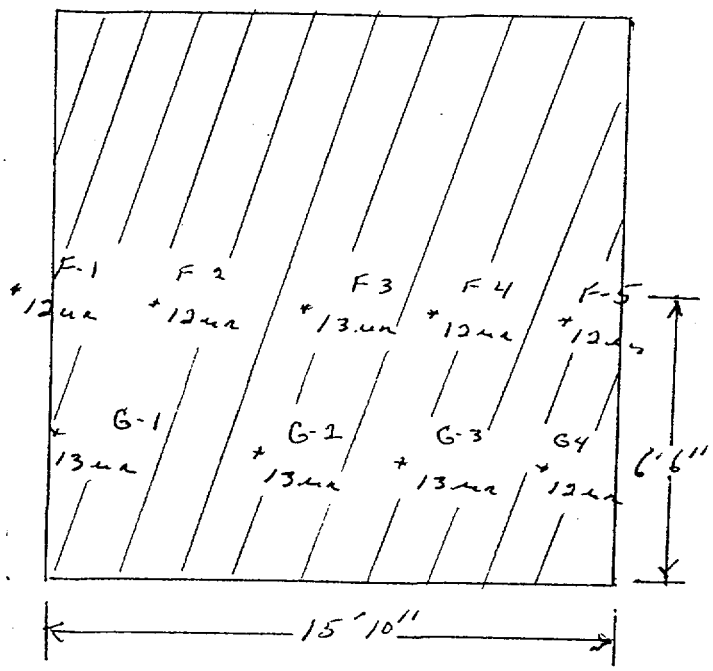
RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

ROOM # 6

S. WALL

N



* All Readings are in cpm unless other wise noted
* Micro 'R' Readings Taken on surface
* One minute Alpha and Beta surface activity Readings Taken

Remarks: ||| = Show Area where Alpha, Beta and Gamma Scans were Taken

* All Scans Surveys are at Background Levels for Alpha, Beta and Gamma Acti

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-19

DATE: 8-5-00	INSTRUMENTATION USED				
TIME: 15 30	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston	Bicron	13-5002	N/A	12 uR	10-14-00
LOCATION: Bldg #3182, Room #6	M-2224	132159	α 21.6	α 1	5-30-01
REVIEWED BY:	PR 43-68	134485	β-25.5	β- 185	6-2-01
	M-2224	132159	α 21.6	α 1	5-30-01
	PR 43-37	088824	β-23.1	β- 260	6-2-01
Smear Locations Circled. Dose Rates ~~mr/hr~~ R/hr (μR/hr)	WPC 9550	01614	α 21. β-34.6	α 0 β- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6' 6" up WALL AND 50% ABOUT 6' 6"

SMEAR RESULTS

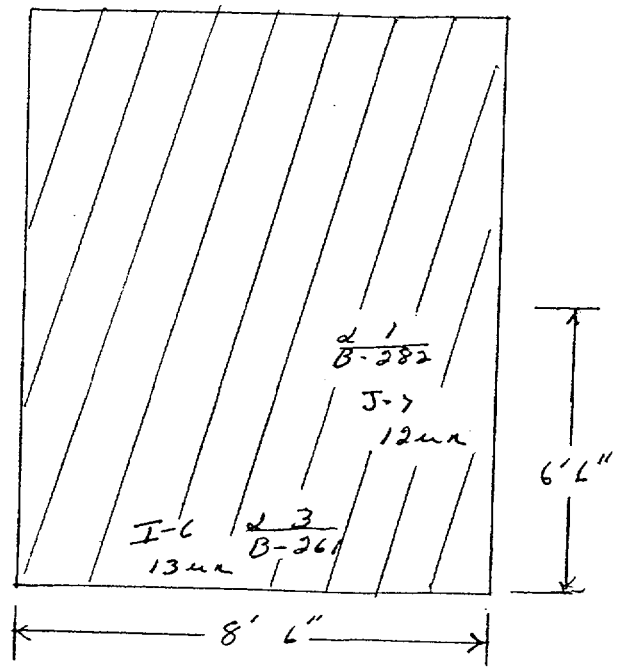
RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α

ROOM #6

E-WALL

N →



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTI

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-19

DATE: 8-5-00	INSTRUMENTATION USED				
TIME: 1530	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston	Bicron	B-5002	N/A	12 uR	10-14-00
LOCATION: Bldg # 3182, Room # 6	M-2224	132158	α 21.6	α 1	5-30-01
REVIEWED BY:	PA 43-68	134485	B-25.5	B-185	6-2-01
	M 2224	132159	α 21.6	α 1	5-30-01
	PA 43-33	088874	B-23.6	B-200	6-2-01
Smear Locations Circled. Dose Rates = MicroR/hr (μR/hr)	NPC 9550	01614	α 21.8 B 24.8	α 0 B- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

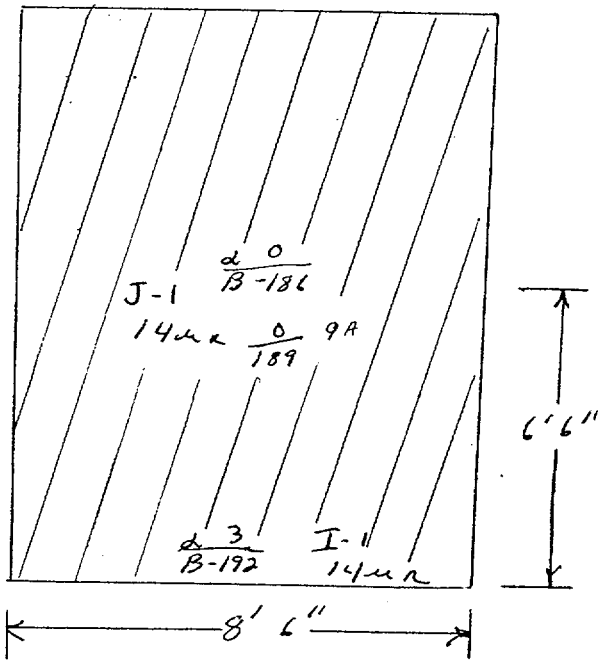
NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOUT 6'6"

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

Room # 6
W. WALL

← N



#	βγ	α

* ALL READINGS ARE IN cpm UNLESS OTHER WISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTI

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-19

ATE: 8-5-01	INSTRUMENTATION USED				
TIME: 1530	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldstein	Bicron	B-5002	N/A	12 cpm	10-14-00
LOCATION: Bldg # 3182, Room # 6	M 2224	132159	α 21.6	α 1	5-30-01
REVIEWED BY:	PR 43-68	134485	B-25.5	B-185	6-2-01
	M 2224	132159	α 21.6	α 1	5-30-01
	PR 43-32	088824	B-23.6	B-200	6-2-01
Smear Locations Circled. Dose Rates = ~~mrem/hr~~ (μR/hr)	WPE 9550	01614	α 21.8 B-24.6	α 0 B- 0	6-18-01

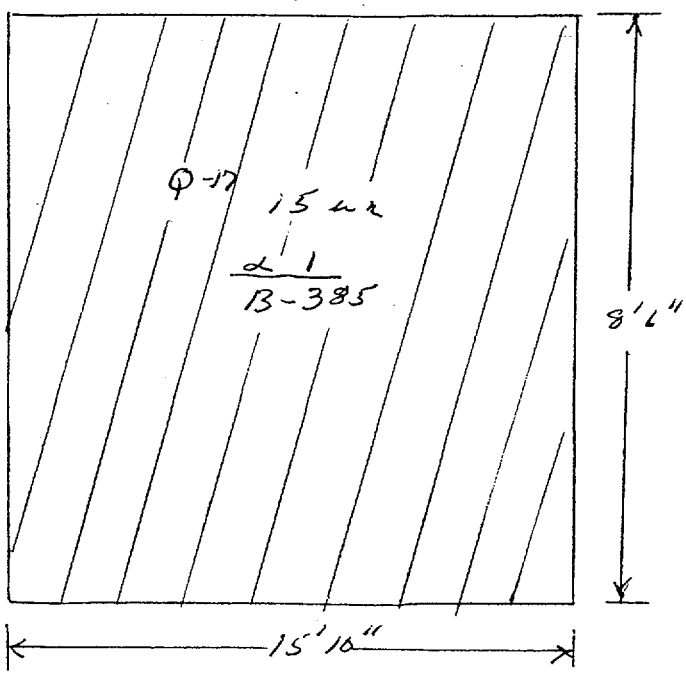
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCAN ON THE CEILING WAS 50%

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RADI

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-19

DATE: 8-5-00

TIME: 1530

SURVEYOR: D. GOLDSTON

LOCATION: Bldg #3187, Room #6

REVIEWED BY:

Smear Locations Circled. Dose Rates ~~=micro R/hr~~ (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B-5002	N/A	12 cpm	10-14-00
M 2224	132159	α 21.6	α 1	5-30-01
AR 43-68	134485	B-25.5	B- 185	6-2-01
M 2224	132159	α 21.6	α 2	5-30-01
AR 43-32	088824	B-23.6	B- 200	6-2-01
WPC 9550	01614	α 21.8 B-24.6	α 0 B- 0	6-18-01

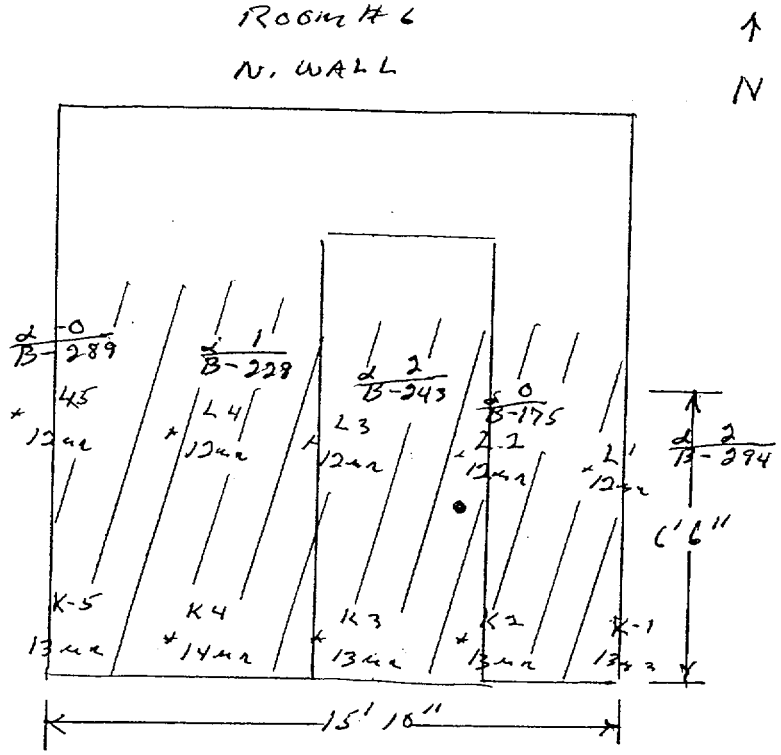
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6' 6" up WALL AND 50% ABOUT 6' 6"

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHER WISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACT.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-19

ATE: 8-5-00	INSTRUMENTATION USED				
TIME: 1530	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston	Bicron	B5062	N/A	12 mR	10-14-00
LOCATION: Bldg #3182, Room # 6	M 2224	133159	α 21.6	α 1	5-30-01
	PR 47-18	134485	B-25.5	B- 185	6-2-01
REVIEWED BY:	M 2224	132159	α 21.6	α 1	5-30-01
	PR 43-37	088824	B-23.6	B- 200	6-2-01
Smear Locations Circled. Dose Rates in microR/hr (μR/hr)	WPE 9556	01614	α 21.8 B-24.6	α 0 B- 0	6-18-01

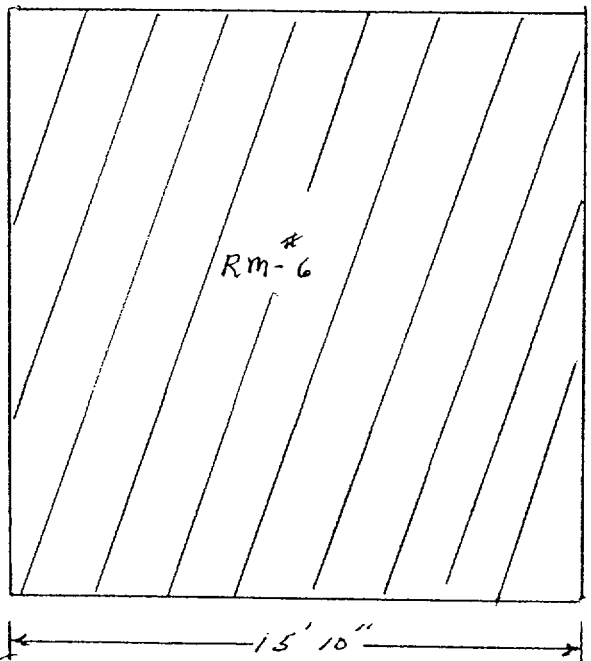
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON THE FLOOR WERE 100%

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

Bldg #3182



#	βγ	α

* All Readings are in cpm unless otherwise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: Show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at Background Levels for Alpha, Beta and Gamma Activitys

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-19

DATE: 8-10-00	INSTRUMENTATION USED				
TIME: 1700	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Kovacs	BICRON	B-500 Z	N/A	14 uR	10-14-00
LOCATION: Bldg 3182, Room # C	M-2224	132195	α 21.6	α 1	5-30-01
REVIEWED BY:	PR 43-68	134485	B-25.5	B-185	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	M-2224	132195	α 21.6	α 1	5-30-01
	PR 43-37	088824	B-23.6	B-200	6-2-01
	WPC 9550	01614	α 21.8 B-24.6	α 0 B- 0	6-18-01

H-1	14 uR	α 0 / B-305
H-2	15 uR	α 0 / B-279
H-3	15 uR	α 6 / B-357
H-4	14 uR	α 2 / B-305
H-5	16 uR	α 1 / B-294
J-2	19 uR	α 0 / B-310
J-3	19 uR	α 2 / B-365
J-4	18 uR	α 2 / B-337
J-5	20 uR	α 1 / B-436
J-6	15 uR	α 1 / B-337
J-6	15 uR	α 0 / B-311
NOTE:	AREA WAS SURVEYED AFTER CARPET WAS REMOVED	

I-1	16 uR	α 1 / B-294
I-2	17 uR	α 3 / B-317
I-3	19 uR	α 0 / B-415
I-4	17 uR	α 1 / B-364
I-5	19 uR	α 3 / B-309

* All readings are in cpm unless otherwise noted
* Micro 'R' readings taken on surface
* One minute Alpha and Beta surface activity readings taken
* All scans surveys are at background levels for Alpha, Beta and Gamma activity

RADIOLOGICAL SURVEY REPORT

ATGS #: Fm - 31

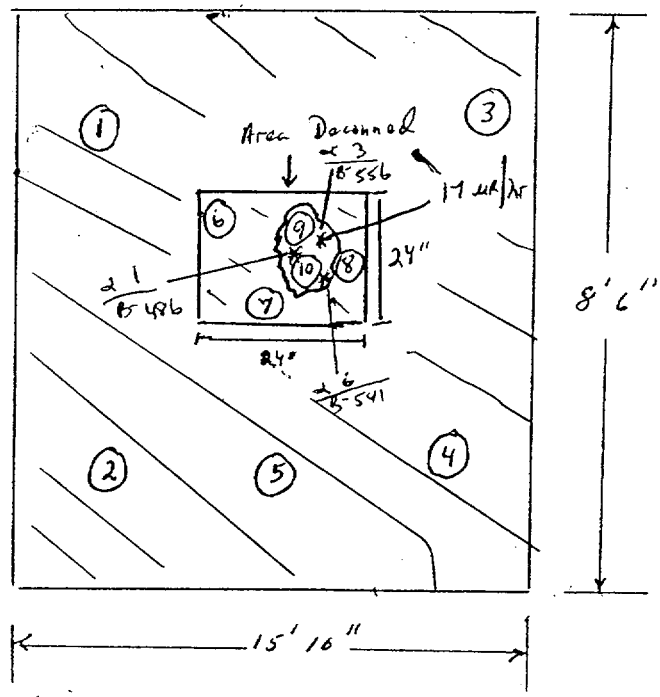
DATE: 8-16-00	INSTRUMENTATION USED				
TIME: 1001	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston	BICRON	B-500 Z	N/A	17 uR	10-14-00
LOCATION: Bldg # 3182, Room # 6	M-2224	132159	α 21.6	α 0	5-30-01
	PP 47-68	134481	B-25.5	B- 348	6-2-01
REVIEWED BY:	M-2224	132151	α 21.6	α 7	5-30-01
	PR 47-37	088894	B-23.6	B- 784	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPA 95-50	01614	α 21.6 B-24.1	α 0 B- 0	6-18-00

PURPOSE OF SURVEY: POST SURVEY AFTER AREA WAS DECON

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* All Readings are in cpm unless otherwise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: 111 = shows area where Alpha, Beta and gamma scans were taken

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-09

DATE: 8-4-00	INSTRUMENTATION USED				
TIME: 1100	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston, D. Kountz	BICRON	B5007	N/A	14 uR	10-14-00
LOCATION: Bldg #3182, Room #7	M-2224	132159	α 21.6	α 0	5-30-01
	PR43-68	134485	B 25.5	B-188	6-2-01
REVIEWED BY:	M-2224	132159	α 21.6	α 7	5-30-01
	PR43-37	134484	B-23.6	B-811	6-2-01
Smear Locations Circled. Dose Rates = ~~micro~~R/hr (μR/hr)	WX-9550	01614	γ-21.8 / B-24.6	α-0 / B 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

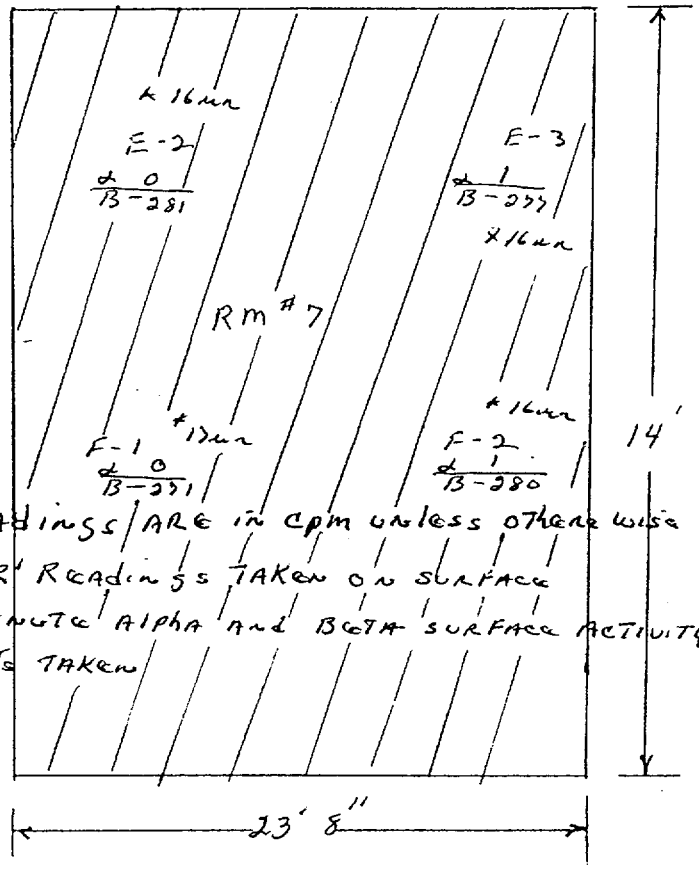
NOTE! SCANS WERE 100 % ON FLOOR AREA

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α

Bldg #3182



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: \\\ = SHOWS AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIVITYS

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-09

DATE: 8-4-00

TIME: 11 00

SURVEYOR: D. Goldstone, D. Koontz

LOCATION: Bldg # 3182, Room # 7

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

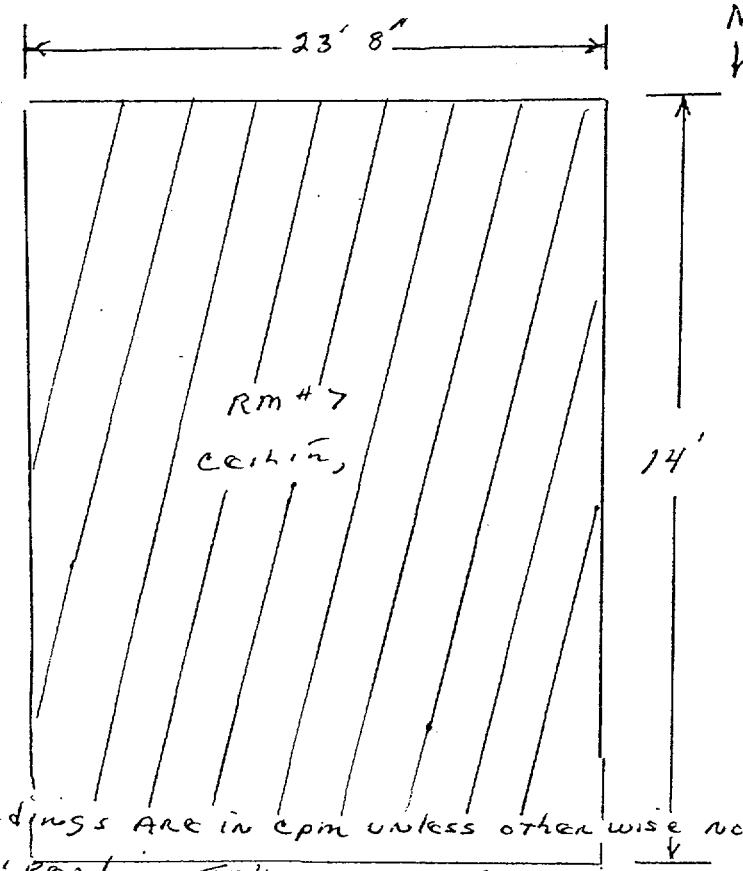
INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B3500Z	N/A	14 μR	10-14-00
M-2224	132159	α 21.6	α 0	5-30-01
PR43-68	134485	B-25.5	B-188	6-2-01
M-2224	132159	α 21.6	α 7	5-30-01
PR43-37	134485	B-23.6	B-817	6-2-01
WPC-9550	DH44 0444	α-21.9 B-24.6	α-0 B-0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

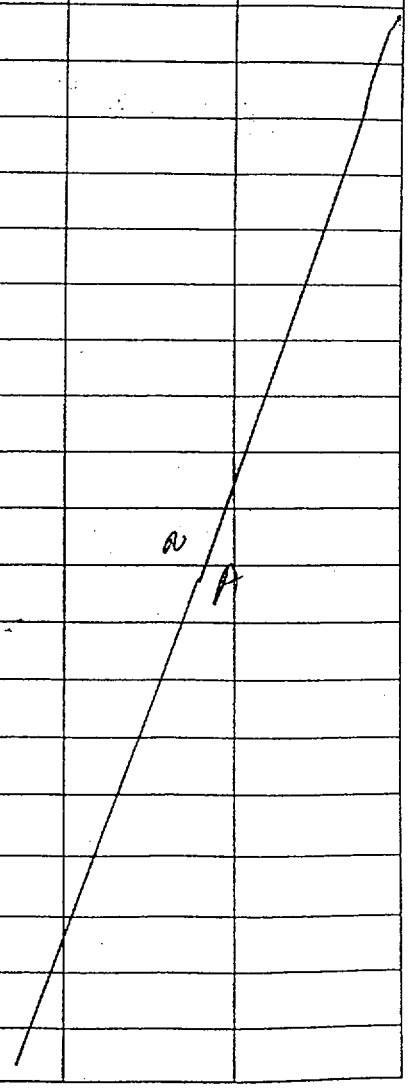
NOTE! SCAN ON CEILING WAS AT 50%

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED



#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: \\\ = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RAD.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-09

DATE: 8-4-00	INSTRUMENTATION USED				
TIME: 1100	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D Goldston, D Kountz	Bicron	B5002	N/A	14 μR	10-14-00
LOCATION: Bldg #3182, Room #7	M-2224	132159	α 21.6	α 6	5-30-01
REVIEWED BY:	PR43-68	134485	B-25.5	B-188	6-02-01
Smear Locations Circled. Dose Rates in mR/hr (μR/hr)	M-2224	132159	α 21.6	α 7	5-30-01
	PR43-37	134488	B-23.6	B-817	6-02-01
	WPC-9550	01614	α-21.8 B-24.6	α-0 B-0	6-19-01

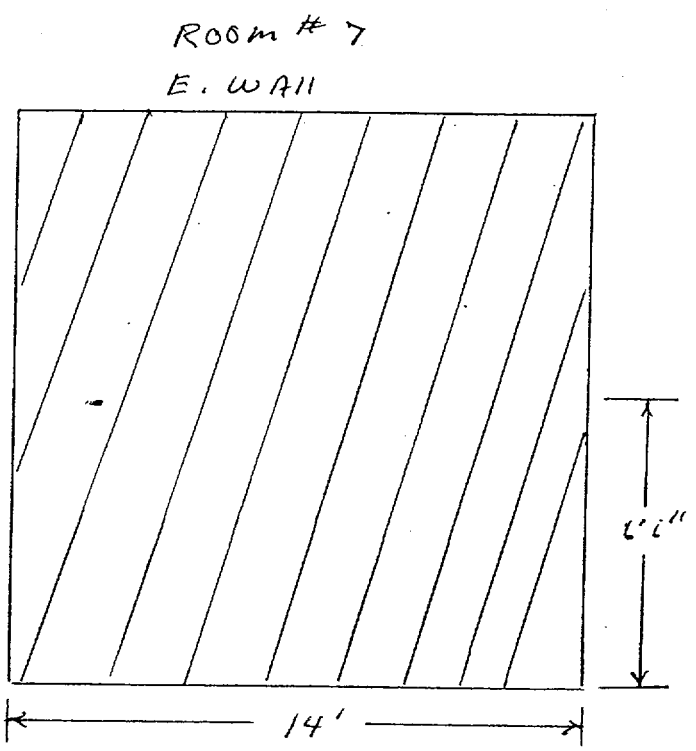
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS WERE 100% OF AREA 6'6" UP WALLS AND 50% ABOVE 6'6"

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: \\\ = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RADI

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-09

DATE: 8-4-00	INSTRUMENTATION USED				
TIME: 1100	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldstone, D. Kounts	Bicron	B5002	N/A	14 mR	10-14-00
LOCATION: Bldg #3182, Room #7	M-2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR 43-68	134485	β-25.5	β-188	6-2-01
	M 2224	132159	α 21.6	α 7	5-30-01
	PR 45-37	134485	β-23.6	β-817	6-2-01
Smear Locations Circled. Dose Rates ~~milliR~~/hr (μR/hr)	WPL 4550	01614	α-21.8 β-24.6	α-0 β 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" UP WALLS AND 50% ABOVE 6'6"

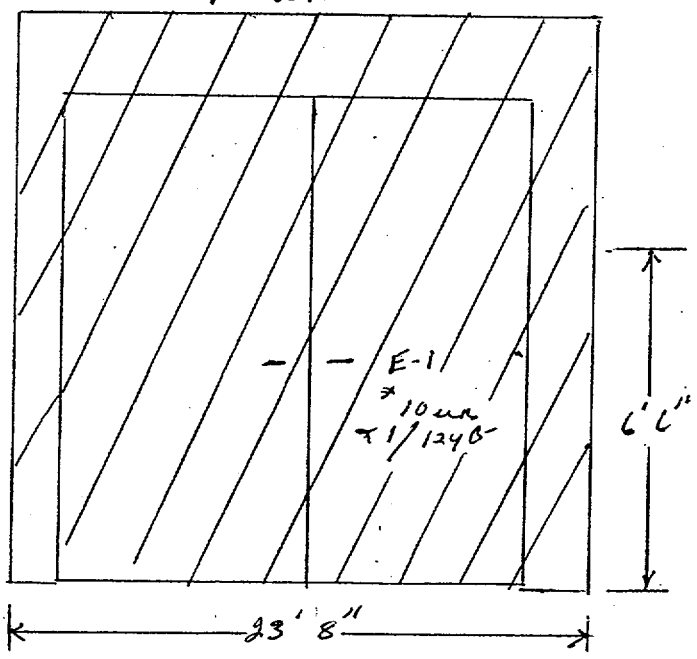
SMEAR RESULTS

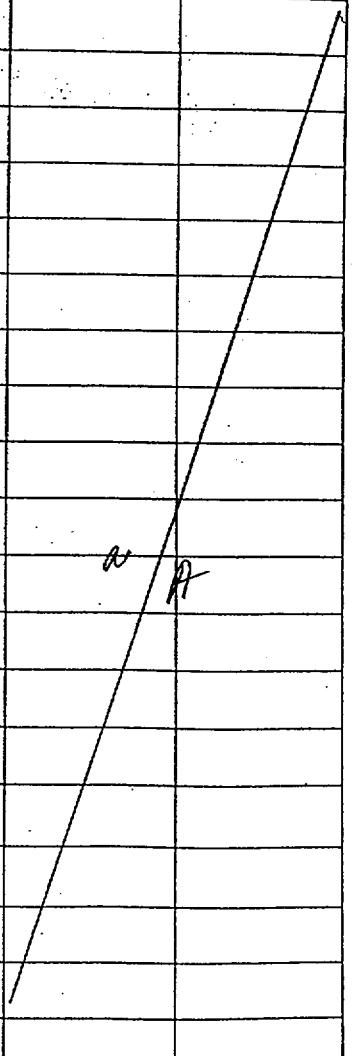
RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α

ROOM #7

N. WALL





* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RADI

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-09

DATE: 8-4-00

TIME: 1100

SURVEYOR: D. Goldston, D. Kounts

LOCATION: Bldg #3182, Room #7

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B-500 ±	N/A	14 μR	10-14-00
M-2224	132154	α 21.6	α 0	5-30-01
PR 43-68	134485	β 26.5	β 188	6-2-01
M-2224	132159	α 21.6	α 7	5-30-01
PR 43-37	088824	β 23.6	β 817	6-2-01
WPC-9550	01614	α 21.8 β 24.6	α D β D	6-18-01

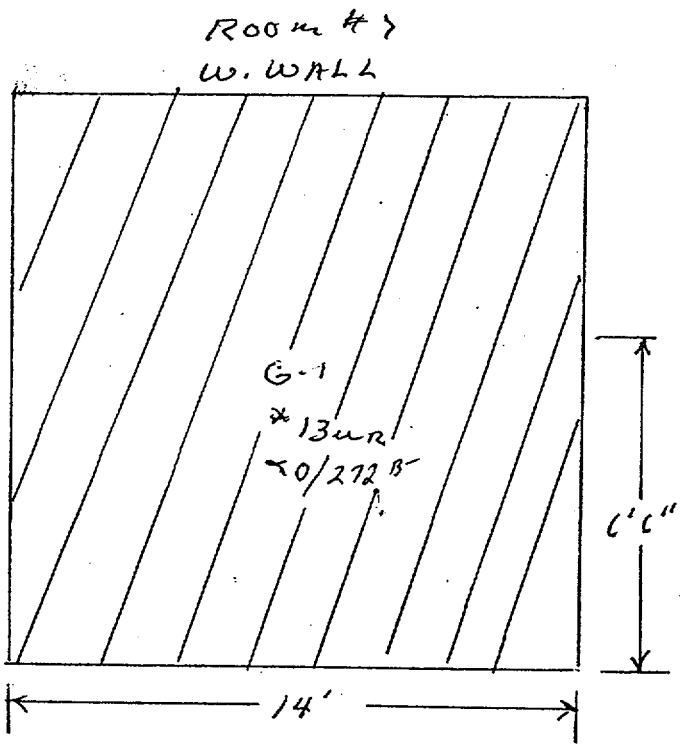
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS WERE 100 % OF AREA 6'6" UP WALLS AND 50 % ABOVE 6'6".

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHER WISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: \\\ = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RAD

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-16 PAGE 1 OF 6

DATE: 8-4-00

TIME: 1300

SURVEYOR: D-Goldstone, D-Kountz

LOCATION: Bldg # 3182, Room # 8

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B 500 Z	N/A	14 uR	10-14-00
m-2224	132159	α 21.6	α 0	5-30-01
PR 43-68	134456	β-25.5	β-174	6-2-01
M 2224	132159	α 21.6	α 5	6-30-01
PR 43-37	088824	β-23.6	β-793	6-2-01
WPC 9550	01614	α 21.8 β 24.6	α 0 β- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS WERE 100 % OF AREA 6'6" up WALL and 50 % ABOVE 6'6"

SMEAR RESULTS

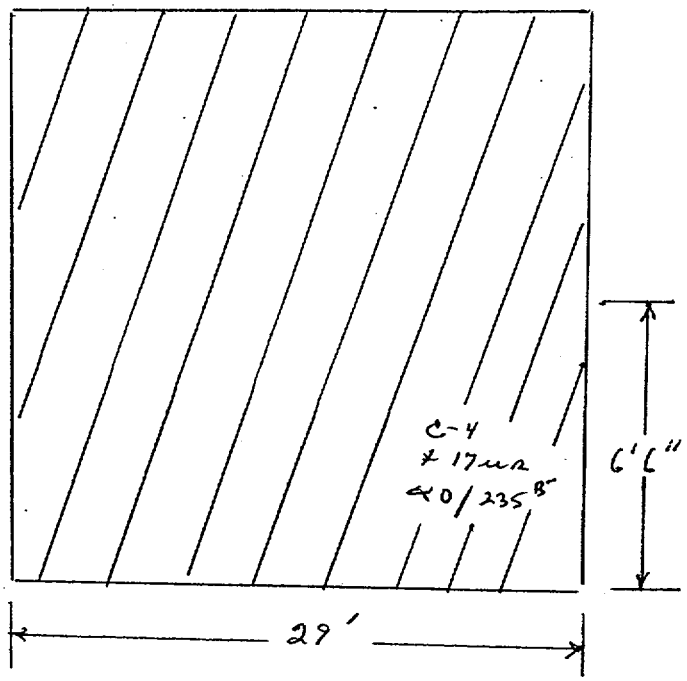
RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

Room # 8

E-WALL

N →



* ALL READINGS ARE IN cpm UNLESS OTHER WISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RAD

RADIOLOGICAL SURVEY REPORT

ATGS #: Fm-16

DATE: 8-4-00	INSTRUMENTATION USED				
TIME: ~~8-4-00~~ DK 1300	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: 1300	BICRON	83500Z	N/A	14 μR/hr	10-14-00
LOCATION: Bldg #3182, Room # 8	M2224	132159	α 21.6	α 0	5-30-00
REVIEWED BY: [signature]	PR43-68	134485	β-25.5	β-174	6-2-01
Smear Locations Circled. Dose Rates ~~micro~~R/hr (μR/hr)	M2224	132159	α 21.6	α 5	5-30-01
	PR43-37	088824	β-23.6	β-793	6-2-01
	WE 9550	01614	α 21.8 β-24.6	α 0 β- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"

SMEAR RESULTS

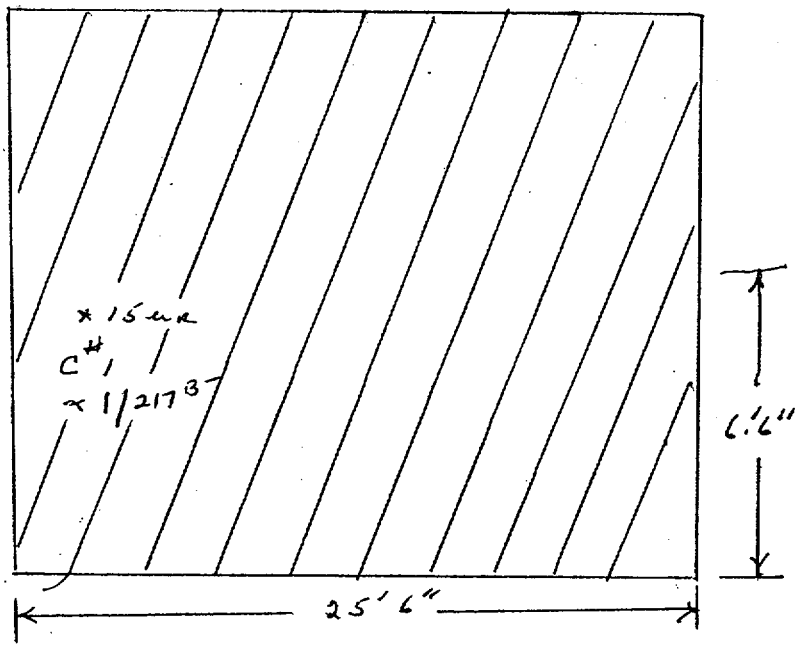
RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α

Room # 8

← N

W. WALL



* All Readings are in cpm unless other wise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: \\\ = show area where Alpha, Beta and Gamma cans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma Acti

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-10

ATE: 8-4-00	INSTRUMENTATION USED				
TIME: 1300	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldstein, D. Krouse	BICRON	B5002	N/R	14 uR	10-14-00
LOCATION: Bldg # 3182, Room # 8	m-2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR43-68	134485	B-25.5	B-174	6-2-01
	m-2224	132159	α 21.6	α 5	5-30-01
	PR43-37	088824	B-33.6	B-783	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC 9550	01614	α 21.8	α 0	6-18-01
			B-24.6	B- 0	

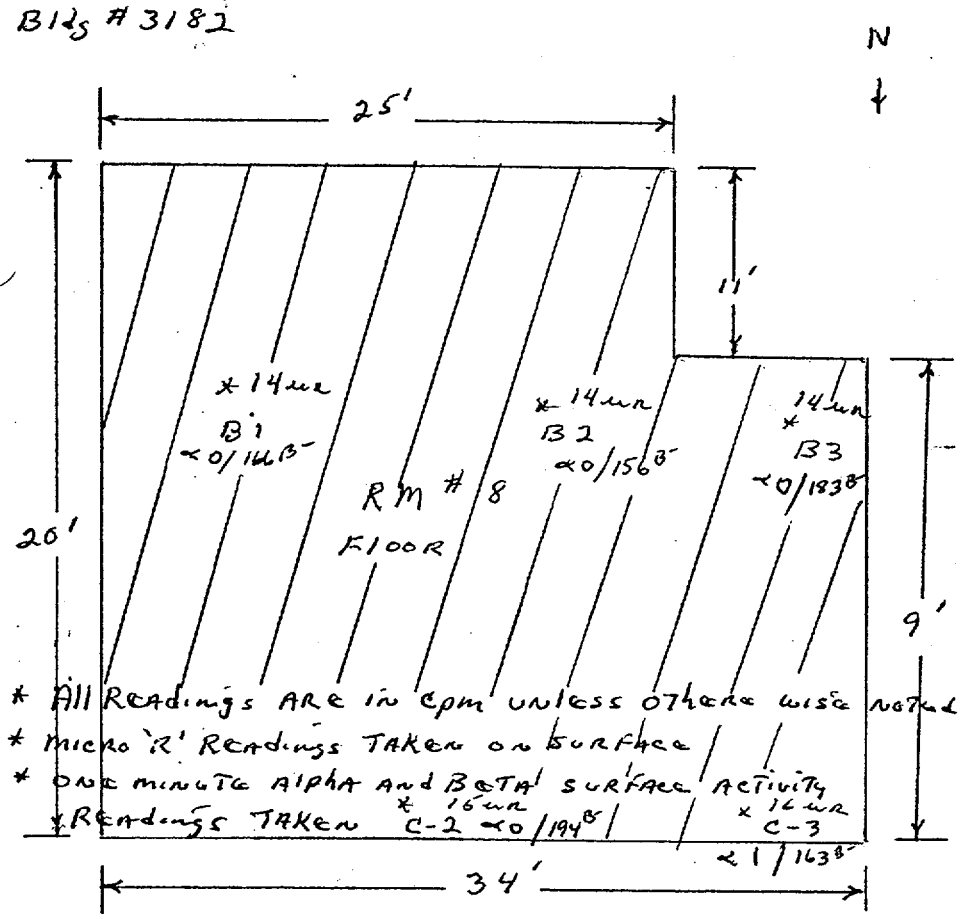
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS WERE 100% ON THE FLOOR

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



Remarks: ▨ = shows AREA where ALPHA, BETA and GAMMA SCANS WERE TAKEN

* All SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-10

DATE: 8-4-00	INSTRUMENTATION USED				
TIME: 1300	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldstone, D. Kolitz	BICRON	B5002	N/A	14 un	10-14-00
LOCATION: Bldg # 3182, Room # 8	M-2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR34-68	134485	B-25.5	B-174	6-8-01
	M 2224	132159	α 21.6	α 5	5-30-01
	PR 43-37	088824	B-23.6	B- 793	6-9-01
Smear Locations Circled. Dose Rates – MicroR/hr (μR/hr)	WPC 9550	01614	α 21.8 B-24.6	α 6 B- 8	6-18-01

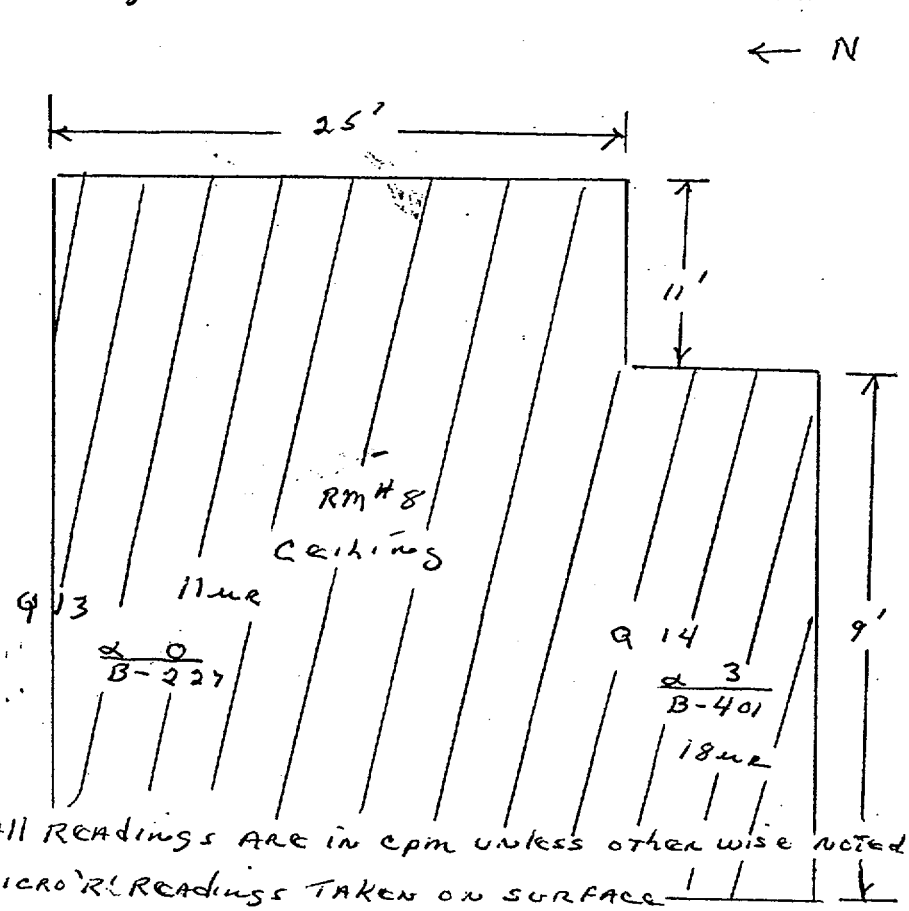
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCAN SURVEY WAS 50 % ON CEILING

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHER WISE NOTED
* MICRO R READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACT.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-10

DATE: 8-4-00

TIME: 1300

SURVEYOR: D. Goldston, D. Kountz

LOCATION: Bldg # 3182, Room # 8

REVIEWED BY: [illegible]

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B500Z	N/A	14uR	10-14-00
M-2224	132159	α 21.6	α 0	① 6-2-01
PR 43-64	134495	β 25.6	β 174	5-30-01
M-2224	132159	α 21.6	α 5	5-30-01
PR 43-37	088824	β 23.6	β 793	6-2-01
WPC 9550	01614	α 21.8 β 24.6	α 0 β 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS WERE 100% OF AREA 6'6" UP WALL AND 50% ABOVE 6'6"

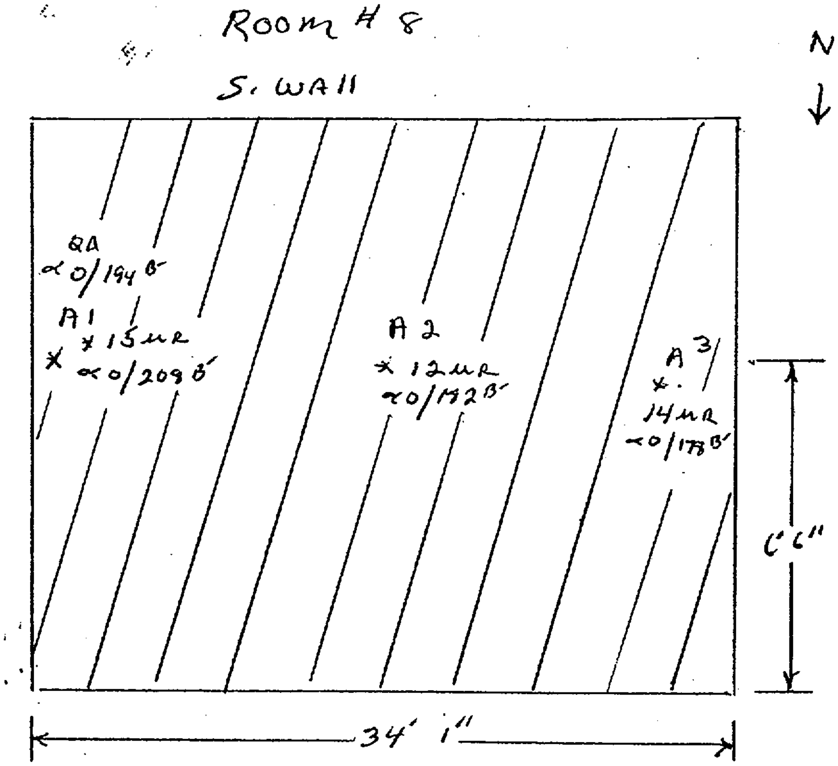
SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α
		N/A

Room # 8

S. Wall



* All readings are in cpm unless otherwise noted

* micro 'R' readings taken on surface

* One minute alpha and beta surface activity readings taken

Remarks: \\\\ = show area where alpha, beta and gamma scans were taken

* All scans surveys are at background levels for alpha, beta and gamma acti

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① transposed as indicated [illegible]

RADIOLOGICAL SURVEY REPORT

ATGS #: Fm-10

DATE: 8-4-00	INSTRUMENTATION USED				
TIME: 1300	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston, D. Kounts	BICRON	B 5002	N/A	14 uR	10-14-00
LOCATION: Bldg #3182, Room # 8	m-2224	132159	α 21.6	α 6	5-30-01
	PR 43-68	134485	B-25.5	B-134	6-2-01
REVIEWED BY:	m 2224	132159	α 21.6	α 5	5-30-01
	PR 43-37	0888-24	B-23.1	B-783	6-2-01
Smear Locations Circled. Dose Rates in microR/hr (μR/hr)	WPC 9550	01614	α 21.8 B-24.1	α 6 B- 8	6-18-01

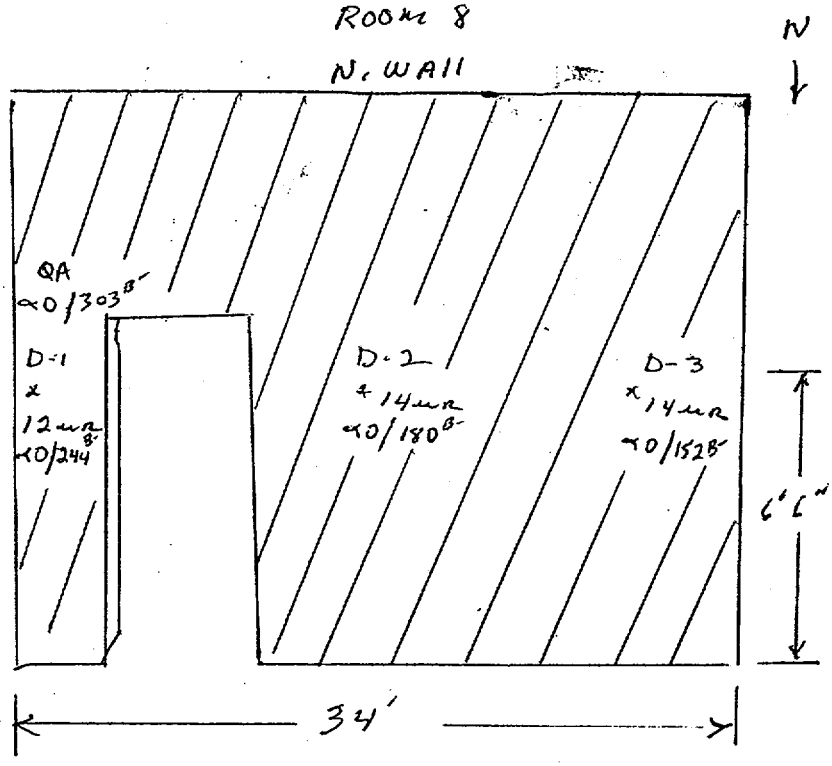
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOUT 6'6"

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RAD

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-11

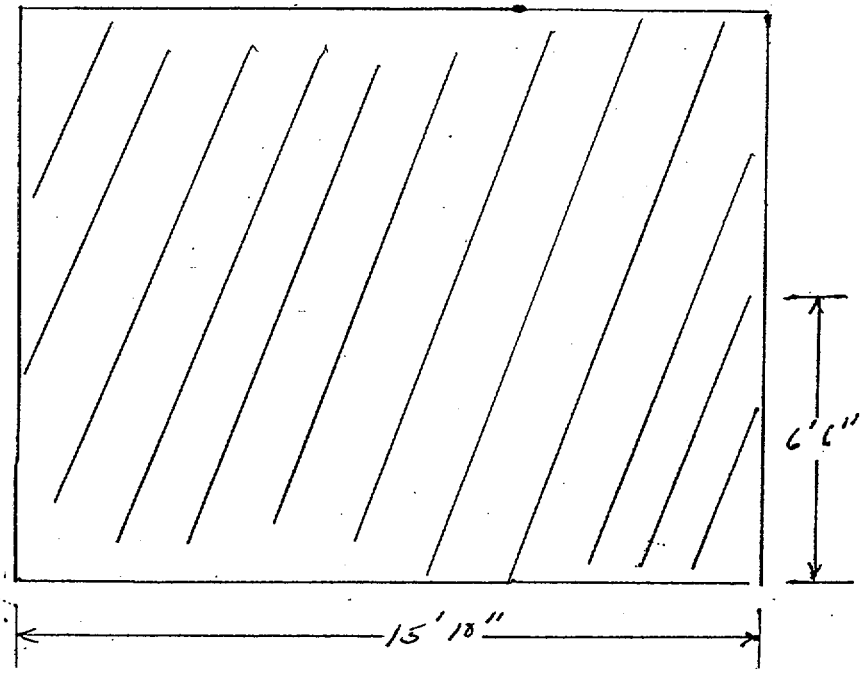
DATE: 8-3-00	INSTRUMENTATION USED				
TIME: 1715	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. EAVES	BICRON	B500Z	N/A	14uR	10-14-00
LOCATION: Bldg #3182, Room #9	M2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR43-68	134485	β 25.5	β 147	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	M2224	132159	α 21.6	α 5	5-30-01
	PR43-37	08882Y	β 23.6	β 756	6-2-01
	WPC 9550	01614	α 21.8	α 0	6-18-01
			β 24.6	β 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED



#	βγ	α

* ALL READINGS ARE in cpm UNLESS OTHER WISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: \\\ = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RADI

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-11

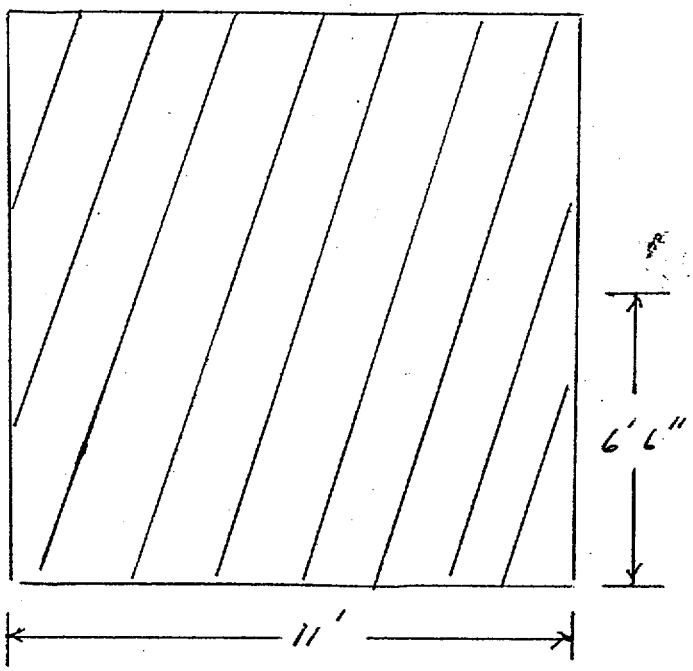
DATE: 8-3-00	INSTRUMENTATION USED				
TIME: 1715	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. CAVES	BICRON	B500Z	N/A	14 uR	10-14-00
LOCATION: Bldg # 3182, ROOM # 9	M2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR43-68	134485	β 25.5	β 147	6-2-01
Smear Locations Circled. Dose Rates = MicroR/hr (μR/hr)	M2224	132159	α 21.6	α 5	5-30-01
	PR43-37	088824	β 23.6	β 756	6-2-01
	WPC 9550	01614	α 21.8	α 0	6-18-01
			β 24.6	β 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

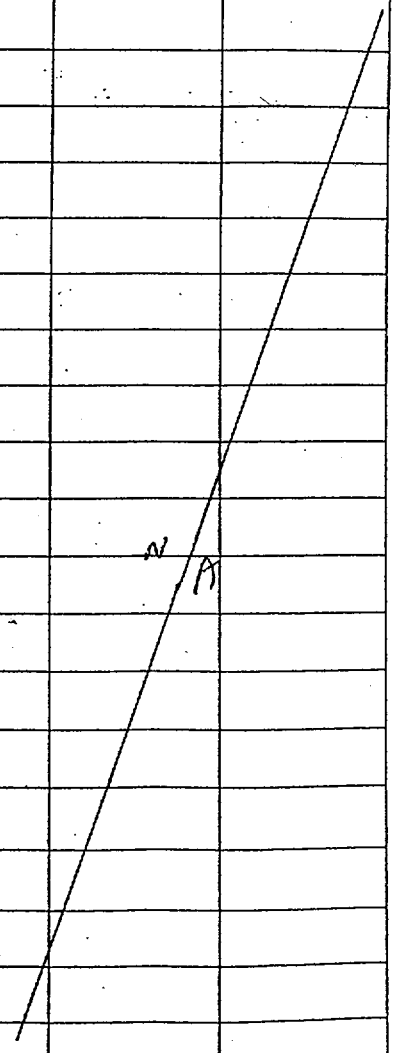
NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOUT 6'6"

ROOM # 9 ← N

E. WALL



SMEAR RESULTS RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED		
#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIV

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-11

DATE: 8-3-00

TIME: 1715

SURVEYOR: R. EAVES

LOCATION: Bldg #3182, Room #9

REVIEWED BY: [signature]

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B500Z	N/A	14 μR	10-14-00
M2224	132159	α 21.6	α 0	5-30-01
PR43-68	134485	β- 25.5	β- 147	6-2-01
M2224	132159	α 21.6	α 5	5-30-01
PR43-37	088824	β- 23.6	β- 756	6-2-01
WPC 9550	01614	α 21.8	α 0	6-18-01
		β- 24.6	β- 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

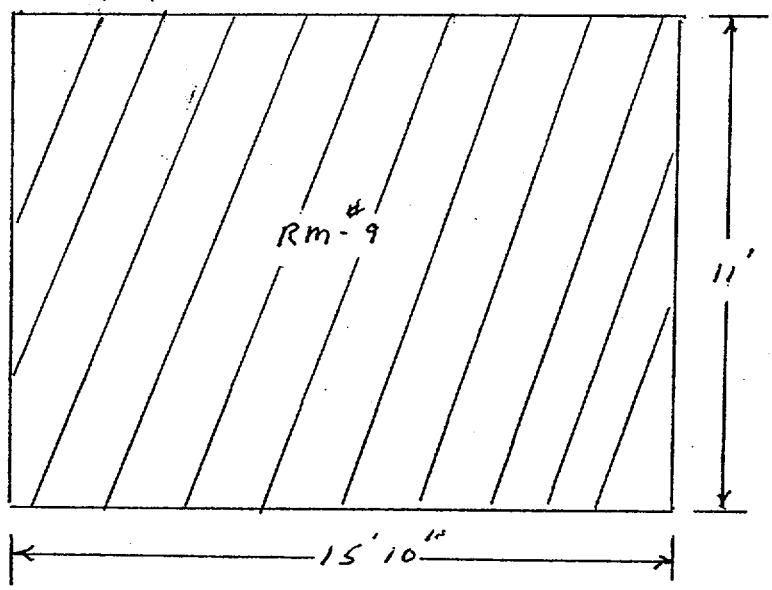
NOTE: SCANS ON THE FLOOR WAS 100%

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

Bldg #3182



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: \\\\ = SHOWS AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIVITYS

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-11

DATE: 8-3-00

TIME: 1715

SURVEYOR: R-EAVES

LOCATION: Bldg # 3182, Room # 9

REVIEWED BY:

Smear Locations Circled. Dose Rates in MicroR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B500Z	N/A	14 μR	10-14-00
M2224	132159	α 21.6	α 0	5-30-01
PR43-68	134485	β 25.5	β 147	6-2-01
M2224	132159	α 21.6	α 5	5-30-01
PR43-37	088824	β 23.6	β 756	6-2-01
WPC 9550	01614	α 21.8	α 0	6-18-01
		β 24.6	β 0	

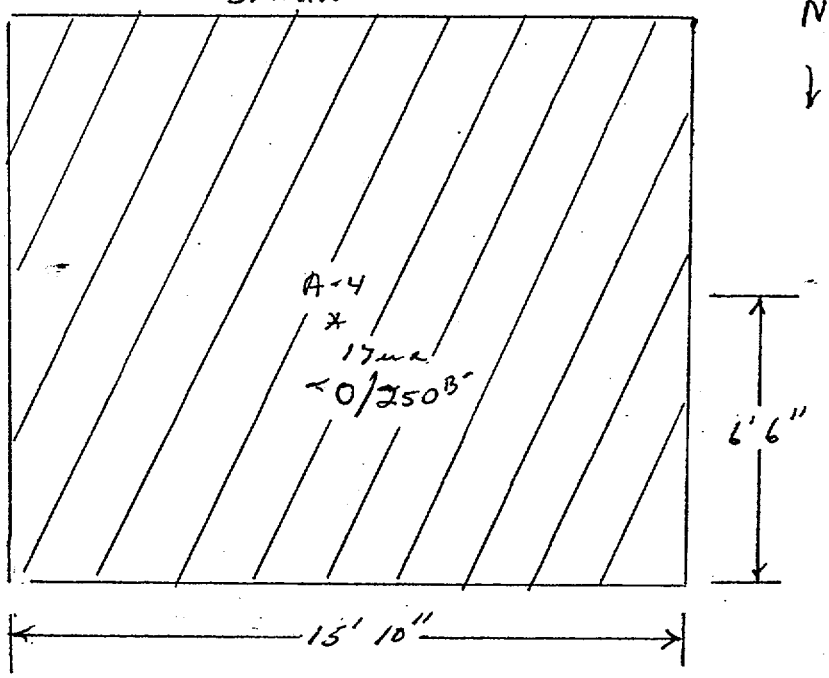
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE in cpm UNLESS OTHER WISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RADIA

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-11

DATE: 8-3-00	INSTRUMENTATION USED					
TIME: 1715	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE	
SURVEYOR: R. EAVES	BICRON	B500Z	N/A	14 uR	10-14-00	
LOCATION: Bldg # 3182, Room # 9	M2224	132159	α 21.6	α 0	5-30-01	
	PR 43-68	134485	β 25.5	β 147	6-2-01	
REVIEWED BY: [signature]	M2224	132159	α 21.6	α 5	5-30-01	
	PR 43-37	088824	β 23.6	β 756	6-2-01	
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC 9550	01614	α 21.8 / β 24.6	α 0 / β 0	6-18-01	

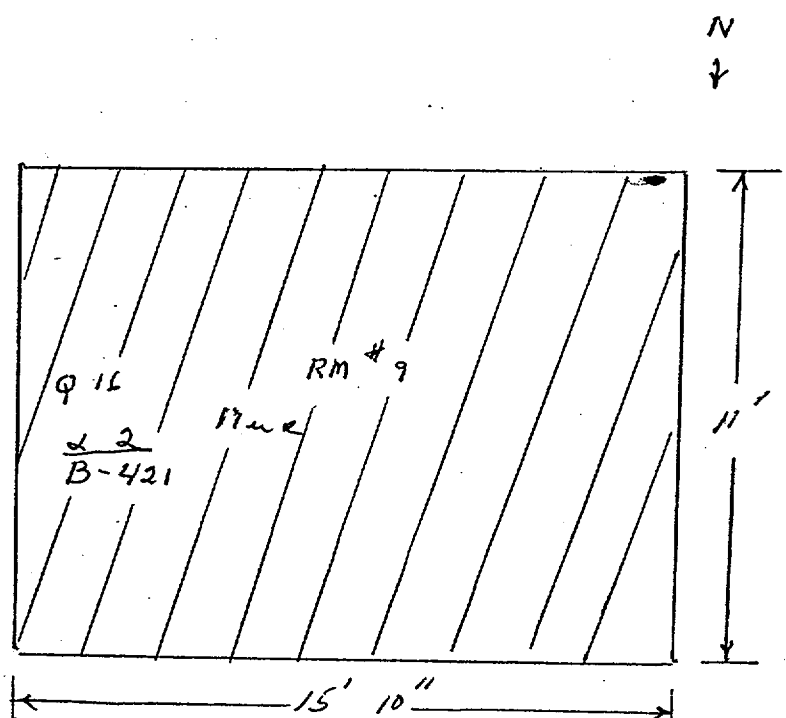
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCAN ON THE CEILING WAS AT 50%

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α
	N/A	



* All Readings Are in cpm unless otherwise noted
* micro 'R' Readings Taken on surface
* One minute Alpha and Beta surface activity Readings Taken

Remarks: \\\ = show AREA where Alpha, Beta and Gamma scans were taken

* All scans surveys are at Background Levels for Alpha, Beta and Gamma Acti...

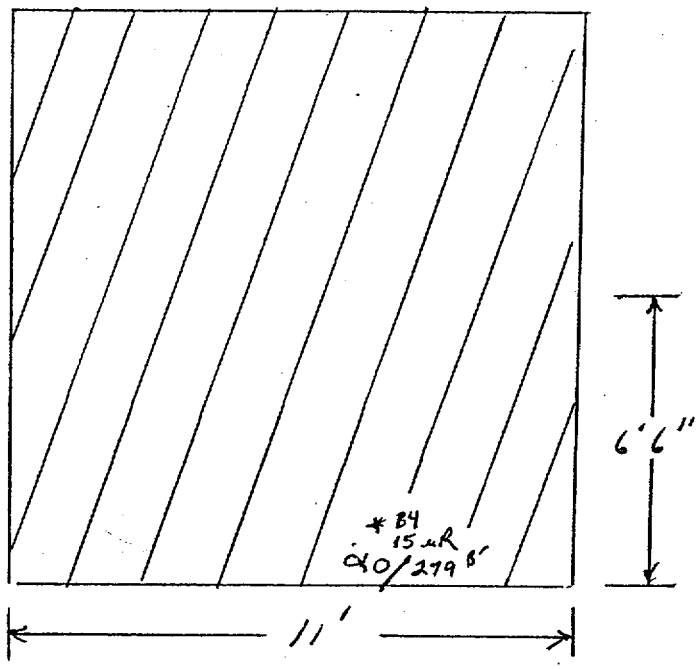
RADIOLOGICAL SURVEY REPORT

ATGS #: FM-11

DATE: 8-3-00	INSTRUMENTATION USED				
TIME: 1715	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. EAVES	BICRON	B 500 Z	N/A	14 uR	10-14-00
LOCATION: Bldg #3182, Room #9	M-2224	132159	γ 21.6	γ 0	6-2-01 5-30-01
	PR 43-68	134445	B' 25.5	B' 147	
REVIEWED BY:	M-2224	132159	α 21.6	α 5	5-30-01
	PR 43-37	~~134485~~ 088824	B' 25.6	B' 756	6-2-01
Smear Locations Circled. Dose Rates in microR/hr (μR/hr)	WPC 9550	01614	α 21.8	α 0	6-18-01
			B 24.6	B 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOUT 6'6"



SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α

* ALL READINGS ARE in cpm UNLESS OTHER WISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTI

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-12

DATE: 8-3-00

TIME: 1130

SURVEYOR: R. Kountz / D. Goldston

LOCATION: Bldg #3182, Room # 10

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B-500 Z	N/A	14 μR	10-14-00
M-2224	132159	α 21.6	α 0	5-30-01
PR 43-68	134485	β- 25.5	β- 198	6-2-01
M-2224	132159	α 21.6	α 7	5-30-01
PR 43-37	088824	β- 23.6	β- 817	6-2-01
WPL 9550	01614	α 21.8 β- 24.6	α 0 β- 0	6-18-01

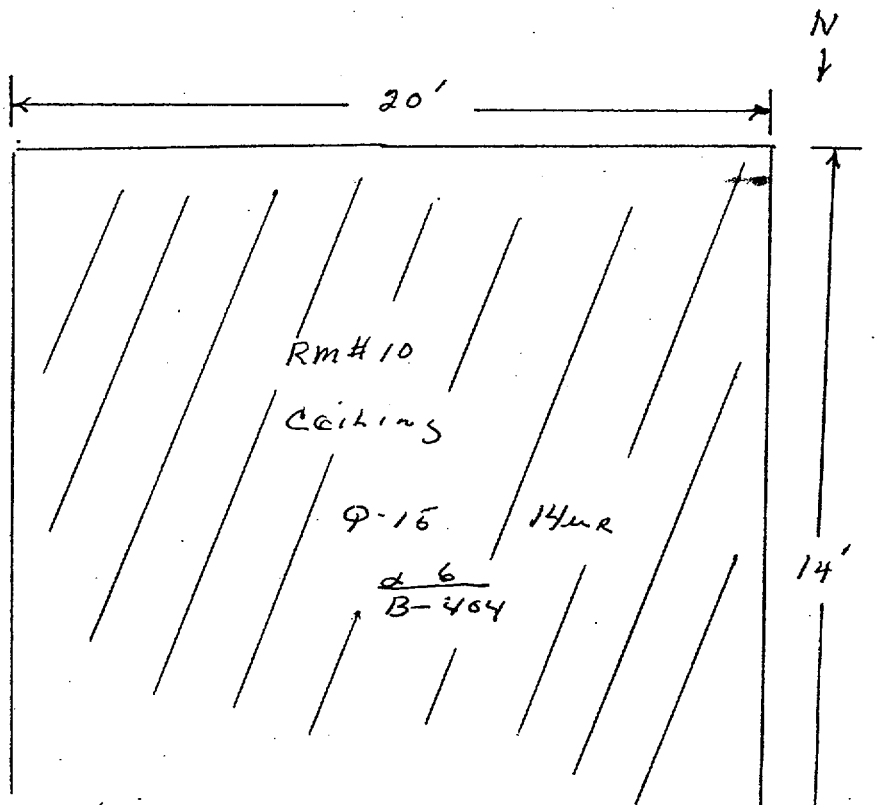
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCAN ON CEILING WAS AT 50%

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α
		N/A



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTI...

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-12

DATE: 8-3-00	INSTRUMENTATION USED				
TIME: 1130	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Kounta / D. Goldston	BICRON	B500Z	N/A	14 uR	10-14-00
LOCATION: Bldg #3182, Room #10	M-2224	132154	α 21.6	α 0	5-30-01
	PR 43-68	134485	β- 25.5	β- 188	6-2-01
REVIEWED BY:	M-2224	132759	α 21.6	α 7	5-30-01
	PR 43-37	088824	β- 23.6	β- 817	6-2-01
Smear Locations Circled. Dose Rates in mR/hr (μR/hr)	WPL 9550	01614	α 21.8 β- 24.6	α 0 β- 0	6-18-01

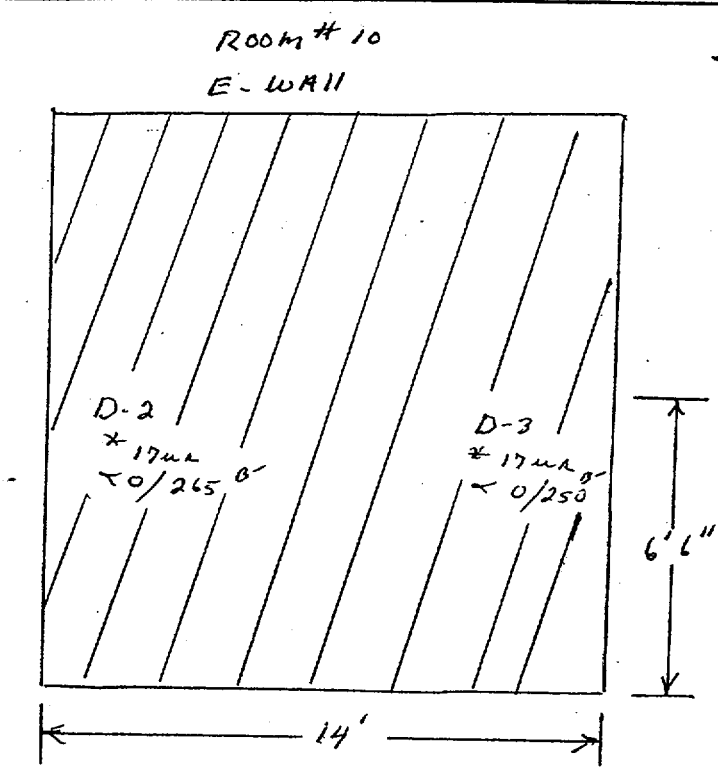
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: \\\ = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RADIA

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-12

DATE: 8-3-00	INSTRUMENTATION USED				
TIME: 1130	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Kountz / D. Goldsford	BICRON	B-500Z	N/A	14 ur	10-14-00
LOCATION: Bldg # 3182, Room # 10	M-2224	132159	α 21.6	α 0	5-30-01
	PR 43-68	134485	β⁻ 25.5	β⁻ 188	6-2-01
REVIEWED BY: [signature]	M-2224	132159	α 21.6	α 7	5-30-01
	PR 43-37	098824	β⁻ 23.6	β⁻ 817	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC 9550	01614	α 21.8	α 0	6-18-01
			β⁻ 24.6	β⁻ 0	

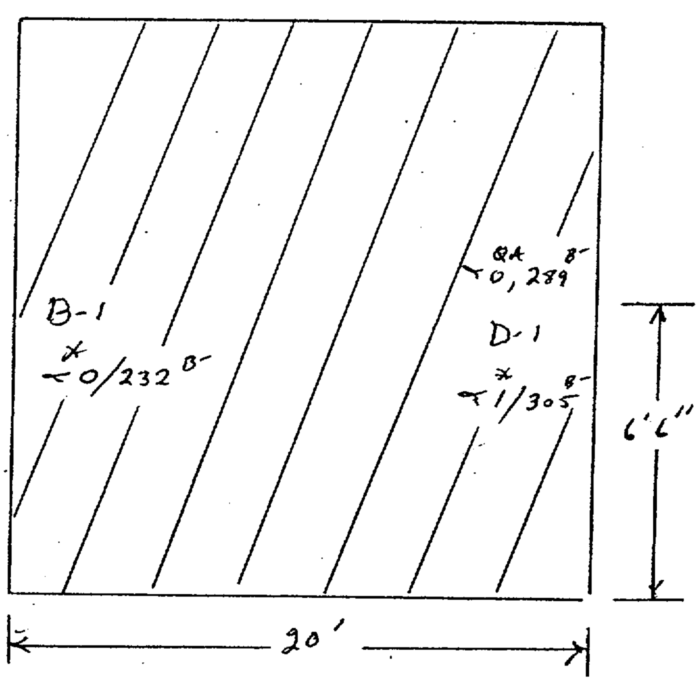
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" UP WALL AND 50% ABOVE 6'6"

Room # 10

N. WALL

N ↓



SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α
	N/A	

* All Readings are in cpm unless otherwise noted
* micro 'R' Readings Taken on Surface
* One minute Alpha and Beta surface Activity Readings Taken

Remarks: \\\ = show Area where Alpha, Beta and Gamma Scans were Taken

* All Scans Surveys are at Background Levels for Alpha, Beta and Gamma Activ

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-11

DATE: 8-3-00	INSTRUMENTATION USED				
TIME: 1130	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Kountz / D. Goldston	Bicron	B5002	N/A	14 mR	10-12-00
LOCATION: Bldg # 3181, Room # 10	M-2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR 43-68	134485	β- 25.5	β- 188	6-2-01
	M-2224	132159	α 21.6	α 7	5-30-01
	PR 43-37	089824	β- 23.6	β- 817	6-2-01
Smear Locations Circled. Dose Rates — MicroR/hr (μR/hr)	NPL 9550	01614	α 21.5 β- 24.6	α 0 β- 0	6-19-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

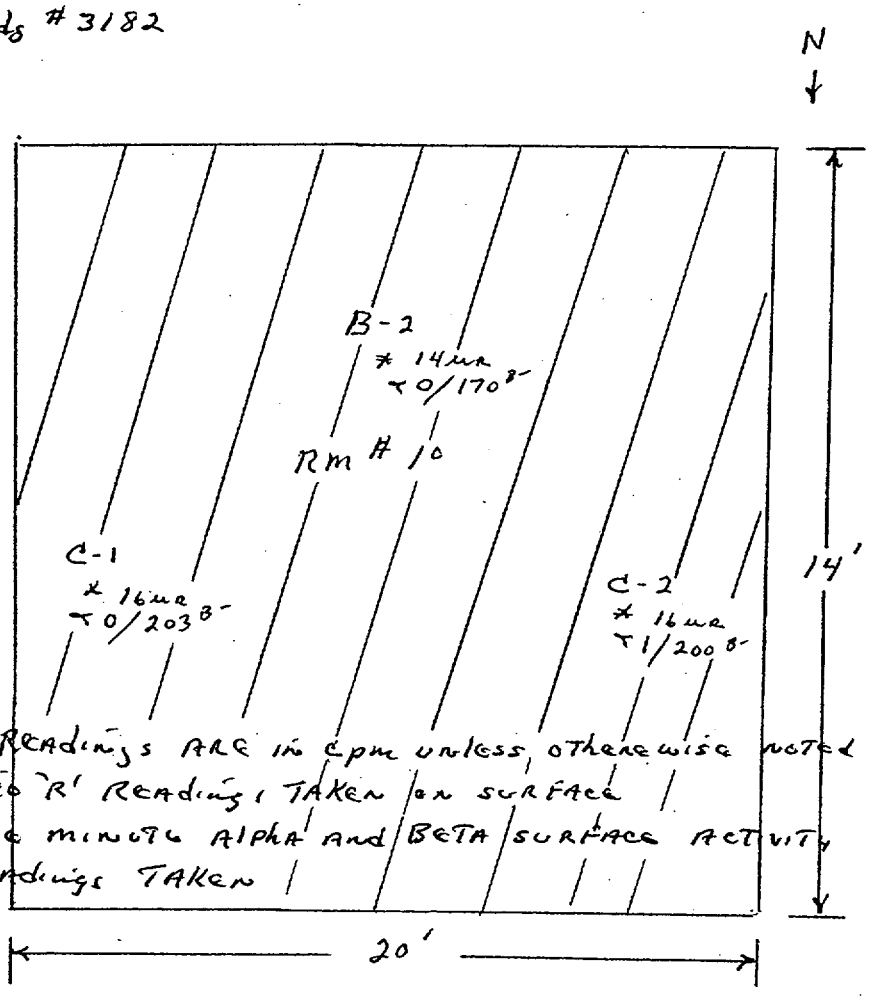
NOTE! SCANS ON FLOOR WERE 100 %

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α

Bldg # 3182



* All Readings are in cpm unless otherwise noted
* mR/hr Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: ||| = shows area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at Background Levels for Alpha, Beta and Gamma Activitys

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-12

DATE: 6 3-00

TIME: 1130

SURVEYOR: R. Krantz / P. Goldston

LOCATION: Bldg #3182, Room #10

REVIEWED BY: [signature]

Smear Locations Circled. Dose Rates ~~in MicroR/hr~~ (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B 5002	N/A	14 uR	10-14-00
M-2224	132159	α 21.6	α 0	(1) 6-2-01
GR 43-69	134485	β 25.5	β 188	X 5-30-01
M-2224	132159	α 21.6	α 7	5-30-01
PR 43-37	088824	β 23.6	β 817	6-2-01
WPL 9550	01614	α 21.8 β 24.6	α 0 β 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6' 6" up WALL AND 50% ABOVE 6' 6"

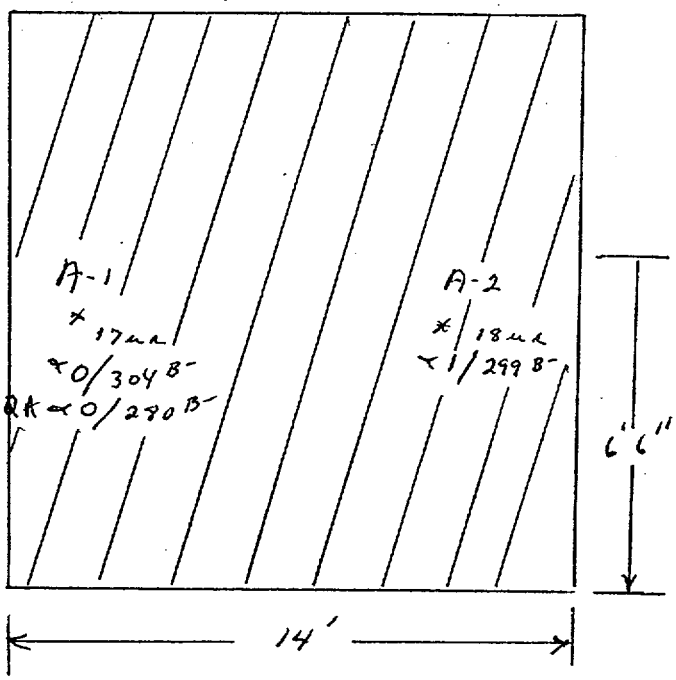
SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

Room #10
W. WALL

N →



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: \\\ = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIV

(1) transposed as indicated 8008 [signature]

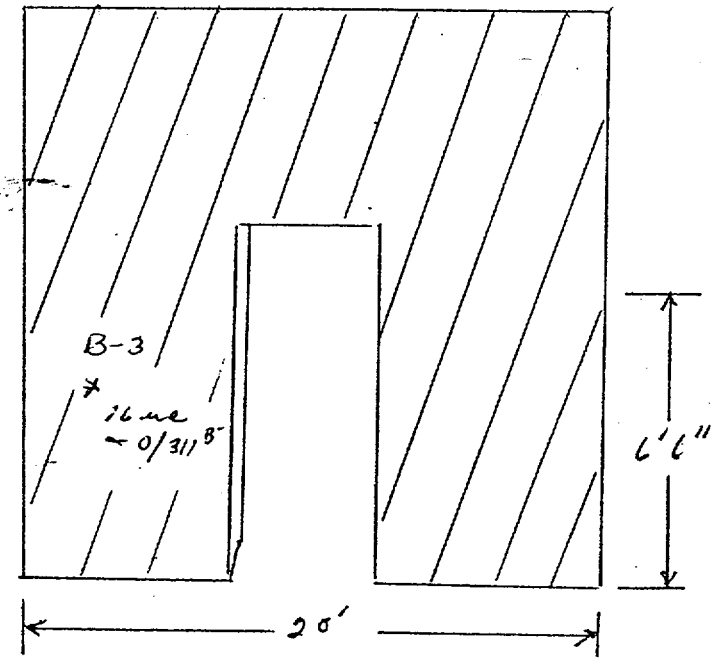
RADIOLOGICAL SURVEY REPORT

ATGS #: FM-12

DATE: 8-3-00	INSTRUMENTATION USED				
TIME: 1130	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Kountz / D. Goldston	Bicron	B-5007	N/A	14 uR	10-14-00
LOCATION: Bldg #3182, Room # 10	M-2224	132159	α 21.6	α 0	5-30-01
	PR 43-68	134485	β- 25.5	β- 188	6-2-01
REVIEWED BY:	M-2224	132159	α 21.6	α 7	5-30-01
	PR 43-37	088824	β- 23.6	β- 817	6-2-01
Smear Locations Circled. Dose Rates in MicroR/hr (μR/hr)	WPC 9550	01614	α 21.8 β- 24.6	α 0 β- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"



SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

N/A

* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIV

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-13

DATE: 8-3-00

TIME: 1400

SURVEYOR: R. EAVES

LOCATION: Bldg #3182, Room # 11

REVIEWED BY: [signature]

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B 6002	N/A	14μR	10-14-00
M-2224	132159	α 21.6	α 0	6-2-01
PR 43-68	134485	β- 25.5	β- 225	5-30-01
M-2224	132159	α 21.6	α 7	5-30-01
PR 43-37	088824	β- 23.6	β- 1251	6-2-01
WPC 9550	0164	α 21.8	α 0	6-18-01
		β- 24.6	β- 0	

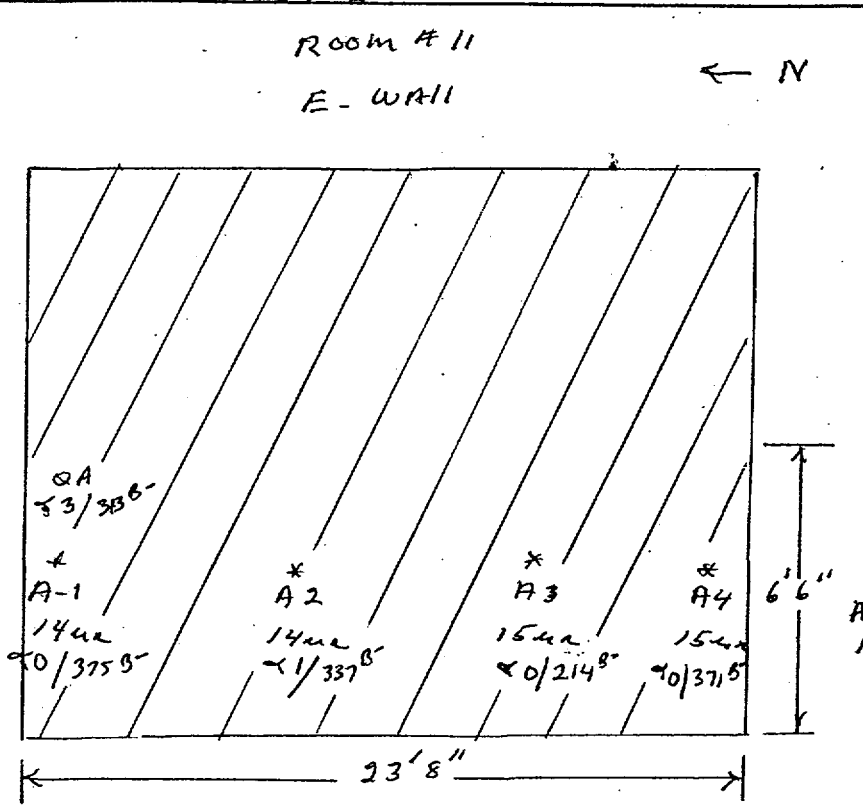
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α
A5		
14μR <1/273 β-		



* ALL READINGS ARE IN cpm UNLESS OTHER WISE NOTED

* MICRO 'R' READINGS TAKEN ON SURFACE

* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTI

① transposed as indicated
ZL 7-26-2001

RADIOLOGICAL SURVEY REPORT

ATGS #: Fm-13

DATE: 8-3-00

TIME: 1400

SURVEYOR: R. Eaves

LOCATION: Bldg # 3182 Room # 11

REVIEWED BY: [signature]

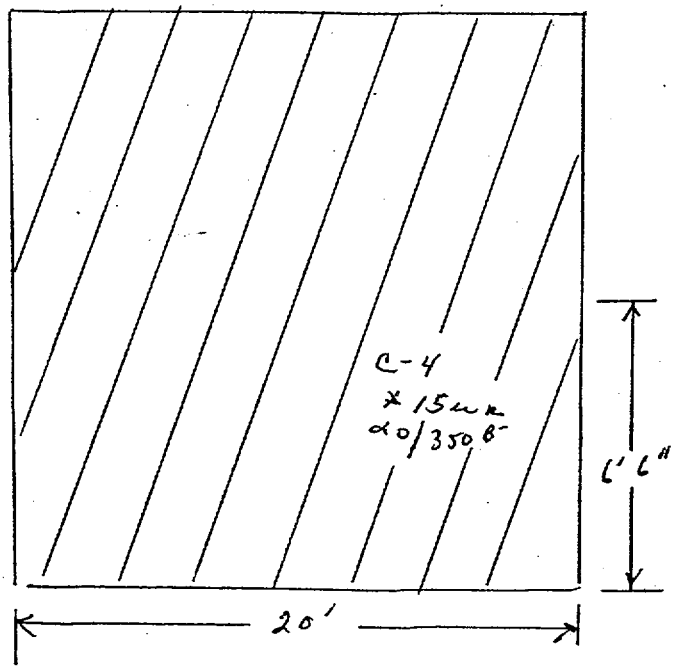
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B-5002	N/A	14μR	10-14-00
M-2224	132159	α 21.6	α 0	
PR 43-68	134485	β-25.5	β-225	5-30-01/6-2-01
M 2224	132159	α 21.6	α 7	5-30-01
PR 43-37	088824	β-23.6	β-1251	6-2-01
WPC 9550	0164	α 21.8	α 0	6-18-01
		β-24.6	β-0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"



* All Readings are in cpm unless other wise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: ||| = show area where Alpha, Beta and Gamma scans were taken

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α

* All scans surveys are at background levels for Alpha, Beta and Gamma Acti

RADIOLOGICAL SURVEY REPORT

ATGS #: Fm-13

DATE: 8-3-00	INSTRUMENTATION USED				
TIME: 1400	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. EAVES	BICRON	B-5062	N/A	14 uR	10-14-00
LOCATION: Bldg #3182, Room #11	M2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR 43-68	134485	β 25.5	β 225	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	M2224	132159	α 21.6	α 7	5-30-01
	PR 43-37	088824	β 23.6	β 1251	6-2-01
	WPC 9550	01614	α 21.8	α 0	6-18-01
			β 24.6	β 0	

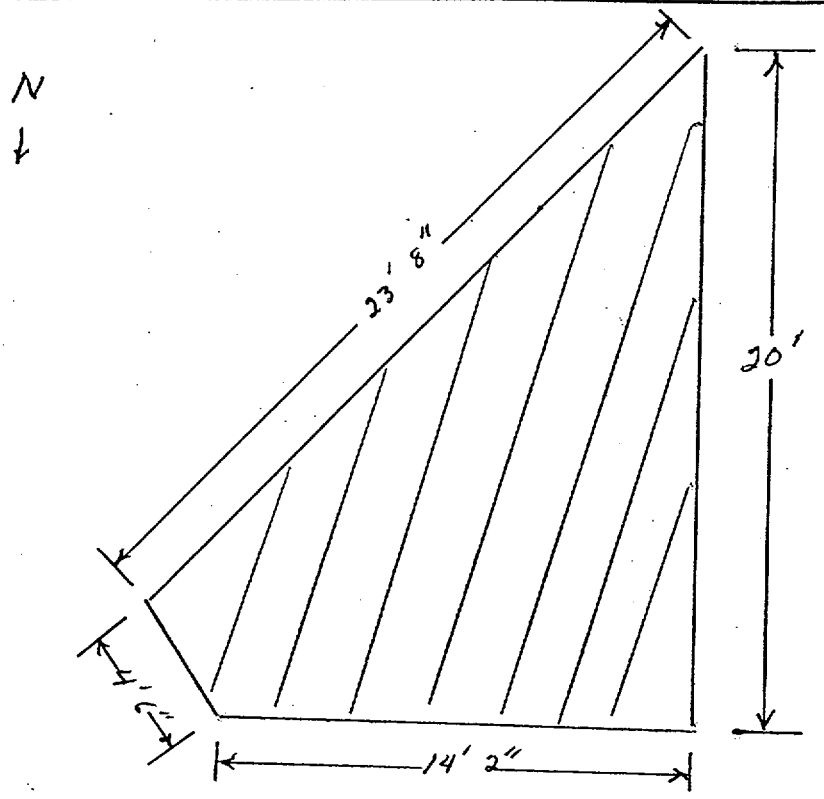
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6' 6" up WALL AND 50% ABOVE 6' 6"

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* All Readings are in cpm unless other wise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: \\\ = show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma Activ

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-13

DATE: 8-3-00

TIME: 1400

SURVEYOR: R. EAVES

LOCATION: Bldg #3182, Room # 11

REVIEWED BY:

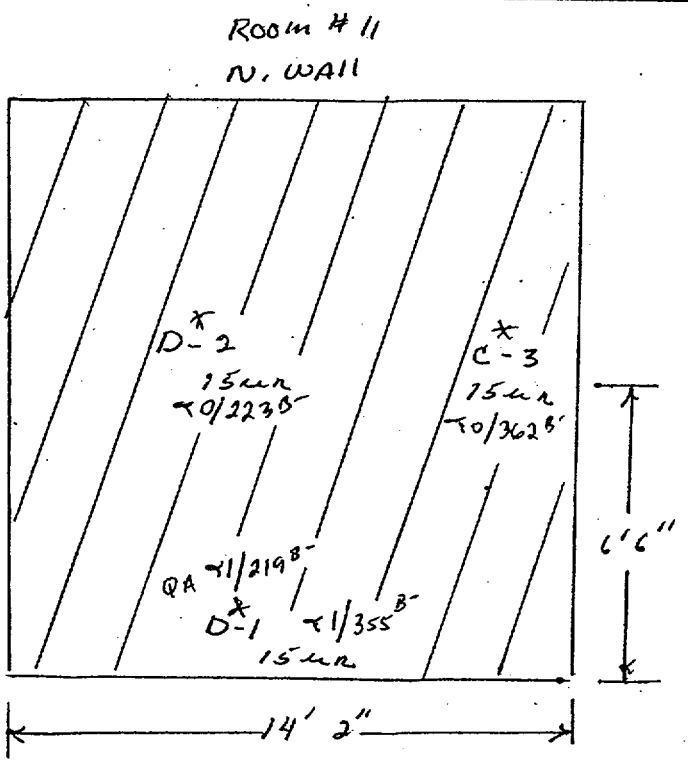
Smear Locations Circled. Dose Rates in microR/hr (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B 5002	N/A	14 μR	10-14-00
M2224	132159	α 21.6	α 0	5-30-01
PR43-68	134485	β- 25.5	β- 225	6-2-01
M2224	132159	α 21.6	α 7	5-30-01
PR43-37	088824	β- 23.6	β- 1251	6-2-01
WPC 9550	01614	α 21.8	α 0	6-18-01
		β- 24.6	β- 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"



SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

* ALL READINGS ARE IN cpm UNLESS OTHER WISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: \\\ = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTI

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-13

DATE: 8-3-00

TIME: 1400

SURVEYOR: R. EAVES

LOCATION: Bldg #3182, Room #11

REVIEWED BY:

Smear Locations Circled. Dose Rates = milliR/hr (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B500Z	N/A	14 μR	10-14-00
M2224	132159	α 21.6	α 0	5-30-01
PR 43-68	134485	β 25.5	β 225	6-2-01
M2224	132159	α 21.6	α 7	5-30-01
PR 43-37	088824	β 23.6	β 1251	6-2-01
WPC 9550	01614	α 21.8 β 24.6	α 0 β 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" UP WALL AND 50% ABOVE 6'6"

SMEAR RESULTS

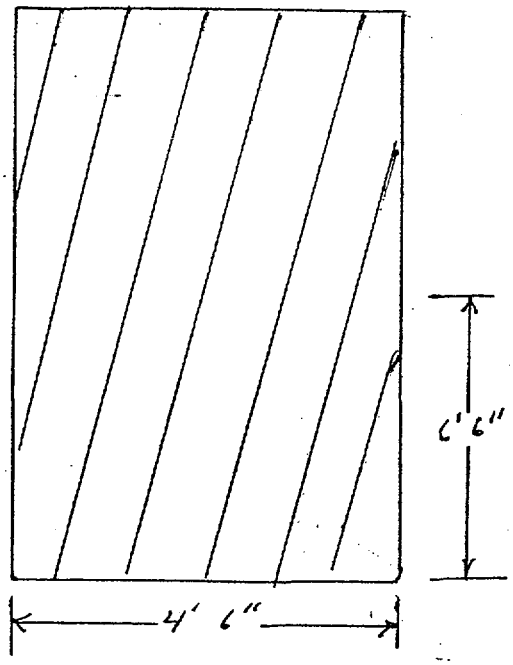
RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α

Room #11

N.E. WALL

N



* All readings are in cpm unless other wise noted
* Micro 'R' Readings taken on surface
* One minute alpha and beta surface activity readings taken

Remarks: ||| = show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma Activ

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-13

ATE: 8-3-00	INSTRUMENTATION USED				
TIME: 1400	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Eaves	Bicron	B-5002	N/A	14 cpm	10-14-00
LOCATION: Bldg #3182 Room # 11	M 2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR 43-68	134485	β 25.5	β 225	6-2-01
	M-2224	132159	α 21.6	α 7	5-30-01
	PR 43-37	088824	β 23.6	β 1251	6-2-01
Smear Locations Circled. Dose Rates = micro R/hr (μR/hr)	WPC 9550	01614	α 21.8	α 0	6-18-01
			β 24.6	β 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCAN ON THE ~~CEILING~~ FLOOR DK AT ~~50%~~ 100 DK

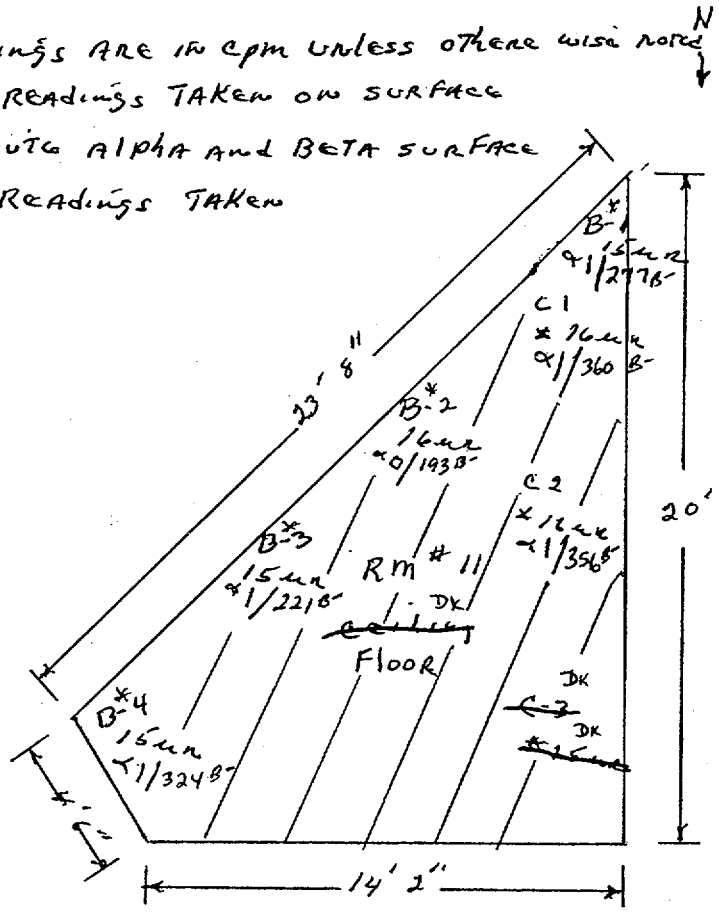
Bldg #3182

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN



Remarks: \\\ = shows AREA where ALPHA, BETA and GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA and GAMMA ACTIVITYS

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-14

DATE: 8-3-00	INSTRUMENTATION USED				
TIME: 0805	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Kountz / D. Goldston	BicRon	B-5002	N/A	14 cpm	10-14-00
LOCATION: Bldg # 3183, Room # 12	M-2224	132159	α 21.6	α 2	5-30-01
	PR 43-68	134485	β- 25.5	β- 389	6-2-01
REVIEWED BY:	M-2224	132159	α 21.6	α 6	5-30-01
	PR 43-37	088824	β- 23.6	β- 1075	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC 9550	01614	α 21.8	α 0	6-18-01
			β- 24.6	β- 0	

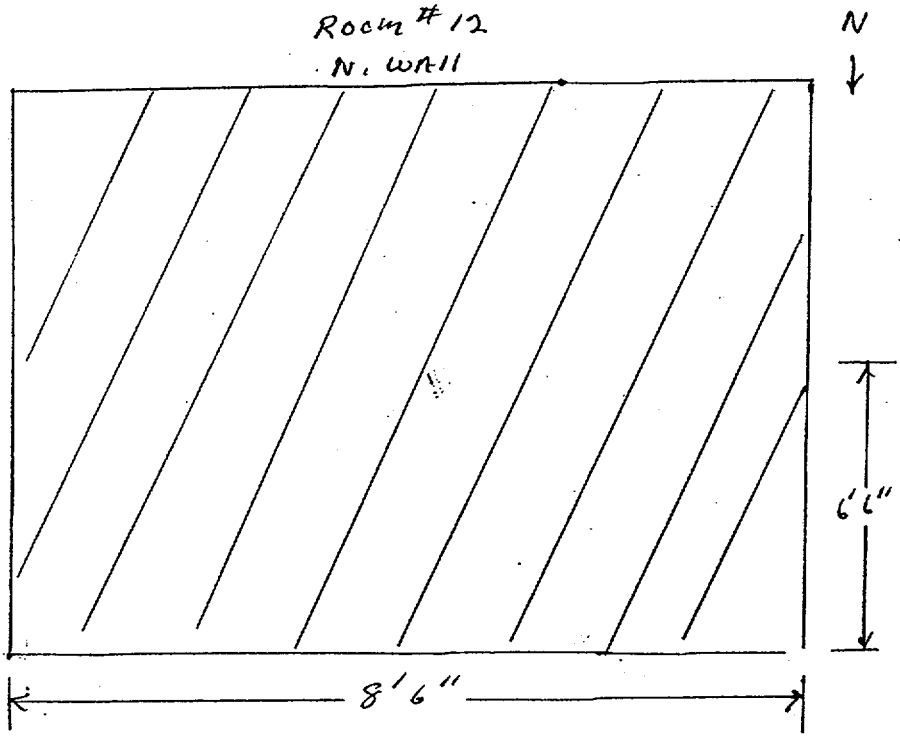
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOUT 6'6"

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIV

RADIOLOGICAL SURVEY REPORT

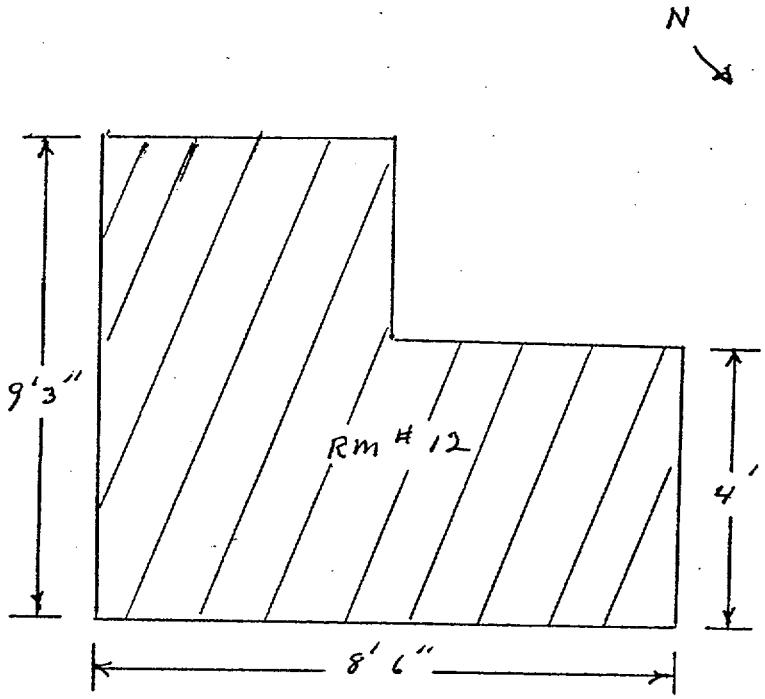
ATGS #: FM-14

DATE: 8-3-00	INSTRUMENTATION USED				
TIME: 0805	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Kountz/D. Goldston	Bicron	B-5002	N/A	14 cpm	10-14-00
LOCATION: Bldg # 3182, Room # 12	M-2224	132159	α 21.6	α 2	5-30-01
REVIEWED BY:	PR 43-68	134495	β- 25.5	β- 389	6-2-01
Smear Locations Circled: Dose Rates = microR/hr (μR/hr)	M-2224	132159	α 21.6	α 6	5-30-01
	PR 43-37	088824	β- 23.6	β- 1075	6-2-01
	WPC 9550	01614	α 21.8	α 0	6-18-01
			β- 24.6	β- 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE, SCANS ON THE FLOOR WERE 100 %

Bldg # 3182



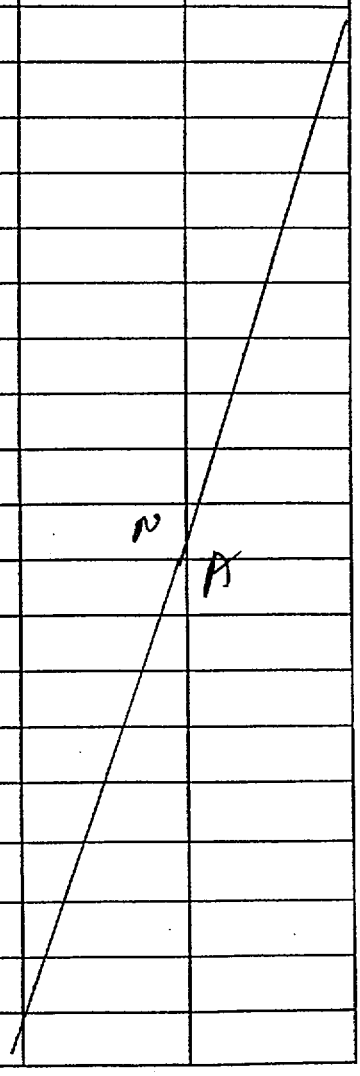
* All Readings are in cpm unless otherwise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: \\\ = shows area where Alpha, Beta and Gamma scans were taken

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* All scans surveys are at Background Levels for Alpha, Beta and Gamma Activity's

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-14

DATE: 8-3-00

TIME: 0805

SURVEYOR: R. Kountz / D. Golbston

LOCATION: Bldg #3182, Room # 12

REVIEWED BY:

Smear Locations Circled. Dose Rates = milliR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B-5002	N/A	14 μR	10-14-00
M-2224	132154	α 21.6	α 2	5-30-01
PR 43-68	134485	β- 25.5	β- 389	6-2-01
M-2224	132159	α 21.6	α 6	5-30-01
PR 43-37	098824	β- 23.6	β- 1075	6-2-01
WPL 9550	01614	α 21.8	α 0	6-18-01
		β- 24.6	β- 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

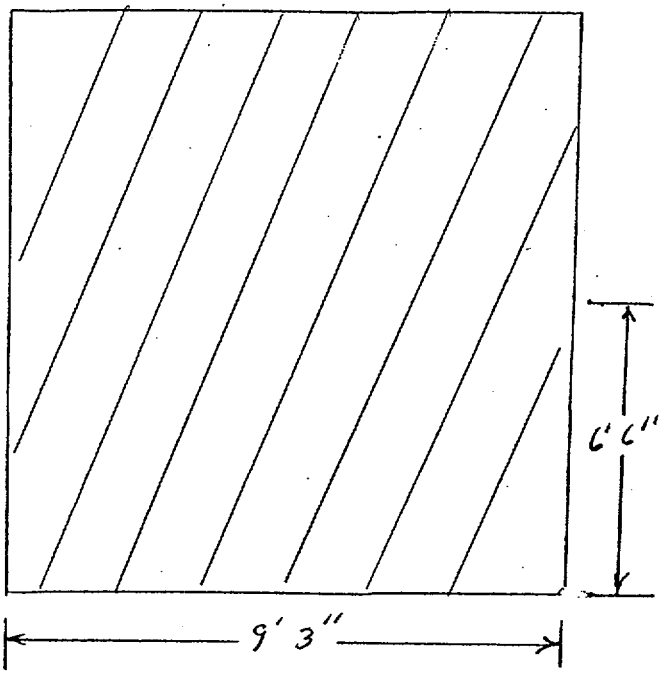
NOTE! SCANS WERE 100% OF AREA 6' 6" up WALL AND 50% ABOUT 6' 6"

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α

ROOM # 12
E- WALL



* All Readings are in cpm unless other wise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: ||| = show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at Background Levels for Alpha, Beta and Gamma Activ

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-14

DATE: 4-3-00	INSTRUMENTATION USED				
TIME: 0805	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Kounta / D. Goldston	Bicron	B3500Z	N/A	14 cpm	10-14-00
LOCATION: Bldg # 3182, Room # 12	M-2224	132159	α 21.6	α 2	5-30-01
REVIEWED BY:	PR 43-68	134495	β 25.5	β 389	6-2-01
	M-2224	132159	α 21.6	α 6	5-30-01
	PR 43-37	099824	β 23.6	β 1075	6-2-01
Smear Locations Circled. Dose Rates ~~micro~~R/hr (μR/hr)	WPC 9550	01614	α 21.8 β 24.6	α 0 β 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

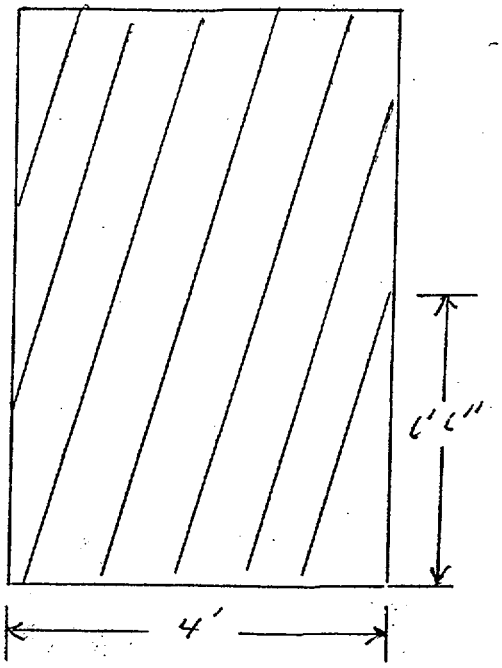
NOTE! SCANS WERE 100% OF AREA 6' 6" up WALL AND 50% ABOVE 6' 6"

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

Room # 12
W - WALL



* All Readings are in cpm unless other wise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: ||| = show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at Background Levels for Alpha, Beta and Gamma Radia

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-14

DATE: 8-3-00	INSTRUMENTATION USED				
TIME: 0805	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Kounts / D. Goldston	BicRon	B 5002	N/A	14uR	10-14-00
LOCATION: Bldg #3182, Room # 12	M-2224	132159	α 21.6	α 2	5-30-01
	PR 43-65	134485	β- 25.5	β- 389	6-2-01
REVIEWED BY:	M-2224	132159	α 21.6	α 6	5-30-01
	PR 43-37	089824	β- 23.6	β- 1075	6-2-01
Smear Locations Circled. Dose Rates ~~milliR/hr~~ (μR/hr)	WPC 9550	01614	α 21.8 β- 24.6	α 0 β- 0	6-18-01

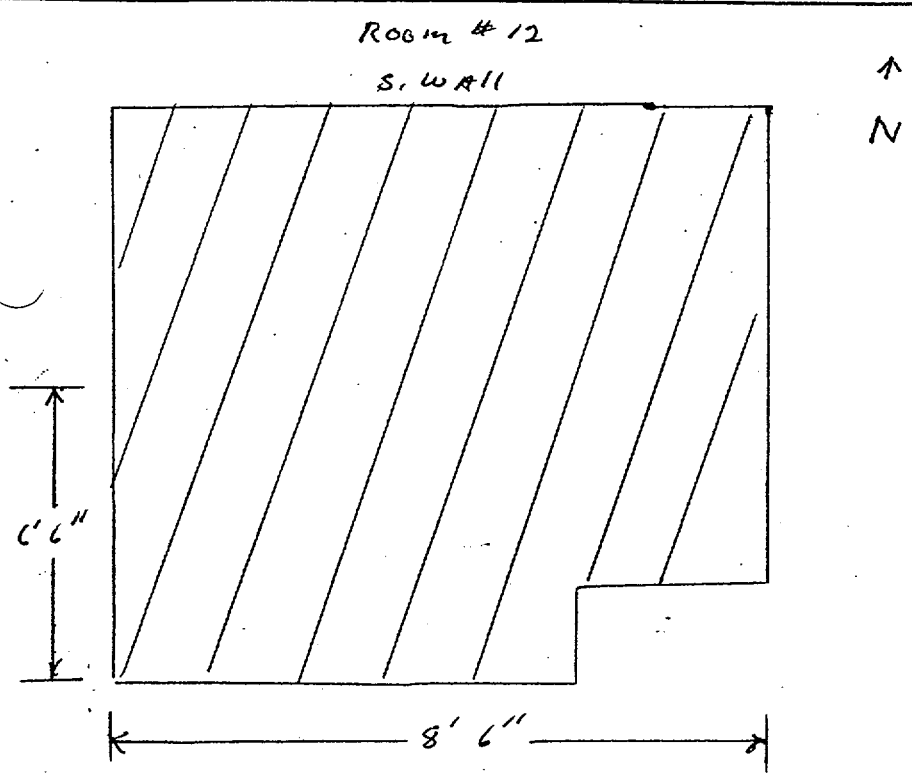
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOUT 6'6"

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHER WISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: \\\ = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTI

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-14

DATE: 8-3-00	INSTRUMENTATION USED				
TIME: 0865	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Kountz / D. Goldstar	BICRON	B 5002	N/A	14 uR	10-14-00
LOCATION: Bldg # 3181, Room # 12	M-2224	132159	α 21.6	α 6	5-30-01
	PR 43-37 088824	088824	β- 23.6	β- 1075	6-2-01
REVIEWED BY:	WPC 9550	01614	α 21.8	α 0	6-18-01
			β- 24.6	β- 0	
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	M-2224	132159	α 21.6	α 2	5-30-01
	PR 43-68	134435	β- 25.5	β- 379	6-2-01

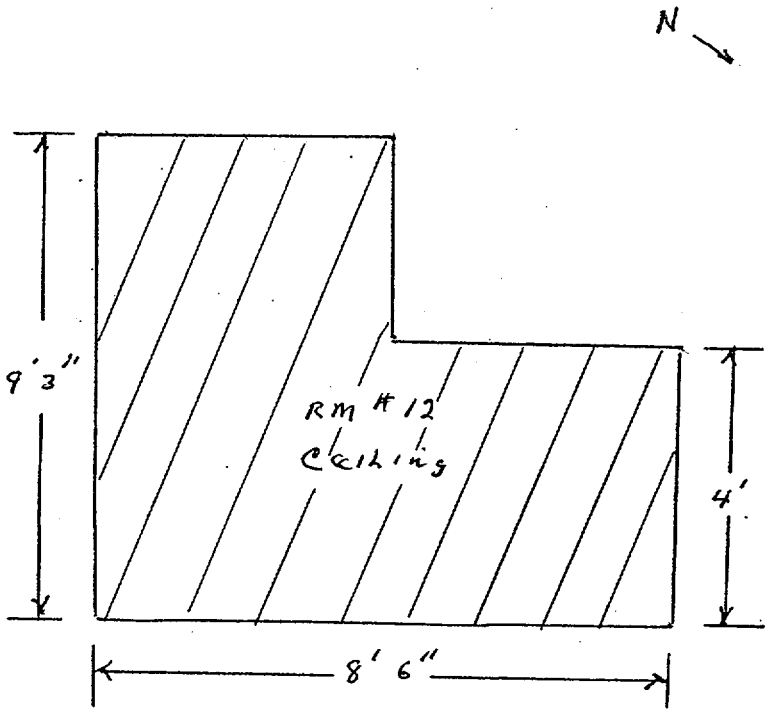
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCAN ON THE CEILING WAS AT 50 %

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RAD.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-15

DATE: 8-4-00	INSTRUMENTATION USED				
TIME: 0930	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. EAVES	BICRON	5002	NA	14 uR	10-14-00
LOCATION: Bldg #3182, Room #13	M-2224	132159	α 21.6	α 2	(1) 6-2-01
	PR 43-68	134495	β- 25.5	β- 302	5-30-01
REVIEWED BY:	M-2224	132159	α 21.6	α 6	5-30-01
	PR 43-37	~~RE 174405~~ 5-4-00	β- 23.6	β- 1434	6-2-01
Smear Locations Circled. Dose Rates in MicroR/hr (μR/hr)	WPC 9550	028824	α 21.8	α 0	6-18-01
		01644	β- 24.6	β- 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"

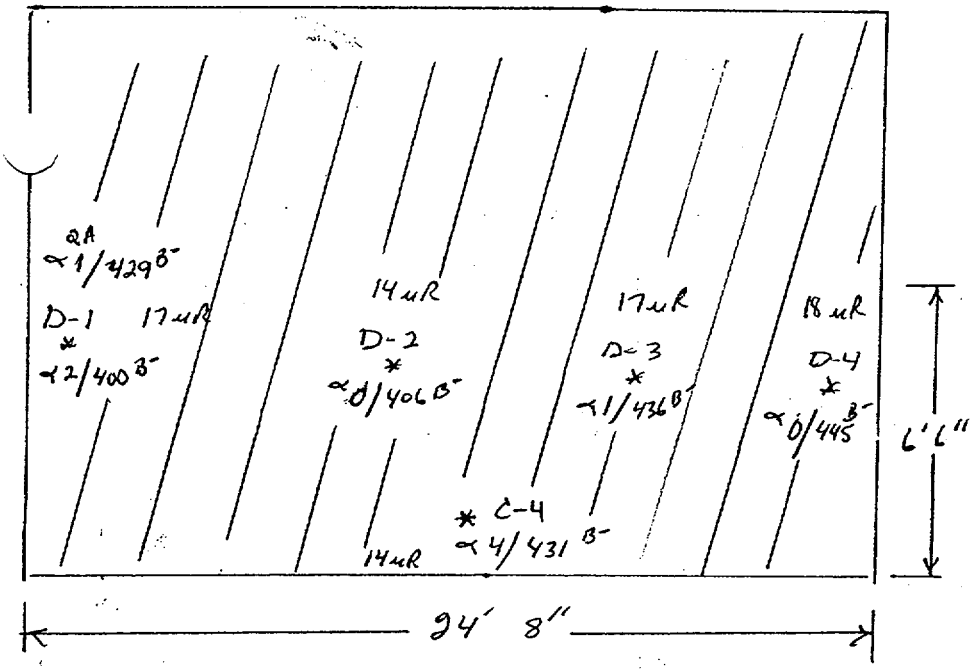
SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α

Room #13

E. WALL



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIV

(1) transposed as indicated

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-15

DATE: 8-4-00

TIME: 0930

SURVEYOR: R. EAVES

LOCATION: Bldg #3181, Room # 13

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	5002	N/A	14 μR	10-14-00
M-2224	132159	α 21.6	α 2	5-30-01
PR 43-68	134485	β 25.5	β 302	6-2-01
M-2224	132159	α 21.6	α 6	5-30-01
PR 43-37	~~134485~~ RE	β 23.6	β 1434	6-2-01
WPE 9550	088824 8-4-00 01614	α 21.8 β 24.6	α 0 β 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"

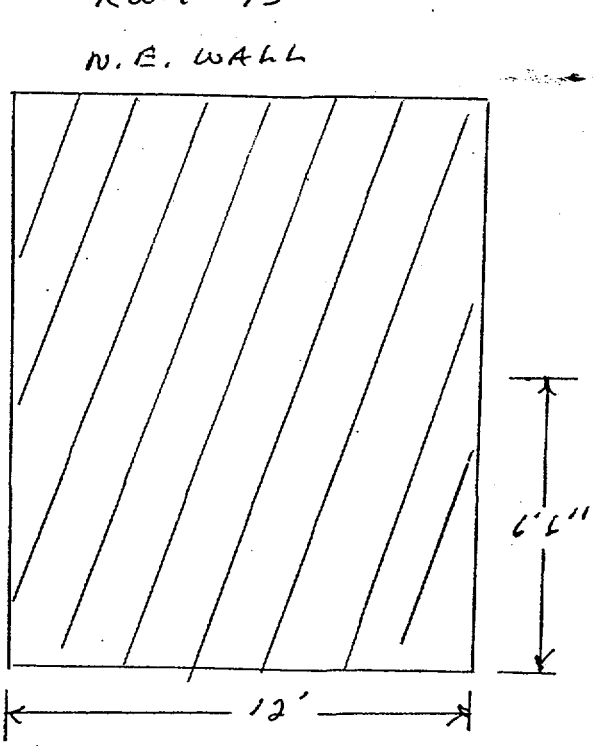
SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

Room # 13

N. E. WALL



* All Readings are in cpm unless other wise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: ||| = Show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma Activ

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-15

DATE: 8-4-00

TIME: 0930

SURVEYOR: R. EAVES

LOCATION: Bldg #3182, Room #13

REVIEWED BY: [signature]

Smear Locations Circled. Dose Rates = micro R/hr (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	5002	N/A	14μR	10-14-00
M 2224	132159	α 21.6	α 2	5-30-01
PR 43-68	134485	β 25.5	β 302	6-2-01
M 2224	132159	α 21.6	α 6	5-30-01
PR 43-37	088824	β 23.6	β 1434	6-2-01
WPC 9550	01614	α 21.8	α 0	6-18-01
		β 24.6	β 0	

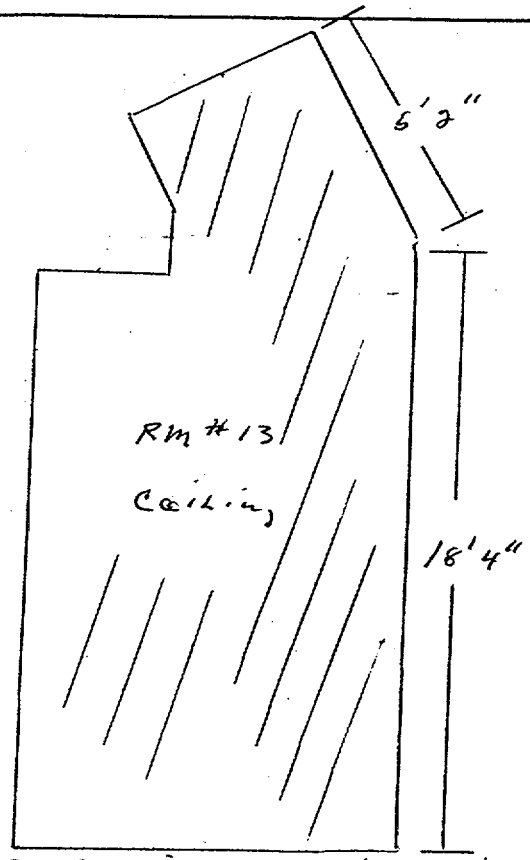
PURPOSE OF SURVEY: FINAL Release Survey

NOTE! SCAN ON CEILING AT 50 %

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α
	N	N



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: \\\ = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RADI

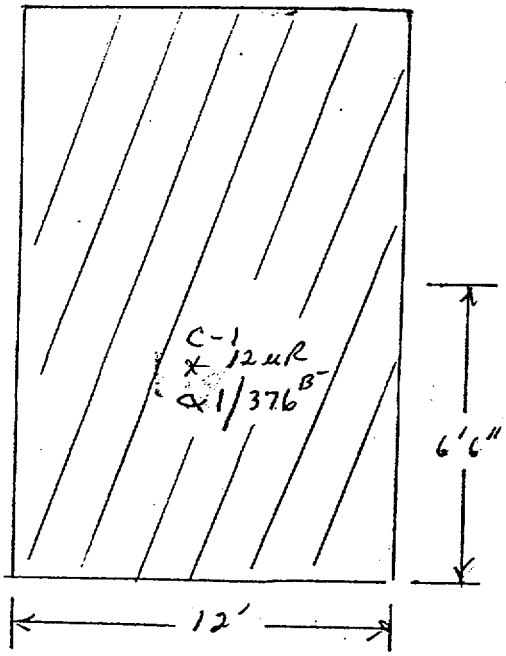
RADIOLOGICAL SURVEY REPORT

ATGS #: FM-15

DATE: 8-4-00	INSTRUMENTATION USED				
TIME: 0930	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. EAVES	BICRON	5002	N/A	14 μR	10-14-00
LOCATION: Bldg #3183, Room #13	M2224	132159	α 21.6	α 2	5-30-01
REVIEWED BY:	PR 43-68	134485	β 25.5	β 302	6-2-01
Smear Locations Circled. Dose Rates = MicroR/hr (μR/hr)	M2224	132159	α 21.6	α 6	5-30-01
	PR 43-37	088824	β 23.6	β 1434	6-2-01
	WPC 9550	0164	α 21.8	α 0	6-18-01
			β 24.6	β 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"



SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

* ALL READINGS ARE IN cpm UNLESS OTHER WISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIV

RADIOLOGICAL SURVEY REPORT

ATG #: Fm-15

DATE: 8-4-00

TIME: RE 8-4-00 ~~8-4-00 0930~~

SURVEYOR: RE-8-4-00 ~~0930~~ R. GAVES

LOCATION: Bldg # 3182, Room # 13

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (µR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	5002	N/A	14 µR	10-14-00
M2224	132159	α 21.6	α 2	5-30-01
PR43-68	134485	β 25.5	β 302	6-2-01
M2224	132159	α 21.6	α 6	5-30-01
PR43-37	088824	β 23.6	β 1434	6-2-01
		α 21.8	α 0	
WPC 9550	0164	β 24.6	β 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR WERE 100 %

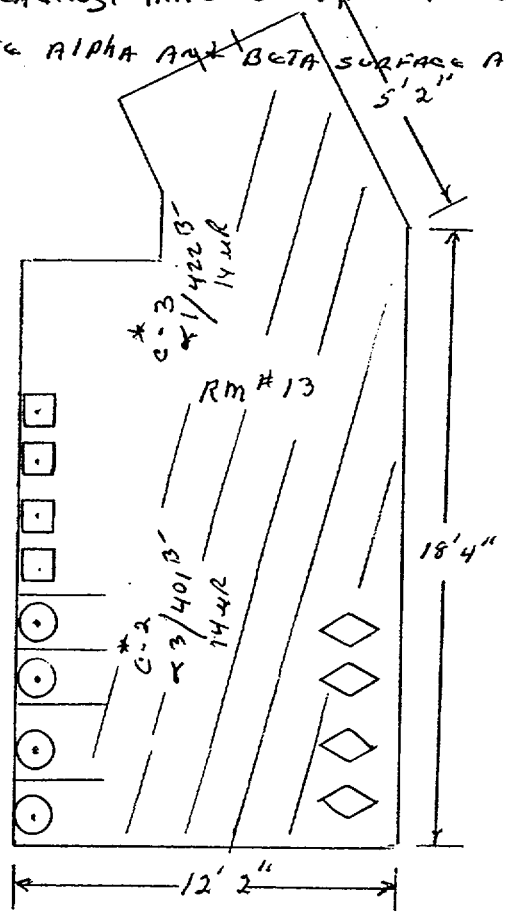
Bldg # 3182

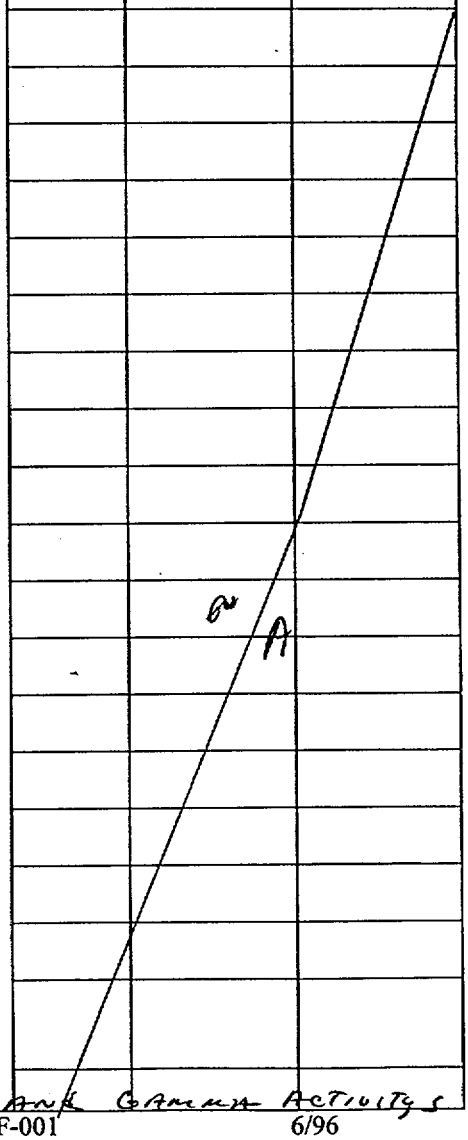
SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α

* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN





Remarks: ▨ = SHOWS AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIVITYS

RADIOLOGICAL SURVEY REPORT

ATGS #: Fm-15

DATE: 8-4-00	INSTRUMENTATION USED				
TIME: 0930	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. EAVES	BICRON	5002	N/A	14 uR	10-14-00
LOCATION: Bldg #3182, Room #13	M2224	132154	α 21.6	α 2	5-30-01
REVIEWED BY:	PR43-68	134485	β 25.5	β 302	6-2-01
	M2224	132159	α 21.6	α 6	5-30-01
	PR43-37	688824	β 23.6	β 1434	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC 9550	0164	α 21.8 β 24.6	α 0 β 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS WERE 100% OF AREA 6' 6" up WALL AND 50% ABOVE 6' 6"

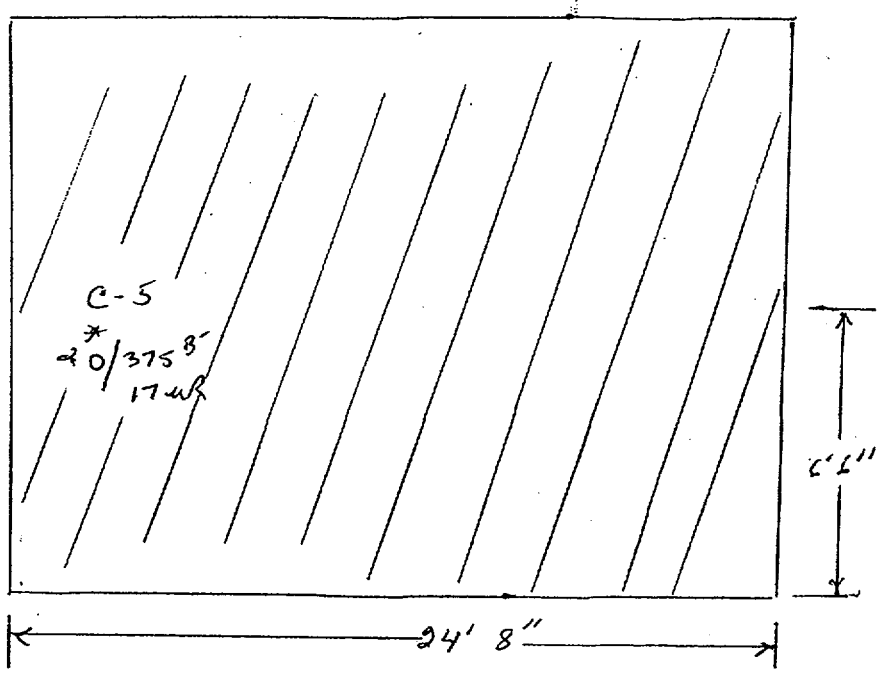
SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

Room # 13

W. WALL



* ALL READINGS ARE IN cpm UNLESS OTHER WISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = show AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTI

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-18

DATE: 8-5-00

TIME: 1430

SURVEYOR: D. Goldston

LOCATION: Bldg # 3182, Room # 14

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED

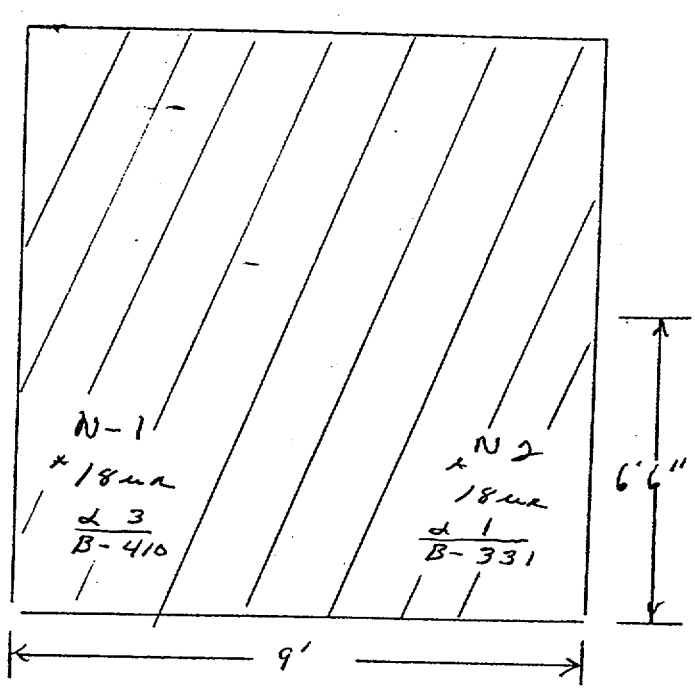
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B 5002	N/A	15 cpm	10-14-00
M-2224	132159	α 21.6	α 1	5-30-01
PR 43-18	134485	B-25.5	B-185	6-2-01
M 2224	132159	α 21.6	α 2	5-30-01
PR 43-37	088824	B-23.4	B-304	6-2-01
WPC 9550	016 14	α 21.8 B-24.6	α 0 B- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOUT 6'6"

Room # 14

W. WALL



SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

* ALL READINGS ARE IN cpm UNLESS OTHER WISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACT.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-18

DATE: 8-5-00	INSTRUMENTATION USED				
TIME: 1436	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston	Bicron	B-5002	N/A	15 mR	10-14-00
LOCATION: Bld's #3182, Room #14	M2224	132159	α 21.6	α 1	5-30-01
REVIEWED BY: [signature]	PR43-68	134485	B-25.5	B-185	6-2-01
Smear Locations Circled. Dose Rates = milliR/hr (μR/hr)	M2224	132159	α 21.6	α 2	5-30-01
	PR43-37	088824	B-23.6	B-304	6-2-01
	NOPE 9556	01614	α 21.8 B-24.6	α 0 B- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOUT 6'6"

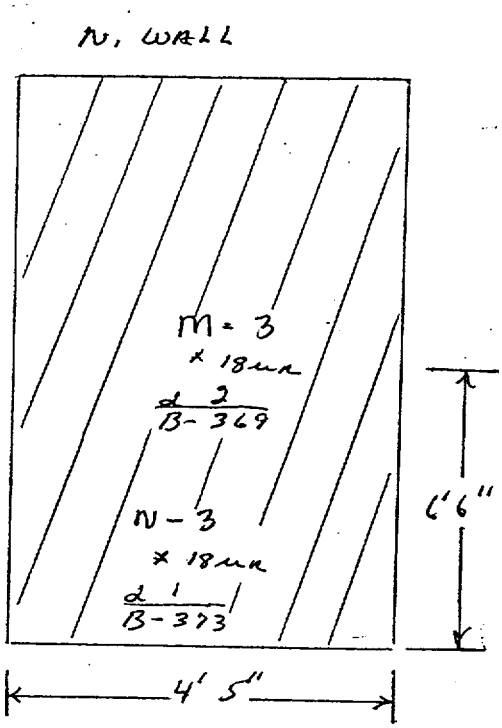
SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α

ROOM #14

N. WALL



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: \\\ = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTI

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-18

DATE: 8-5-00	INSTRUMENTATION USED				
TIME: 1430	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston	BICRON	B5002	N/A	15cpm	10-14-00
LOCATION: Bldg #3182, Room #14	MJ224	132158	α 21.6	α 1	5-30-01
REVIEWED BY:	PR43-68	134485	β-25.5	β-155	6-2-01
	MJ224	132158	α 21.6	α 2	5-30-01
	PR43-37	088834	β-23.6	β-304	6-2-01
Smear Locations Circled. Dose Rates – microR/hr (μR/hr)	WPE9550	01614	α-21.8 β-24.6	α 6 β- 0	6-18-01

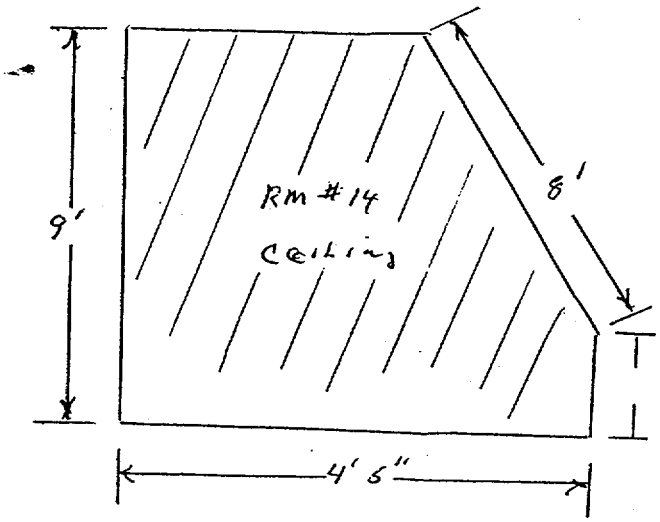
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCAN ON THE CEILING WAS 50%

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RAD

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-18

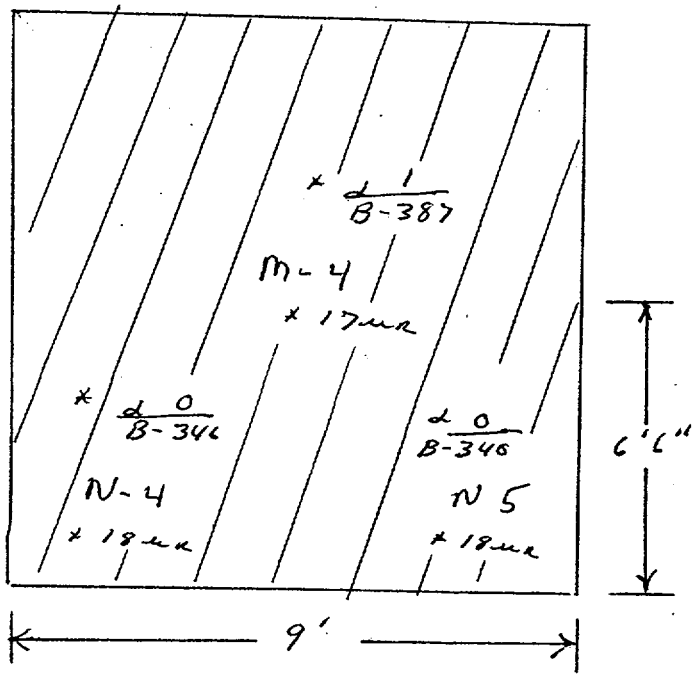
DATE: 8-5-00	INSTRUMENTATION USED				
TIME: 1430	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston	Bicron	B500 2	N/A	15 uR	10-14-00
LOCATION: Bldg #3182, Room #14	M-2224	132159	α 21.6	α 1	6-30-01
REVIEWED BY:	PR 43-68	134485	B-25.5	B-185	5-3-01
	M 2224	132159	α 21.6	α 2	6-30-01
	AR 43-37	088834	B-23.6	B-304	5-3-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC 9550	01614	α 21.8 B-24.6	α 0 B- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOUT 6'6"

Room #14

E. WALL



SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

* All readings are in cpm unless other wise noted
* micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: ||| = show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma Acti

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-18

DATE: 8-5-00	INSTRUMENTATION USED				
TIME: 1430	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: Dr. Goldston	BICRON	B-5002	N/A	15 uR	10-14-00
LOCATION: Bldg #3182, Room #14	M-2224	132159	α 21.6	α 1	5-30-01
REVIEWED BY:	PR43-68	134485	B-25.5	B-185	6-3-01
	M 2224	132159	α 21.6	α 2	5-30-01
	PR43-37	088824	B-23.1	B-304	6-3-01
Smear Locations Circled. Dose Rates ~~milliR/hr~~ (μR/hr)	NRC 9554	01614	α 21.8 B-24.6	α 0 B-8	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

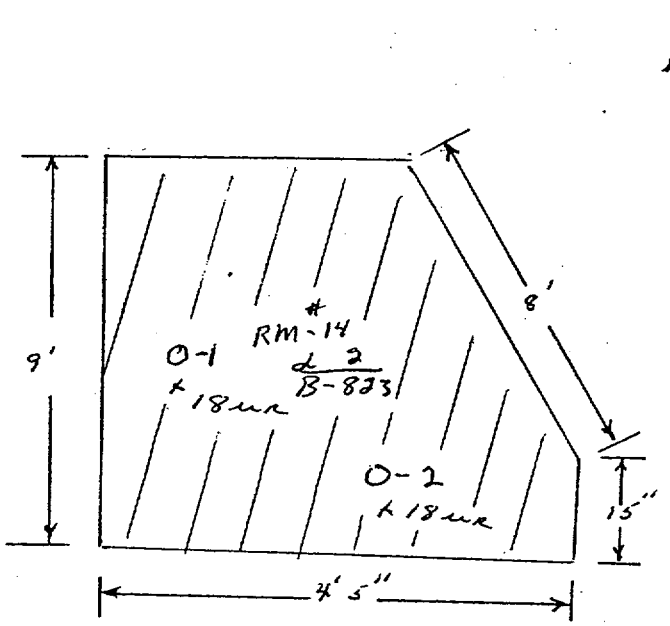
NOTE: SCANS ON the FLOOR WERE 100 % Bldg #3182

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

* All Readings ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' Readings TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY Readings TAKEN



Remarks: \\\ = shows AREA where ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* All SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIVITY

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-18

DATE: 8-5-06

TIME: 1430

SURVEYOR: D. Goldstone

LOCATION: Bldg #3182, Room #14

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B-5002	N/A	15 cpm	10-14-06
m-2224	132159	α 21.6	α 1	5-30-01
PR43-68	134485	B-35.5	B-185	6-2-01
m-2224	132159	α 21.6	α 2	5-30-01
PR 43-37	088824	B-23.1	B-304	6-2-01
Ludlum 9550	61614	α 21.8 B-24.6	α 0 B- 0	6-18-01

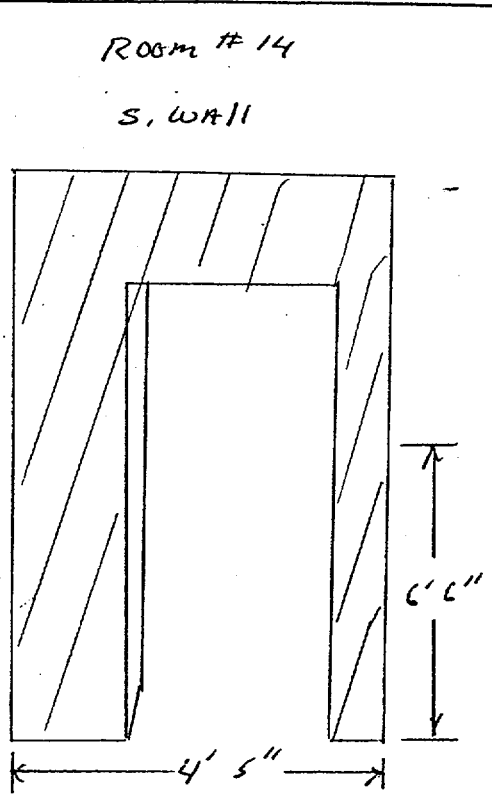
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOUT 6'6"

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* All Readings are in cpm unless other wise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: ||| = show area where Alpha, Beta and Gamma Scans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma Acti

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-30

DATE: 8-16-00

TIME: 1128

SURVEYOR: D. Goldston

LOCATION: Bldg #3182, Room # 14

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B-5002	N/A	19 μR	10-14-00
M-2224	132159	α 21.6	α 1	5-30-01
PR43-68	134481	B-25.5	B- 504	6-2-01
M-2224	132159	α 21.6	α 6	5-30-01
PR43-31	088824	B-23.6	B- 927	6-2-01
Hope-9550	01114	α 21.8	α 0	6-18-01
		B-24.6	B- 0	

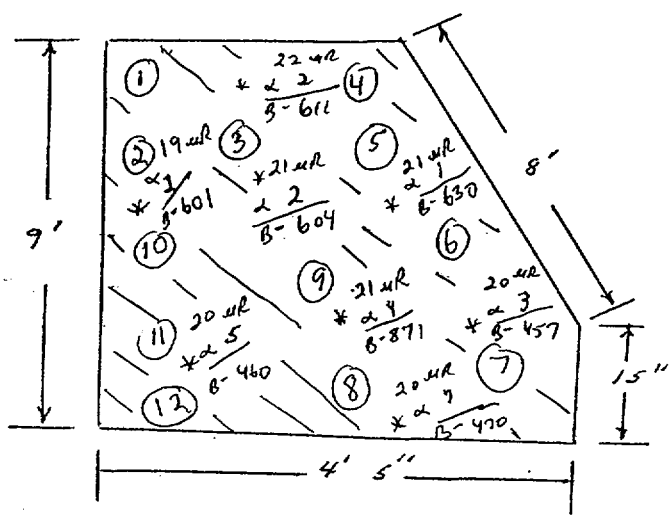
PURPOSE OF SURVEY: POST SURVEY AFTER AREA WAS DECON

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

* ALL READINGS ARE IN CPM UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE.
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN



Remarks: \\\ = shows AREA where Alpha, BETA and gamma SCANS were TAKEN

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-16

DATE: 8-3-00	INSTRUMENTATION USED				
TIME: 0845	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston	BICRON	B5002	N/A	14/MIN	10-14-00
LOCATION: Bldg #3182, Room # 15	M-2224	132159	α 21.6	α 0	6-2-01
REVIEWED BY:	PR 43-68	134485	β- 25.3	β- 311	~~5-30-01~~
	M-2224	132159	α 21.6	α 4	5-30-01
	PR 43-37	088824	β- 23.4	β- 1324	6-2-01
Smear Locations Circled. Dose Rates in mR/hr (μR/hr)	WPC9550	01614	α 21.8	α 0	6-18-01
			β-24.6	β- 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

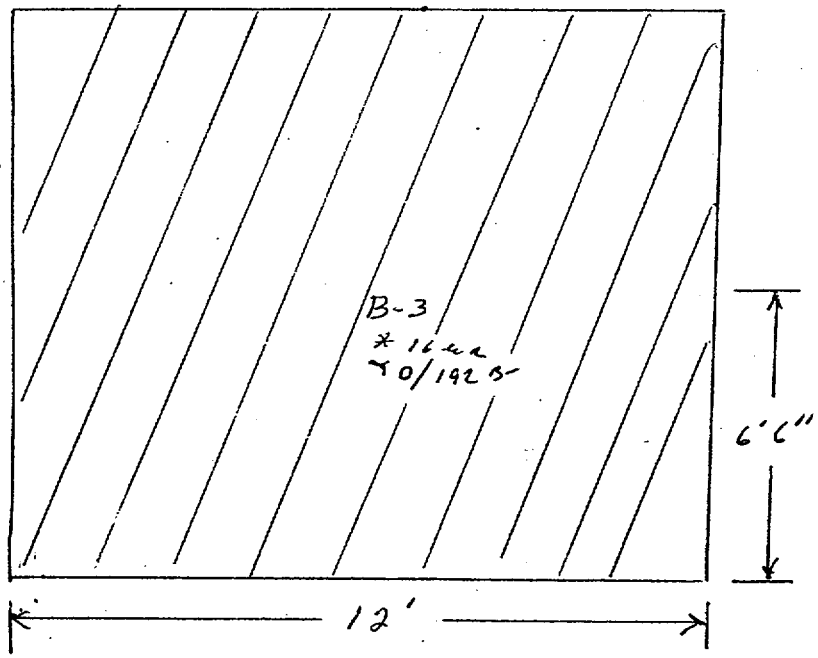
NOTE! SCANS WERE 100% OF AREA 6' 6" up WALL AND 50% ABOVE 6' 6"

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

Room #15

N. WALL



#	βγ	α

* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Marks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACT.

RADIOLOGICAL SURVEY REPORT

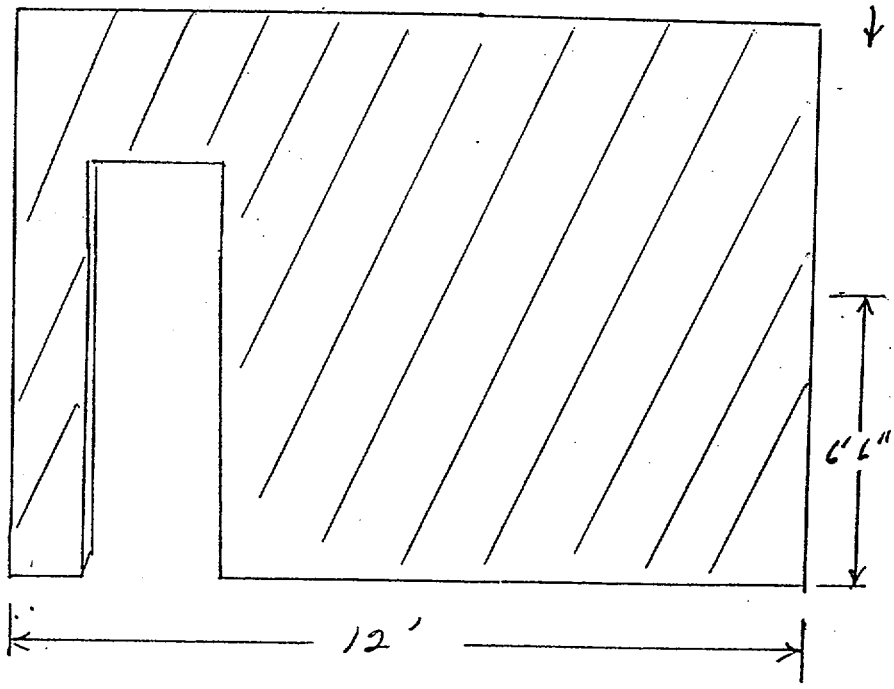
ATGS #: FM-12

DATE: 8-3-00	INSTRUMENTATION USED				
TIME: 0845	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D Goldston	Bicron	B 5662	N/A	14 uR	10-14-00
LOCATION: Bldg #3182	M-2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR 43-68	134485	B-25.8	B-311	6-2-01
Smear Locations Circled. Dose Rates in mR/hr (μR/hr)	M-2224	132159	α 21.6	α 4	5-30-01
	PR 43-37	088834	B-23.6	B-1324	6-2-01
	WPC 9550	01614	α 21.8	α 0	6-18-01
			B-24.6	B- 6	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"

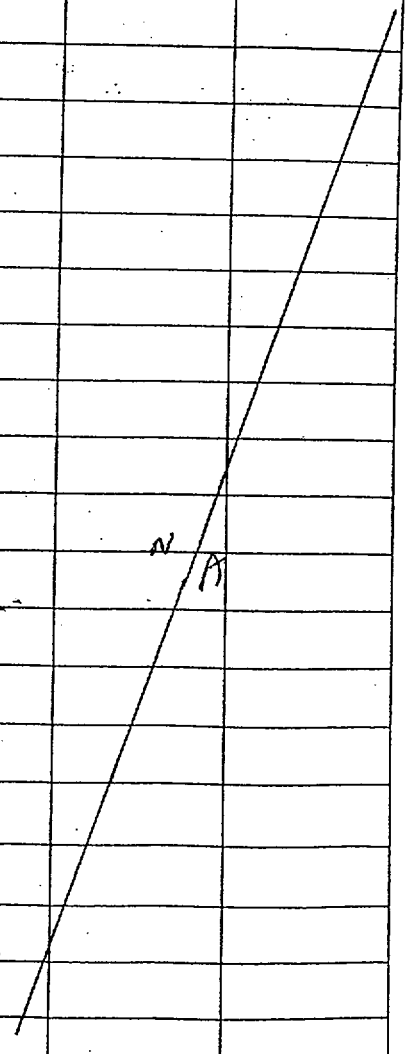
ROOM #15
S. WALL



SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHER WISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTI

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-16 PAGE 3 OF 6

DATE: 8-3-06	INSTRUMENTATION USED				
TIME: 0845	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: Dr. Goldston	BICRON	B 6002	N/A	14 uR	10-14-06
LOCATION: Bldg # 3182, Room # 15	M-2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR 43-68	134485	B-25.5	B-311	6-2-01
Smear Locations Circled. Dose Rates – mrem/hr (μR/hr)	M 2224	132158	α-21.6	α 4	5-30-01
	PR 43-37	088824	B-23.6	B-1324	6-2-01
	WPC 9550	01614	α 21.8	α 6	6-18-01
			B-24.6	B- 8	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"

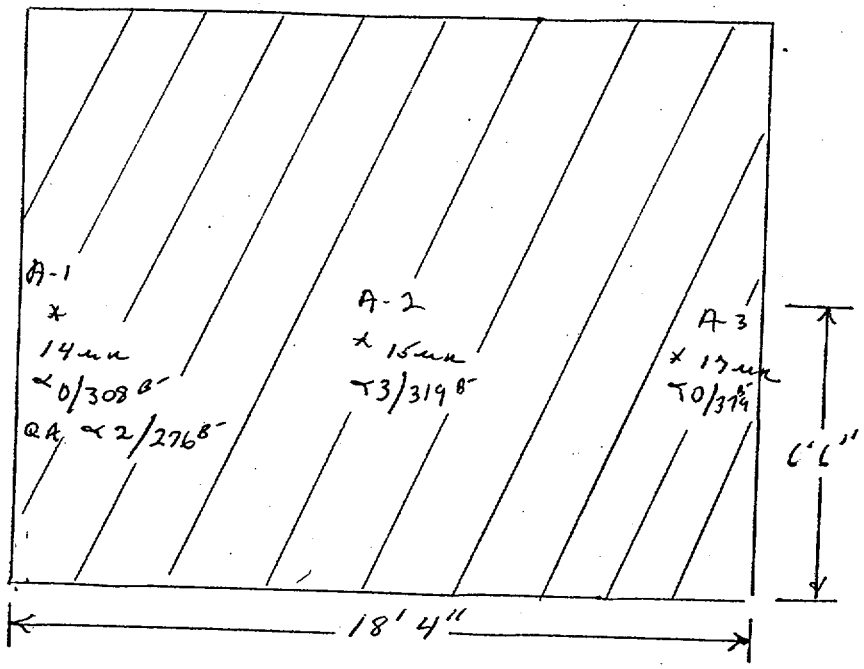
SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

Room # 15

W. WALL



* ALL READINGS ARE IN cpm UNLESS OTHER WISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTI

RADIOLOGICAL SURVEY REPORT

ATGS #: Fm-16

ATE: 8-3-00	INSTRUMENTATION USED				
TIME: 0845	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston	Bicron	B 5002	N/A	14 μR	10-14-00
LOCATION: Bldg # 3182, Room # 15	M-2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR 43-68	134485	B-25.5	B-311	6-2-01
	M 2224	132159	α 21.6	α 4	5-30-01
	PR 43-37	038824	B-23.6	B-1324	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC 9550	BLC 14	α 21.9	α 0	6-18-01
			B-24.6	B- 8	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON THE FLOOR WAS 100 %

Bldg # 3182

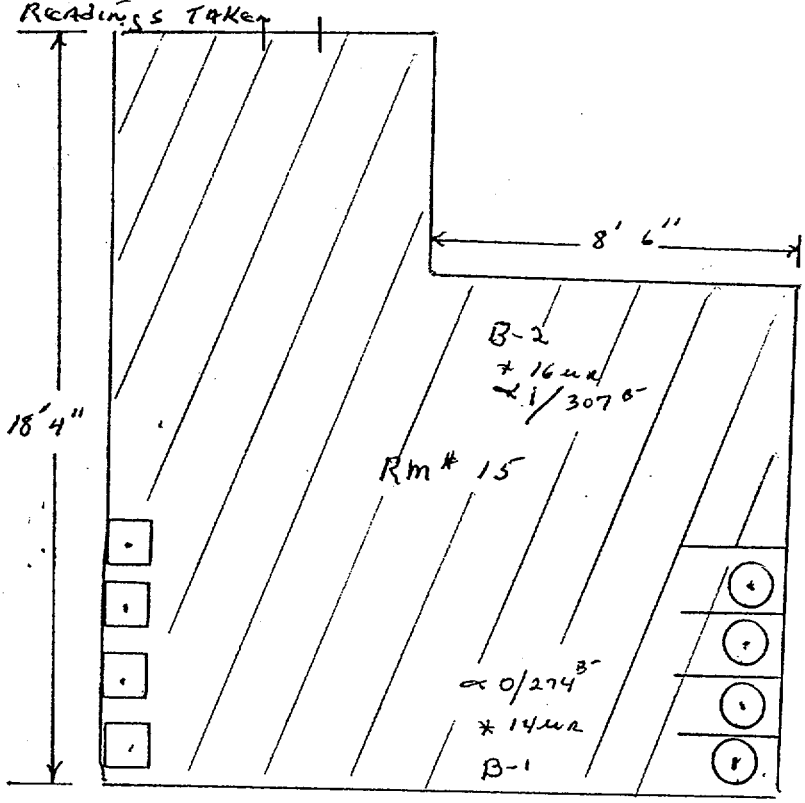
SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α
	N	
		A

* ALL READINGS ARE IN Cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY

N



Remarks: N = shows AREA where ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIVITYS

RADIOLOGICAL SURVEY REPORT

ATGS #: Fm-16

DATE: 8-3-00

TIME: 0845

SURVEYOR: D Goldston

LOCATION: Bldg #3181, Room #15

REVIEWED BY:

Smear Locations Circled. Dose Rates – Micro R/hr (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B5002	N/A	14μR	10-14-00
M 2224	132159	α 21.6	α 0	5-30-01
PR 43-68	134485	B-25.5	B- 311	6-2-01
M 2224	132159	α 21.6	α 4	5-30-01
PR 43-31	088824	B-23.6	B- 1324	6-2-01
WPC 9550	01614	α 21.8	α 0	6-18-01
		B-24.6	B- 6	

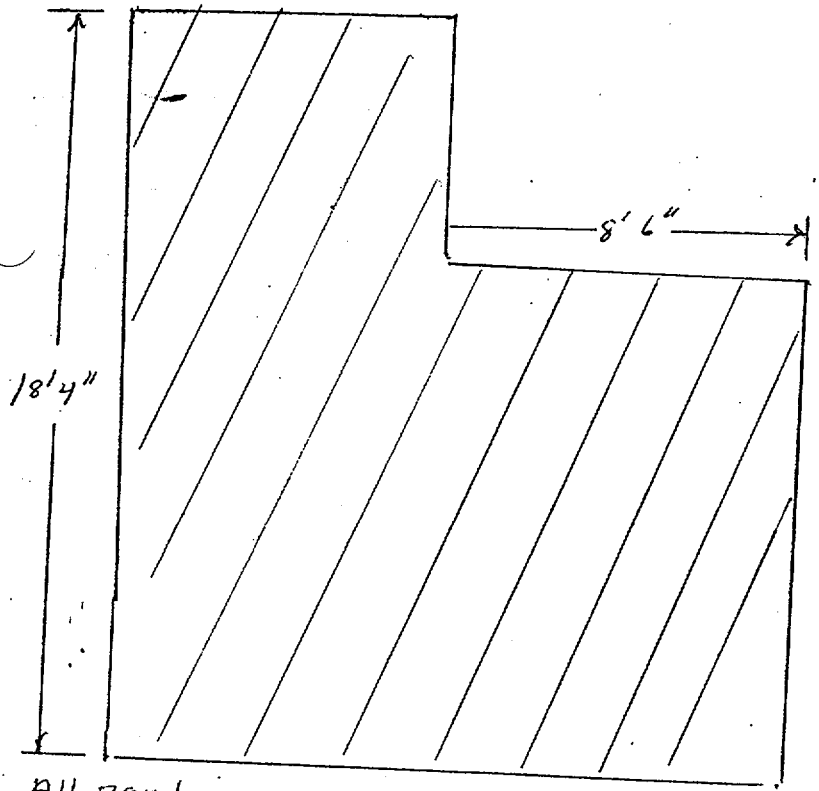
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCAN ON THE CEILING WAS 50%

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α
	N	N



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: \\\ = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACT.

RADIOLOGICAL SURVEY REPORT

ATGS #: Fm-16

DATE: 8-3-00	INSTRUMENTATION USED				
TIME: 0845	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston	Bicron	B500z	N/A	14uR	10-14-00
LOCATION: Bldg #3182, Room #15	M2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR43-68	134486	B-25.5	B-311	6-2-01
	M 2224	132159	α 21.6	α 4	5-30-01
Smear Locations Circled. Dose Rates = μR/hr (μR/hr)	PR43-37	088824	B-23.6	B-1374	6-2-01
	WPC 9550	01614	α 21.8 B-24.6	α 6 B- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

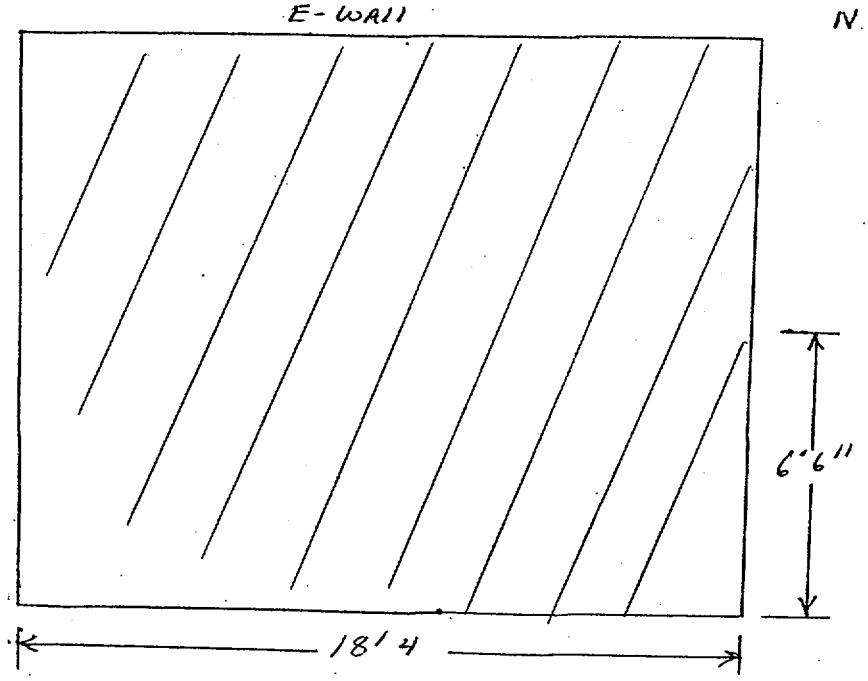
NOTE: SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

ROOM #15
E-WALL



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTI

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-17 PAGE 1 OF 14

DATE: 8-3-00

TIME: 1245

SURVEYOR: R. Kountz / D. Goldston

LOCATION: Bldg #3182, Room # 16

REVIEWED BY: [signature]

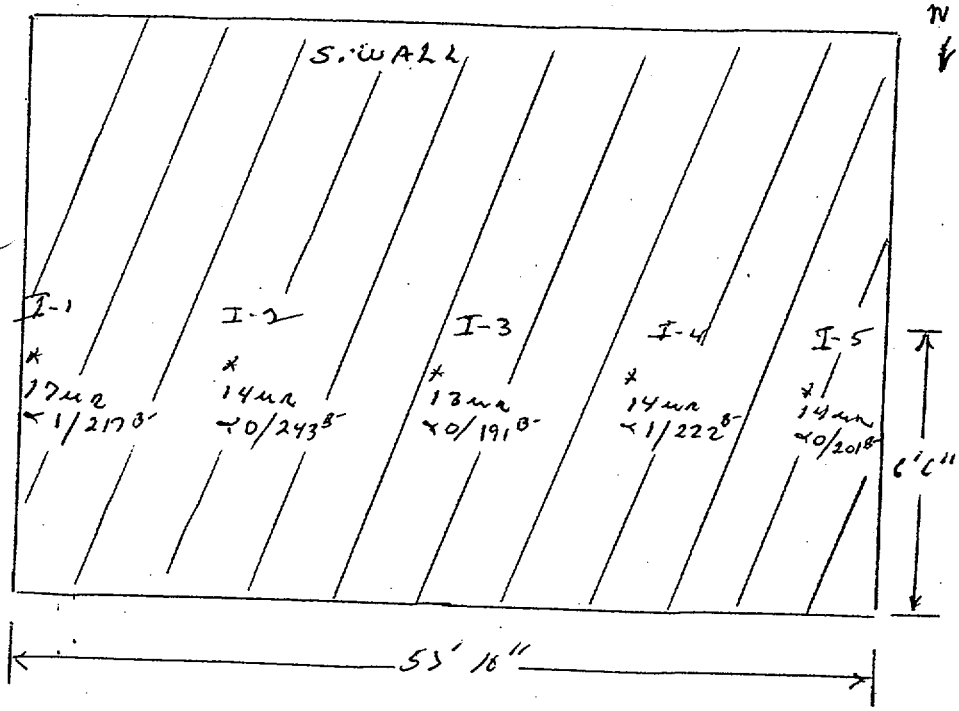
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B500Z	N/A	15 μR	10-14-00
M-2224	132159	γ 21.6	γ 1	5-30-01
PR 47-68	134485	β- 25.5	β- 165	DB 5-30-01 6-2-01
M-2224	132159	α 21.6	α 4	5-30-01
PR 43-37	088824	β- 23.6	β- 736	6-2-01
WPC 9550	01614	α 21.8	α 0	
		β- 24.6	β- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"

Room # 16



SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α

* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Marks: ▨ = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACT

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-17

DATE: 8-3-00

TIME: 1245

SURVEYOR: R. Kountz | D. Goldstor

LOCATION: Bldg #3182, Room # 16

REVIEWED BY:

Smear Locations Circled. Dose Rates in milliR/hr (μR/hr)

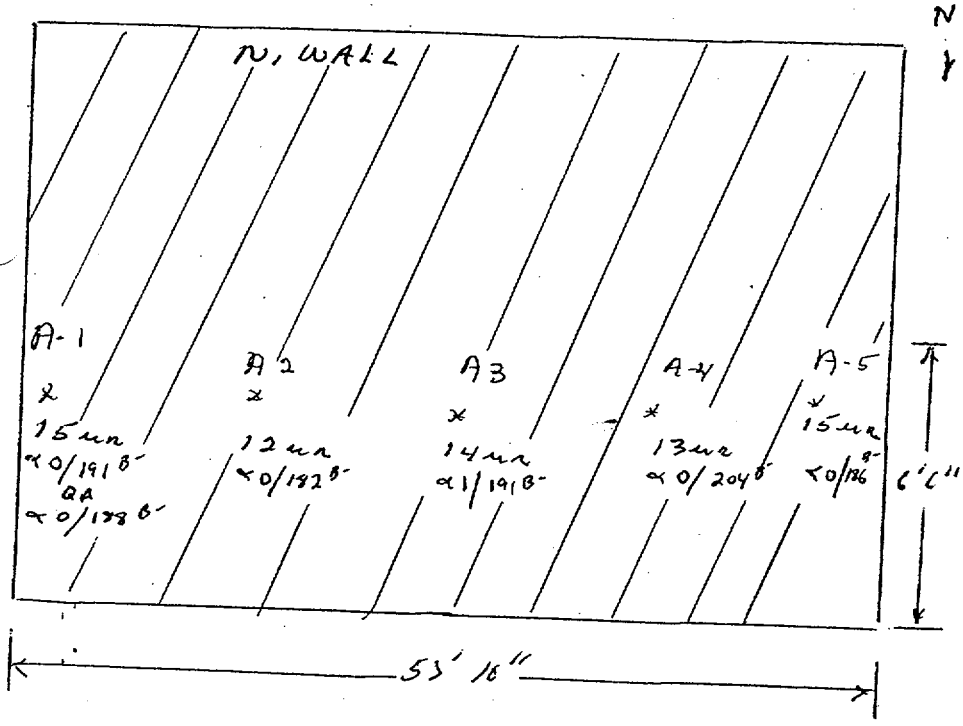
INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B5002	N/A	15 uR	10-14-00
M-2224	132159	α 21.6	α 0	6-2-01
PR 43-69	134485	β 25.5	β 311	5-30-01
M-2224	132159	α 21.6	α 4	5-30-01
PR 43-37	088824	β 23.1	β DG 1224 736	6-2-01
NPC 9550	01614	α 21.9	α 0	
		β 24.6	β 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY.

NOTE! SCANS WERE 100% OF AREA 6'6" UP WALL AND 50% ABOVE 6'6"

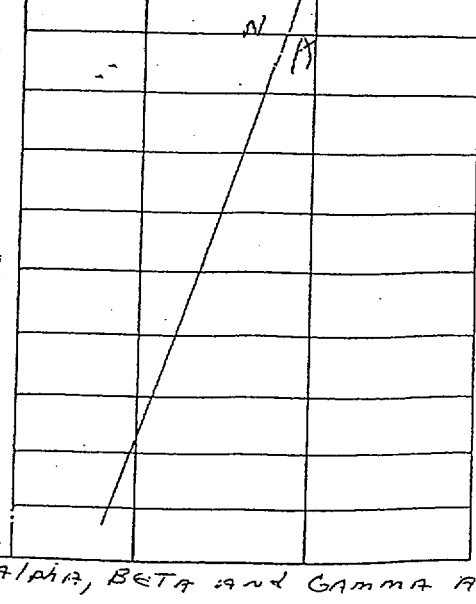
Room #16



SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTI

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-17

DATE: 8-3-00	INSTRUMENTATION USED				
TIME: 1245	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Kounts/D. Goldston	BICRON	B-5002	N/A	15 cpm	10-14-00
LOCATION: Bldg #3182, Room #16	M-2224	132159	γ 21.6	γ 1.	5-30-01
	PR 43-68	134485	β- 25.5	β- 165	~~5-30-01~~ 6-2-01
REVIEWED BY:	M-2224	132159	α 21.6	α 4	5-30-01
	PR 43-37	088824	β- 23.6	β- 736	6-2-01
Smear Locations Circled. Dose Rates ~~MicroR/hr~~ (μR/hr)	WPC 9550	01614	α 21.8 β- 24.6	α 0 β- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

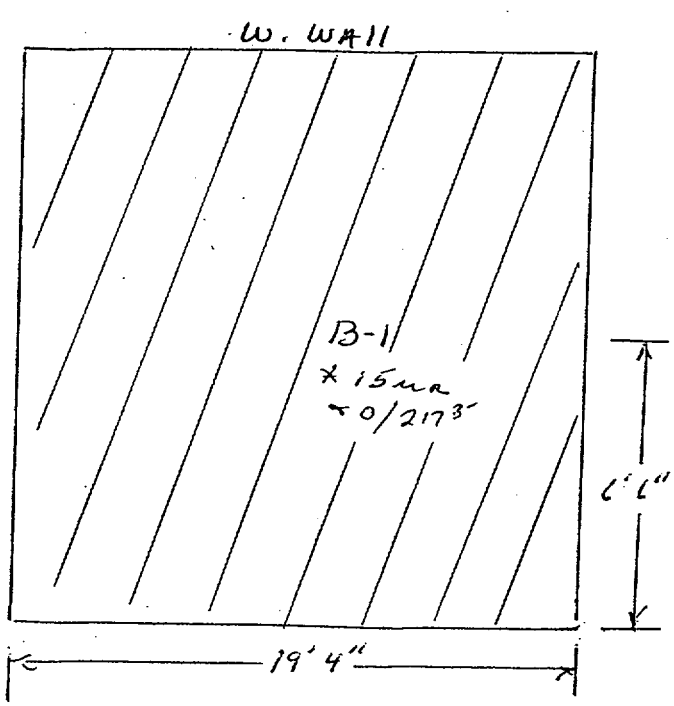
NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

ROOM #16 GRID #1



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Marks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTI

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-17

DATE: 8-3-00

TIME: 1245

SURVEYOR: R. Kountz / D. Goldstar

LOCATION: Bldg #3182, Room #16

REVIEWED BY: [signature]

Smear Locations Circled. Dose Rates ~~micror/hr~~ (μR/hr)

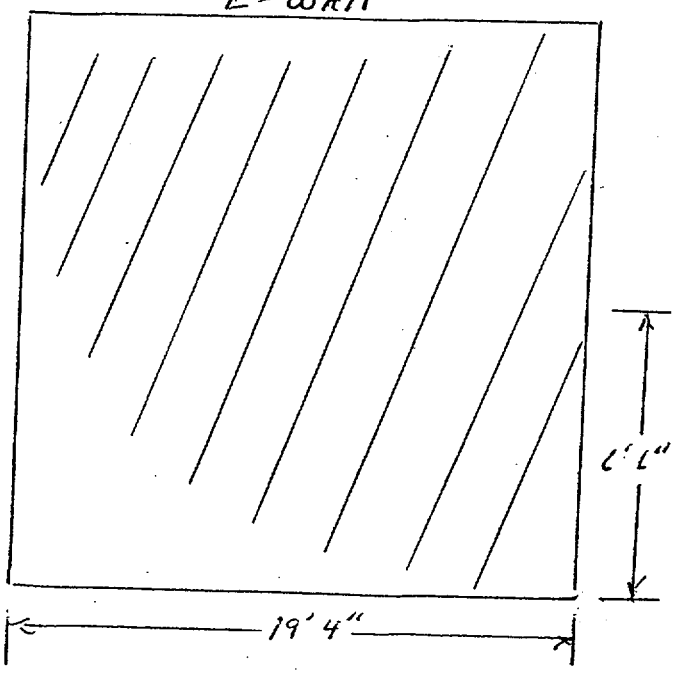
INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B 5002	N/A	15 uR	10-14-00
M-2224	132159	α 21.6	α 1	5-30-01
PR 43-68	134485	β- 25.5	β- 165	6-2-01
M-2224	132159	α 21.6	α 4	5-30-01
PR 43-37	088824	β- 23.6	β- 736	6-2-01
WPC 9550	01614	α 21.8	α 0	6-18-01
		β- 24.6	β- 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS WERE 100% OF AREA 6'6" UP WALL AND 50% ABOVE 6'6"

ROOM #16 GRID 1



SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

N/A

* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

arks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIV

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-17

DATE: 8-3-00

TIME: 1245

SURVEYOR: R. Kountz / D. Goldston

LOCATION: Bldg #3182, Room #1C

REVIEWED BY:

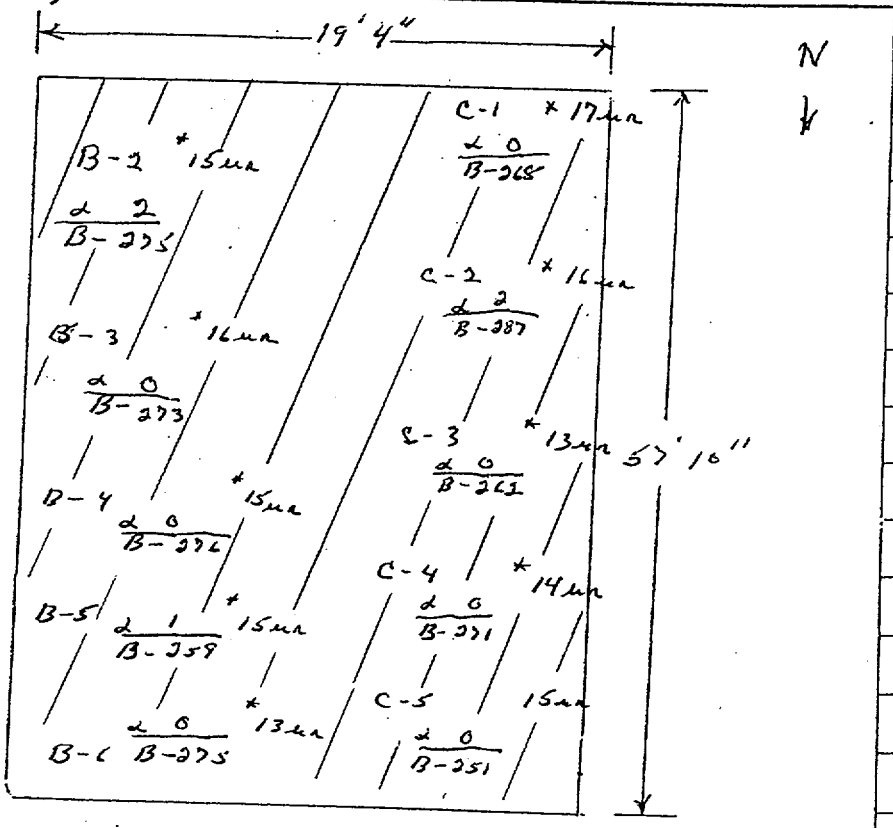
Smear Locations Circled. Dose Rates in microR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B-5602	N/A	15 cpm	10-14-00
M-2224	132159	α 21.6	α 1	5-30-01
PR 43-68	134495	β⁻ 25.5	β⁻ 165	6-2-01
M-2224	132159	α 21.6	α 4	5-30-01
PR 43-37	088824	β⁻ 23.6	β⁻ 736	6-2-01
		α 21.8	α 0	
WPC 9550	01614	β⁻ 24.6	β⁻ 0	6-18-01

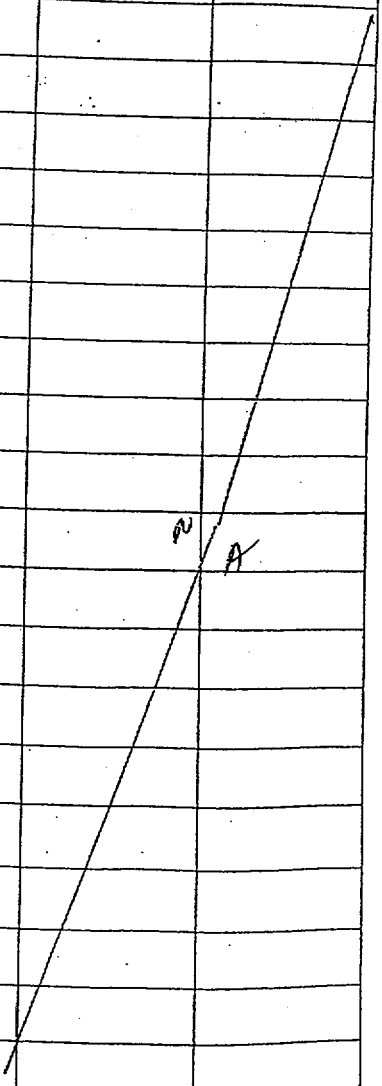
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS ON THE FLOOR WERE 100 %

ROOM #1C, GRID # 1



#	βγ	α



SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

* All readings are in cpm unless other wise noted
* micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: ||| = show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at Background Levels for Alpha, Beta and Gamma Acti.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-17

DATE: 8-3-00

TIME: 1245

SURVEYOR: R. Kountz / D. Goldstor

LOCATION: Bldg #3182, Room #1C

REVIEWED BY: [signature]

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

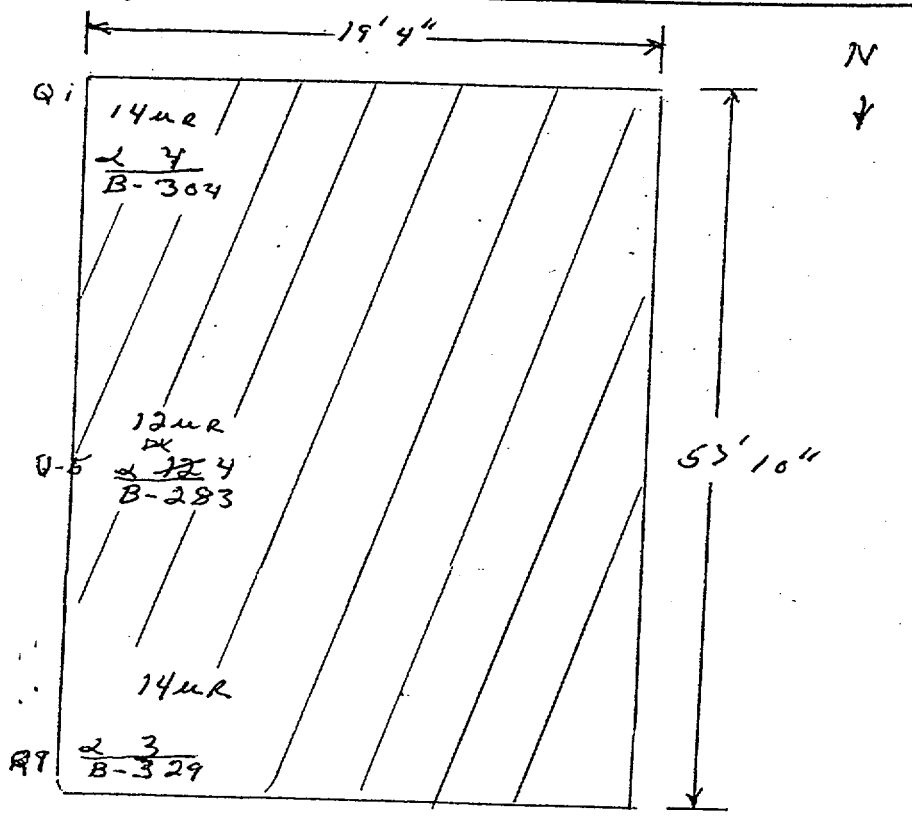
INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B5002	N/A	15 uR	10-14-00
~~M-2224~~	~~2224~~ 132159	~21.6	α 1	5-30-01
~~PR 43-68~~	~~PR 43-68~~ 134485	B 25.5	B 165	6-2-01
~~M-2224~~	~~2224~~ 132159	~21.6	α 4	5-30-01
~~PR 43-37~~	~~PR 4~~ 088824	B 23.6	B 736	6-2-01
~~WPC 9550~~ ~~01614~~ DK	01614	~21.9	α 0	
		B 24.6	B 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCAN ON THE CEILING WAS 50 %

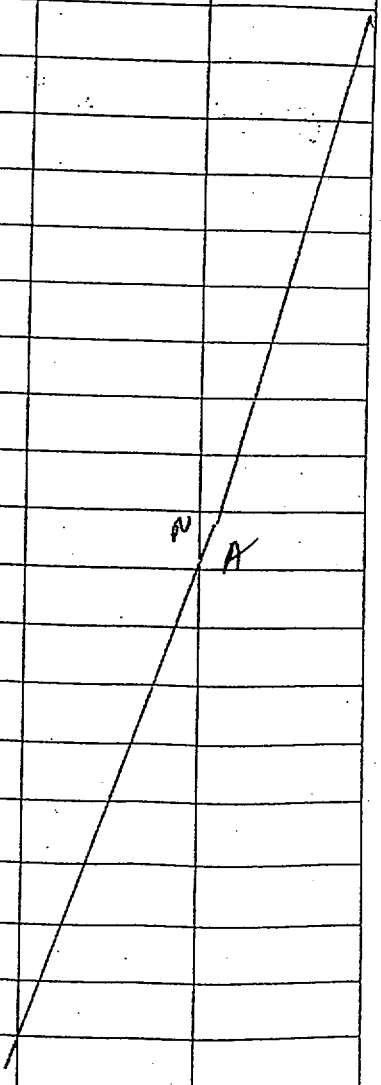
ROOM #1C, GRID #1



SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RADI

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-17

DATE: 8-3-00

TIME: 1245

SURVEYOR: R. Kuntz / D. Goldston

LOCATION: Bldg #3182, Room #16

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

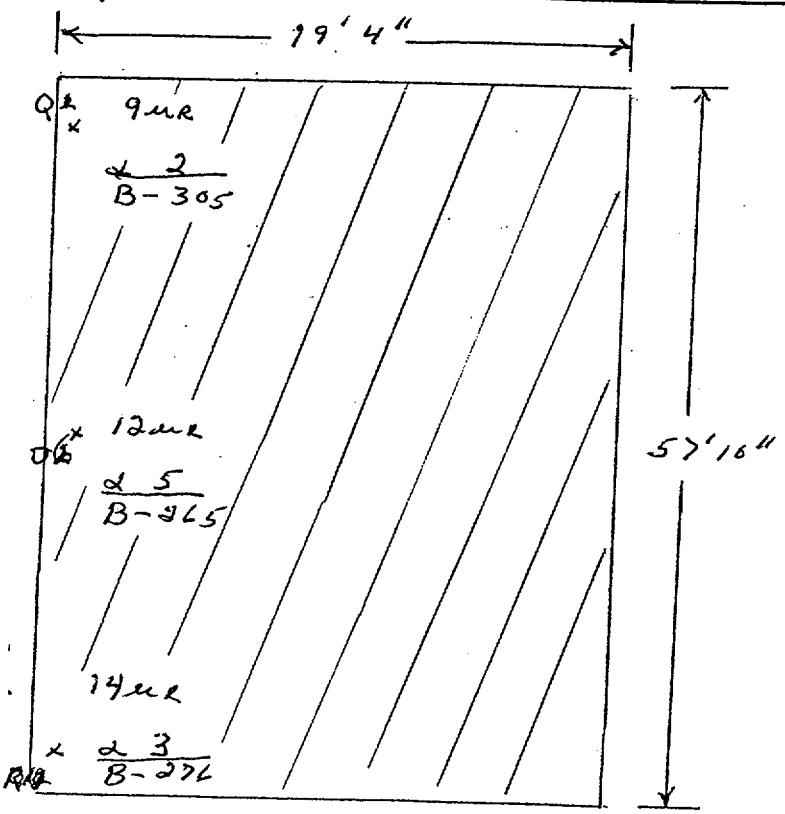
INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B5002	N/A	16 cpm	10-14-00
M-2224	132159	α 21.6	α 1.	5-30-01
PR 43-68	134485	β- 25.5	β- 165	6-2-01
M-2224	132159	α 21.6	α 4	5-30-01
PR 43-37	089824	β- 23.6	β- 736	6-2-01
WPC 9550	01614	α 21.8	α 0	6-18-01
		β- 24.6	β- 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCAN ON THE CEILING WAS 50%

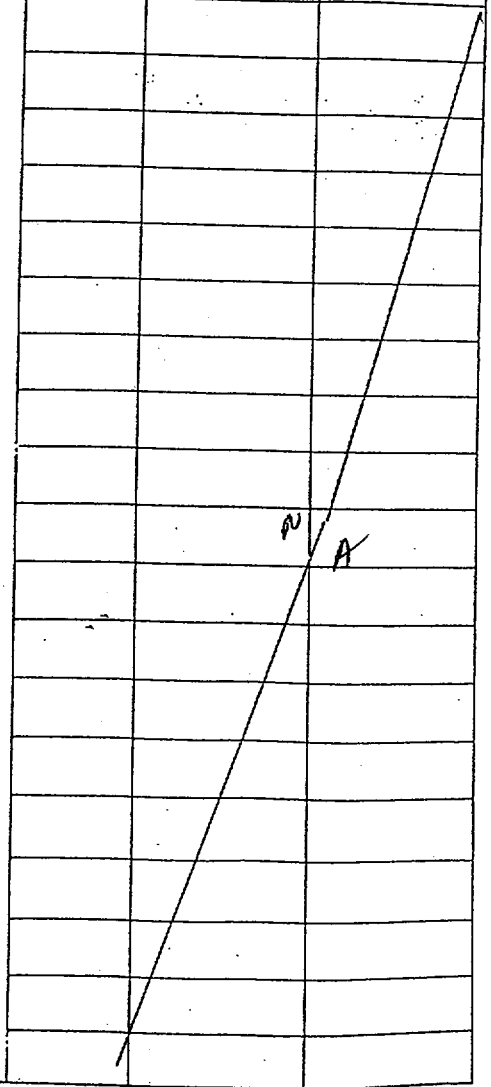
ROOM #16, GRID #2



SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACT

RADIOLOGICAL SURVEY REPORT

FM

ATGS #: 17

DATE: 8-3-00

TIME: 1245

SURVEYOR: R. Kountz / D. Goldston

LOCATION: Bldg #3152, Room # 16

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

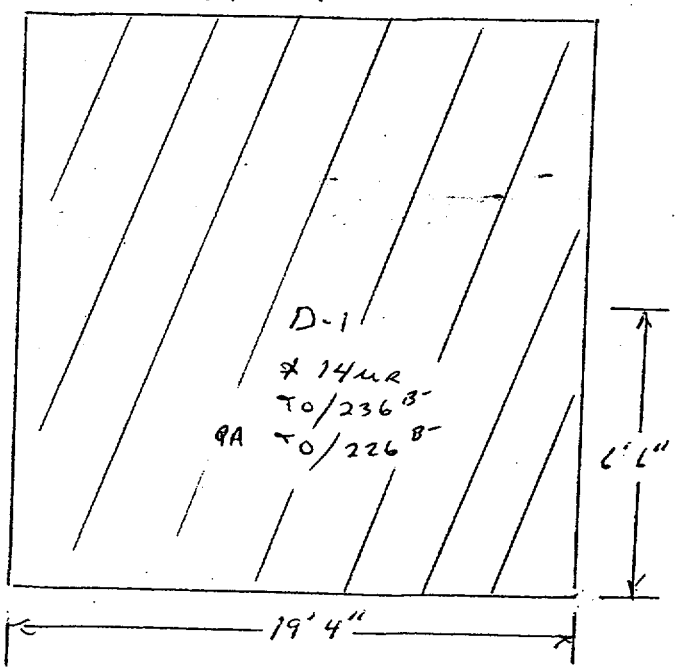
INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B5002	N/A	15 cpm	10-14-00
M-2224	132159	α 21.6	α 1	5-30-01
PR 43-68	134485	β- 25.5	β- 165	6-2-01
M-2224	132159	α 21.6	α 4	5-30-01
PR 43-37	088824	β- 23.6	β- 736	6-2-01
WPL 9550	01614	α 21.8	α 0	6-18-01
		β- 24.6	β- 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"

Room #1C Grid #2



SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

* All Readings are in cpm unless other wise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

arks: ||| = show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at Background Levels for Alpha, Beta and Gamma Activ

RADIOLOGICAL SURVEY REPORT

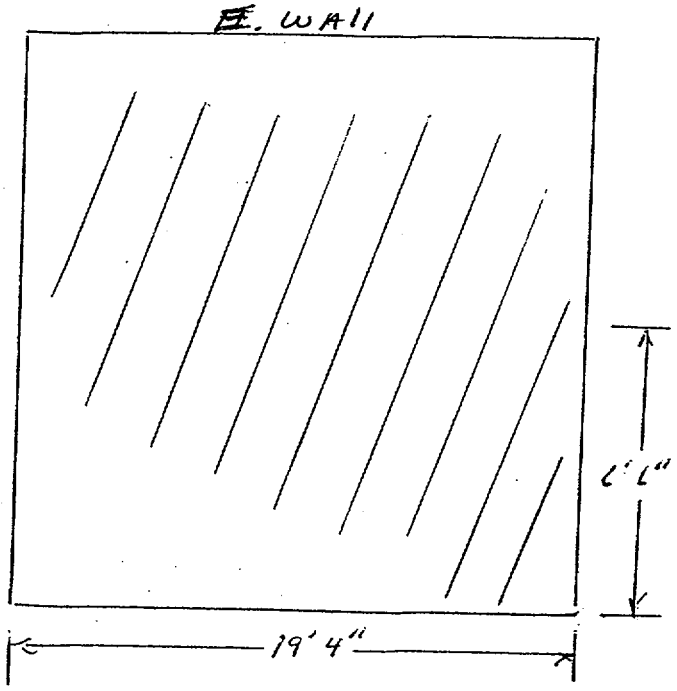
ATGS #: FM-17

DATE: 8-7-00	INSTRUMENTATION USED				
TIME: 1245	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Hunter / D. Goldstein	BICRON	B5002	N/A	15 cpm	10-14-00
LOCATION: Bldg #3182, Room #16	M-2224	132159	α 21.6	α 1	5-30-01
	PR 43-68	134485	β- 25.5	β- 165	6-2-01
REVIEWED BY:	M-2224	132159	α 21.6	α 4	5-30-01
	PR 43-37	088824	β- 23.6	β- 736	6-2-01
Smear Locations Circled. Dose Rates = ~~micro~~R/hr (μR/hr)	WPC 9550	01614	α 21.8 β- 24.6	α 0 β- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"

Room #16 Grid # 2



SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

* All Readings are in cpm unless otherwise noted
* micro'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: ||| = show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma Activ

RADIOLOGICAL SURVEY REPORT

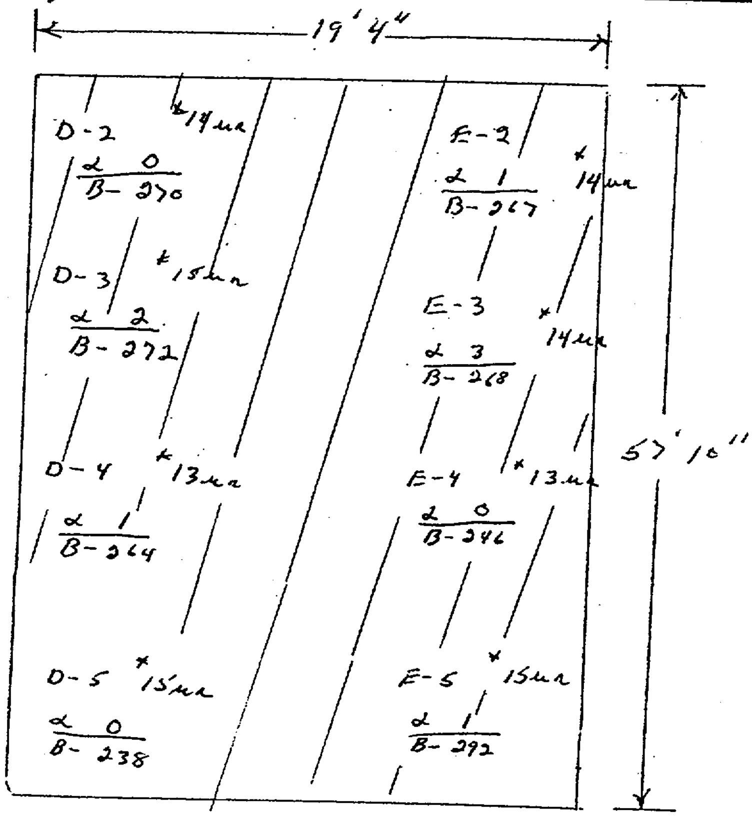
ATGS #: FM-17

DATE: 8-3-00	INSTRUMENTATION USED				
TIME: 1245	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Kountz/D. Goldston	Bicron	B-500Z	N/A	15 uR	10-14-00
LOCATION: Bldg #3182, Room #16	M-2224	132159	α 21.6	α 1	5-30-01
	PR 43-69	134485	B⁻ 25.5	B⁻ 765	6-2-01
REVIEWED BY: [signature]	M-2224	132159	α 21.6	α 4	5-30-01
	PR 43-37	088824	B⁻ 23.6	B⁻ 736	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC 9550	01614	α 21.8	α 0	
			B⁻ 24.6	B⁻ 0	6-18-01

PURPOSE OF SURVEY: FINAL Release Survey

NOTE! SCANS ON THE FLOOR WERE 100%

ROOM #16, GRID # 2



SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α

N/A

* All Readings are in cpm unless otherwise noted

* micro 'R' Readings taken on surface

* One minute Alpha and Beta surface activity Readings taken

Remarks: \\\\ = show AREA where Alpha, BETA and GAMMA Scans were taken

* All Scans Surveys are at Background Levels for Alpha, BETA and GAMMA Acti

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-17

DATE: 8-3-00

TIME: 1245

SURVEYOR: R. Kountz / D. Goldston

LOCATION: Bldg # 3181, Room # 16

REVIEWED BY:

Smear Locations Circled. Dose Rates = milliR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B-5002	N/A	15 μR	10-14-00
M-2224	132154	α 21.6	α 1.	5-30-01
PR 43-68	134485	β- 25.5	β- 165	6-2-01
M-2224	132154	α 21.6	α 4	5-30-01
PR 43-37	088824	β- 23.6	β- 736	6-2-01
UPC 9550	01614	α 21.8	α 0	
		β- 24.6	β- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

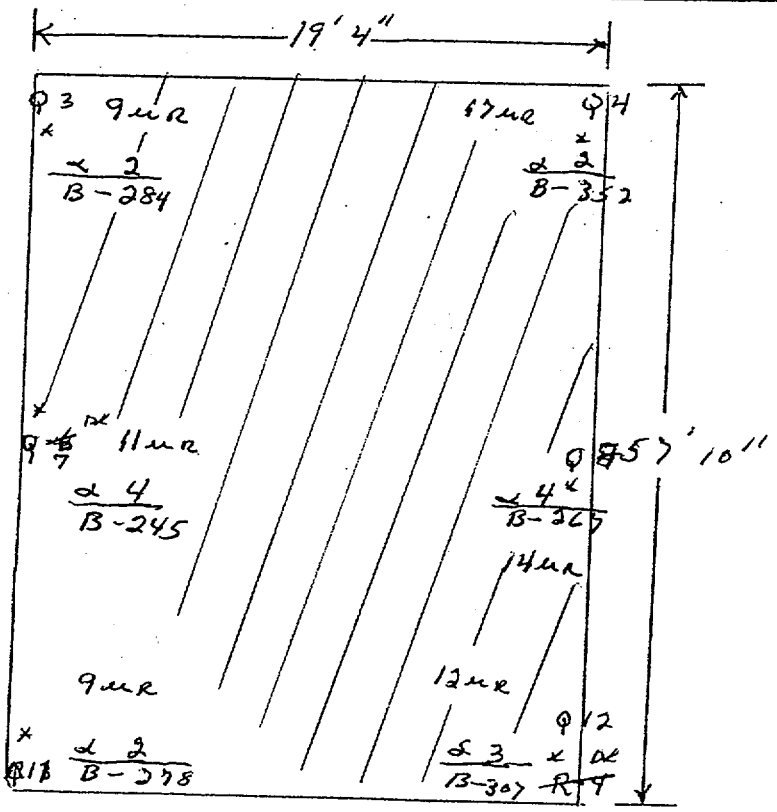
NOTE: SCAN ON THE CEILING WAS 50%

Room # 16, GRID # 3

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RAD

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-17

DATE: 8-3-00

TIME: 1245

SURVEYOR: R. Kounta / D. Goldston

LOCATION: Bldg #3182, Room #1C

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

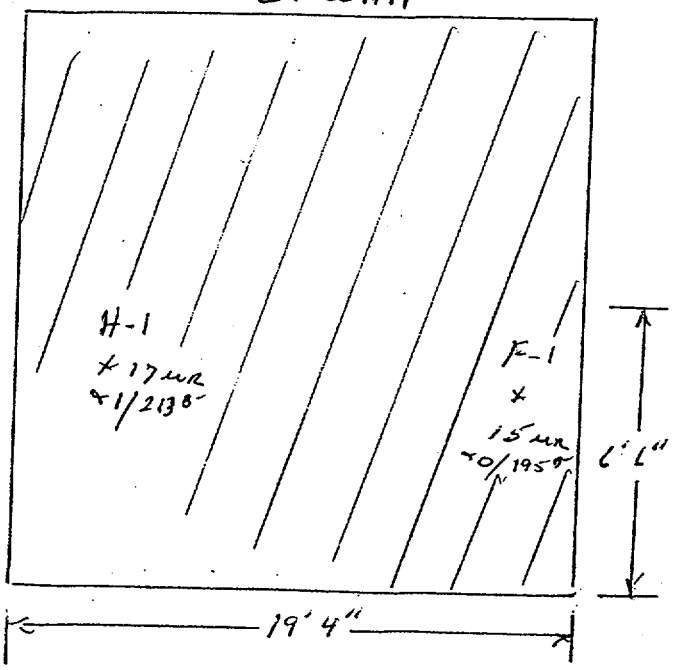
INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B 5002	N/A	15 μR	10-14-00
M-2224	132159	α 21.6	α 1	5-30-01
PR 43-68	134485	β- 25.5	β- 165	6-2-01
M-2224	132159	α 21.6	α 4	5-30-01
PR 43-37	088824	β- 23.6	β- 736	6-2-01
WPC 9550	01614	α 21.8	α 0	6-18-01
		β- 24.6	β- 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOVE 6'6"

ROOM #1C, GRID #3



SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α

* ALL READINGS ARE IN cpm UNLESS OTHER WISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIV.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-17

DATE: 9-3-00

TIME: 1245

SURVEYOR: R. Kountz / D. Goldston

LOCATION: Bldg #3182, Room #16

REVIEWED BY:

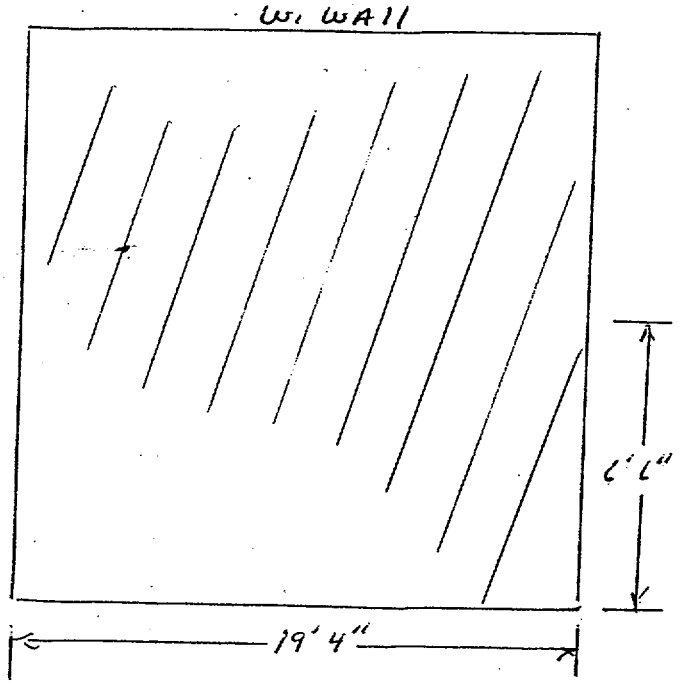
Smear Locations Circled. Dose Rates in microR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B-5002	n/a	15cpm	10-14-00
M-2224	132159	α 21.6	α 1	5-30-01
PR 43-68	134485	β- 25.5	β- 165	6-2-01
M-2224	132159	α 21.6	α 4	5-30-01
PR 43-37	088824	β- 23.6	β- 736	6-2-01
WPL 9550	01614	α 21.8	α 0	6-18-01
		β- 24.6	β- 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS WERE 100% OF AREA 6' 6" up WALL AND 50% ABOVE 6' 6"

Room #16, Grid # 3



SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

* All Readings are in cpm unless other wise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: ||| = show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at Background Levels for Alpha, Beta and Gamma Activ

RADIOLOGICAL SURVEY REPORT

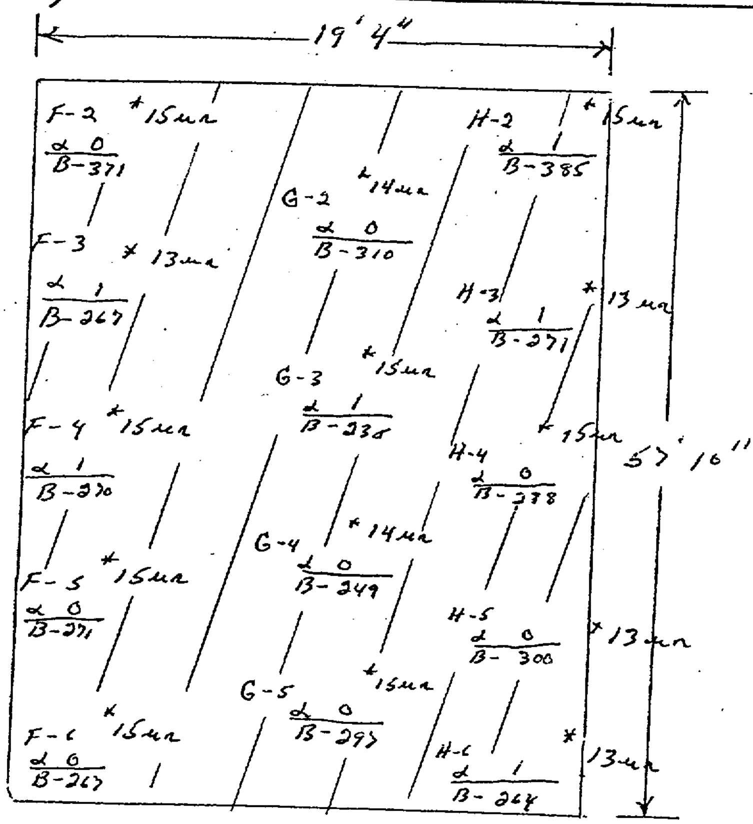
ATGS #: FM-17

DATE: 8-3-00	INSTRUMENTATION USED				
TIME: 1245	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. Kountz/D. Goldston	Bicron	B-560Z	N/A	15 ur	10-14-00
LOCATION: Bldg #3182, Room #16	M-2224	132159	α 21.6	α 1	5-30-01
	PR 43-69	134485	B⁻ 25.5	B⁻ 165	6-2-01
REVIEWED BY: [signature]	M-2224	132159	α 21.6	α 4	5-30-01
	PR 43-37	088824	B⁻ 23.6	B⁻ 736	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC 9550	01614	α 21.8	α 0	
			B⁻ 24.6	B⁻ 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS ON THE FLOOR WERE 100%

ROOM #16, GRID #3



SMEAR RESULTS RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED		
#	βγ	α
N/A		

* All Readings are in cpm unless otherwise noted

* micro 'R' Readings taken on surface

* One minute Alpha and Beta surface activity Readings taken

Remarks: ||| = show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at Background Levels for Alpha, Beta and Gamma Activ...

ALLIED TECHNOLOGY GROUP, INC. FORM ATGF-001 6/96

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-20

DATE: 8-5-00	INSTRUMENTATION USED				
TIME: 1600	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D Kountz	BICRON	B-5062	N/A	14 μR	10-14-00
LOCATION: Bldg #3182, HALLWAY	M2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR43-68	134484	B-25.5	B- 167	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	M2224	132159	α 21.6	α 4 4K	5-30-01
	PR43-37	088824	B-23.6	B- 3K 380 450	6-2-01
	WPC-9560	01614	α 21.8 B 24.6	α 0 B- 0	6-18-01

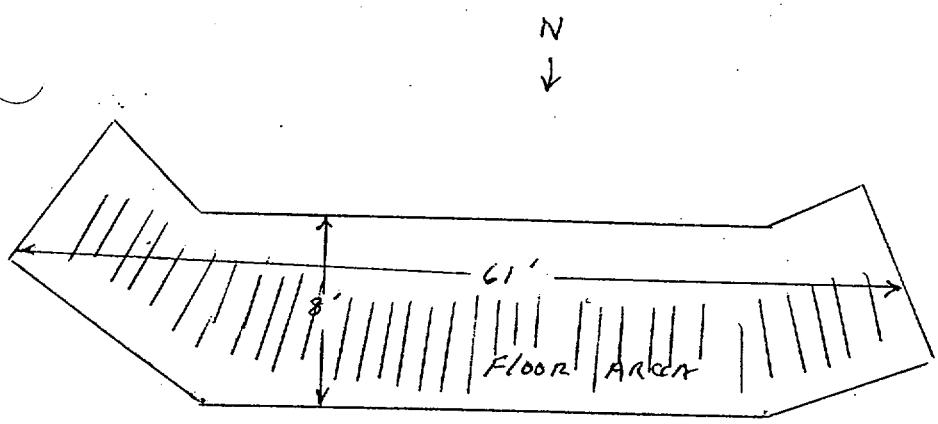
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS WERE 100% OF AREA 6'6" UP WALLS AND 50% ABOVE 6'6"

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



NOTE: SEE ATTACHED SHEETS FOR RAD READINGS

Remarks:

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-20

DATE: 8-5-00	INSTRUMENTATION USED				
TIME: 1400	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldstein	BICRON	B5002	N/A	14uR	10-14-00
LOCATION: Bldg #3182, HALLWAY	M 2224	132159	α 21.6	α 1	5-30-01
REVIEWED BY:	PR 43-68	134485	B-25.5	B-185	6-3-01
Smear Locations Circled. Dose Rates in uR/hr (μR/hr)	M 2224	132159	α 21.6	α 4. DK	5-30-01
	PR 43-37	088824	B-23.1	B-260 DK 750	6-3-01
	WPC 9550	01614	α 21.8	α 6	6-18-01
			B 24.6	B- 0	

A-1	17uR	α 0 / B-264
A-2	17uR	α 6 / B-303
A-3	15uR	α 6 / B-296
A-4	15uR	α 2 / B-253
A-5	15uR	α 0 / B-184
A-6	15uR	α 1 / B-195
A-7	16uR	α 0 / B-228
A-8	16uR	α 1 / B-188
A-9	16uR	α 0 / B-197
A-10	16uR	α 6 / B-281
A-11	15uR	α 0 / B-316
A-12	15uR	α 0 / B-330
A-13	17uR	α 1 / B-339
A-14	18uR	α 1 / B-314
A-15	17uR	α 0 α 0 / B-230 B-264
A-16	18uR	α 0 / B-168
A-17	16uR	α 0 / B-272
A-18	16uR	α 0 / B-183
A-19	15uR	α 6 / B-288
A 20	15uR	α 0 / B-166
A		

B-1	16uR	α 0 α 0 / B-289 B-287
B-2	16uR	α 0 / B-
B-3	15uR	α 0 / B-
B-4	15uR	α 1 / B-
B-5	16uR	α 1 / B-
B-6	16uR	α 0 / B-
B-7	16uR	α 1 / B-
B-8	15uR	α 0 / B-
B-9	15uR	α 6 / B-
B-10	15uR	α 0 α 1 / B-249 B-292
B-11	16uR	α 0 / B-292
B-12	15uR	α 0 / B-280
B-13	16uR	α 0 / B-281
B-14	17uR	α 0 / B-255
B-15	17uR	α 0 / B-297
B-16	18uR	α 0 / B-175
B-17	16uR	α 0 / B-255
B-18	15uR	α 0 / B-136
B-19	15uR	α 0 / B-278
B-20	15uR	α 0 / B-280

* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN
* ALL SCANS SURVEY ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIVITY

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-90

DATE: 8-10-00	INSTRUMENTATION USED				
TIME: 1000	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston, D. Kountz	BICRON	B-5002	N/A	14uR	10-14-00
LOCATION: Bldg # 3182, Hallway	M-2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR 43-68	134485	B-25.5	B 168	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	M 2224	132159	α 21.6	α 2.4 gst	5-30-01
	PR 43-37	088824	B-23.6	B. 310 750	6-2-01
	WPC 9550	01614	α 21.8	α 0	
			B-24.6	B- 0	6-18-01

C-1	15 uR	α 0 / B-188
C-2	17 uR	α 1 / B-192
C-3	17 uR	α 1 / B-276
C-4	16 uR	α 2 / B-246
C-5	15 uR	α 0 / B-272
C-6	16 uR	α 0 / B-292
C-7	16 uR	α 2 / B-268
C-8	18 uR	α 0 / B-256
C-9	15 uR	α 2 / B-253
C-10	16 uR	α 0 / B-267
C-11	16 uR	α 2 / B-275
C-12	17 uR	α 0 / B-281
C-13	16 uR	α 1 / B-264
C-14	16 uR	α 0 / B-271
C-15	16 uR	α 1 / B-296
C-16	17 uR	α 1 / B-263
C-17	17 uR	α 0 / B-276
C-18	16 uR	α 2 / B-281
C-19	16 uR	α 2 / B-307
C-20	17 uR	α 3 / B-278
C-21	15 uR	α 0 / B-320

D-1	16 uR	α 0 / B-192
D-2	16 uR	α 0 / B-288
D-3	17 uR	α 1 / B-351
D-4	17 uR	α 1 / B-321
D-5	15 uR	α 0 / B-306
D-6	14 uR	α 1 / B-306
D-7	16 uR	α 2 / B-301
D-8	15 uR	α 0 / B-285
D-9	15 uR	α 1 / B-304
D-10	15 uR	α 1 / B-289
D-11	14 uR	α 1 / B-271
D-12	14 uR	α 2 / B-267
D-13	12 uR	α 2 / B-276
D-14	14 uR	α 1 / B-290
D-15	16 uR	α 1 / B-283
D-16	14 uR	α 0 / B-293
D-17	15 uR	α 0 / B-281
D-18	14 uR	α 1 / B-263
D-19	15 uR	α 2 / B-245
D-20	16 uR	α 2 / B-289
D-20	15 uR	α 1 / B-328

* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN
* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIVITY

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-20

DATE: 8-5-00	INSTRUMENTATION USED				
TIME: 1330	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston	BICRON	B 5002	N/A	14 uR	10-14-00
LOCATION: Bldg #3187, HALLWAY	M 2224	132159	α 21.6	α 1	5-30-01
REVIEWED BY:	PR 43-68	134485	B 25.5	B-185	6-3-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	M 2224	132159	α 21.6	α 4 DK	5-30-01
	PR 43-37	088824	B 23.1	B-200 DK/50	6-3-01
	WPC 9550	01614	α 21.8	α 0	6-18-01
			B 24.6	B- 0	

E-1	16 uR	α 0 / B-306	
E-2	15 uR	α 0 / B-217	
E-3	16 uR	α 0 / B-262	
E-4	16 uR	α 1 / B-326	
E-5	15 uR	α 0 / B-224	α 0 / B-241
E-6	15 uR	α 0 / B-275	
E-7	15 uR	α 1 / B-287	
E-8	15 uR	α 0 / B-158	
E-9	15 uR	α 1 / B-260	
E-10	15 uR	α 1 / B-298	α 0 / B-292
E-11	15 uR	α 0 / B-288	
E-12	15 uR	α 0 / B-293	
E-13	15 uR	α 1 / B-262	
E-14	15 uR	α 0 / B-268	
E-15	17 uR	α 1 / B-295	
E-16	17 uR	α 0 / B-272	
E-17	16 uR	α 0 / B-309	
E-18	16 uR	α 0 / B-293	
E-19	16 uR	α 0 / B-273	α 0 / B-270
E-20	15 uR	α 0 / B-270	
E-21	16 uR	α 0 / B-248	

E-22	16 uR	α 0 / B-256	
E-23	16 uR	α 0 / B-221	
E-24	16 uR	α 0 / B-275	
P-1	17 uR	α 0 / B-284	
P-2	17 uR	α 0 / B-289	
P-3	15 uR	α 0 / B-254	
P-4	15 uR	α 0 / B-191	
P-5	15 uR	α 2 / B-205	α 2 / B-181
P-6	16 uR	α 0 / B-308	
P-7	16 uR	α 0 / B-283	
P-8	16 uR	α 4 / B-167	
P-9	17 uR	α 0 / B-276	
P-10	16 uR	α 0 / B-271	
P-11	16 uR	α 0 / B-279	α 0 / B-307
P-12	15 uR	α 0 / B-243	
P-13	15 uR	α 3 / B-253	
P-14	16 uR	α 0 / B-186	
P-15	15 uR	α 2 / B-212	
P-16	15 uR	α 1 / B-281	
P-17	15 uR	α 0 / B-247	
P-18	15 uR	α 1 / B-266	
P-19	16 uR	α 0 / B-260	α 1 / B-242

* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN
* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIVITY

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-20

DATE: 8-5-00

TIME: 1600

SURVEYOR: D. KOUNTS

LOCATION: Bldg #3182, HALLWAY

REVIEWED BY:

Smear Locations Circled. Dose Rates – MicroR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B-5002	N/R	14 μR	10-14-00
M-2224	132159	α 21.6	α 0	5-30-01
PR43-68	134485	B-25.5	B-167	6-2-01
M-2224	132159	α 21.6	α 4	5-30-01
PR43-37	088824	B-23.6	B-200 250 DK	6-2-01
WPC 9550	01614	α 21.8	α 0	6-18-01
		B-24.6	B- 6	

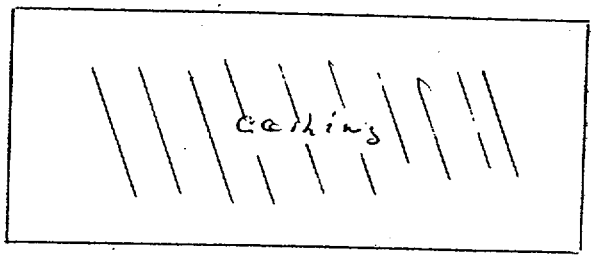
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

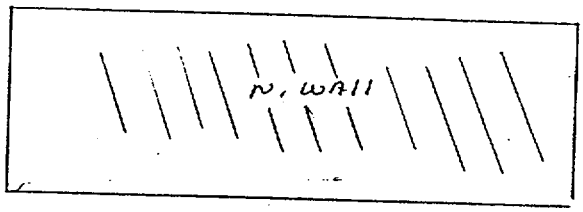
NOTE! SCANS WERE 100% OF AREA 6'6" up WALL AND 50% ABOUT 6'6"

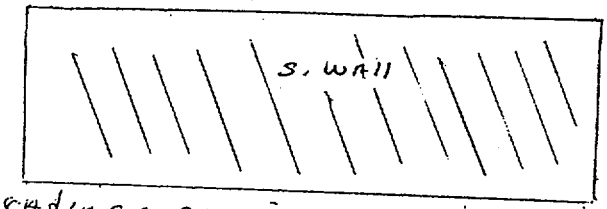
SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α







* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACTIV

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-26

DATE: 8-7-00	INSTRUMENTATION USED				
TIME: 1000	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: R. EAVES	2224 43-37	132159 088824	α 21.6 β-23.6	α 4 .683	6-2-01
LOCATION: Bldg 3182 Rm 3 4, 16, HALLWAY			N		
REVIEWED BY:			A		
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)					

PURPOSE OF SURVEY: Survey of CARPET After REMOVAL

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

After REMOVAL of CARPET IN BLDG. 3182 IN Rooms 4, 16 2ND HALLWAY ALPHA & Beta/GAMMA SCAN WAS CONDUCTED ON Both SIDES. No NOTICABLE Activity found.

#	βγ	α
	N	
	A	

Remarks:

RADIOLOGICAL SURVEY REPORT

ATG #: FM-32

DATE: 8-16-00

TIME: 1510

SURVEYOR: D. Goldston

LOCATION: Ft. McClellan

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (µR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
M-2224	132159	α 21.6	2 · 0	5-30-01
PR 43-68	134485	β- 25.5	β- 177	6-2-01
N		N		N
	A		A	A

PURPOSE OF SURVEY: Unconditional Release of Equipment

2 Jackhammers
1 Airhose
1 Scabble Gun

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α
	A	
	N	

Remarks: 100% of ALL Accessible AREAS were direct frisked and Gross Masslin Taken

UNCONDITIONAL RELEASE OF EQUIPMENT OR ITEMS REPORT

ATGS #:	DATE:
Fm-32	8-16-00

PROJECT/LOCATION: Ft. McClellan, AL

DESCRIPTION OF EQUIPMENT OR ITEMS: 2 JACKHAMMER, 1 Air Hose, 1 scabble gun

SURVEY EQUIPMENT:

MODEL NO: m-2224 PR 43-68	S/N: 132159 134485	BKRD: α 0 β-γ 177	EFF: α 21.6 β-γ 25.5	CAL DUE DATE: 5-30-01 6-2-01
MODEL NO: N	S/N: N	BKRD: N	EFF: N	CAL DUE DATE: N
MODEL NO: A	S/N: A	BKRD: A	EFF: A	CAL DUE DATE: A

CONTAMINATION LEVELS:

< 1,000	dpm/100 cm² βγ	REMOVABLE
< 20	dpm/100 cm² α	REMOVABLE
< 5,000	dpm/100 cm² βγ	FIXED
< 100	dpm/100 cm² α	FIXED

THIS IS TO CERTIFY THAT THE ABOVE DESCRIBED EQUIPMENT OR ITEMS HAS BEEN SURVEYED AND FOUND TO BE WITHIN ACCEPTABLE SURFACE CONTAMINATION LEVELS FOR UNCONDITIONAL RELEASE AS REQUIRED BY NUCLEAR REGULATORY GUIDE 1.86.

HEALTH PHYSICS TECHNICIAN:	DATE/TIME: DRH
Debora K. Holbrook	8-16-00 / 1630 1510

DISPOSITION OF EQUIPMENT OR ITEMS: Released AS CLEAN

100% of ALL Accessible Areas were direct Frisked and Gross Masslin TAKEN

REVIEWED BY:	DATE:

APPENDIX J

BUILDING T-810 SURVEY RECORDS

RADIOLOGICAL SURVEY REPORT

ATGS #: F-23

DATE: 8-8-00	INSTRUMENTATION USED				
TIME: 1430	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston/D. Koonte	Bicron	B 5002	N/A	6 uR	10-14-00
LOCATION: Bldg # T-810	M-2224	132159	α 21.6	α 0	5-30-01
	PR 43-68	134485	β 25.5	β 160	6-2-01
REVIEWED BY: [signature]	M-2224	132159	α 21.6	α 2	5-30-01
	PR 43-37	088824	β 23.6	β 487	6-2-01
Smear Locations Circled. Dose Rates - microR/hr (μR/hr)	WPC-9550	01614	α 21.8 β 24.6	α 0 β 0	6-18-01

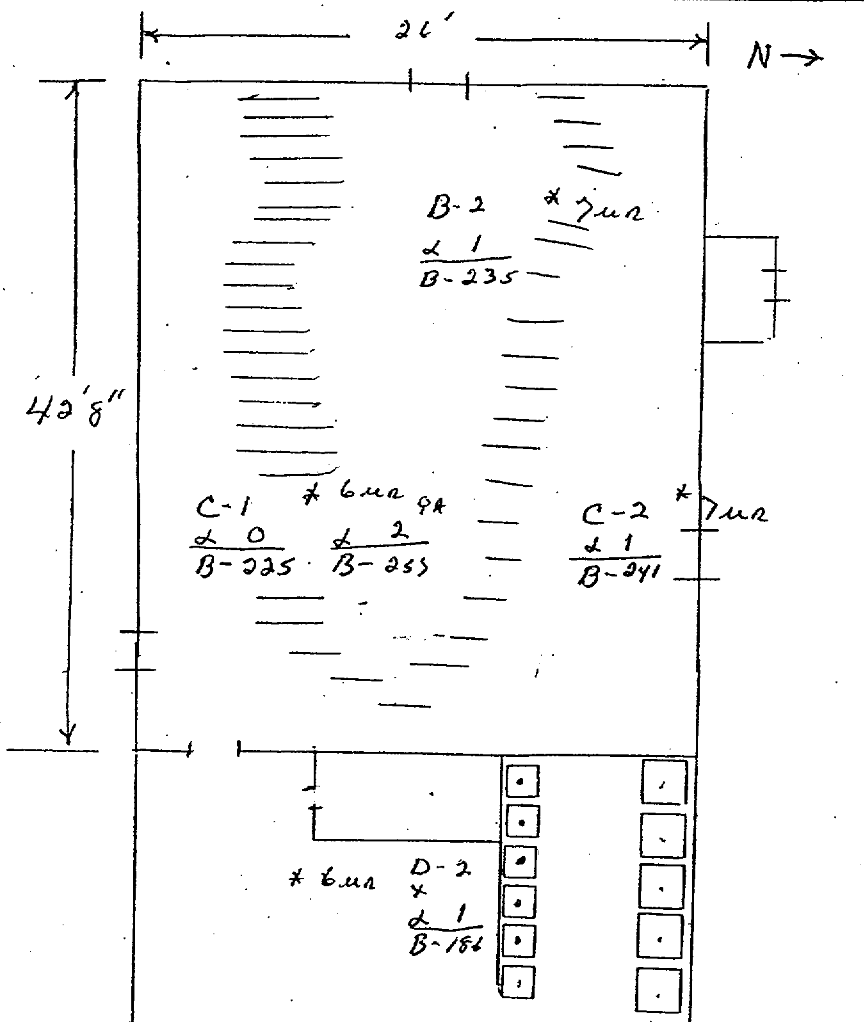
PURPOSE OF SURVEY: Final Release Survey

Note: Scans on Floor and 6' 6" up walls were 10%

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α
N/A		



Remarks: ||| = shows AREA where Alpha, Beta and gamma scans were Taken

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-023

DATE:	8-8-00
TIME:	1430
SURVEYOR:	D. Goldston, D. Kountz
LOCATION:	Bldg #T-810
REVIEWED BY:	
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B500Z	N/A	6 μR	10-14-00
M-2224	132159	α 21.6	α 0	5-30-01
PR 43-68	134485	β⁻ 25.5	β⁻ 160	6-2-01
M-2224	132159	α 21.6	α 2	5-30-01
PR 43-37	088824	β⁻ 23.6	β⁻ 487	6-2-01
WPC-9550	01614	α 21.8 β⁻ 24.6	α 0 β⁻ 0	6-18-01

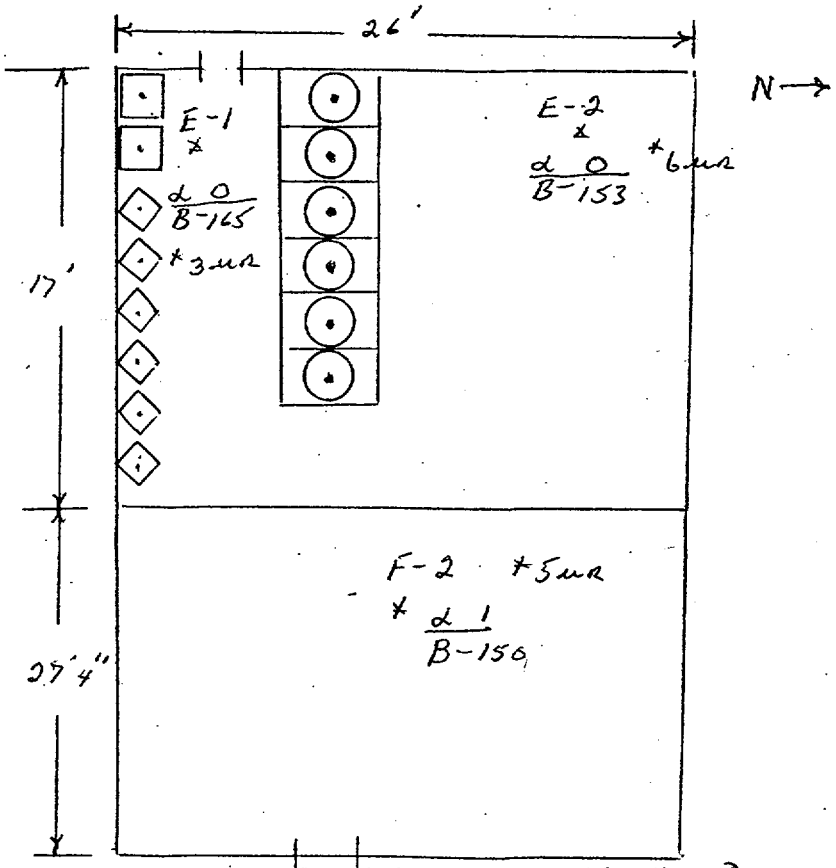
PURPOSE OF SURVEY: Final Release Survey

NOTE: SCANS ON FLOOR and 6'6" up walls were 10%.

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN CPM UNLESS OTHERWISE NOTED
* Micro 'R' Readings Taken on Surface
* One minute Alpha and Beta Surface Activity Readings Taken

Remarks: /// = Shows Area where Alpha, Beta, and Gamma Scans WERE TAKEN

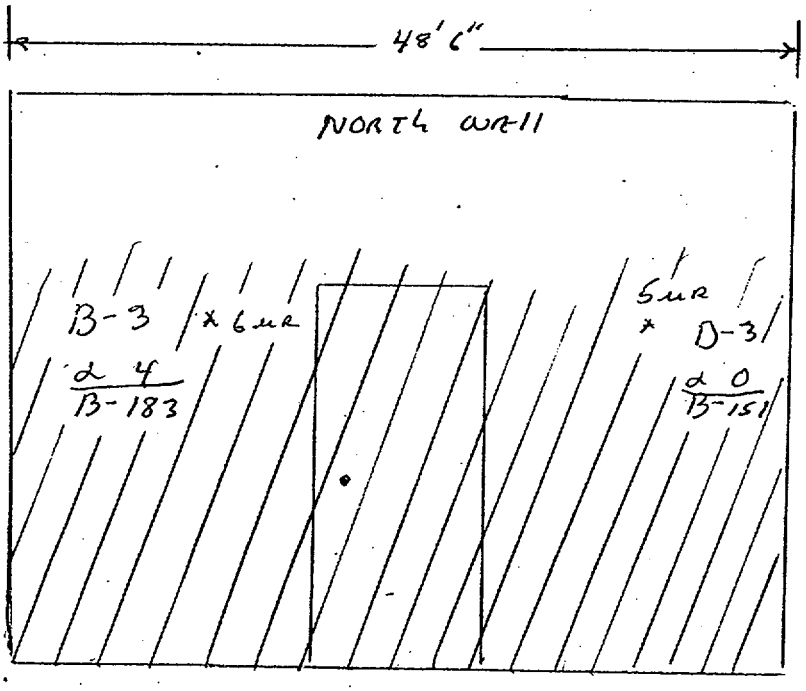
RADIOLOGICAL SURVEY REPORT

ATGS #: FM-23

DATE: 8-8-00	INSTRUMENTATION USED				
TIME: 1430	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Gordstein, D. Kounce	Bicron	B5002	N/A	6 uR	10-14-00
LOCATION: Bldg # T-810	M-2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR 43-68	134485	β 25.5	β 160	6-2-01
	M-2224	132159	α 21.6	α ~~DK~~ 2	5-30-01
	PR 43-37	088824	β 23.6	β ~~DK~~ # 487	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC-9550	01614	α 21.8	α 0	
			β 24.6	β 0	6-19-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND 6'6" UP WALLS WERE 10 %



* ALL READINGS ARE IN CPM UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOWS AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-23

DATE: 8-8-00

TIME: 1430

SURVEYOR: D. Gordstein, D. Kountz

LOCATION: Bldg # T-810

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B 5002	N/A	6 μR	10-14-00
M-2224	132159	α 21.6	α 0	5-30-01
PR 43-68	134485	B- 25.5	B- 160	6-2-01
M-2224	132159	α 21.6	α 0	5-30-01
PR 43-37	089824	B- 23.6	B- 211	6-2-01
WPC-9550	01614	α 21.8 B- 24.6	α 0 B- 0	6-18-01

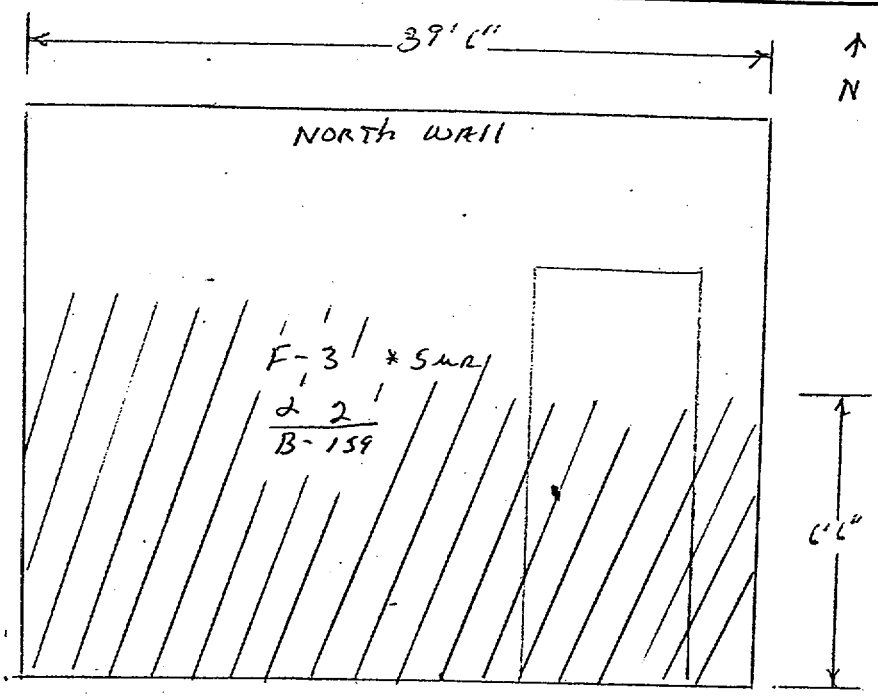
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND 6' 6" UP WALLS WERE 10 %

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* All Readings are in cpm unless otherwise noted
* Micro 'R' Readings Taken on Surface
* One minute Alpha and Beta surface activity Readings Taken

Remarks: \\\ shows area where Alpha, Beta and Gamma scans were taken

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-23

DATE: 8-8-00

TIME: 1430

SURVEYOR: D. Goldston, D. Kovacs

LOCATION: Bldg # T-810

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B5002	N/A	6 μR	10-14-00
M-2224	132159	α 21.6	α 0	5-30-01
PR 43-68	134485	B-25.5	B- 160	6-2-01
M-2224	132159	α 21.6	α 0 2 PK	5-30-01
PR 43-37	088824	B-23.6	B- 241 483	6-2-01
WPC-9550	01614	α 21.8	α 0	6-18-01
			B- 24.6	B- 0	

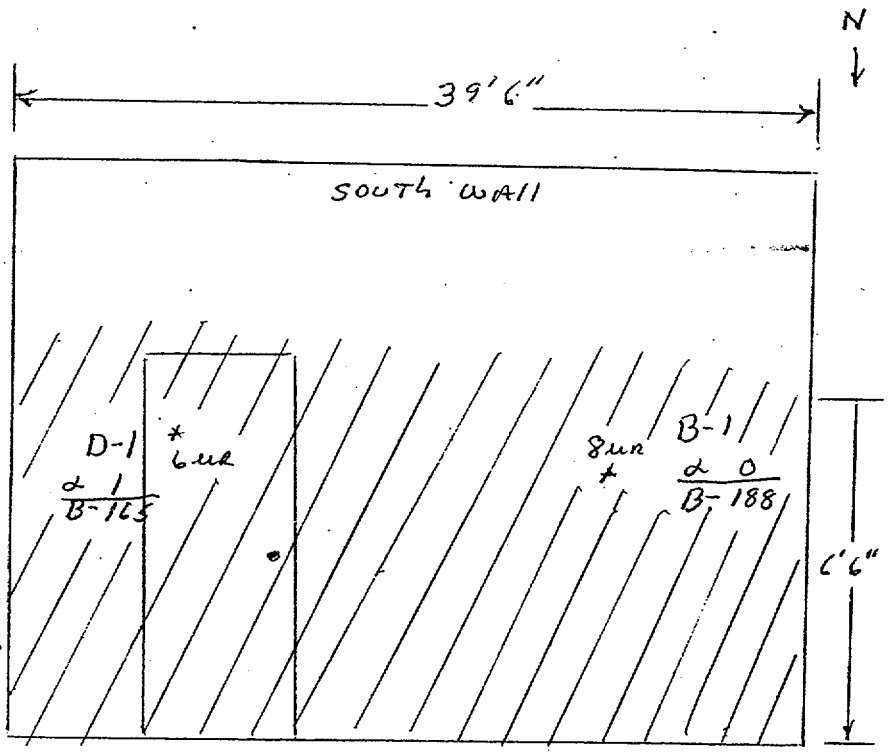
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND 6'6" UP WALLS WERE 10 %

SMEAR RESULTS *

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α
	N/A	



* ALL READINGS ARE IN CPM UNLESS OTHERWISE NOTED.
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: \\\ = SHOWS AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-23

DATE: 8-8-00

TIME: 1430

SURVEYOR: D. Goldston, D. Koumis

LOCATION: Bldg # T-810

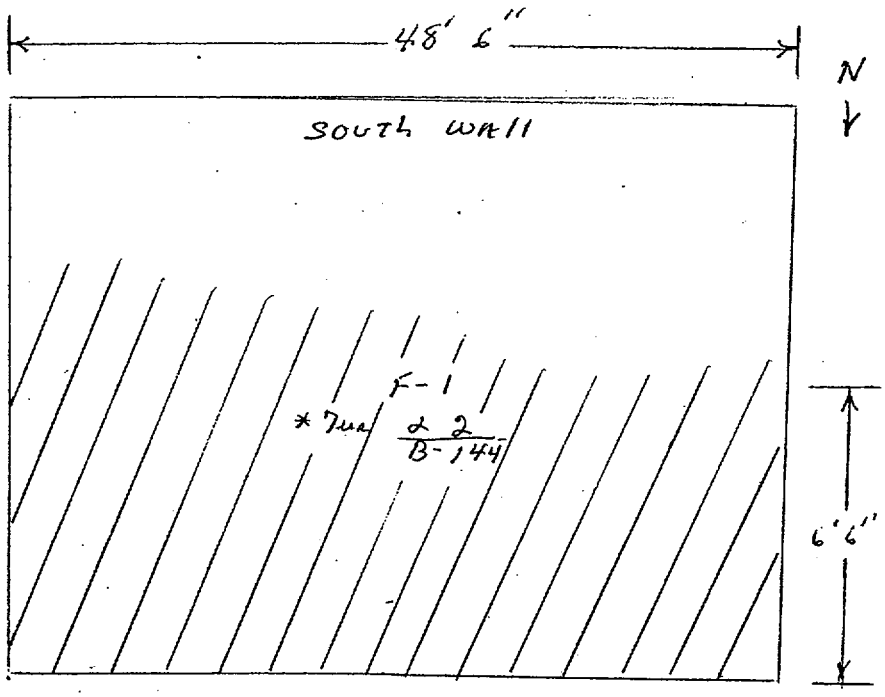
REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B500Z	N/A	6 μR	10-14-00
M-2224	132159	α 21.1	α 0	5-30-01
PR 43-69	134485	β- 25.5	β- 160	6-2-01
M-2224	132159	α 2	α 2	5-30-01
PR 43-37	088924	β- 487	β- 487	6-2-01
WPL-9550	01614	α 21.8	α 0	6-18-01
		β-24.6	β- 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND 6'6" up WALLS WERE 10 %



#	βγ	α
	N/A	

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

Remarks:

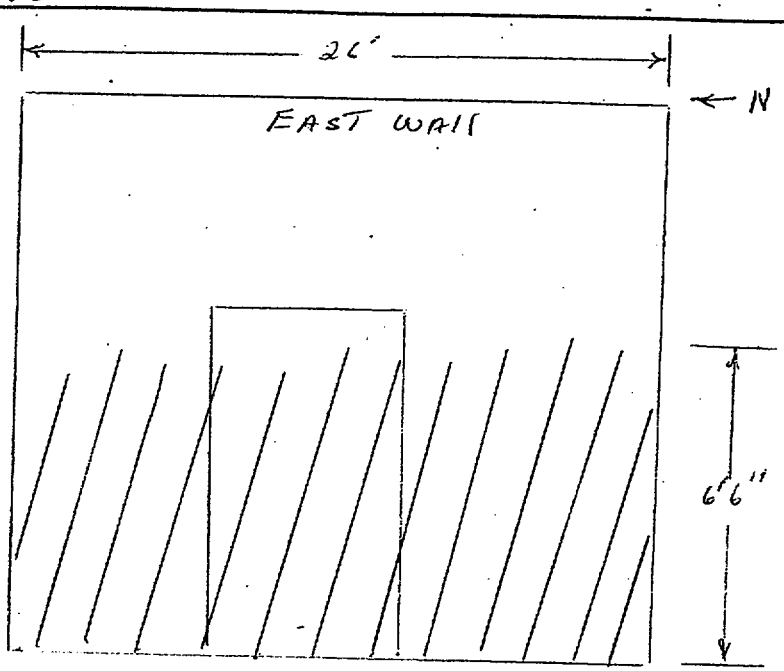
RADIOLOGICAL SURVEY REPORT

ATGS #: FM-23

DATE: 8-8-00	INSTRUMENTATION USED				
TIME: 1430	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston, D. Koumpe	Bicron	5002	N/A	6 uR	10-14-00
LOCATION: Bldg # T-810	M-2224	132159	α 21.6	α 0	5-30-01
	PR 43-68	134485	β- 25.5	β- 146	6-2-01
REVIEWED BY:	M-2224	132159	α 21.6	α 2	5-30-01
	PR 43-37	088824	β- 23.2	β- 487	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC-9550	01614	α 21.8	α 0	
			β- 24.1	β- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND 6'6" UP WALLS WERE 10 %



* ALL READINGS ARE IN cpm UNLESS OTHER WISE NOTED
* MICRO R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: /// - SHOWS AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α
		N/A

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-23

DATE: 8-8-00	INSTRUMENTATION USED				
TIME: 1430	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston, D. Kountz	Bicron	500Z	N/A	6 μR	10-14-00
LOCATION: Bldg # T-810	M-2224	132159	α 21.6	α 0	5-30-01
	PR 43-68	134485	β- 35.5	β- 160	6-2-01
REVIEWED BY:	M-2224	132159	α 21.6	α 2	5-30-01
	PR 43-37	088824	β- 23.6	β- 24487	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPL-9550	01614	α 21.8 β- 24.6	α 0 β- 0	6-18-01

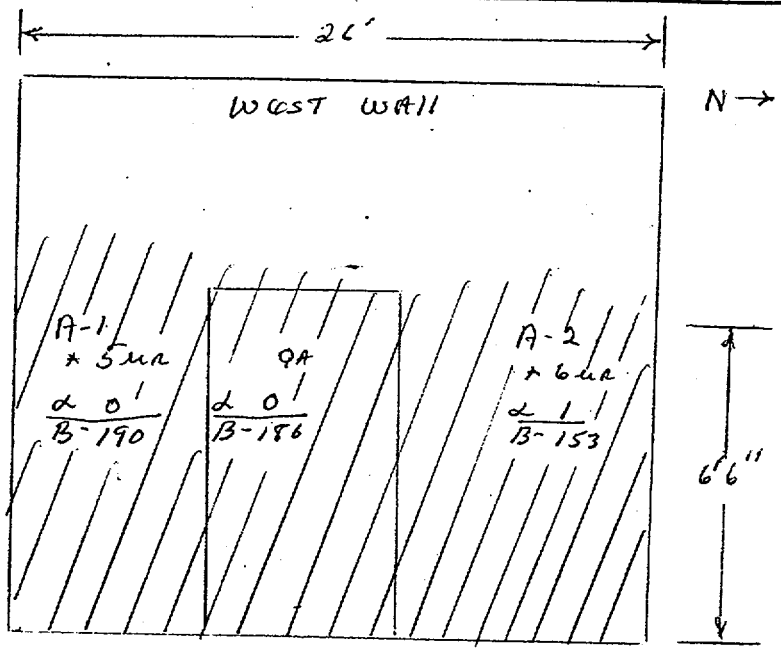
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS ON FLOOR AND 6'6" UP WALLS WERE DIL 10/50 %

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



*. All Readings are in cpm unless other wise noted

* Micro R' Readings Taken on Surface

* One minute Alpha and Beta surface Activity Readings Taken

Remarks: ▨ = Shows Area where Alpha, Beta and Gamma Scans were Taken

APPENDIX K

BUILDING T-811 SURVEY RECORDS

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-22

DATE: 8-7-00

TIME: 1845

SURVEYOR: D. Goldston, D. Kountz

LOCATION: Bldg # T-811

REVIEWED BY:

Smear Locations Circled. Dose Rates = MicroR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Ricken	B 500Z	N/A	5 μR	10-14-00
M-2224	132159	α 21.6	α 0	5-30-01
PR 43-69	134485	β 25.5	β 96	6-2-01
M-2224	132159	α 21.6	α 2	5-30-01
PR 43-37	088824	β 23.6	β 216	6-2-01
UPL-9550	01614	α 21.8 β 24.6	α 0 β 6	6-18-01

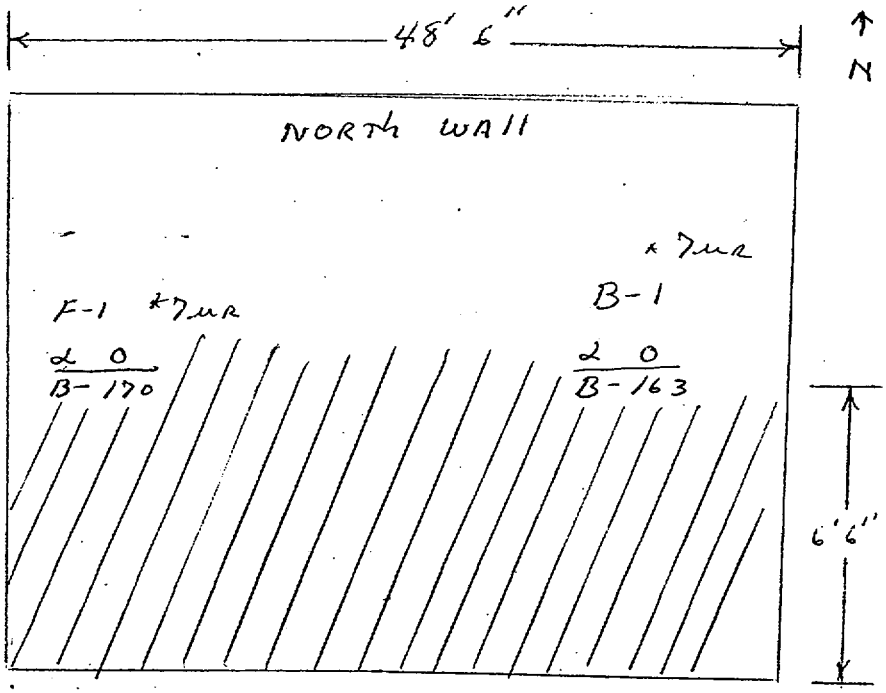
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS ON FLOOR AND 6'6" UP WALLS WERE 10 %

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* All Readings are in cpm unless otherwise noted
* Micro R' Readings Taken on Surface
* One minute Alpha and Beta surface activity Readings Taken

Remarks: /// = shows area where Alpha, Beta and Gamma scans were taken

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-22

DATE: 8-7-00	INSTRUMENTATION USED				
TIME: 1845	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldstein, D. Koontz	Ludlum	B500Z	N/A	5 MR	10-14-00
LOCATION: Bldg # T-811	M-2224	132159	α 21.6	α 1	5-30-01
REVIEWED BY:	PR 43-68	134485	β 25.5	β 168	6-2-01
	M-2224	132159	α 21.6	α 2	5-30-01
	PR 43-37	088824	β 23.6	β 216	6-2-01
Smear Locations Circled. Dose Rates = MicroR/hr (μR/hr)	WPC-9550	01614	α 21.8 β 24.6	α 0 β 0	6-18-01

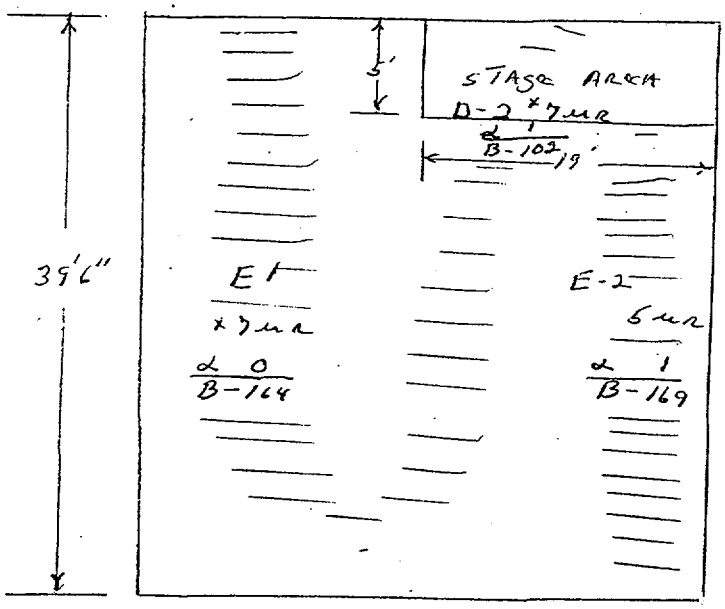
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND 6'6" UP WALLS WERE 10%

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* All Readings are in cpm unless otherwise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: /// = shows area where Alpha, Beta and 7mmR scans were taken

RADIOLOGICAL SURVEY REPORT

ATGS #: Fm-22

DATE:	8-7-00
TIME:	1845
SURVEYOR:	D. Goldstein, D. Koontz
LOCATION:	Bldg # T-811
REVIEWED BY:	[signature]

Smear Locations Circled. Dose Rates = ~~microR/hr~~ (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B5002	N/A	5 μR	10-14-00
M-2224	132159	α 21.6	α 0	5-30-01
PR 43-68	134485	β- 25.5	β- 96	6-2-01
M-2224	132159	α 21.6	α 2	5-30-01
PR 43-37	088824	β- 23.6	β- 216	6-2-01
WPC-9550	01614	α 21.6 β- 24.6	α 0 β- 0	6-18-01

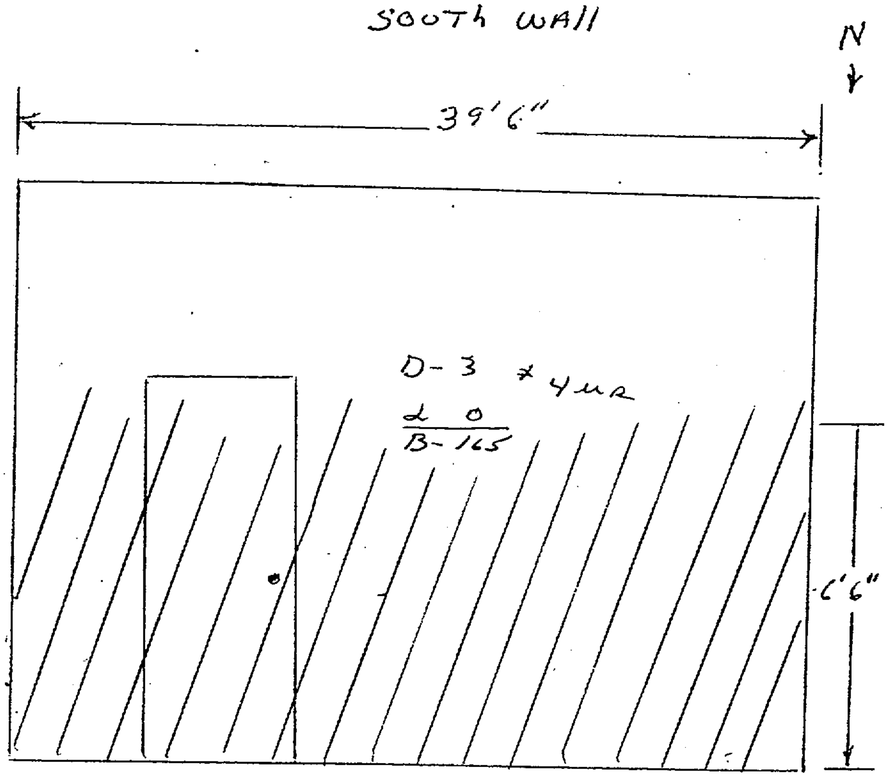
PURPOSE OF SURVEY: Final Release Survey

NOTE: SCANS ON FLOOR and 6'6" up walls were 10%

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α
	N/A	



* All readings are in cpm unless otherwise noted
* Micro 'R' readings taken on surface
* One minute alpha and beta surface activity readings taken

Remarks: \\\ = shows area where alpha, beta, and Gamma scans were taken

RADIOLOGICAL SURVEY REPORT

ATGS #: Fm-22

DATE: 8-2-00

TIME: 1845

SURVEYOR: D. Goldsto, D. Kovats

LOCATION: Bldg # T-811

REVIEWED BY:

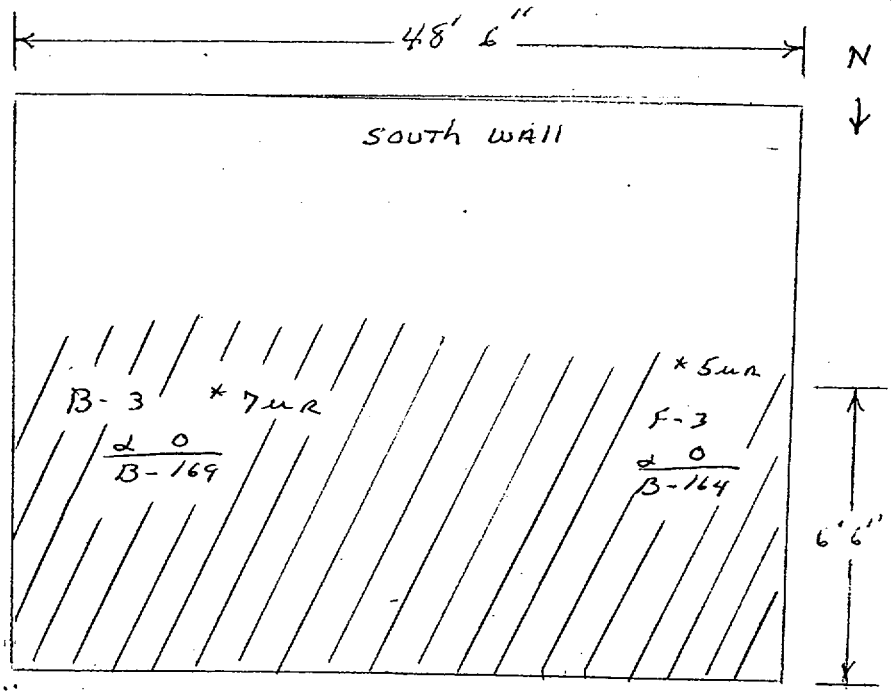
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Ricken	B 500Z	N/A	5 μR	10-14-00
M-2224	132159	α 21.6	α 0.	5-30-01
PR 43-68	134485	β- 25.5	β- 96	6-2-01
M-2224	132159	α 21.6	α 2	5-30-01
PR 43-37	088824	β- 23.6	β- 216	6-2-01
UPC-9550	01614	α 21.8 β- 24.6	α 0 β- 0	6-18-01

PURPOSE OF SURVEY: Final Release Survey

NOTE: Scans on Floor and 6'6" up walls were 10%



SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α
	N	A

* All Readings Are in CPM unless otherwise noted

* Micro "R" Readings Taken on Surface

* One minute Alpha and Beta surface Activity Readings Taken

Remarks: /// = Shows Area where Alpha, Beta, and GAMMA scans were Taken

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-22

DATE: 8-7-00

TIME: 1845

SURVEYOR: D Goldston, D Kovats

LOCATION: Bldg # T-811

REVIEWED BY:

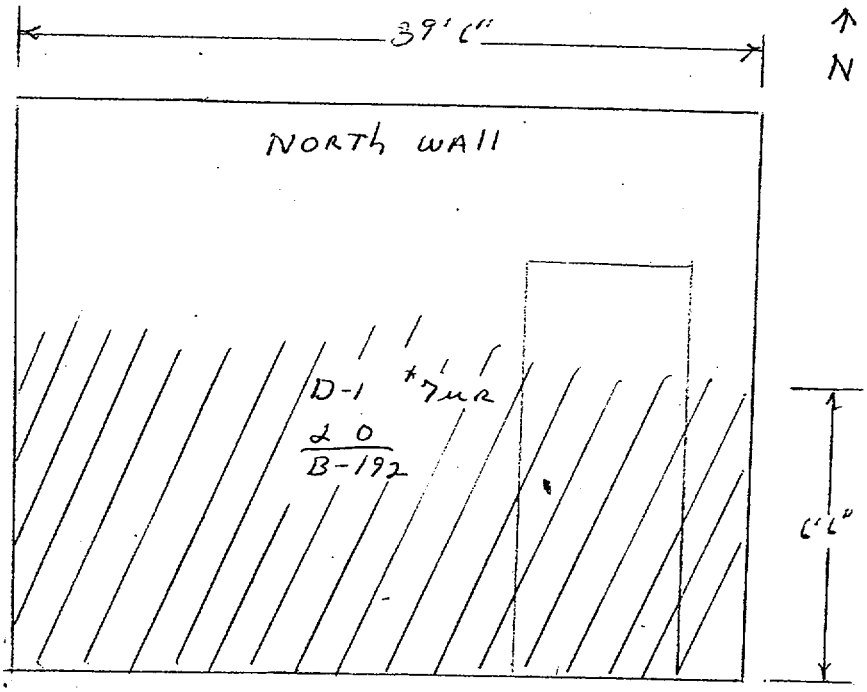
Smear Locations Circled. Dose Rates in MicroR/hr (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B 5002	N/A	5 μR	10-14-00
M-2224	132159	α 21.6	α 0	5-30-01
PR 43-68	134485	β- 25.5	β- 96	6-2-01
M-2224	132159	α 21.6	α 2	5-30-01
PR 43-37	089824	β- 33.6	β- 216	6-2-01
WPC-9550	01614	α 21.8	α 0	6-18-01
		β- 34.1	β- 8	

PURPOSE OF SURVEY: Final Release Survey

NOTE: Scans on Floor and 6' 6" up walls were 10%



* All Readings Are in CPM unless otherwise noted
* Micro "R" Readings Taken on Surface
* One minute Alpha, and Beta Surface Activity Readings Taken

Remarks: /// = Shows Area where Alpha, Beta and GAMMA Scans were Taken

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α
	N	A

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-22

DATE: 8-3-00

TIME: 1845

SURVEYOR: D. Goldston, D. Kountz

LOCATION: Bldg #T-811

REVIEWED BY:

Smear Locations Circled. Dose Rates = ~~milliR~~/hr (µR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	500Z	N/A	5 µR	10-14-00
M-2224	132159	α 21.6	α 0	5-30-01
PR 43-68	134485	β- 25.5	β- 96	6-2-01
M-2224	132159	α 21.6	α 2	5-30-01
PR 43-37	088824	β- 23.6	β- 216	6-2-01
WPL-9550	01614	α 21.8 β- 24.6	α 0 β- 6	6-18-01

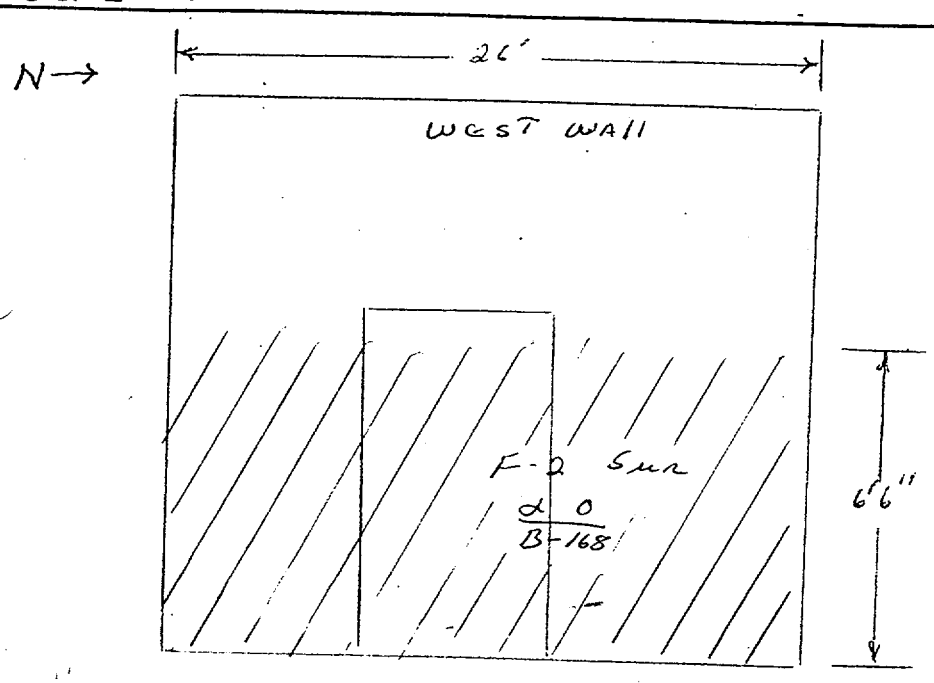
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND 6'6" UP WALLS WERE 10 C/S

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α
	N/A	



* ALL READINGS ARE IN CPM UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: /// SHOWS AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

RADIOLOGICAL SURVEY REPORT

ATGS #: Fm-22

DATE: 8-7-00

TIME: 1845

SURVEYOR: D Goldston, D. Kounse

LOCATION: Bldg # T-811

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	500Z	N/A	5 μR	10-14-00
M-2224	132159	α 21.6	α 0.	5-30-01
PR 43-68	134485	β- 25.5	β- 96	6-2-01
M-2224	132159	α 21.6	α 2	5-30-01
PR 43-37	088824	β- 23.6	β- 216	6-2-01
WPL-9550	01614	α 21.6 β- 24.6	α 0 β- 8	6-18-01

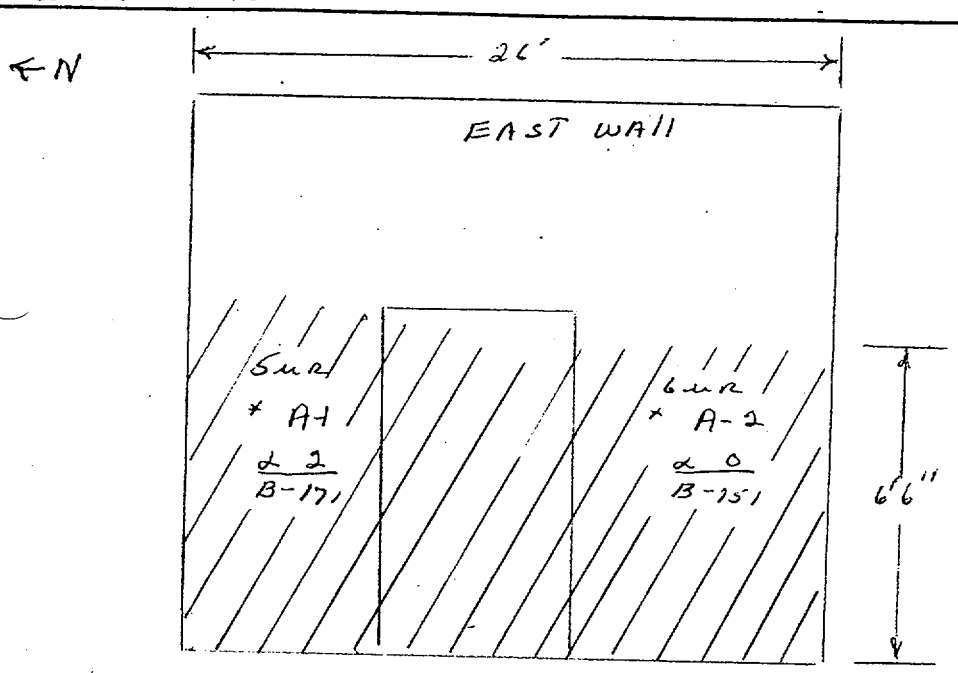
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND 6'6" UP WALLS WERE 10 %

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* All Readings are in cpm unless otherwise noted
* Micro 'R' Readings Taken on Surface
* One minute Alpha and Beta surface activity Readings Taken

Remarks: \\\ = Shows area where Alpha, Beta and Gamma scans were taken

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-22

DATE: 8-7-00

TIME: 1845

SURVEYOR: D. Goldston, D. Koontz

LOCATION: Bldg # T-811

REVIEWED BY:

Smear Locations Circled. Dose Rates = ~~micro~~R/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B500Z	N/A	5 μR	10-14-00
M-2224	132159	α 21.6	α 0	5-30-01
PR 43-68	134495	β- 25.5	β- 96	6-2-01
M-2224	132159	α 21.6	α 2	5-30-01
PR 43-37	088824	β- 23.6	β- 216	6-2-01
WPC-9550	01614	α 21.8 β- 24.6	α 0 β- 0	6-19-01

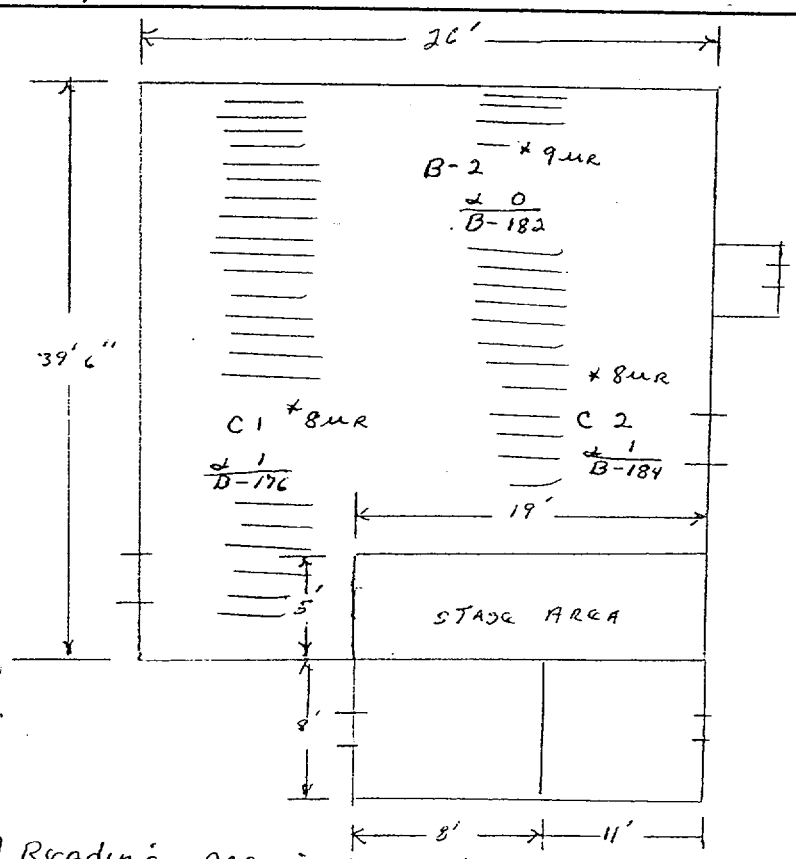
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND 6'6" UP WALLS WERE 10 %

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: \\\ SHOWS AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

APPENDIX L

BUILDING T-812 SURVEY RECORDS

RADIOLOGICAL SURVEY REPORT

ATGS #: FM - 21

DATE: 8-7-00

TIME: 1730

SURVEYOR: D. Goldstein, D. Koontz

LOCATION: Bldg # T-812

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	5002	N/A	5 μR	10-14-00
M-2224	132159	α 21.6	α 0	5-30-01
PR 43-68	134485	β- 25.5	β- 9	6-2-01
M-2224	132159	α 21.6	α 2	5-30-01
PR 43-37	088824	β- 23.1	β- 216	6-2-01
WPL-9550	01614	α 21.8	α 0	6-18-01
		β- 24.6	β- 0	

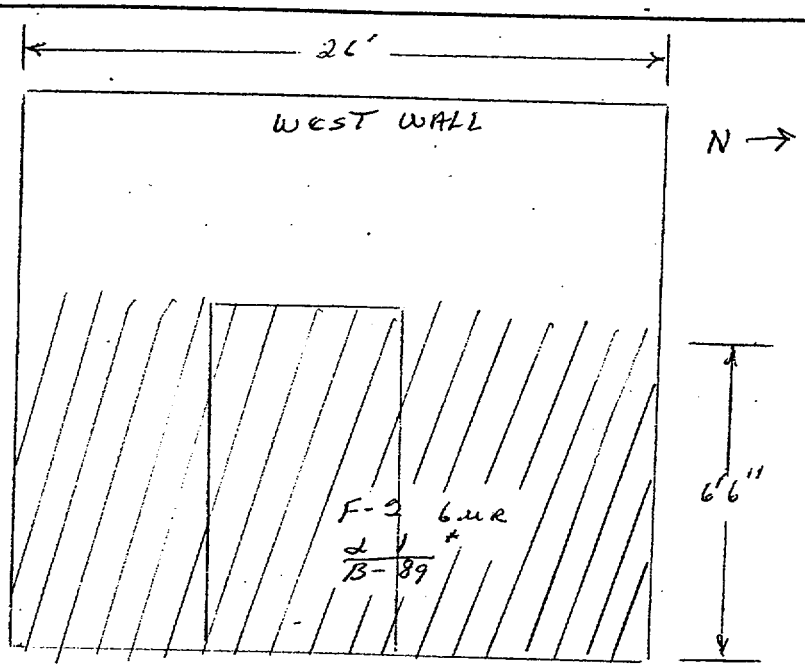
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND 6'6" UP WALLS WERE 10 %

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTE:
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND 1 BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: \\\ SHOWS AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-21

DATE: 8-7-00	INSTRUMENTATION USED				
TIME: 1730	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston, D. Kountz	Bicron	500Z	N/A	5 MR	10-14-00
LOCATION: Bldg # T-812	M-2224	132159	α 21.6	α 0	5-30-01
	PR 43-68	134485	β 25.5	β 96	6-2-01
REVIEWED BY:	M-2224	132159	α 21.6	α 2	5-30-01
	PR 43-37	088824	β 23.6	β 212	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC-9550	01614	α 21.8	α 0	
			β 24.6	β 0	6-18-01

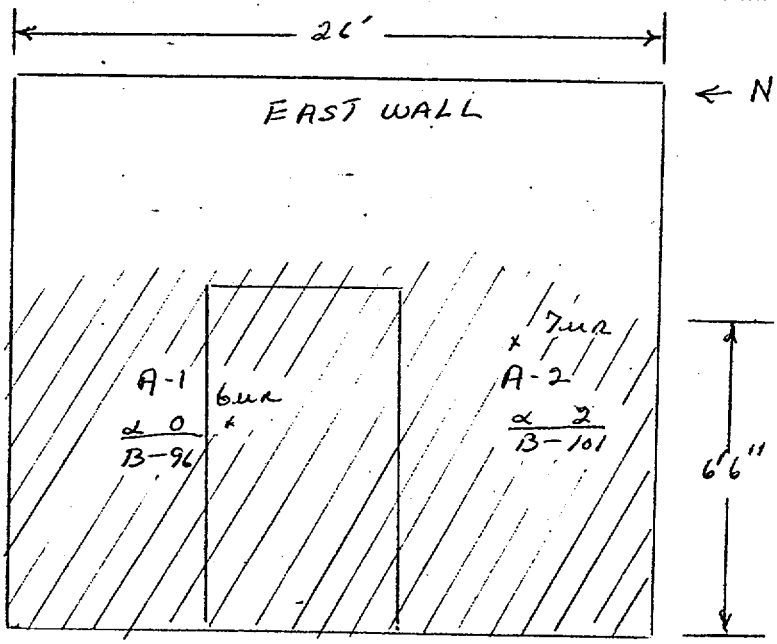
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND 6'6" UP WALLS WERE 10 %

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: \\\ shows AREA where Alpha, BETA and AMMA SCANS were TAKEN

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-21

DATE: 8-7-00

TIME: 1730

SURVEYOR: D. Goldston, D Kounts

LOCATION: Bldg # T-812

REVIEWED BY: [signature]

Smear Locations Circled. Dose Rates = ~~micro~~R/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B5002	N/A	5 μR	10-14-00
M-2224	132159	α 21.6	α 0	5-30-01
PR 43-68	134495	β- 25.5	β- 96	6-2-01
M-2224	132159	α 21.6	α 2	5-30-01
PR 43-37	088824	β- 23.6	β- 216	6-2-01
WPC-9550	01614	α 21.8 β- 24.6	α 0 β- 0	6-19-01

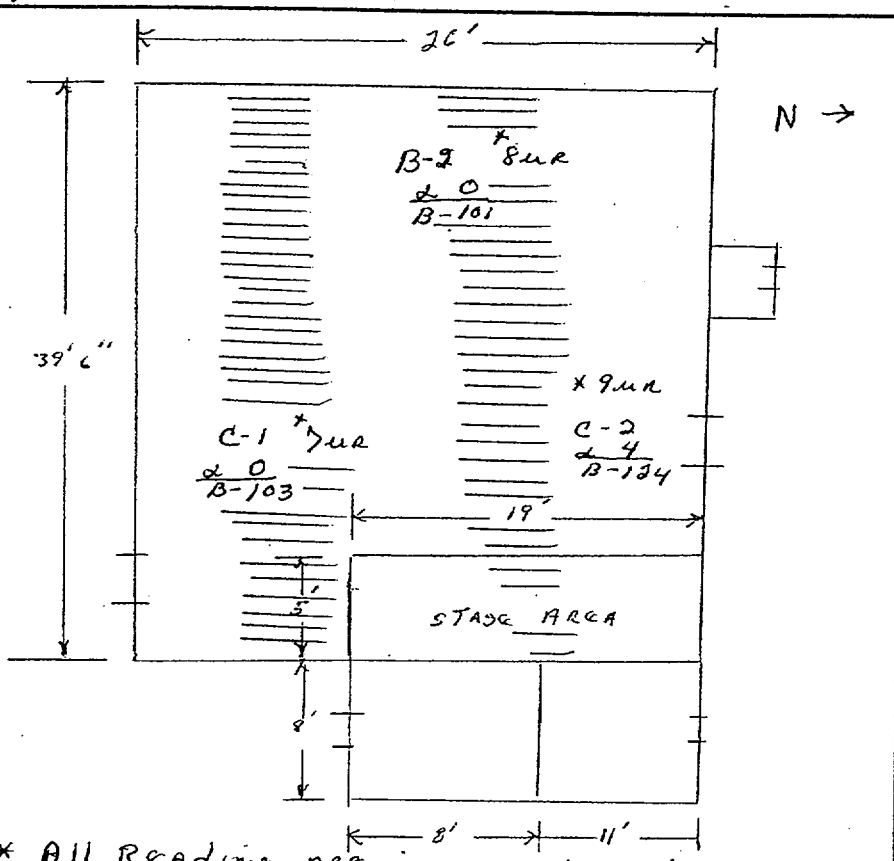
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND 6'6" UP WALLS WERE 10 %

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* All Reading are in cpm unless otherwise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: /// shows area where Alpha, Beta and Gamma scans were taken

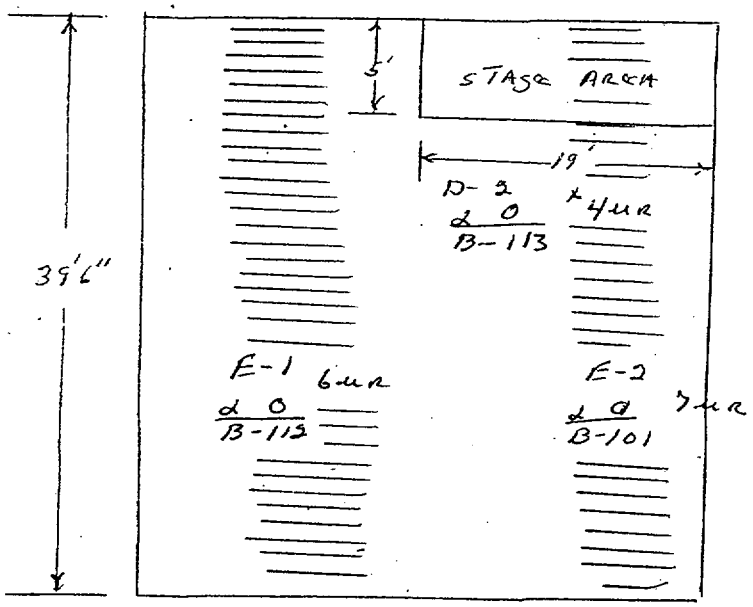
RADIOLOGICAL SURVEY REPORT

ATGS #: FM-21

DATE: 8-20-01	INSTRUMENTATION USED				
TIME: 1730	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston, D. Roberts	Ludlum	B500Z	N/A	5 MR	10-14-00
LOCATION: Bldg # T-812	M-2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY: [signature]	PR 43-68	134485	β 25.5	β 91	6-2-01
	M-2224	132159	α 21.6	α 2	5-30-01
	PR 43-37	088824	β 23.6	β 216	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC-9550	01614	α 21.8 β 24.6	α 0 β 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS ON FLOOR AND 6'6" up WALLS WERE 10 %



SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α
NOTED		

* All Readings are in cpm unless otherwise noted

* Micro 'R' Readings Taken on Surface

* One minute Alpha and Beta Surface Activity Readings Taken

Remarks: \\\ shows area where Alpha, Beta and Gamma scans were taken

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-21

DATE: 8-7-00	INSTRUMENTATION USED				
TIME: 1730	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldstein, D. Kovatz	Bicron	B500Z	N/A	5 uR	10-14-00
LOCATION: Bldg # T-812	M-2224	132159	α 21.6	α 0	5-30-01
	PR 43-68	134485	β 26.6	β 96	6-2-01
REVIEWED BY:	M-2224	132159	α 21.6	α 2	5-30-01
	PR 43-37	088824	β 23.6	β 216	6-2-01
Smear Locations Circled. Dose Rates = ~~mrad~~R/hr (μR/hr)	WPC-9550	01614	α 21.8	α 0	6-18-01
			β 24.6	β 0	

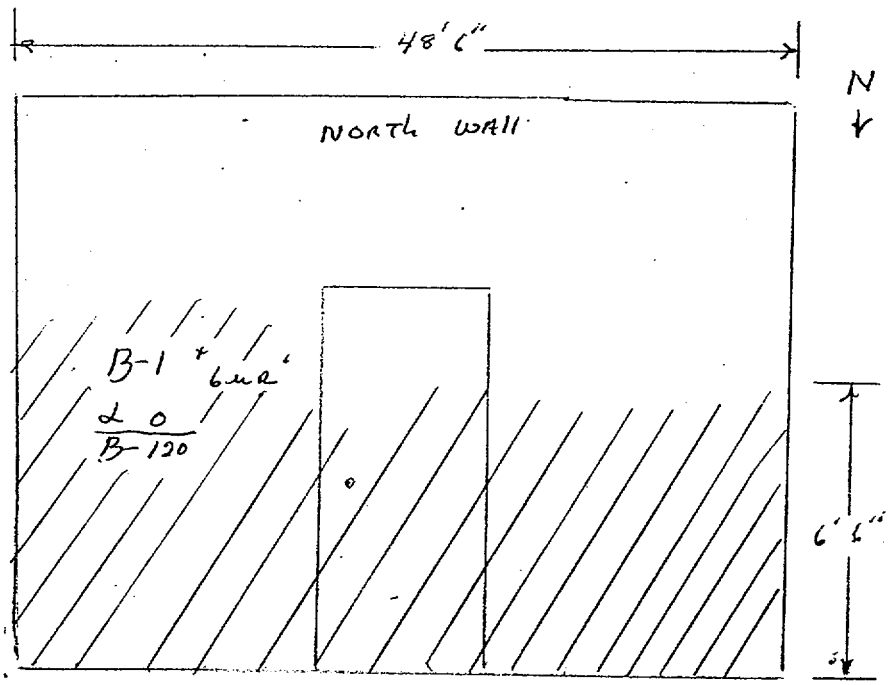
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND 6'6" UP WALLS WERE 10 %

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* All Readings are in cpm unless otherwise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: \\\ shows area where Alpha, Beta and Gamma scans were taken

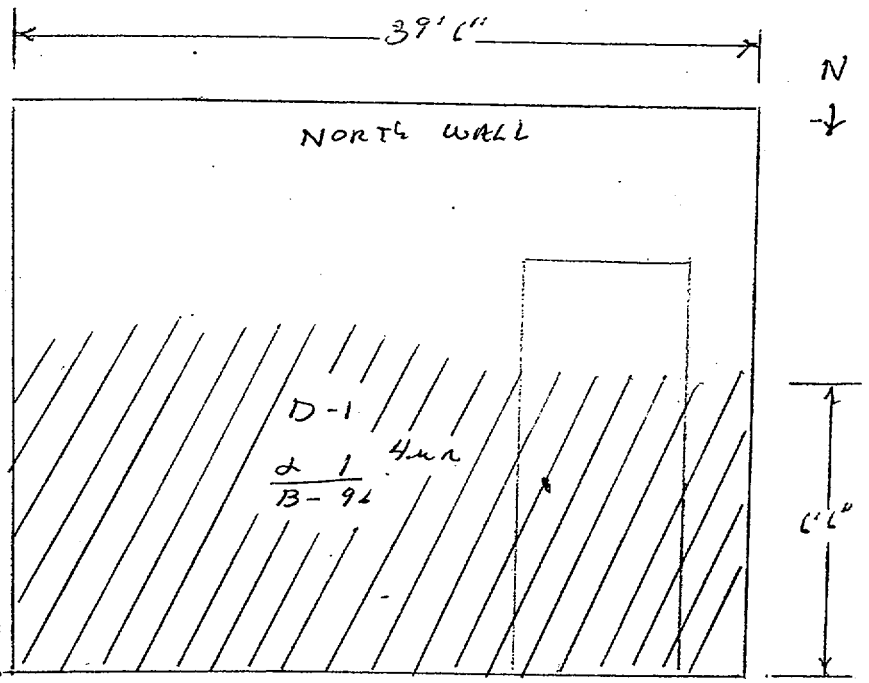
RADIOLOGICAL SURVEY REPORT

ATGS #: FM-21

DATE: 8-7-00	INSTRUMENTATION USED				
TIME: 1730	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston, D. Kountz	Bicron	B 5002	N/A	5 μR	10-14-00
LOCATION: Bldg # T-812	M-2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY: [signature]	PR 43-68	134485	β- 25.5	β- 96	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	M-2224	132159	α 21.6	α 2	5-30-01
	PR 43-37	089824	β- 23.6	β- 216	6-2-01
	WPC-9550	01614	α 21.8	α 0	
			β- 24.6	β- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND 6'6" UP WALLS WERE 10 %



SMEAR RESULTS		
RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED		
#	βγ	α

* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE
* ACTIVITY READINGS TAKEN

Remarks: \\\ = shows AREA where ALPHA, BETA AND GAMMA SCANS WERE TAKEN

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-21

DATE: 8-7-00

TIME: 1730

SURVEYOR: D. Goldston, D. Kountz

LOCATION: Bldg # T-812

REVIEWED BY: [signature]

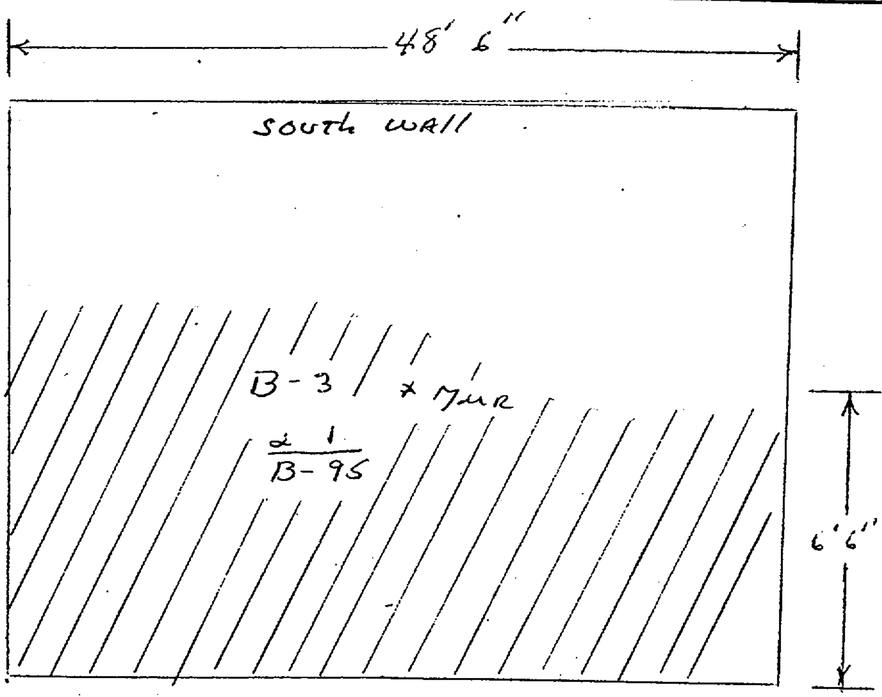
Smear Locations Circled. Dose Rates = microR/hr (µR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B 500Z	N/A	5 µR	10-14-00
M-2224	132159	α 21.6	α 0	5-30-01
PR 43-68	134485	β 25.5	β 96	6-2-01
M-2224	132159	α 21.6	α 2	5-30-01
PR 43-37	088824	β 23.6	β 216	6-2-01
WPC-9550	01614	α 21.8 β 24.6	α 0 β 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND 6'6" UP WALLS WERE 10 %



SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α
	N/A	

* All Readings are in cpm unless otherwise noted
* Micro 'R' Readings taken on surface
* One minute alpha and beta surface
* Activity Readings taken

Remarks: \\\ = shows area where alpha, beta and gamma scans were taken

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-21

DATE: 8-3-00

TIME: 1300

SURVEYOR: D. Goldston, D. Kounts

LOCATION: Bldg # T-812

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B5002	N/A	5 μR	10-14-00
M-2224	132159	α 21.6	α 0	5-30-01
PR 43-68	134485	β- 25.5	β- 96	1-2-01
M-2224	132159	α 21.6	α 2	5-30-01
PR 43-37	088824	β- 23.6	β- 216	6-2-01
WPC-9550	01614	α 21.8 β- 24.6	α 0 β- 0	6-18-01

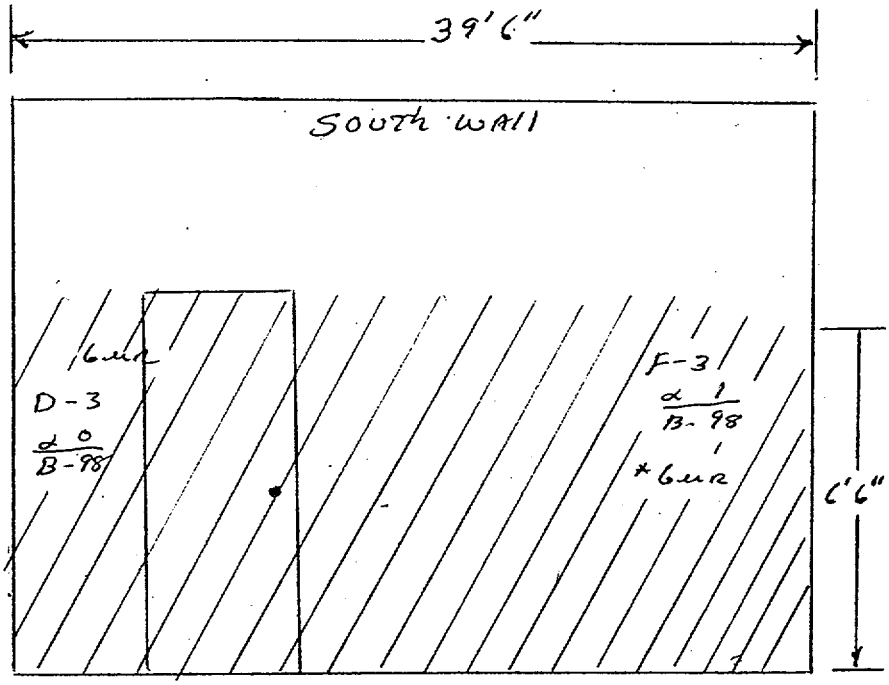
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND 6'6" UP WALLS WERE 10%

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: \\\ = SHOWS AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

APPENDIX M

BUILDING T-836 SURVEY RECORD

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-25

DATE: 8-9-00	
TIME: 1100	
SURVEYOR: D. Goldston, D. Kouel	
LOCATION: Bldg # T-836-A	
REVIEWED BY: [signature]	
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	

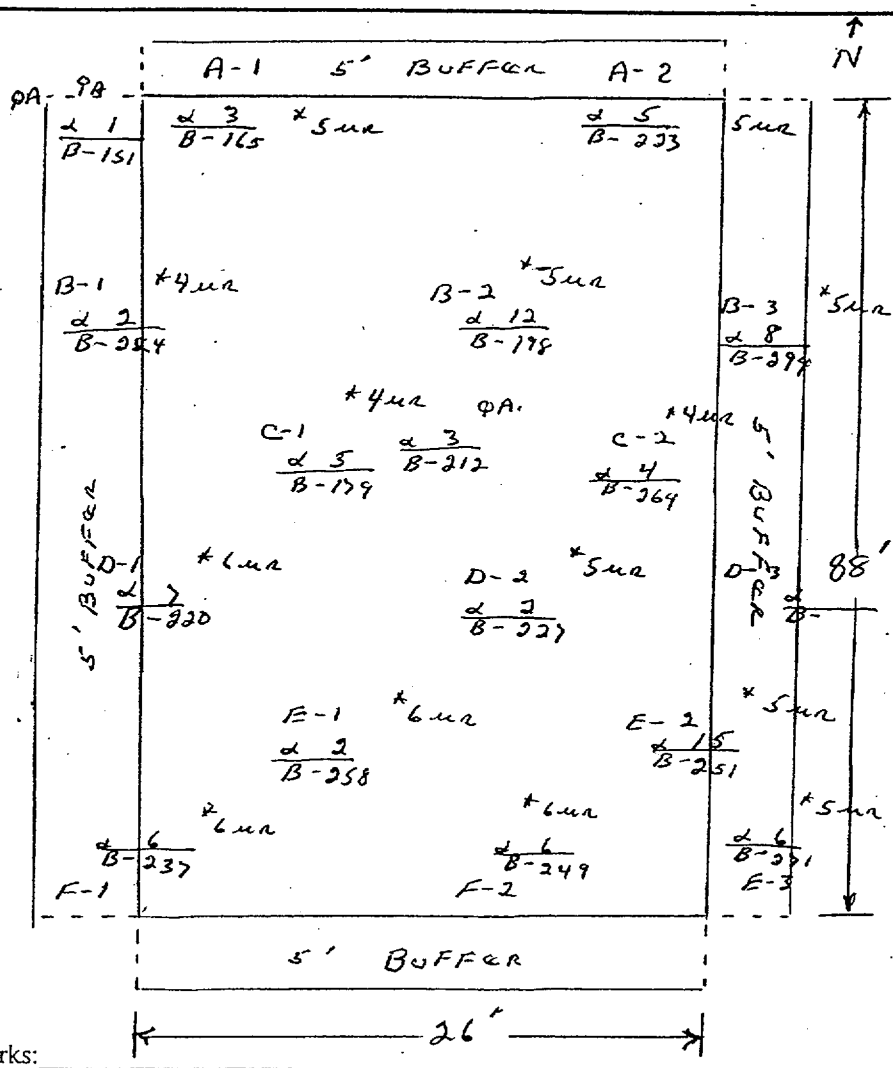
INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	B-500 Z	N/A	4 ur	10-14-00
m 2224	132159	α 21.6	α 0	5-30-01
PR 43-68	134485	B-25.5	B-204	6-2-01
m-2224	132159	α 21.6	α 5	5-30-01
PR 43-37	088824	B-23.6	B-236	6-9-01
WPC 9550	01614	α 21.8 B-24.6	α 0 B- 0	6-18-01

PURPOSE OF SURVEY: Final release survey of Demolished Bldg.

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED



#	βγ	α
	N/A	

Remarks:

APPENDIX N

BUILDING T-837 SURVEY RECORDS

RADIOLOGICAL SURVEY REPORT

ATGS #: Fm-24 PAGE 1 OF 14

DATE: 8-9-10

TIME: 0900

SURVEYOR: Dr. Goldston, Dr. Kounte

LOCATION: Bldg #T-837 upper story

REVIEWED BY: [signature]

Smear Locations Circled. Dose Rates in MicroR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	5002	N/A	5 μR	10-14-00
M-2224	132159	α 21.1	α 0	5-30-01
PR 47-68	134485	β- 25.5	β- 162	6-2-01
M-2224	132159	α 21.1	α 2	5-30-01
PR 43-37	088824	β- 23.1	β- 510	6-2-01
WPL-9550	01614	α 21.8 β- 24.1	α 0 β- 6	6-18-01

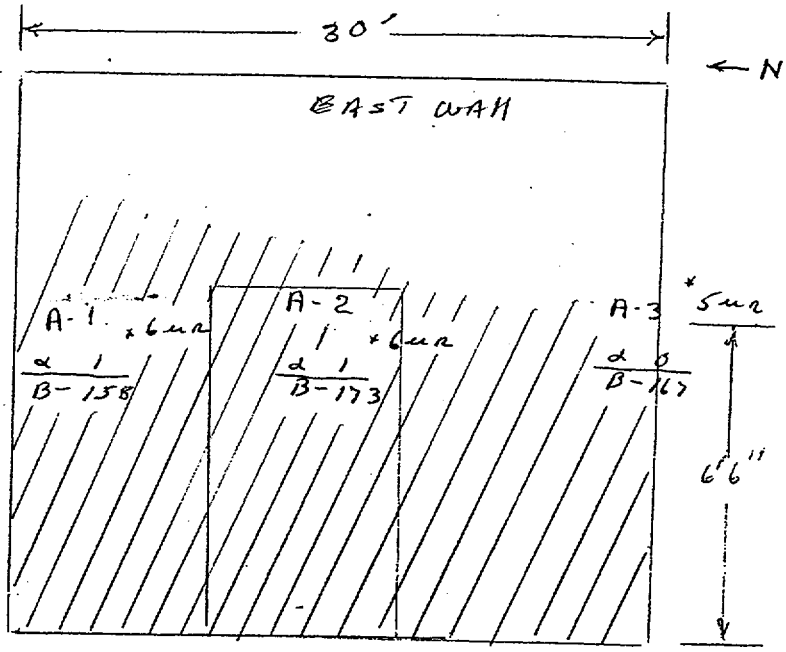
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND 6'6" up WALLS WERE 50 %

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α
	N/A	



* All Readings are in cpm unless otherwise noted
* Micro R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: /// = shows area where Alpha, Beta and Gamma scans were taken

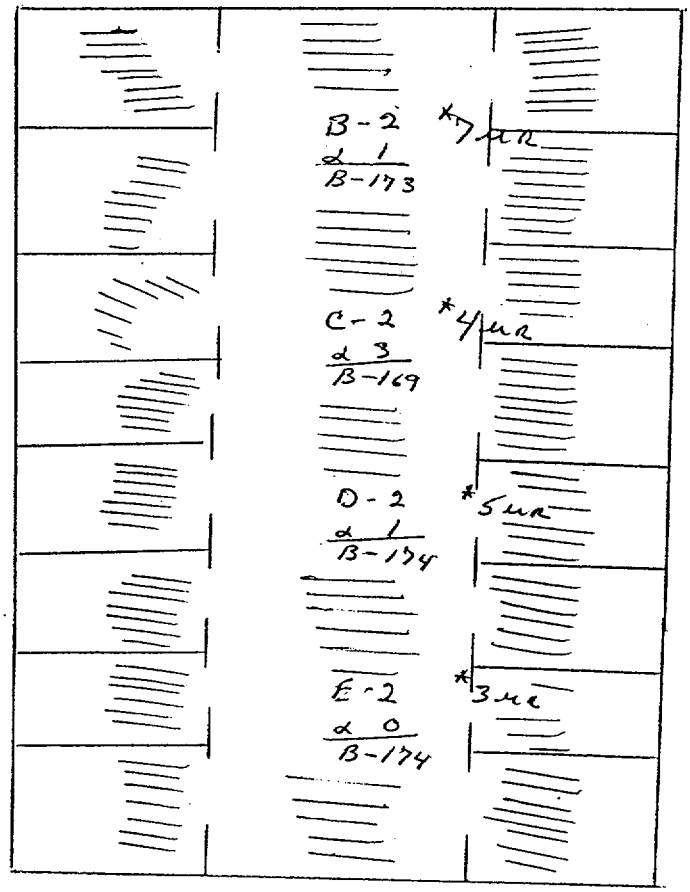
RADIOLOGICAL SURVEY REPORT

ATGS #: FM-24

DATE: 8-9-00	INSTRUMENTATION USED				
TIME: 0900	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldstone, D. Kountz	BICRON	500 Z	N/A	5 uR	10-14-00
LOCATION: Bldg #T-837 UPPER STORY	M-2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR 43-68	134488	B-25.5	B-161	6-2-01
	M-2224	132159	α 21.6	α 1	5-30-01
	PR 43-37	088834	B-23.1	B-510	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC-9580	01614	α 21.6	α 0	6-18-01
			B-24.6	B- 0	

PURPOSE OF SURVEY: FINAL Release SURVEY

NOTE: SCAN ON Floor And WALLS WERE 50 %



SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

Remarks: ||| = shows AREA WHERE ALPHA, BETA And GAMMA ACTIVITY SCANS WERE TAKEN

RADIOLOGICAL SURVEY REPORT

ATGS #: Fm- 24

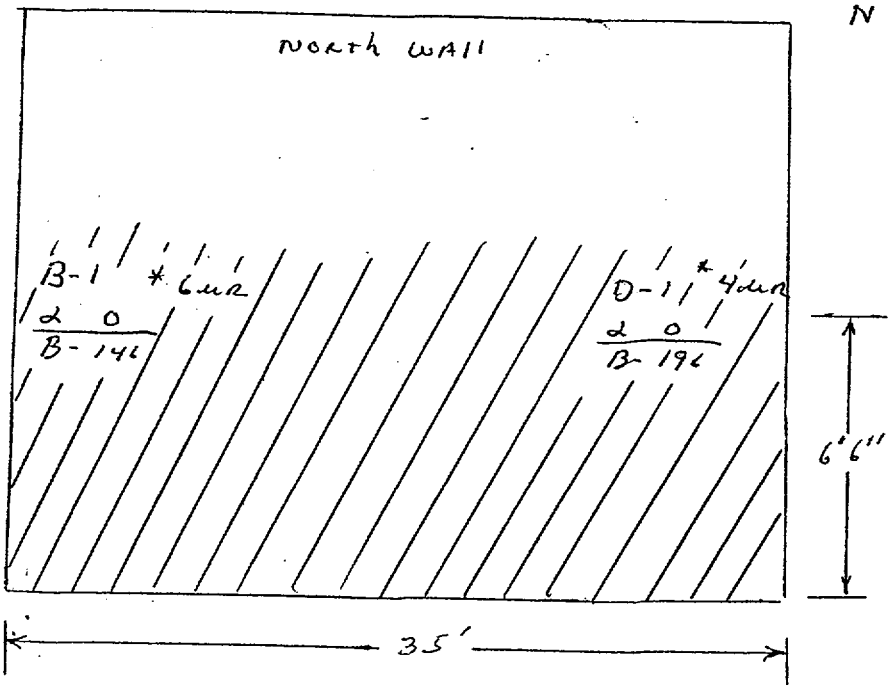
DATE: 8-9-00	INSTRUMENTATION USED				
TIME: 0900	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston, D. Koontz	BICRON	500 Z	N/A	5 uR	10-14-00
LOCATION: Bldg #7-837 Upper Story	m-2224	132159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR-43-68	134485	β-25.5	β- 112	6-7-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	m-2224	132159	α 21.6	α 2	5-30-01
	PR-43-37	088824	β-23.6	β- 510	6-2-01
	WPC-9550	01614	α 21.6 β-24.6	α 0 β- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE; SCAN ON FLOOR AND WALLS WERE 50%

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED



#	βγ	α

* ALL READINGS ARE IN cpm UNLESS OTHER WISE NOTED

* MICRO 'R' READINGS TAKEN ON SURFACE

* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: \\\ = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACT.

RADIOLOGICAL SURVEY REPORT

ATGS #: Em- 24

DATE: 8-9-00	INSTRUMENTATION USED				
TIME: 0900	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D-Goldston, D-Rowntree	BICRON	500 Z	N/A	5 uR	10-14-00
LOCATION: Bldg # T-837 upper story	M-2224	172159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR-43-68	134485	B-25.5	B- 162	6-7-01
	M-2224	172159	α 21.6	α 2	5-30-01
Smear Locations Circled. Dose Rates = MicroR/hr (μR/hr)	PR-43-37	088824	B-23.6	B- 510	6-2-01
	WPC-9550	01614	α 21.6	α 0	6-18-01
			B-24.6	B- 0	

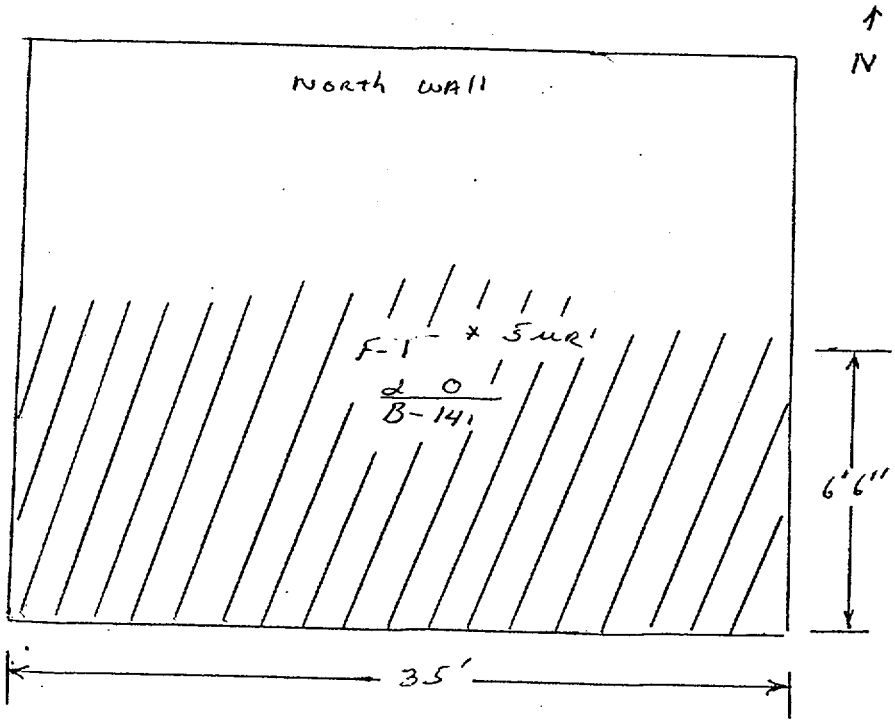
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCAN ON FLOOR AND WALLS WERE 50 %

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* All Readings are in cpm unless other wise noted
* Micro 'R' Readings Taken on surface
* One minute Alpha and Beta surface activity Readings Taken

Remarks: ||| = show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma Act.

RADIOLOGICAL SURVEY REPORT

ATGS #: Fm-24

DATE: 8-9-00	INSTRUMENTATION USED				
TIME: 0900	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldstein, D. Kounga	BICRON	500 Z	N/A	5 uR	10-14-00
LOCATION: Bldg # T-837 Upper Stony	M-2224	172159	α 21.6	α 0.	5-30-01
REVIEWED BY: ZLZ	PR-43-68	134485	β-26.5	β- 112	6-7-01
Smear Locations Circled. Dose Rates = MicroR/hr (μR/hr)	M-2224	172159	α 21.6	α 2	5-30-01
	PR-43-37	088824	β-23.1	β- 510	6-2-01
	WPC-9550	01614	α 21.8 β-24.6	α 0 β- 0	6-18-01

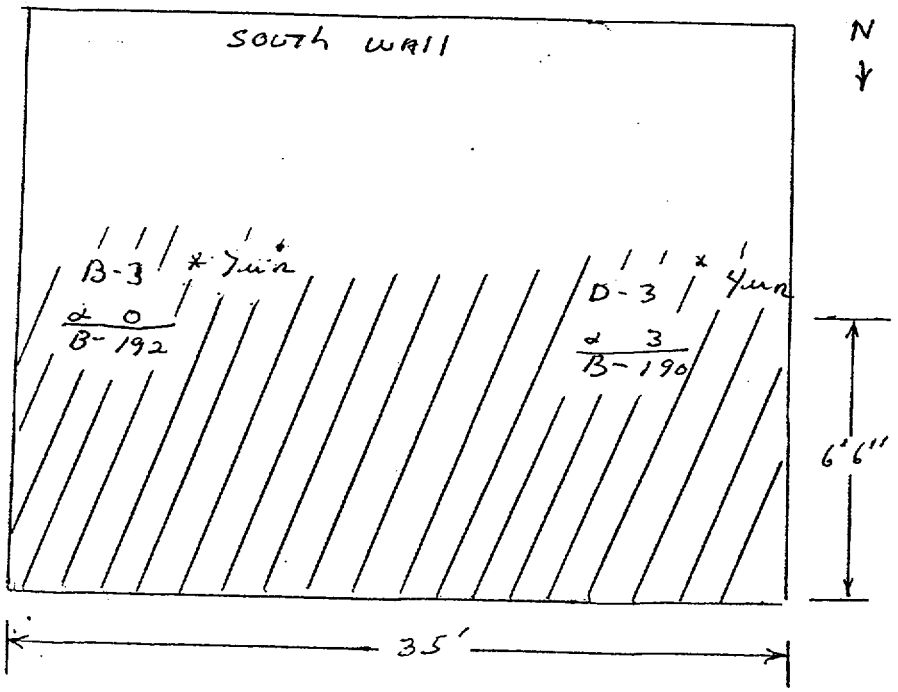
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCAN ON FLOOR AND WALLS WERE 50%

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α
	N/A	



* All Readings are in cpm unless other wise noted
* Micro 'R' Readings Taken on surface
* One minute Alpha and Beta surface activity Readings Taken

Remarks: \\\ = show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma Rad.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-24

DATE: 8-9-00	INSTRUMENTATION USED				
TIME: 0900	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston, D. Koontz	BICRON	500 Z	N/A	5 uR	10-14-00
LOCATION: Bldg # T-837 upper story	M-2224	172159	α 26.6	α 0.	5-30-01
REVIEWED BY: [signature]	PR-43-68	134485	B-25.5	B- 162	6-7-01
	M-2224	172159	α 21.6	α 2	5-30-01
	PR-43-37	088824	B-23.6	B- 510	6-2-01
Smear Locations Circled. Dose Rates ~~MicroR/hr~~ (μR/hr)	WPC-9550	01614	α 21.8 B-24.6	α 0 B- 0	6-18-01

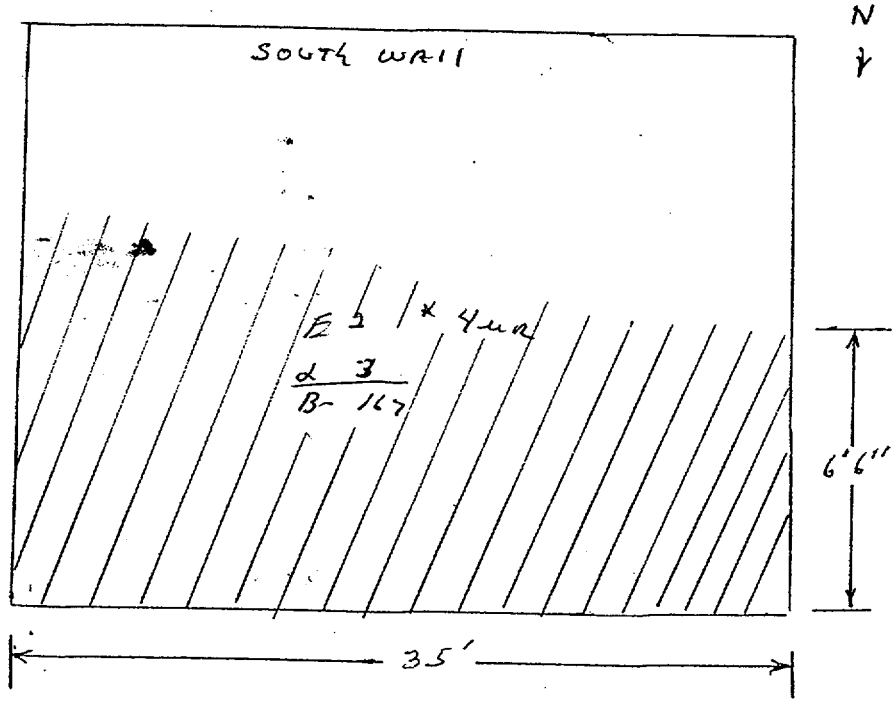
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCAN ON FLOOR AND WALLS WERE 50%

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* All readings are in cpm unless other wise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity readings taken

Remarks: ||| = Show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma Acti

RADIOLOGICAL SURVEY REPORT

ATGS #: Fm-24 Page 2 of 14

DATE: 8-9-00

TIME: 0900

SURVEYOR: D-Goldstein, D-Kounts

LOCATION: Bldg #T-837 Story upper

REVIEWED BY:

Smear Locations Circled. Dose Rates ~~mR/hr~~ (µR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	500Z	N/A	5 µR	10-14-00
M-2224	132159	α 31.6	α 0	5-30-01
PR 43-68	134485	β- 25.5	β- 162	6-2-01
M-2224	132159	α 21.6	α 2	5-30-01
PR 43-37	088824	β- 23.6	β- 510	6-2-01
WPL-9550	01614	α 21.8	α 0	6-18-01
		β- 24.6	β- 0	

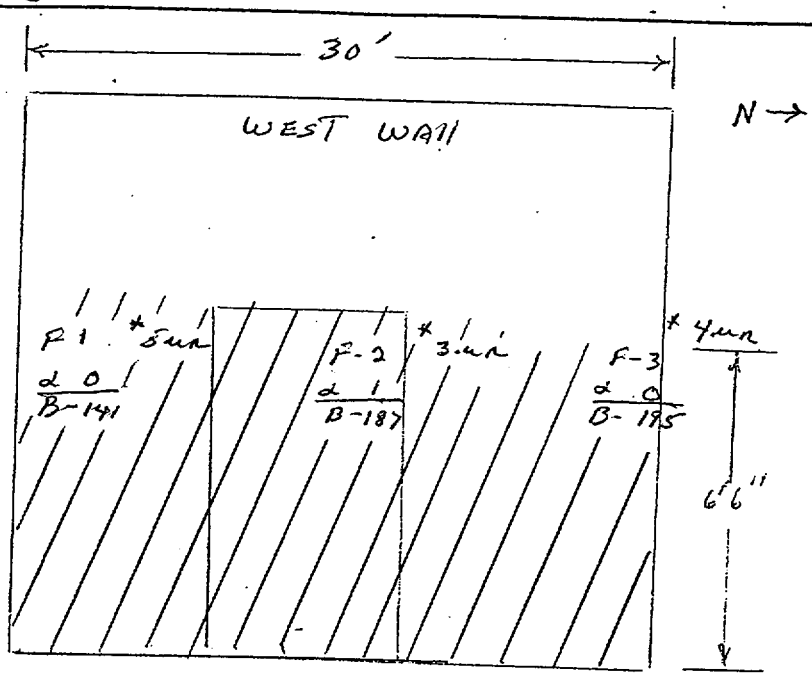
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND 6' 6" up WALLS WERE 50 %

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



*: All Readings are in cpm unless otherwise noted

* Micro 'R' Readings Taken on Surface

* One minute Alpha and Beta Surface Activity Readings Taken

Remarks: /// = shows AREA where Alpha, Beta and Gamma SCANS were TAKEN

RADIOLOGICAL SURVEY REPORT

ATGS #: Fm-24

DATE: 8-9-00

TIME: 1400

SURVEYOR: D. Goldstone, D. Kounts

LOCATION: Bldg #T-837 Story Lowest

REVIEWED BY: [signature]

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	5002	N/A	5 uR	10-14-00
M-2224	132159	α 21.6	α 0	5-30-01
PR 43-68	134485	β- 25.5	β- 162	6-2-01
M-2224	132159	α 21.6	α 2	5-30-01
PR 43-37	088824	β- 23.6	β- 510	6-2-01
WPL-9550	01614	α 21.8	α 0	
		β- 24.6	β- 0	6-18-01

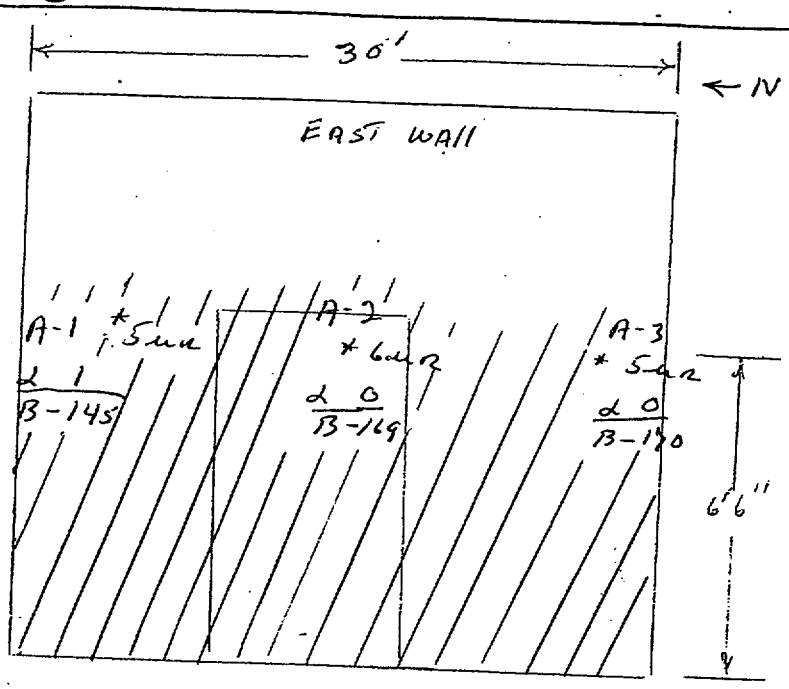
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS ON FLOOR AND 6'6" UP WALLS

WEAR 50 %

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED



#	βγ	α

* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED

* MICRO 'R' READINGS TAKEN ON SURFACE

& ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOWS AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

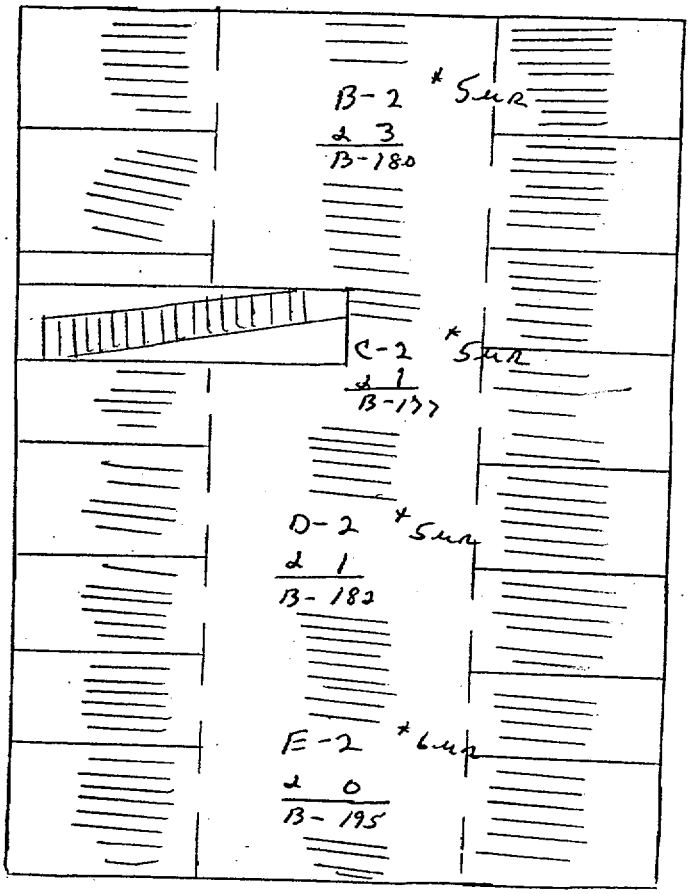
RADIOLOGICAL SURVEY REPORT

ATGS #: FM-24

DATE: 8-9-00	INSTRUMENTATION USED				
TIME: 1400	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston, D. Kountz	BICRON	500 Z	N/A	5 cpm	10-14-00
LOCATION: Bldg #T-837 Lower Story	M 2224	132 159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR-43-68	134 485	β-25.5	α 1 62	6-2-01
Smear Locations Circled. Dose Rates—~~mR/hr~~ μR/hr	M 2224	132 159	α 21.6	α 2	6-30-01
	PR 43-37	088824	β-23.6	β-510	6-2-01
	WPE-9550	01614	α 21.8 β-24.6	α 0 β- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND 6'6" UP WALLS WERE 50 %



SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α

Remarks: \\\ = SHOWS AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-24

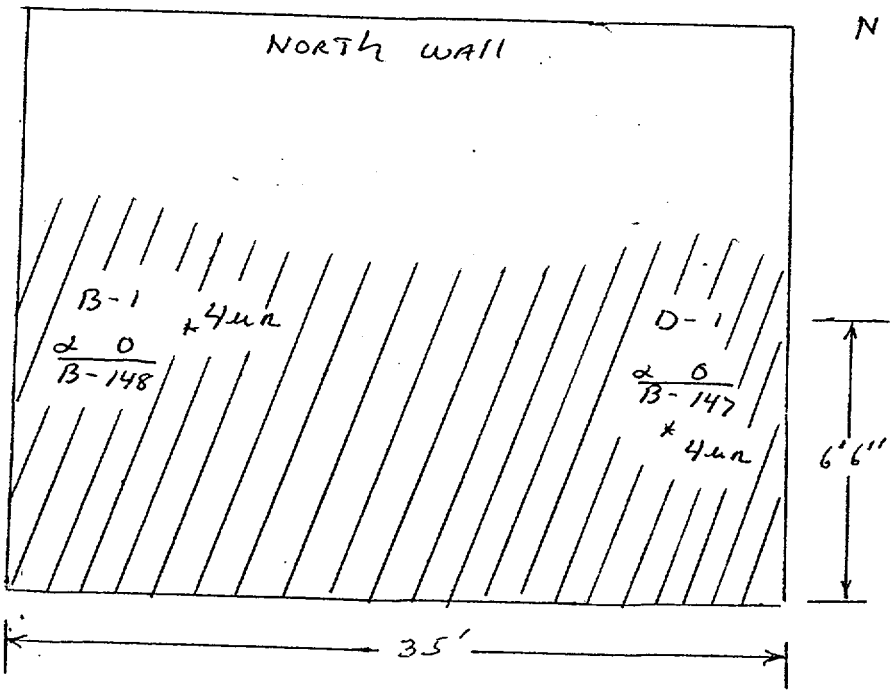
DATE: 8-9-00	INSTRUMENTATION USED				
TIME: 1400	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldstone, D. Rounds	BICRON	500 Z	N/A	5 un	10-14-00
LOCATION: Bldg #T-837 Lower story	M-2224	172159	α 21.6	α 0	5-30-01
REVIEWED BY:	PR-43-68	134485	B-25.5	B- 162	6-7-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	M-2224	172159	α 21.6	α 2	5-30-01
	PR-43-37	088824	B-23.6	B- 616	6-2-01
	WPC-9550	01614	α 21.6	α 0	6-18-01
			B-24.6	B- 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCAN ON FLOOR AND WALLS WERE 50 %

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED



#	βγ	α
	N/A	

* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RAD.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-24

DATE: 8-9-00

TIME: 1406

SURVEYOR: D. Goldston, D. Kountz

LOCATION: Bldg #T-837 2 lower story

REVIEWED BY: [signature]

Smear Locations Circled. Dose Rates = Micro R/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	500 Z	N/A	5 uR	10-14-00
M-2224	132159	α 21.6	α 0	5-30-01
PR-43-68	134485	B-25.5	B-162	6-7-01
M-2224	132159	α 21.6	α 2	5-30-01
PR-43-37	088834	B-23.6	B-510	6-2-01
WPC-9550	01614	α 21.8 B-24.6	α 0 B- 0	6-18-01

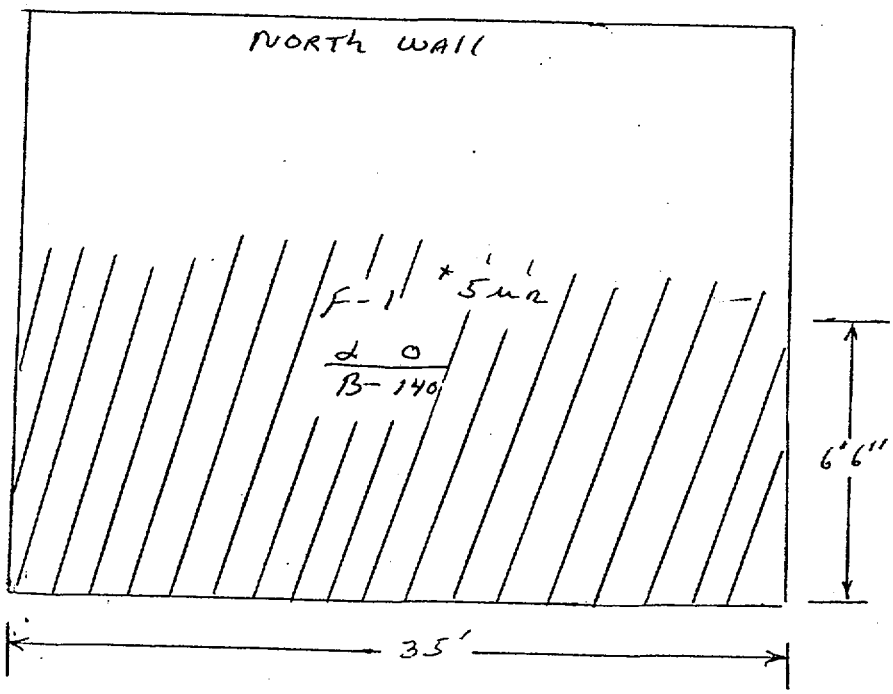
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCAN ON FLOOR AND WALLS WERE 50%

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α
	N/A	



* All readings are in cpm unless other wise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: \\\ = show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma Acti

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-24

DATE: 8-9-06

TIME: 1400

SURVEYOR: D. Goldstow, D. Kountz

LOCATION: Bldg # T-837 Lower story

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	500 Z	N/A	5 cpm	10-14-00
M-2224	132159	α 21.6	α 0	5-30-01
PR-43-68	134485	β-25.5	β-160	6-7-01
M-2224	132159	α 21.6	α 2	5-30-01
PR-43-37	088834	β-23.1	β- 510	6-2-01
WPC-9550	01614	α 21.8 β-24.6	α 0 β- 0	6-18-01

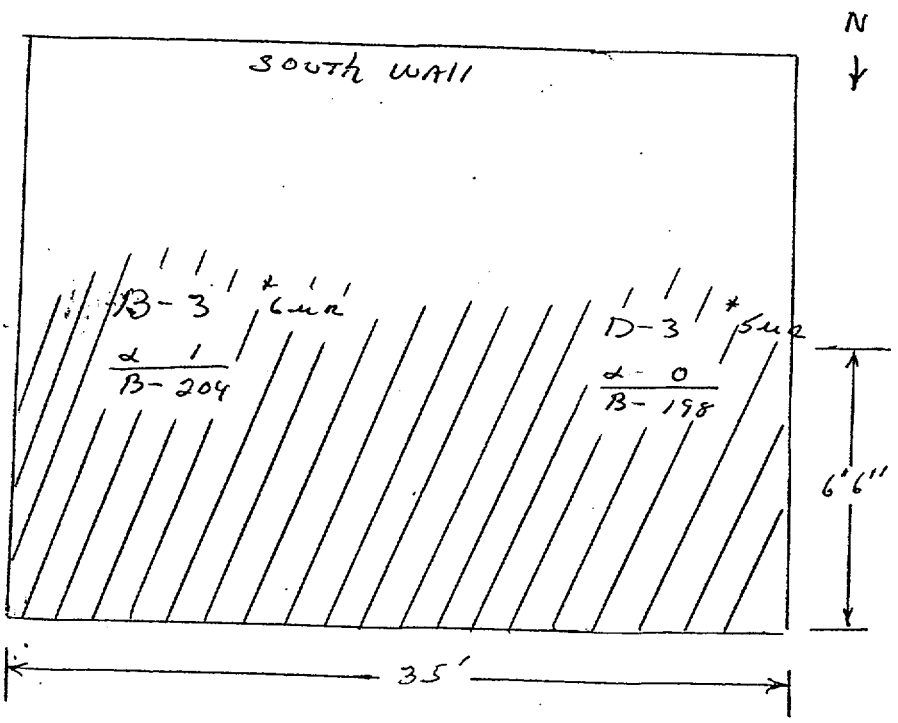
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCAN ON FLOOR AND WALLS WERE 50%

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α
	N	N



* All readings are in cpm unless other wise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity readings taken

Remarks: ||| = show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma Rad.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-24

DATE: 8-9-00

TIME: 1400

SURVEYOR: D. Goldston, D. Kounis / Lower

LOCATION: Bldg # T-837 Story

REVIEWED BY:

Smear Locations Circled. Dose Rates = ~~microR/hr~~ (µR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Bicron	500 Z	N/A	5 cpm	10-14-00
M-2224	172159	α 21.6	α 0	5-30-01
PR-43-68	134485	β-26.5	β- 162	6-7-01
M-2224	172159	α 21.6	α 2	5-30-01
PR-43-37	088874	β-23.6	β- 510	6-2-01
WPC-9550	01614	α 21.8 β-24.6	α 0 β- 0	6-18-01

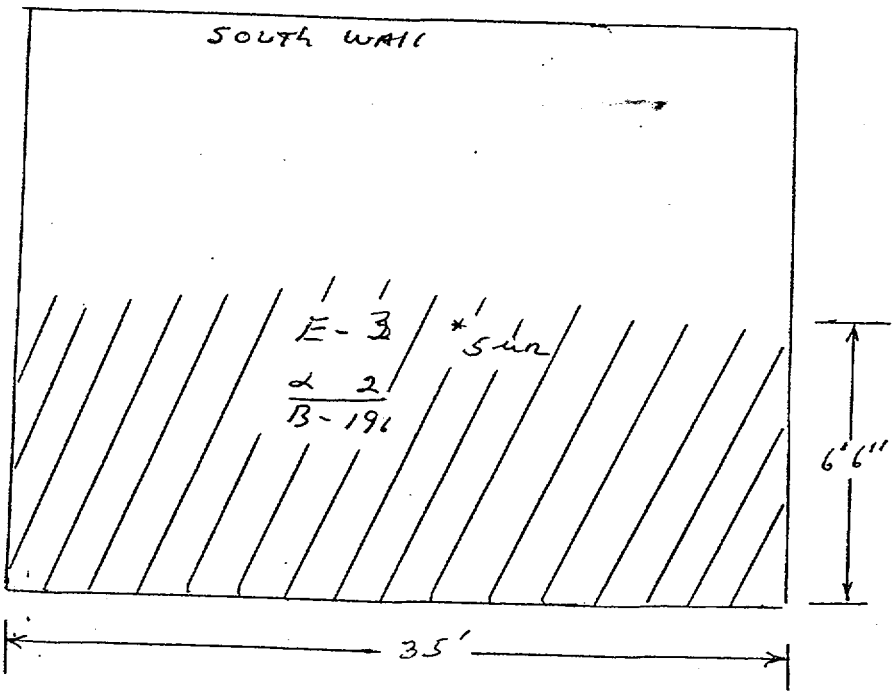
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCAN ON FLOOR AND WALLS WERE 50%

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RAD

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-24

DATE: 8-9-00

TIME: 1400

SURVEYOR: D. Goldston, D. Koontz

LOCATION: Bldg #T-837 Storage

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
Ludlum	5002	N/A	5 μR	10-14-00
M-3224	132159	α 21.6	α 0	5-30-01
PR 47-65	134485	β- 35.5	β- 162	6-2-01
M-3224	132159	α 21.6	α 2	5-30-01
PR 43-37	088824	β- 23.6	β- 510	6-2-01
WPC-9550	01614	α 21.8	α 6	
		β- 24.6	β- 0	6-18-01

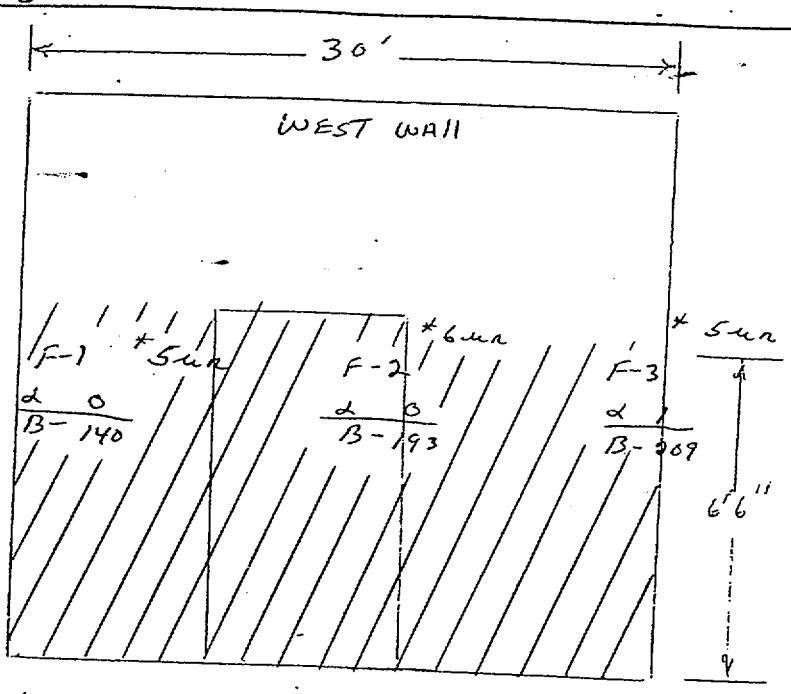
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE! SCANS ON FLOOR AND 6'6" UP WALLS WERE 50%

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: /// shows AREA where Alpha, BETA And Gamma SCANS were TAKEN

APPENDIX O

BUILDING 3185 SURVEY RECORDS

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-27

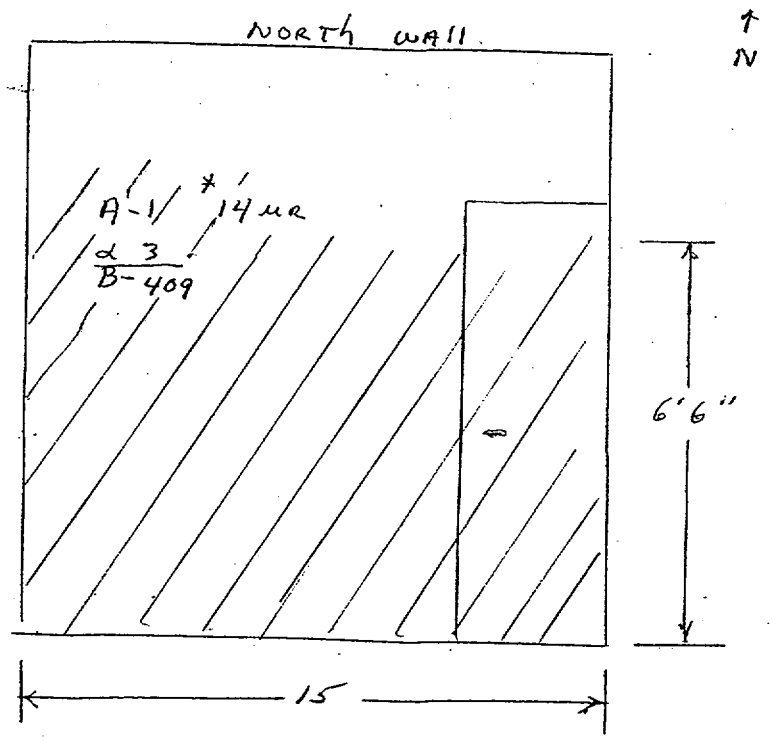
DATE: 8-11-00	INSTRUMENTATION USED				
TIME: 1630	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldstein, D. Kountz	BICRON	B-5007	N/A	12 uR	10-14-00
LOCATION: Bldg #3185	M-2224	132159	α 21.6	α 4	5-30-01
	PR-43-68	134485	B-25.5	B-413	6-7-01
REVIEWED BY:	M-2224	132159	α 21.6	α 5	5-30-01
	PR-43-37	088824	B-23.6	B-608	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC 9550	01614	α 21.8 B-24.6	α 0 B- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND WALLS WERE 10% 6'6" up

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED



#	βγ	α

N

A

* All Readings are in cpm unless other wise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: ||| = show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma Act.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-27

DATE: 8-11-00

TIME: 1630

SURVEYOR: D. Goldston, D. Kountz

LOCATION: Bldg #3185

REVIEWED BY:

Smear Locations Circled. Dose Rates in microR/hr (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B-5607	N/A	12 μR	10-14-00
M-2224	132159	α 21.6	α 4	5-30-01
PR-43-68	134485	B-25.5	B- 413	6-2-01
M-2224	132159	α 21.6	α 5	5-30-01
PR-43-37	088824	B- 23.6	B- 608	6-2-01
WPC 9550	01614	α 21.8 B-24.6	α 0 B- 0	6-18-01

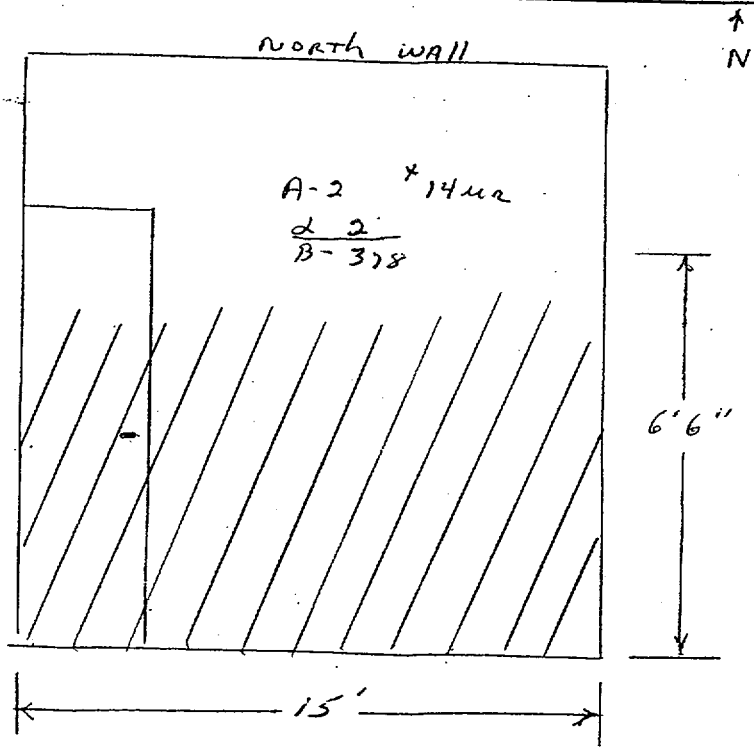
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND WALLS WERE 10 % 6'6" up

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHER WISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACT.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-27

DATE: 8-11-06

TIME: 1630

SURVEYOR: D. Goldstein, D Koontz

LOCATION: Bldg #3185

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B-5607	N/A	12 μR	10-14-06
M-2224	132159	α 21.6	α 4	5-30-01
PR-43-68	134485	B-25.5	B- 413	6-7-01
M-2224	132159	α 21.6	α 5	5-30-01
PR-43-37	088824	B-23.6	B- 608	6-7-01
WPC 9550	01614	α 21.8	α 0	6-18-01
		B-24.4	B- 0	

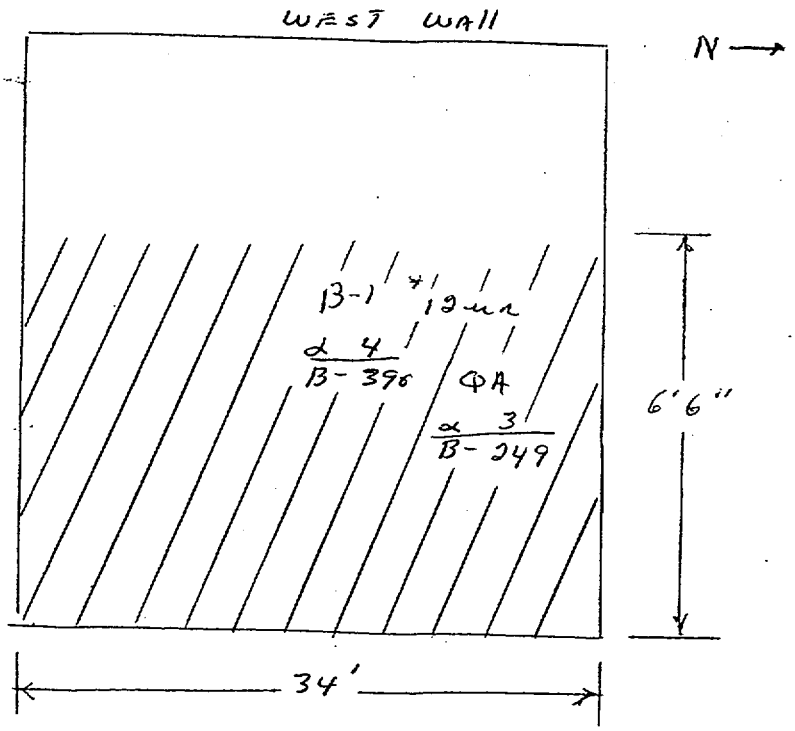
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND WALLS WERE 10% 6'6" up

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* All Readings are in cpm unless other wise noted
* Micro 'R' Readings Taken on surface
* One minute Alpha and Beta surface activity Readings Taken

Remarks: \\\ = Show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma Acti

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-27

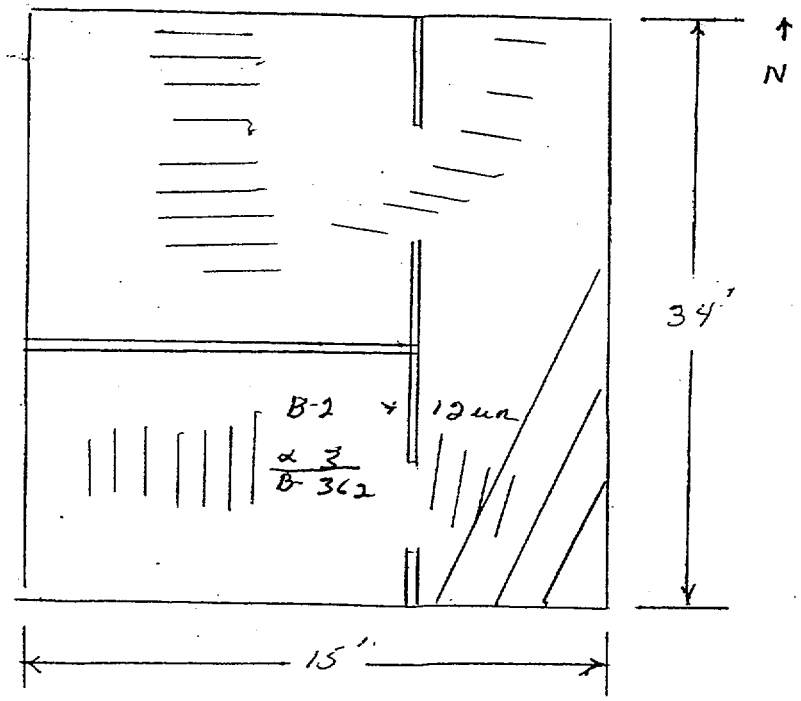
DATE: 8-11-06	INSTRUMENTATION USED				
TIME: 1630	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston, D. Kountz	BICRON	B-5607	N/A	12 un	10-14-00
LOCATION: Bldg #3185	M-2224	132159	α 21.6	α 4	5-30-01
REVIEWED BY:	PR-43-68	134485	B-25.5	B- 413	6-2-01
	M-2224	132159	α 21.6	α 5	5-30-01
	PR-43-37	088824	B-23.1	B- 608	6-2-01
Smear Locations Circled. Dose Rates ~~milliR/hr~~ (μR/hr)	WPC 9550	01614	α 21.8 B-24.6	α 0 B- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND WALLS WERE 10 % 6'6" up

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED



#	βγ	α

N
A

* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACT.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-27

DATE: 8-11-06	INSTRUMENTATION USED				
TIME: 1630	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldstein, D. Kountz	BICRON	B-560Z	N/A	12 un	10-14-00
LOCATION: Bldg #3185	M-2224	132159	α 21.6	α 4	5-30-01
	PR-43-68	134485	B-25.6	B- 413	6-2-01
REVIEWED BY:	M-2224	132159	α 21.6	α 5	5-30-01
	PR-43-37	088824	B-23.6	B- 608	6-2-01
Smear Locations Circled. Dose Rates in ~~mR/hr~~ (μR/hr)	WPC 9550	01614	α 21.8 B-24.6	α 0 B- 0	6-18-01

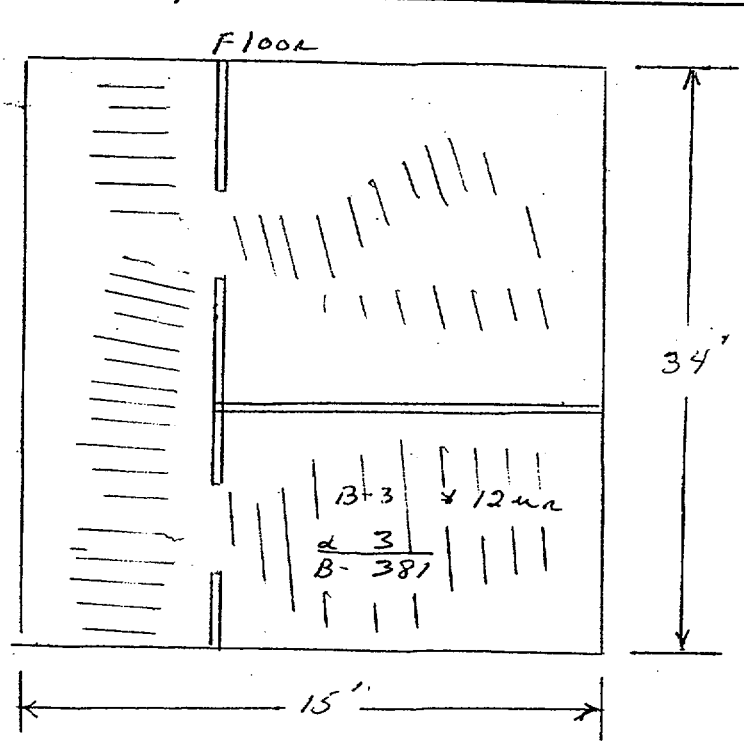
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND WALLS WERE 10 % 6'6" up

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RAD.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-27

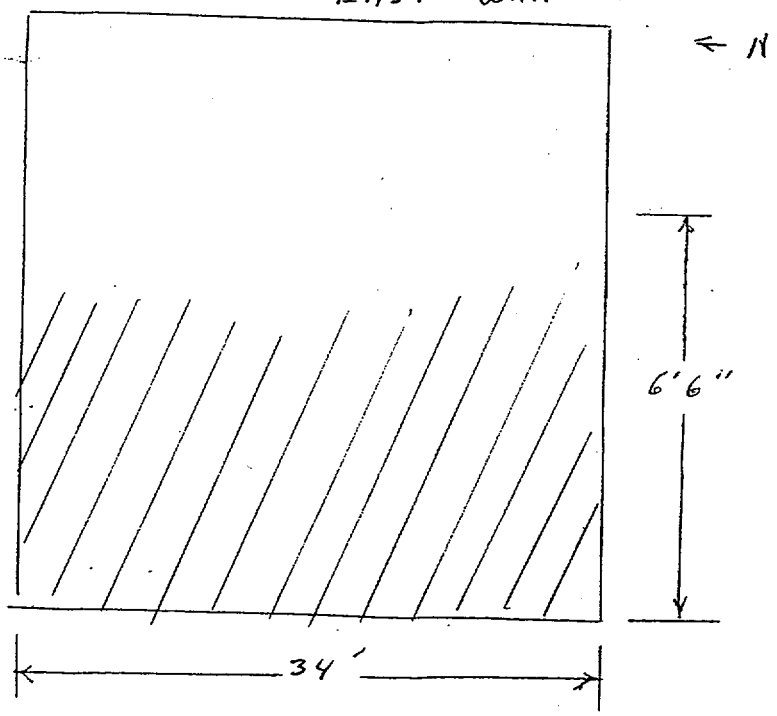
DATE: 8-11-00	INSTRUMENTATION USED				
TIME: 1630	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston, D. Koo-Ts	BICRON	B-5002	N/A	12 uR	10-14-00
LOCATION: Bldg #3185	M-2224	132159	α 21.6	α 4	5-30-01
	PR-43-68	134485	B-25.5	B- 413	6-7-01
REVIEWED BY:	M-2224	132159	α 21.6	α 5	5-30-01
	PR-43-37	088824	B-23.6	B- 608	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC 9550	01614	α 21.8 B-24.6	α 0 B- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND WALLS WERE 10 % 6'6" UP

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED



#	βγ	α

N/A

* All Readings are in cpm unless otherwise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: ||| = Show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma Acti

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-27

DATE: 8-11-66

TIME: 1630

SURVEYOR: D. Goldston, D. Kounts

LOCATION: Bldg #3185

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

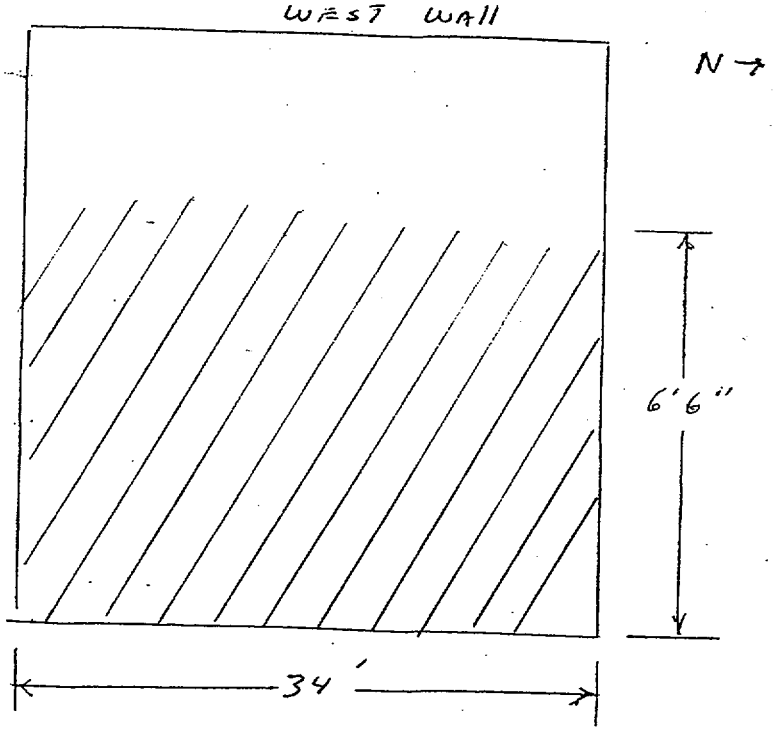
INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B-5607	N/A	12 mR	10-14-00
M-2224	132159	α 21.6	α 4	5-30-01
PR-43-68	134485	B-25.5	B- 413	6-2-01
M-2224	132157	α 21.6	α 5	5-30-01
PR-43-37	088824	B-23.6	B- 608	6-2-01
WPO 9550	01614	α 21.8 B-24.1	α 0 B- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND WALLS WERE 10% 6'6" up

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED



#	βγ	α

N
A

* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: \\\ = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACT.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-27

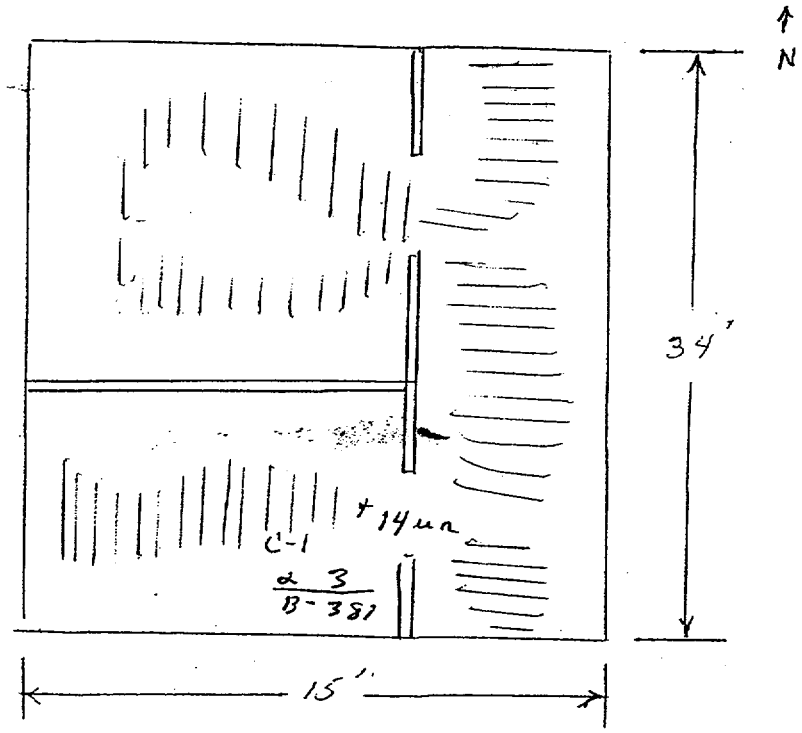
DATE: 8-11-06	INSTRUMENTATION USED				
TIME: 1630	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston, D. Kountz	BICRON	B-500Z	N/A	12uR	10-14-00
LOCATION: Bldg #3185	M-2224	132159	α 21.6	α 4	5-30-01
REVIEWED BY:	PR-43-68	134485	B-25.5	B- 413	6-2-01
Smear Locations Circled. Dose Rates in microR/hr (μR/hr)	M-2224	132159	α 21.6	α 5	5-30-01
	PR-43-37	088824	B- 23.6	B- 608	6-2-01
	WPO 9550	01614	α 21.8	α 0	6-18-01
			B- 24.6	B- 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND WALLS WERE 10% 6'6" up

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED



#	βγ	α

N

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* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACT.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-27

DATE: 8-11-00

TIME: 1630

SURVEYOR: D. Goldstein, D-Kountz

LOCATION: Bldg #3185

REVIEWED BY:

Smear Locations Circled. Dose Rates in microR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B-5002	N/A	12 uR	10-14-00
M-2224	132159	α 21.6	α 4	5-30-01
PR-43-68	134485	B- 25.5	B- 413	6-2-01
M-2224	132159	α 21.6	α 5	5-30-01
PR-43-37	088824	B- 23.6	B- 608	6-2-01
WPC 9550	01614	α 21.8 B- 24.6	α 0 B- 0	6-18-01

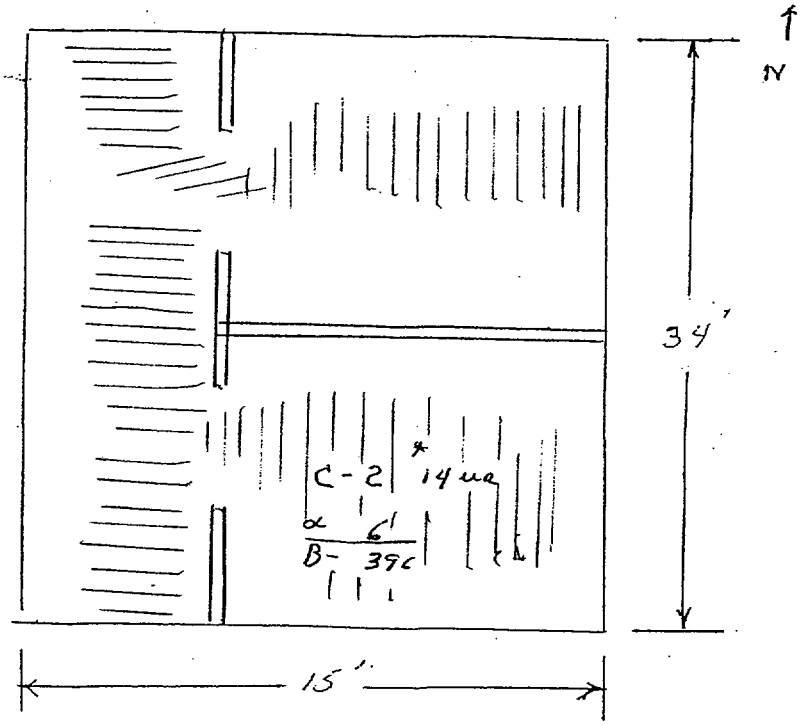
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND WALLS WERE

10 % 6'6" up

SMEAR RESULTS

RESULTS = DPM/100cm²
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#	βγ	α

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* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACT.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM- 27

DATE: 8-11-00	INSTRUMENTATION USED				
IME: 1630	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldstein, D. Kovetz	BICRON	B-5007	N/A	12uR	10-14-00
LOCATION: Bldg #3185	M-2224	132159	α 21.6	α 4	5-30-01
	PR-43-68	134485	B-25.5'	B- 413	6-7-01
REVIEWED BY:	M-2224	132159	α 21.6	α 5	5-30-01
Smear Locations Circled. Dose Rates ~~mrem/hr~~ R/hr (μR/hr)	PR-43-37	088824	B-23.6	B- 608	6-2-01
	WPC 9550	01614	α 21.8	α 0	6-18-01
			B-24.6	B- 0	

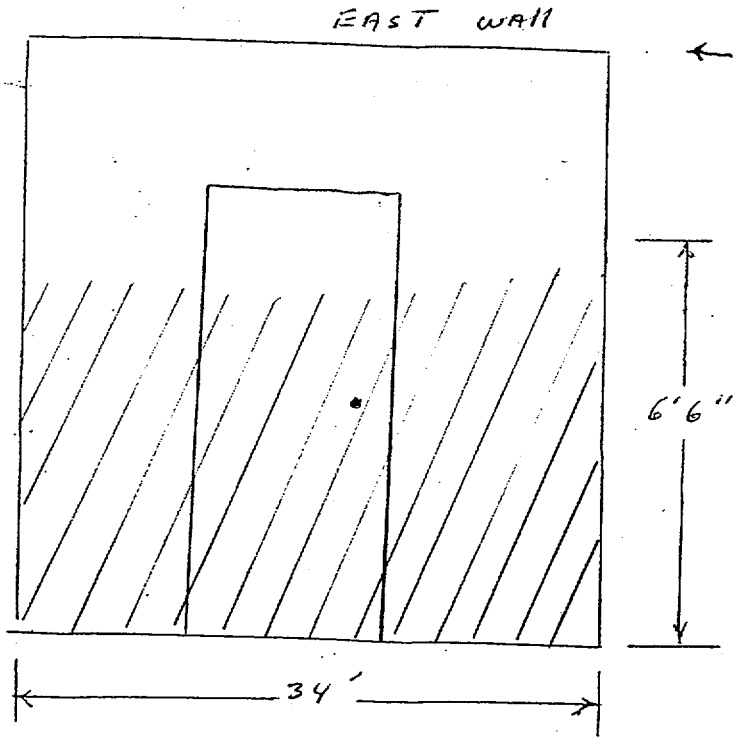
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND WALLS WERE 10 % 6'6" up

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* All Readings are in cpm unless other wise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: \\\ = Show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma Act.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-27

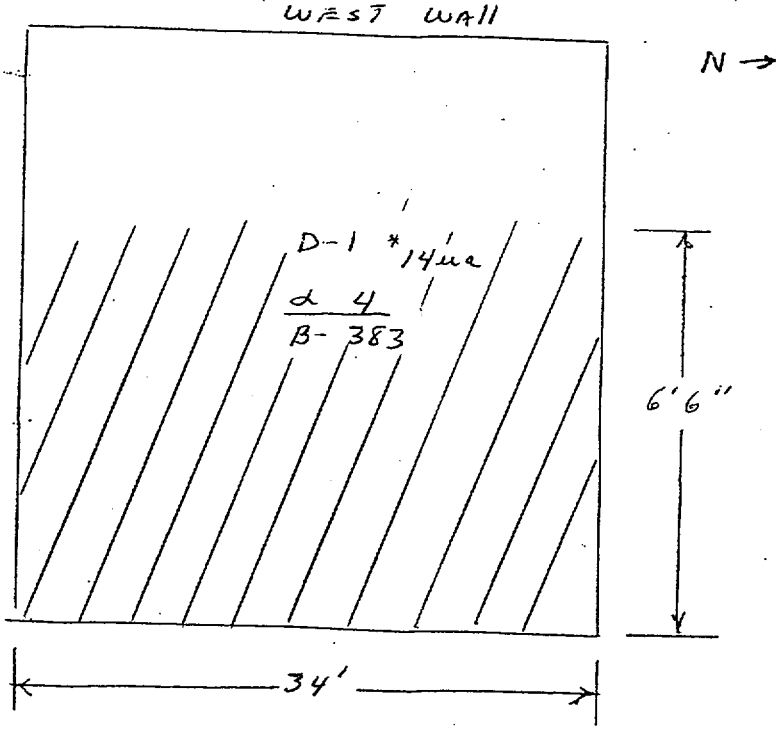
DATE: 8-11-00	INSTRUMENTATION USED				
TIME: 1630	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldstein, D. Kountz	BICRON	B-5007	N/A	12 uR	10-14-00
LOCATION: Bldg #3185	M-2224	132159	α 21.6	α 4	5-30-01
	PR-43-68	134485	β- 25.5	β- 413	6-7-01
REVIEWED BY:	M-2224	132159	α 21.6	α 5	5-30-01
	PR-43-37	038824	β- 23.6	β- 668	6-7-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WIPE 9550	01614	α 21.8 β- 24.6	α 0 β- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND WALLS WERE 10 0/0 6'6" UP

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED



#	βγ	α

N β

* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACT.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-27

DATE: 8-11-06	INSTRUMENTATION USED				
TIME: 1630	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldstein, D. Koontz	BICRON	B-500Z	N/A	12 mR	10-14-00
LOCATION: Bldg #3185	M-2224	132159	α 21.6	α 4	5-30-01
	PR-43-68	134495	B-25.5	B-413	6-2-01
REVIEWED BY:	M-2224	132159	α 21.6	α 5	5-30-01
	PR-43-37	088824	B-23.6	B-608	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC 9550	01614	α 21.8 B-24.6	α 0 B- 0	6-18-01

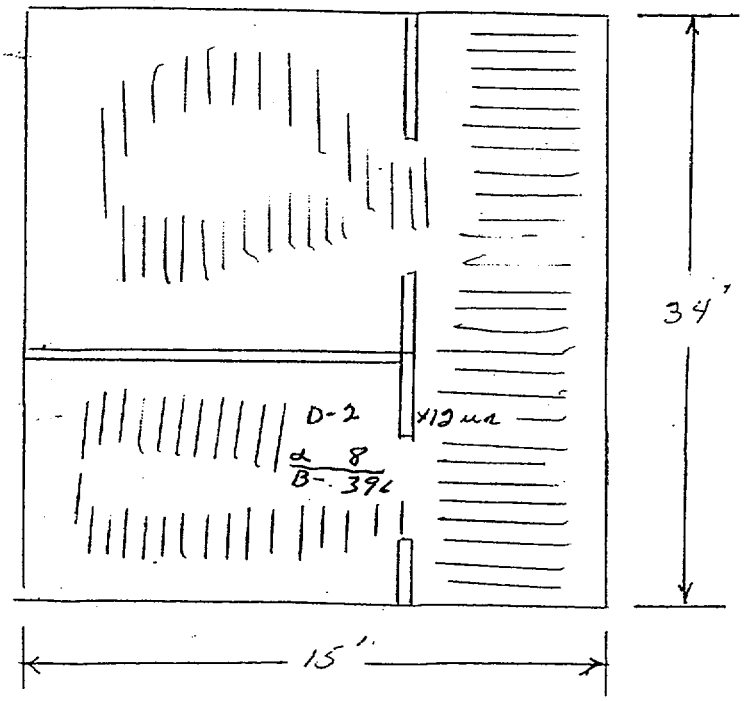
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND WALLS WERE 10 % 6'6" up

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* All Readings are in cpm unless otherwise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: ||| = show area where Alpha, Beta and Gamma scans were taken

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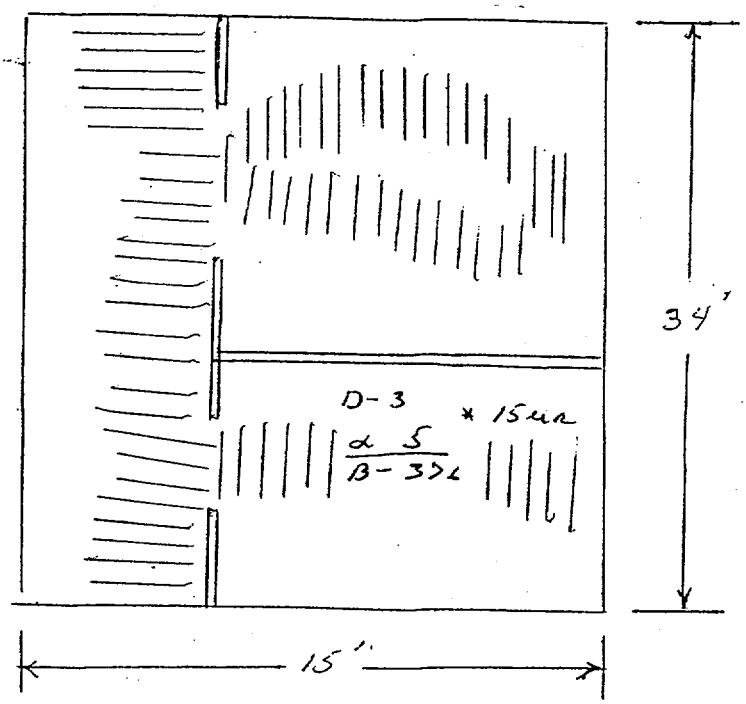
RADIOLOGICAL SURVEY REPORT

ATGS #: FM-27

DATE: 8-11-06	INSTRUMENTATION USED				
TIME: 1630	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston, D. Kounts	BICRON	B-560Z	N/A	12 uR	10-14-00
LOCATION: Bldg #3185	M-2224	132159	α 21.6	α 4	5-30-01
REVIEWED BY:	PR-43-68	134485	B-26.5	B- 4.13	6-2-01
	M-2224	132159	α 21.6	α 5	5-30-01
	PR-43-37	088824	B-23.6	B-608	6-2-01
Smear Locations Circled. Dose Rates = ~~mR/hr~~ (μR/hr)	WPC 9550	01614	α 21.8 B-24.6	α 0 B- 0	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND WALLS WERE 10% 6'6" UP



SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Marks: \\\ = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RAY

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-27

DATE: 8-11-00

TIME: 1630

SURVEYOR: D. Goldstein, D. Kountz

LOCATION: Bldg #3185

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B-5002	N/A	12 uR	10-14-00
M-2224	132159	α 21.6	α 4	5-30-01
PR-43-68	134485	B-25.5	B- 4/3	6-7-01
M-2224	132157	α 21.6	α 5	5-30-01
PR-43-37	088824	B-23.6	B-608	6-2-01
WPC 8550	01614	α 21.8	α 0	6-18-01
		B-24.6	B- 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

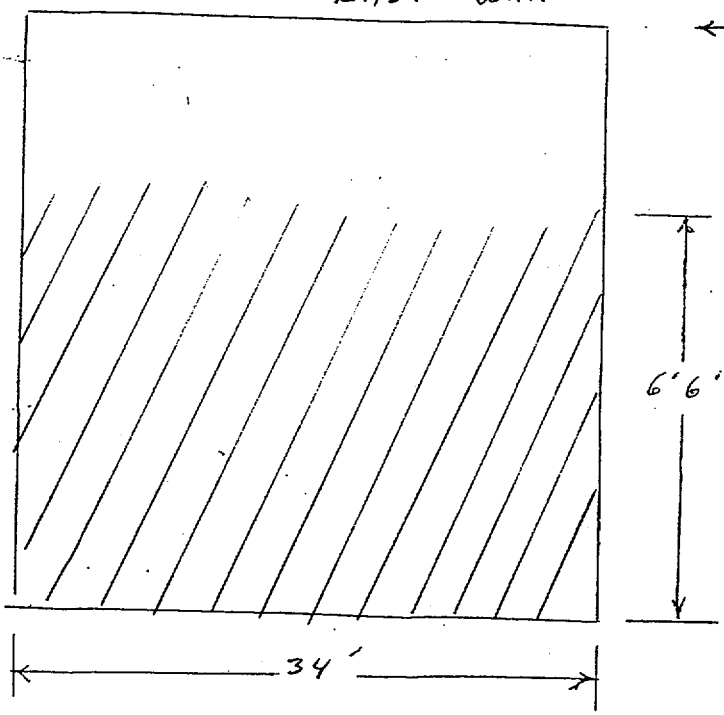
NOTE: SCANS ON FLOOR AND WALLS WERE 10 % 6'6" up

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α

EAST WALL



* All Readings are in cpm unless other wise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: ||| = Show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma Act.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-27

DATE: 8-11-06

TIME: 1630

SURVEYOR: D. Goldston, D. Kountz

LOCATION: Bldg #3185

REVIEWED BY:

Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B-5602	N/A	12 mR	10-14-00
M-2224	132159	α 21.6	α 4	5-30-01
PR-43-68	134485	B-25.5	B-413	6-7-01
M-2224	132159	α 21.6	α 5	5-30-01
PR-43-37	038824	B-23.6	B-608	6-7-01
WPC 9550	01614	α 21.8 B-24.1	α 0 B- 0	6-18-01

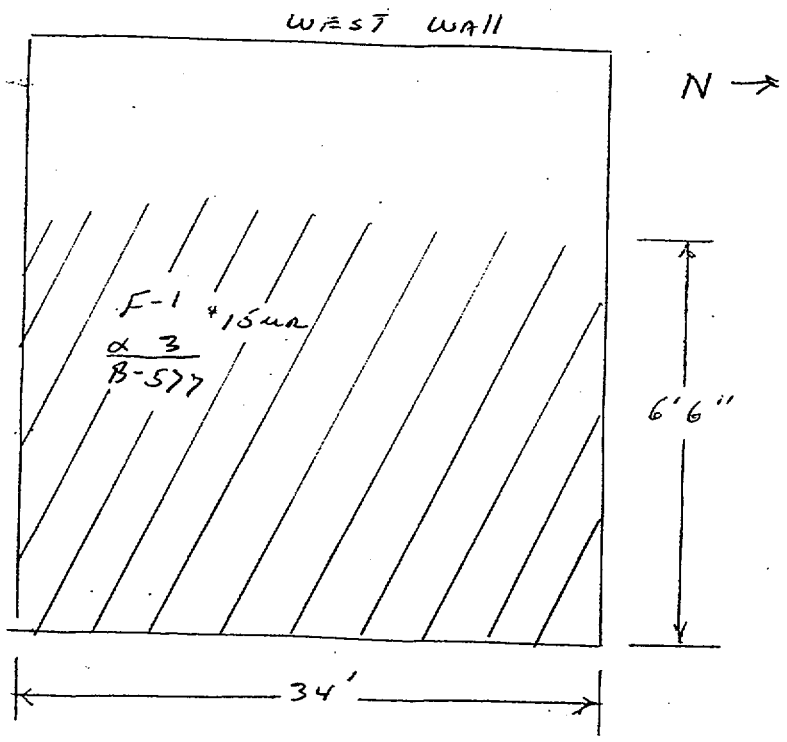
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND WALLS WERE 10 % 6'6" up

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* All Readings are in cpm unless otherwise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: ||| = Show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at background levels for Alpha, Beta and Gamma Acti...

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-27

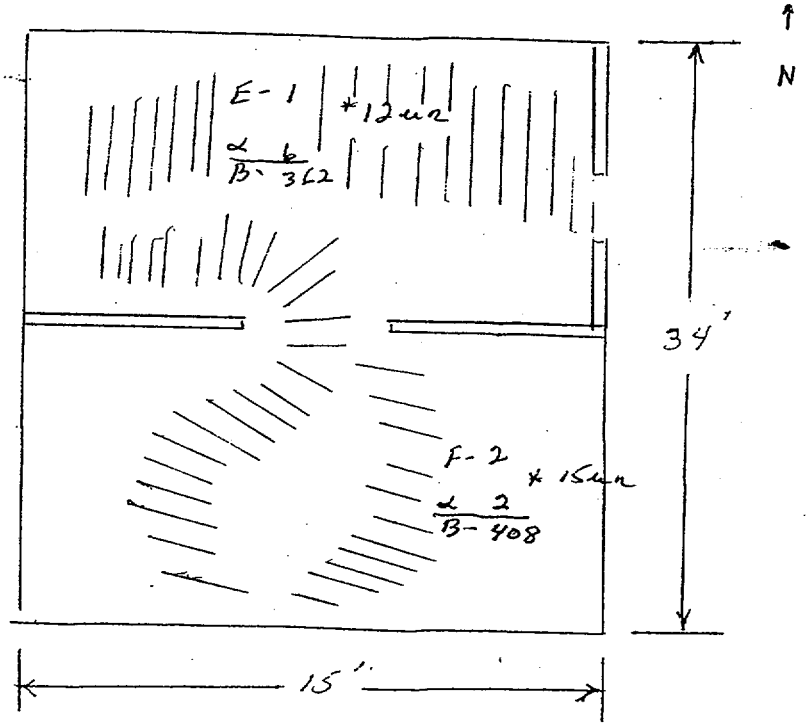
DATE: 8-11-66	INSTRUMENTATION USED				
TIME: 16 30	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston, D. Kountz	BICRON	B-560 Z	N/A	12 uR	10-14-00
LOCATION: Bldg #3185	M-2224	132159	α 21.6	α 4	5-30-01
REVIEWED BY:	PR-43-68	134485	B-25.5	B- 413	6-7-01
	M-2224	132159	α 21.6	α 5	5-30-01
	PR-43-37	088824	B-23.6	B- 608	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPC 9550	01614	α 21.8 B-24.6	α 0 B- 8	6-18-01

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND WALLS WERE 10 % 6'6" up

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED



#	βγ	α

N

* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Marks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RAY

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-27

DATE: 8-11-00	INSTRUMENTATION USED				
TIME: 1630	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldston, D. Kountz	BICRON	B-5002	N/A	17 cpm	10-14-00
LOCATION: Bldg #3185	M-2224	132159	α 21.6	α 4	5-30-01
	PR-43-68	134485	B-25.5	B-413	6-2-01
REVIEWED BY:	M-2224	132159	α 21.6	α 5	5-30-01
	PR-43-37	038824	B-23.6	B-608	6-2-01
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)	WPA 9550	01614	α 21.8 B-34.6	α 6 B- 0	6-18-01

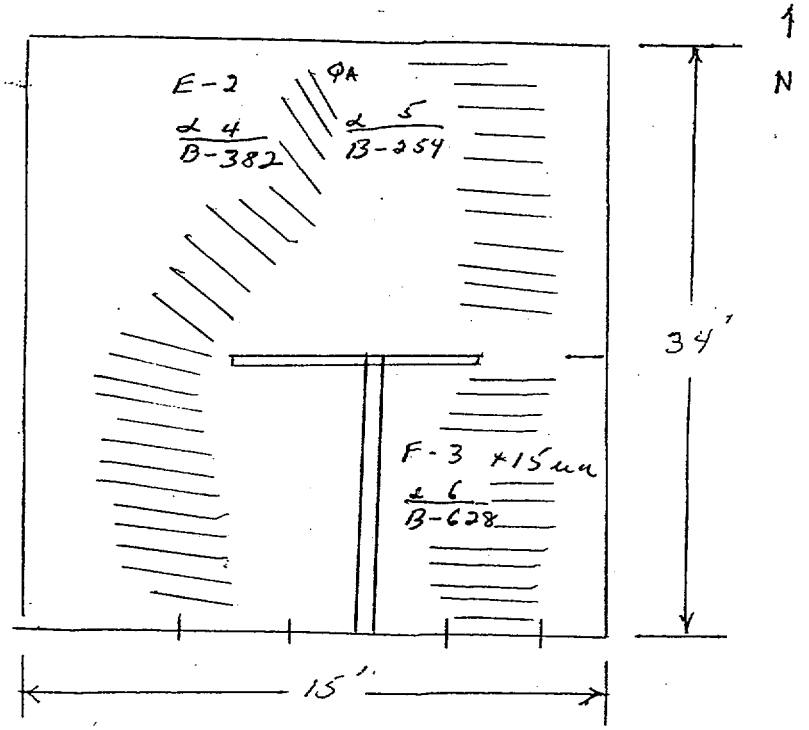
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND WALLS WERE 10 % 6'6" up

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



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arks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA ACT

RADIOLOGICAL SURVEY REPORT

ATGS #: FM- 27

DATE: 8-11-00

TIME: 16 30

SURVEYOR: D Goldstein, D Kounts

LOCATION: Bldg # 3185

REVIEWED BY:

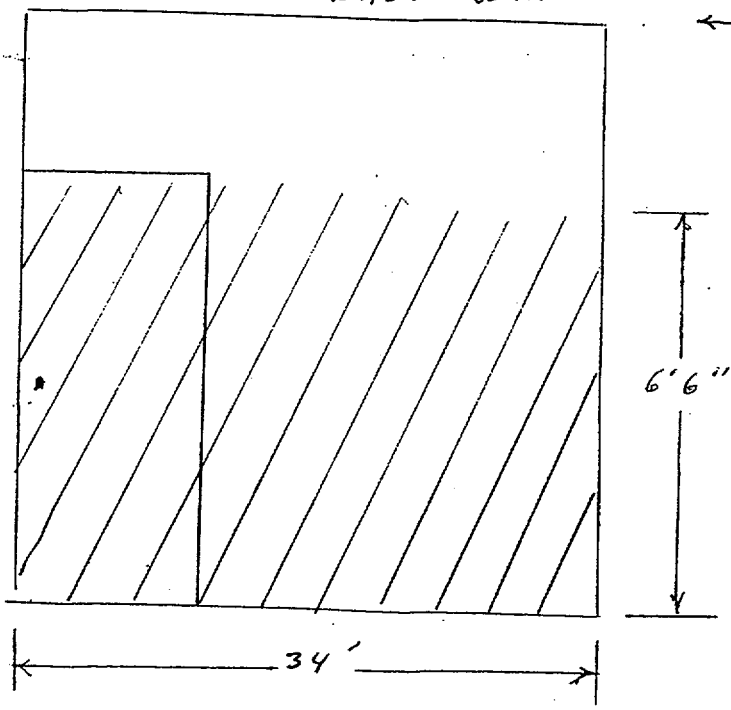
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B-5007	N/A	12 μR	10-14-00
M-2224	132159	α 21.6	α 4	5-30-01
PR-43-68	134485	B- 25.5	B- 413	6-7-01
M-2224	132159	α 21.6	α 5	5-30-01
PR-43-37	088824	B- 23.6	B- 668	6-2-01
WPC 9550	01614	α 21.8	α 0	6-18-01
		B- 24.6	B- 0	

PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND WALLS WERE 10 % 6'6" up

EAST WALL



SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α

N A

* ALL READINGS ARE IN cpm UNLESS OTHER WISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RAD.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-27

DATE: 8-11-00

TIME: 1C30

SURVEYOR: D. Goldstein, Dr. Kountz

LOCATION: Bldg #3185

REVIEWED BY: [signature]

Smear Locations Circled. Dose Rates = MicroR/hr (μR/hr)

INSTRUMENTATION USED

MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B-5607	N/A	12cpm	10-14-00
M-2224	132159	α 21.6	α 4	5-30-01
PR-43-68	134485	B-25.5	B- 413	6-2-01
M-2224	132159	α 21.6	α 5	5-30-01
PR-43-37	088824	B-23.6	B- 608	6-2-01
WPG 9550	01614	α 21.8 B-24.6	α 0 B- 0	6-18-01

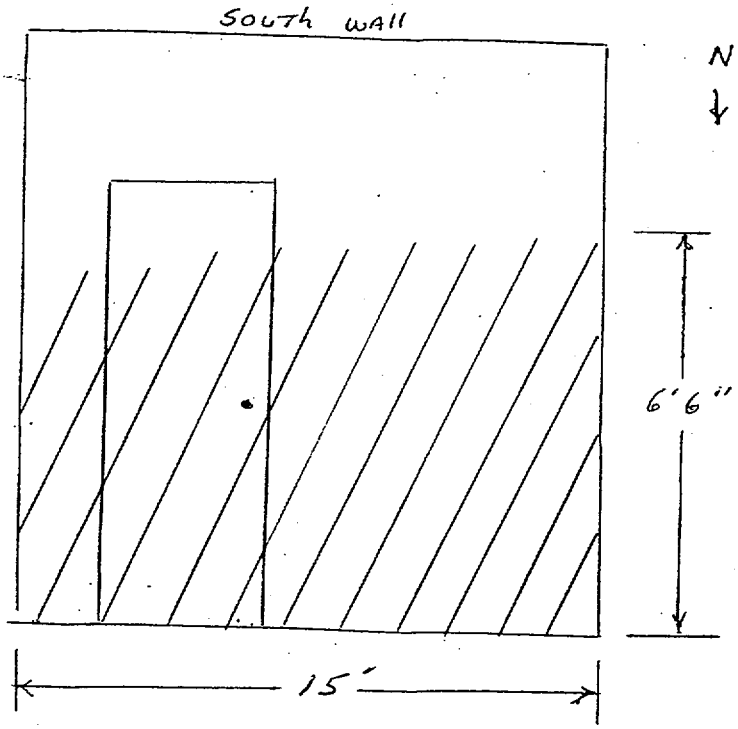
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND WALLS WERE 10% 6'6" up

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α



* ALL READINGS ARE IN cpm UNLESS OTHERWISE NOTED
* MICRO 'R' READINGS TAKEN ON SURFACE
* ONE MINUTE ALPHA AND BETA SURFACE ACTIVITY READINGS TAKEN

Remarks: ||| = SHOW AREA WHERE ALPHA, BETA AND GAMMA SCANS WERE TAKEN

* ALL SCANS SURVEYS ARE AT BACKGROUND LEVELS FOR ALPHA, BETA AND GAMMA RAD.

RADIOLOGICAL SURVEY REPORT

ATGS #: FM- 27

DATE: 8-11-00

TIME: 1630

SURVEYOR: D. Goldston, D. Kounts

LOCATION: Bldg #3185

REVIEWED BY:

Smear Locations Circled. Dose Rates ~~millirad/hr~~ (μR/hr)

INSTRUMENTATION USED				
MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
BICRON	B-5007	N/A	12 cpm	10-14-00
M-2224	132159	α 21.6	α 4	5-30-01
PR-43-68	134485	B-25.5	B- 413	6-7-01
M-2224	132159	α 21.6	α 5	5-30-01
PR-43-37	058824	B-23.6	B- 608	6-2-01
WPG 9550	01614	α 21.8 B-24.6	α 0 B- 0	6-18-01

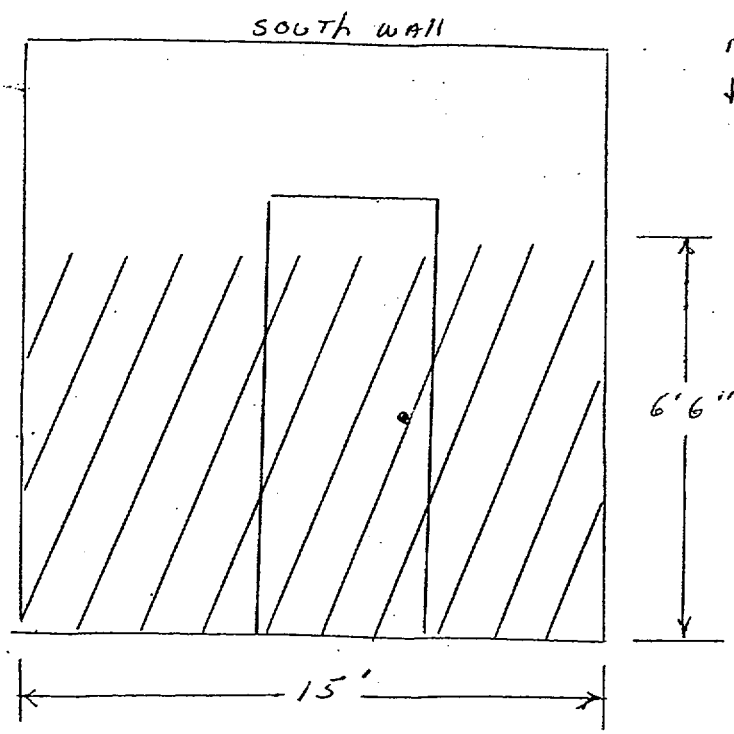
PURPOSE OF SURVEY: FINAL RELEASE SURVEY

NOTE: SCANS ON FLOOR AND WALLS WERE 10% 6'6" UP

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α



* All Readings are in cpm unless other wise noted
* Micro 'R' Readings taken on surface
* One minute Alpha and Beta surface activity Readings taken

Remarks: ||| = Show area where Alpha, Beta and Gamma scans were taken

* All scans surveys are at Background Levels for Alpha, Beta and Gamma Acti

APPENDIX P

RATTLE SNAKE GULCH SURVEY RECORD

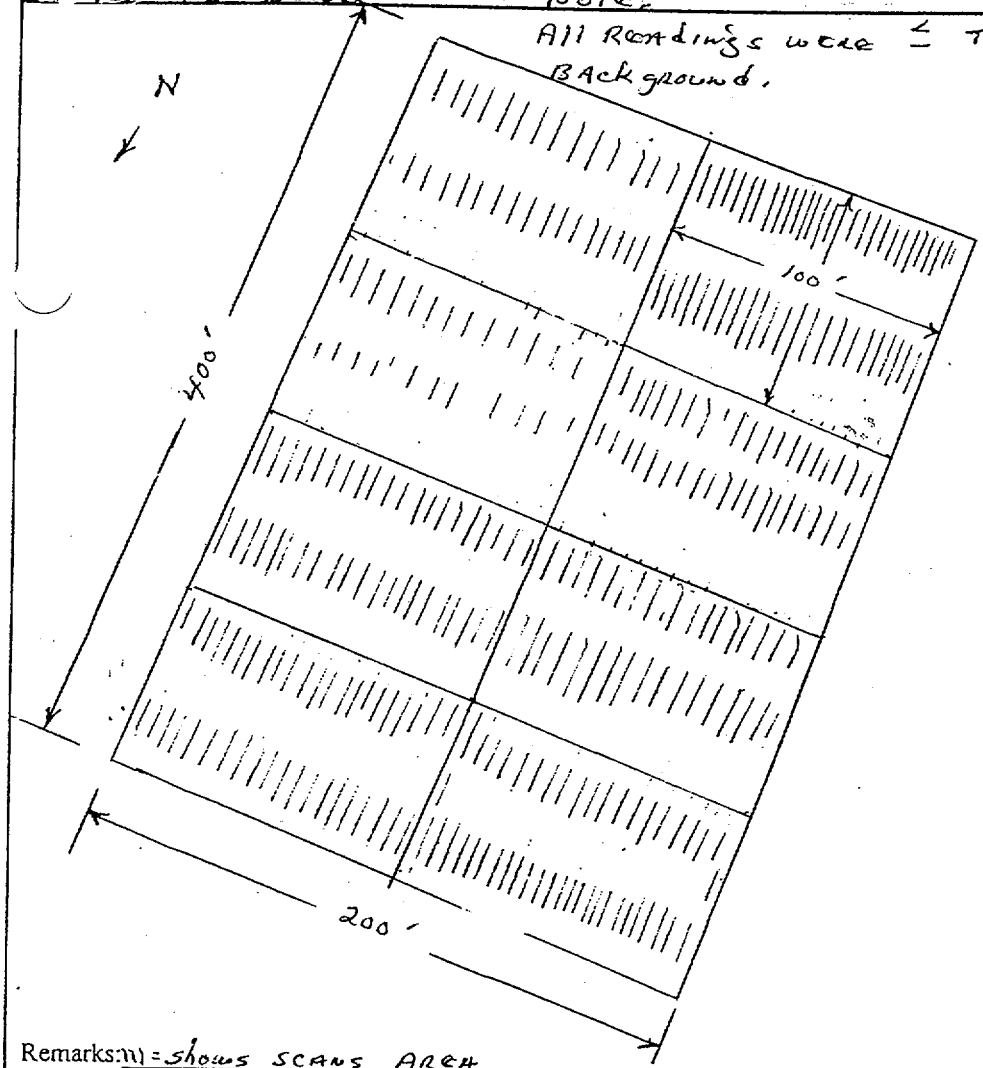
RADIOLOGICAL SURVEY REPORT

ATGS #: FM-28

DATE: 8-14-00	INSTRUMENTATION USED				
TIME: 0900	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldstein, D. Kountz	BICRON	13-560-2	N/A	5uR	10-14-00
LOCATION: RATTLESNAKE Gulch AREA	BICRON	13-838-2	N/A	5uR	8-20-00
REVIEWED BY:			N/A		
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)					

PURPOSE OF SURVEY: Conduct A GROSS GAMMA SURVEY, 10% OF RATTLESNAKE Gulch AREA WAS DONE

NOTE: All Readings were ± TO Background.



Remarks: ▨ = shows SCANS AREA

GRIDS WERE 100' BY 100'

SMEAR RESULTS

RESULTS = DPM/100cm²
UNLESS OTHERWISE NOTED

#	βγ	α

N/A

APPENDIX Q

CHEMICAL SCHOOL RADIOLOGICAL BURIAL GROUNDS SURVEY RECORD

RADIOLOGICAL SURVEY REPORT

ATGS #: FM-29

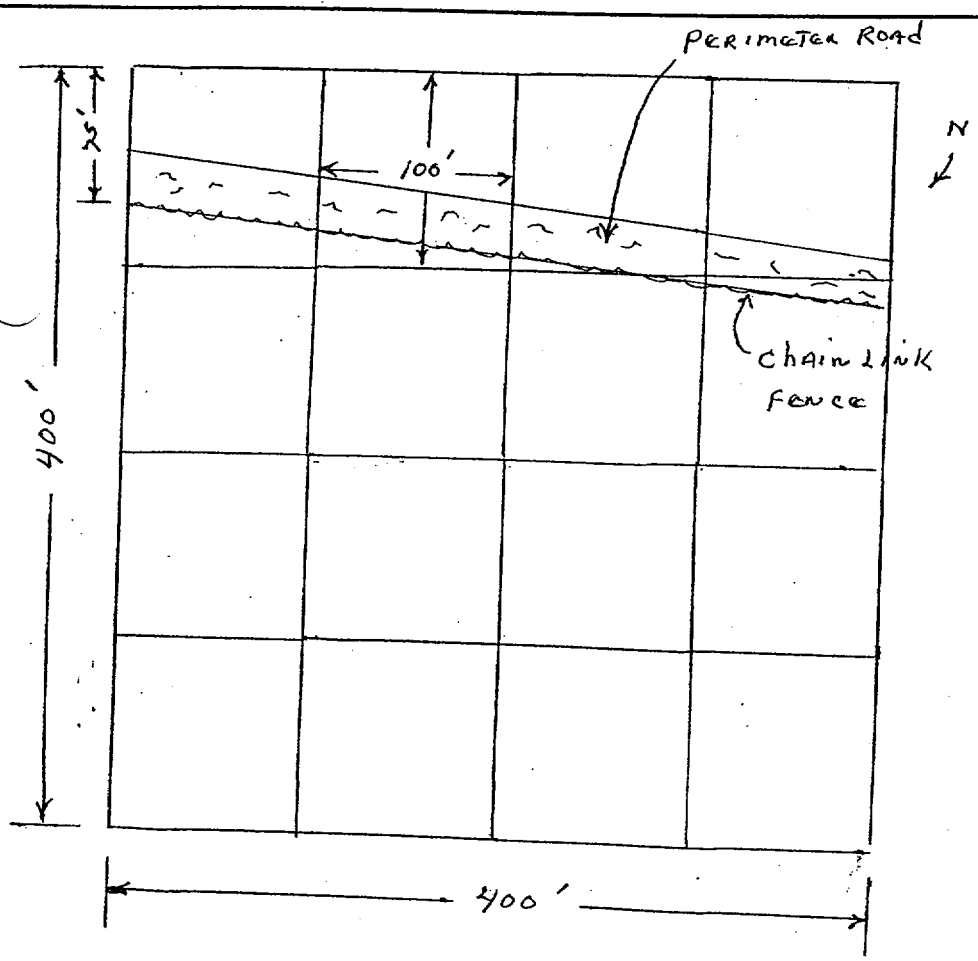
DATE: 8-15-00	INSTRUMENTATION USED				
TIME: 1100	MODEL	SERIAL #	EFF.%	BKGRD	CAL. DUE DATE
SURVEYOR: D. Goldstein, D. Kounts	BICRON	B-500-Z	N/A	5 μR	10-14-00
LOCATION: Chemical School Rad Burial Ground	BICRON	B-838-Z	N/A	6 μR	8-20-00
REVIEWED BY:			N/A		
Smear Locations Circled. Dose Rates = microR/hr (μR/hr)					

PURPOSE OF SURVEY: 50% OF AREA WAS SCAN FOR GROSS GAMMA

SMEAR RESULTS

RESULTS = DPM/100cm² UNLESS OTHERWISE NOTED

#	βγ	α
	N	
	A	



Remarks: All Readings were ≤ To Background